



UNDERGRADUATE

2017-2018 ACADEMIC CATALOG

The West Virginia University Catalog is a general source of information about course offerings, academic programs and requirements, expenses, rules, and policies. In order to reach the goals and fulfill the mission of the University, the courses, requirements, and regulations contained herein are subject to continuing review and change by the West Virginia Higher Education Policy Commission, the WVU Board of Governors, University administrators, and the faculties of the schools and colleges. The University, therefore, reserves the right to change, delete, supplement, or otherwise amend the information, course offerings, requirements, rules, and policies contained herein without prior notice.

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Undergraduate Catalog

General Information - West Virginia University

West Virginia University (WVU) was founded in 1867 as a result of the 1862 Land-Grant Act, otherwise known as the Morrill Act. As the state's flagship, land-grant university, WVU's mission reflects its dedication to serving the state and citizens of West Virginia through access to higher education, research and scholarship, and comprehensive health sciences. WVU and its divisional campuses enroll approximately 32,000 students, who represent all 55 counties of West Virginia, 50 states and the District of Columbia, and nearly 100 other countries. West Virginia University is accredited by the Higher Learning Commission (<https://www.hlcommission.org>). Many West Virginia University programs hold specialized accreditation.

WVU's main campus in Morgantown, WV, provides high-quality programs of instruction through 14 colleges and schools and offers over 190 degree programs at the baccalaureate, master's, doctoral, and professional levels, as well as numerous certificate programs. WVU's Morgantown facilities are built on more than 1,000 acres and include several buildings on the National Register of Historic Places.

The West Virginia University Robert C. Byrd Health Sciences Center (<http://home.hsc.wvu.edu>) has five schools - Dentistry, Medicine, Nursing, Pharmacy, and Public Health. Undergraduate, graduate, and professional students learn on three campuses in Morgantown, Charleston, and Martinsburg.

WVU also has two divisional campuses. Potomac State College of West Virginia University, situated in West Virginia's Eastern Panhandle in Keyser, offers associate and baccalaureate degree programs and serves both residential and commuting students. The West Virginia University Institute of Technology is located in Beckley, and serves the region and the state by offering baccalaureate degree programs.

The WVU Extension Service has an office with a faculty presence in all of West Virginia's 55 counties. WVU operates experimental farms and forests throughout the state, as well as WVU Jackson's Mill, near Weston, WV, home of West Virginia 4-H camping and the West Virginia Fire Academy.

Visit About WVU (<http://about.wvu.edu>) for updated WVU facts and achievements.

In this section:

- Mission of West Virginia University (p. 6)
- Commitment to Diversity, Equity, and Inclusion (p. 7)
- West Virginia University Center for Excellence in Disabilities (p. 7)
- Office of Accessibility Services (p. 7)

The Mission of West Virginia University

As a land-grant institution, the faculty, staff and students at West Virginia University commit to creating a diverse and inclusive culture that advances education, healthcare and prosperity for all by providing access and opportunity; by advancing high-impact research; and by leading transformation in West Virginia and the world through local, state and global engagement.

RESEARCH AND SCHOLARSHIP

As West Virginia's flagship research institution, WVU undertakes scholarly activity that addresses the challenges most critical to today's world and the practice of multidisciplinary research. WVU is classified as a Doctoral University—Highest Research Activity (R1) in the Carnegie Classification of Institutions of Higher Education.

SERVICE

West Virginia University's land-grant mission underscores its obligation to serve the public and the state of West Virginia by promoting economic development, enhancing the well-being and the quality of life of the people of West Virginia, and increasing opportunities for the citizens of the state through workforce education, lifelong learning, and outreach to every county.

West Virginia University is the only institution in West Virginia – and one of only 6% of institutions nationwide – to earn the Carnegie Foundation for the Advancement of Teaching "Community Engagement Classification."

WVU's dedication to its service mission is manifested through its instructional programs, educational outreach, initiatives and centers, and through four structures that engage external constituencies and support public service.

Economic Development

The Office of Research and Economic Development (<http://research.wvu.edu>) assists WVU researchers in advancing their results and putting that knowledge to work improving lives. The research enterprise of West Virginia University is diverse, richly talented, progressive, and focused on the goal of making people's lives better in the highest tradition of an American land-grant institution of higher education.

Well-Being and Quality of Life

The Robert C. Byrd Health Sciences Center advances the health of West Virginia's residents and addresses health challenges that face the state and the nation.

Outreach

The Smith-Lever Act of 1914 created a Cooperative Extension Service for each land-grant institution. The purpose of the Extension Service was to disseminate the findings of the universities' agricultural stations and provide training and programs on home economics and other practical subjects. WVU has sustained its commitment to the state by supporting an Extension Service office with a faculty presence in all of West Virginia's 55 counties, staffed by faculty county agents.

The educational programs and initiatives of the WVU Extension Service focus on service to the state and exemplify West Virginia University's commitment to the public good by connecting the knowledge and research of WVU with citizen and community needs. The Extension Service's programs are driven by four major initiatives: (1) 4-H youth development; (2) family and health; (3) agriculture and natural resources; and (4) community, workforce, and economic development.

Commitment to Diversity, Equity, and Inclusion

West Virginia University is committed to ensuring that all persons, including women, people of color, persons with disabilities, veterans, and persons of different religions, sexual orientations, ages, and international, ethnic, and economic backgrounds have the opportunity to benefit from the programs and services the University offers. The University helps students, faculty, and staff study and work in a climate of academic freedom and social responsibility, and develop the skills, knowledge, and self-esteem necessary to contribute positively as world citizens.

In keeping with this commitment, members of the academic community are expected to demonstrate civility and mutual respect for all persons as well as understanding and appreciation for all persons, to express that perspective in every dimension of the institution's life and mission, and to work cooperatively, representing not only the interests of their own groups but also those of the wider community.

Individuals believing they may have been illegally discriminated against by West Virginia University may file a complaint with the Division of Diversity, Equity, and Inclusion (<http://diversity.wvu.edu>).

Center for Excellence in Disabilities

The West Virginia University Center for Excellence in Disabilities (WVU CED) works closely with the WVU Division of Diversity, Equity, and Inclusion to connect WVU students, staff, and faculty members with disabilities to services they need throughout the WVU communities and state.

The mission of the WVU CED is to improve the lives of West Virginians with disabilities by building more diverse, inclusive communities. WVU CED is recognized, and trusted, as a leader and innovative agent in a statewide network of individual and community supports that promote respect, inclusiveness, interdependence, and access for everyone.

The WVU CED is a federally-funded center that provides:

- Direct clinical and community disability services;
- Training opportunities;
- A variety of information on best practices, services throughout the state, and policy; and
- Innovative research

WVU CED priority areas include, but are not limited to: access to quality health care services and training, employment, health and wellness, and transitions experienced throughout the lifespan.

For more information about the WVU CED and center services, go to: <http://www.cedwvu.org> or call 304-293-4692 (Morgantown), 304-720-3200 (Charleston), or 800-518-1448.

Office of Accessibility Services

The Office of Accessibility Services (<http://accessibilityservices.wvu.edu>) is dedicated to helping students achieve their academic goals regardless of any physical, learning, psychological, sensory, or other documented disability. West Virginia University's process for providing disability-related accommodations follows guidelines of the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, and current case law.

Commitment to Assessment

West Virginia University conducts comprehensive and systematic assessment of student learning across all locations and delivery methods. Continuous improvement of student learning is faculty-driven, conducted at the course, program, and institutional levels, and grounded in the work of the Undergraduate Council, the Graduate Council, and the University Assessment Council (UAC). UAC members from the WVU Morgantown Campus, the West Virginia University Institute of Technology, and Potomac State College of WVU align assessment with the WVU mission and strategic plan and

collaborate with the Faculty Senate General Education Foundations (GEF) committee to conduct assessment of the GEF program. The Council works to strengthen the effectiveness of assessment across all programs by:

- Facilitating faculty professional development in assessment.
- Providing consulting to departments to enhance their assessment planning and reporting.
- Compiling supporting documentation and evidence of the assessment work at WVU.
- Serving as an institutional-level clearinghouse for assessment best practices.
- Providing sustained attention on centralized, consistent, and systematic processes and policies across the University to reduce variability in assessment quality and engagement.
- Overseeing, reviewing, and commenting upon program review policies, processes, and reports.

In this section:

- Governor of West Virginia (p. 8)
- West Virginia University Board of Governors (p. 8)
- West Virginia University Administration (p. 8)
- Deans (p. 8)

Governor of West Virginia

- Jim Justice, *Governor*

West Virginia University Board of Governors

- William D. Wilmoth, *Chair, Wheeling*
- David B. Alvarez, *Vice Chair, Bridgeport*
- Taunja Willis Miller, *Secretary, Morgantown*
- Timothy Bailey, *Hurricane*
- Elmer Coppoolse, *Lewisburg*
- Thomas V. Flaherty, *Charleston*
- Thomas A. Heywood, *Charleston*
- Dr. Stanley Hileman, *Faculty Representative, Morgantown*
- Blake Humphrey, *Student Representative, Wheeling*
- J. Thomas Jones, *Morgantown*
- Dixie Martinelli, *Classified Staff Representative, Morgantown*
- Edward L. Robinson, *Charleston*
- J. Robert "JR" Rogers, *Hurricane*
- Benjamin M. Statler, *Pittsburgh*
- Dr. Matthew C. Valenti, *Faculty Representative, Morgantown*
- Kimberly Weaver, *Baltimore, MD*

The West Virginia University Board of Governors (the "Board") was created by the West Virginia Legislature as the governing body of the West Virginia University system, including West Virginia University, West Virginia University Potomac State College, and West Virginia University Institute of Technology (collectively the "University"). The Board has the mission of general supervision and control over the academic and business affairs of the University.

West Virginia University is an Equal Opportunity/Affirmative Action Institution. The University does not discriminate on the basis of race, sex, age, disability, protected veteran status, religion, sexual orientation, color, national origin, or other class protected by the University's non-discrimination policy (BOG Policy 44 (http://catalog.wvu.edu/undergraduate/Policy_44_-_December_18_2015_Amendment.pdf)) in the administration of any of its educational programs or activities or with respect to admission or employment. Further, faculty, staff, students, and applicants are protected from retaliation for filing complaints or assisting in an investigation under the University's Equal Opportunity/Affirmative Action Plan. Inquiries regarding the University's non-discrimination policy may be sent to the Office of Diversity, Equity, and Inclusion.

West Virginia University Administration

- E. Gordon Gee, *President*
- Joyce McConnell, *Provost and Vice President for Academic Affairs*

Deans

- *Benjamin M. Statler College of Engineering and Mineral Resources, Eugene V. Cilento*

- *College of Business and Economics*, Javier Reyes
- *College of Creative Arts*, H. Keith Jackson (Interim)
- *College of Education and Human Services*, Gypsy Denzine
- *College of Law*, Gregory W. Bowman
- *College of Physical Activity and Sport Sciences*, Dana D. Brooks
- *Davis College of Agriculture, Natural Resources, and Design*, Daniel J. Robison
- *Dean of Students*, G. Corey Farris
- *Eberly College of Arts and Sciences*, Gregory Dunaway
- *Honors College*, Kenneth P. Blemings
- *Reed College of Media*, Maryanne Reed
- *School of Dentistry*, Thomas Borgia
- *School of Medicine*, Clay Marsh
- *School of Nursing*, Tara Hulsey
- *School of Pharmacy*, William P. Petros
- *School of Public Health*, Jeffrey Coben
- *University Libraries*, Karen Diaz (Interim)

Distinguished Professors

- Daniel Alkon, Toyota Chair for Neurodegenerative Disease Research
- Brian Anderson, GE Plastics Materials Engineering Professorship
- James Anderson, Davis Michael Professor of Forestry and Natural Resources
- Nancy Andrews, Ogden Newspapers Professorship
- Gerald G. Ashdown, James H. "Buck" and June M. Harless Professor of Law, Emeritus
- Vinay Badhwar, Gordon F. Murray Chair of Cardiothoracic Surgery
- Karl Barth, Samples Professorship of Civil and Environmental Engineering
- Robert M. Bastress, John W. Fisher II Professor of Law
- Robert E. Blobaum, Eberly Family Distinguished Professor of History
- Forest Bowman, Jackson Kelly Professor of Law, Emeritus
- Gregory Bowman, William J. Maier, Jr. Dean
- Naomi Boyd, Fred T. Tattershell Chair in Finance
- Laura Brady, Eberly Family Professor of Outstanding Teaching
- James E. Brick, Dr. Edmund B. Flink Chair of Internal Medicine Fund #1
- John Brick, JF Brick Endowed Chair in Neurology
- James Brown, K-Mart Corporation Chair of Marketing
- William I. Brustein, Eberly Family Distinguished Professor of History
- Vincent P. Cardi, Bowles, Rice, McDavid, Graff and Love Professor of Law
- Tim Carr, Marshall S. Miller Energy Professor of Geology
- Linda M. Carson, Ware Distinguished Professor, Emerita
- William H. Carter, Warren Point Chair of Internal Medicine
- Judie F. Charlton, Judie F. Charlton Chair for Glaucoma Outreach
- Shawn Chillag, Patricia T. Ayash Distinguished Professorship/Internal Medicine Charleston Division
- Nigel N. Clark, George B. Berry Chair of Engineering
- Franklin D. Cleckley, Arthur B. Hodges Professor of Law, Emeritus
- Roger Congleton, BB&T Chair of Economics
- Patrick W. Conner, Eberly Centennial Professor in English, Emeritus
- Robert Dailey, Davis Michael Professor of Animal and Nutritional Sciences
- Walter Dekeseredy, Anne Deane Carlson Endowed Chair of Social Sciences
- Lisa DiBartolomeo, Armand E. and Mary W. Singer Professor in the Humanities
- Robert DiClerico, Eberly Family Professor Outstanding Teaching, Emeritus
- Charles R. DiSalvo, Woodrow A. Potesta Professor of Law
- Gregory Dudley, Eberly Family Distinguished Professor of Chemistry
- Richard Dull, GoMart Professor in Accounting Information Systems

- Barry A. Edelstein, Eberly Family Professor of Psychology
- James Elkins, Arthur S. Dayton Professor Law
- Eloise Elliott, The Ware Family Distinguished Professorship
- Ali Feliachi, Electric Power Systems Chair
- John W. Fisher, II, William J. Maier Jr. Dean Emeritus and Robert M. Steptoe and James D. Steptoe Professor of Property Law, Emeritus
- Paula F. Fitzgerald, Nathan Haddad Professor of Business Administration
- Kenneth Fones-Wolf, The Stuart and Joyce Robbins Chair in History
- Stephanie Foote, Jackson & Nichols Chair of English
- Mathis P. Frick, O. F. Gabriele Chair of Radiology
- James J. Friedberg, Hale J. and Roscoe P. Posten Professor of Law
- Hota Gangarao, Wadsworth Professorship
- Laura Gibson, Alexander B. Osborn Distinguished Professor in Hematological Malignancies Research
- Ronald L. Gross, Jane McDermott Shott Chair of Ophthalmology
- Rakesh K. Gupta, Berry Chair of Chemical Engineering
- Michael Gutensohn, Ray Marsh and Arthur Pingree Dye Professor
- Ludwig Gutmann, Hazel Ruby McQuain Chair of Neurological Research
- Joseph Hagan, Barnette Professor of Political Science
- Trevor M. Harris, Eberly Family Professor of Geography
- Keith Heasley, Charles T. Holland Professor of Mining Engineering
- John Herbst, Murray Department Chair of Mining Engineering
- Erik Herron, Eberly Family Professor of Political Science
- JoAnn Hornsby, Interim Hazel Ruby McQuain Arthritis/Rheumatic Disease Chair
- Tara Hulsey, E. Jane Martin Professor of Nursing
- Glen P. Jackson, Ming Hsieh Teaching Professor of Forensic and Investigative Science
- Abnash Jain, Abnash C. Jain Distinguished Professorship in Cardiology
- Thomas Kammer, Eberly College Centennial Professor, Emeritus
- Vlad Kecojevic, Massey Foundation Professor of Mining Engineering
- Alexander Kurov, Fred T. Tattersall Chair in Finance
- Kennon A. Lattal, Eberly College Centennial Professor of Psychology
- Lian Li, Robert L. Carroll Chair of Physics
- Huey Hannah Lin, J. Vance and Florence Highland Johnson Teaching Professor of Chinese Studies
- Paul Lockman, Douglas D. Glover Endowed Chair of the Department of Basic Pharmaceutical Sciences
- Anne Marie Lofaso, Arthur B. Hodges Professor of Law
- Barbara Ludlow, Chester E. and Helen B. Derrick Teacher Education Endowed Professor, Special Education
- Diana Martinelli, Widmeyer Professorship in Public Relations
- Michael Mays, Eberly Distinguished Professor of Outstanding Teaching, Emeritus
- Mary McClung, Mabel DeVries Tanner Endowed Professor of Theatre
- Joyce E. McConnell, Thomas R. Goodwin Professor of Law
- Marjorie A. McDiarmid, Steptoe and Johnson Professor of Law and Technology
- Patrick C. McGinley, Charles H. Haden, Jr. Professor of Law
- James McGraw, Eberly Family Professor of Biology
- James A. McLaughlin, Robert L. Shuman Professor of Law, Emeritus
- Maura McLaughlin, Eberly Family Distinguished Professor of Physics and Astronomy
- Daniel McNeil, Eberly Family Professor for Outstanding Public Service
- Mark D. Miller, Dana L. & Peggy M. Farnsworth Chair in Educational Psychiatry
- Keith Morris, Ming Hsieh Distinguished Professor of Forensic and Investigative Science
- Tracy Morris, Eberly Family Professorship for Outstanding Teaching
- Scott Myers, Peggy Rardin McConnell Chair of Communication Studies
- R. Osvaldo Navia, Grace Kinney Mead Chair of Geriatrics
- William Neal, James H. Walker Chair of Pediatric Cardiology
- Peter Ngan, Branson-Maddrell Endowed Professorship in Orthodontics
- Daniel Panaccione, Davis Michael Professor of Plant and Soil Sciences

- John Parker, N. Leroy Lapp Professorship of Pulmonary and Critical Care Medicine
- Syd S. Peng, Charles E. Lawall Chair in Mining Engineering, Emeritus
- William P. Petros, Gates Wigner Endowed Deanship and Mylan Chair of Pharmacology
- Jason Phillips, Eberly Family Professor of Civil War Studies
- Ubolrat Piamjariyakul, WVUH Evidence Based Research Endowed Professorship
- Christopher Plein, Eberly Family Professor for Outstanding Public Service
- Joseph Prudomme, Christopher Cline Chair in Orthopedic Surgery
- Lois Raimondo, Shott Chair of Journalism
- Hayne W. Reese, Centennial Professor of Psychology, Emeritus
- Patricia Rice, Eberly Family Professor for Outstanding Teaching, Emerita
- Bryan Richmond, William J. Maier, Jr. Chair of Research
- Richard A. Riley, Louis F. Tanner Distinguished Professor of Public Accounting
- Terry L. Rose, Ernest L. Hogan Chair of Life Insurance
- J. Michael Ruppert, Jo and Ben Statler Eminent Scholar and Chair, Breast Cancer Research Clinical Pharmacy, Emeritus
- Kathleen "Katy" O'Hearn Ryan, Eberly Family Professorship for Outstanding Teaching
- Ludwig Christian Schaupp, David W. and Nancy F. Hamstead Professor of Accounting
- Terry Schwinghammer, Arthur I. Jackowitz Chair for Clinical Pharmacy
- Earl Scime, Oleg D. Jefimenko Professor of Physics
- Vicki Sealey, Russell & Ruth Bolton Eberly College Professorship
- Mohindar Seehra, Eberly Professor in Physics, Emeritus
- Kenneth Showalter, C. Eugene Bennett Distinguished Chair in Chemistry
- David Siderovski, E. J. Van Liere Medicine Professorship
- James Simpkins, Barbara B. Highland Chair in Stroke
- Gordon Smith, Stuart and Joyce Robbins Distinguished Professor in Epidemiology
- Janet Snyder, J. Bernard Schultz Endowed Professor of Art
- George W. Spirou, John W. and Jeanette S. Straton Research Chair in Neuroscience
- Gay Stewart, Eberly Professor of STEM Education
- Donley Studlar, Eberly Family Professor of Political Science, Emeritus
- Timothy Sweet, Eberly Professor of American Literature
- John Taylor, Jackson Kelly Professor of Law
- Richard Turton, Russell and Ruth Bolton WVU Professorship for Outstanding Teaching
- Michael Vernon, Sanger Chair of Family Planning and Reproductive Physiology
- Kung Wang, Eberly Family Professorship of Chemistry
- Barbara Warash, Endowed Director, WVU Child Development and Nursery School
- Bryan Weaver, Dr. Edward C. Armbrrecht Oral and Maxillofacial Surgery Professorship
- Stephen Wetmore, Romeo Lim and Maria Lim Chair of Otolaryngology
- Joshua Blackmer Williamson, Mabel DeVries Tanner Endowed Professor of Theatre
- Alison Wilson, Skewes Family Chair for Trauma
- Brian D. Woerner, Endowed Lane Department Chair Professorship
- John Zaniwski, Asphalt Technology Professorship
- C. Q. Zhang, Eberly Family Professorship of Mathematics
- Sam Zizzi, Dr. Pat Fehl Endowed Professor

Academic Standards

Academic Rights, Penalties, and Appeals

The policies described in this section are based on the West Virginia University (WVU) Board of Governors Policy 15, Student Academic Rights. This section expands the general policy to include procedures for undergraduate, graduate, and professional students at WVU (including the Potomac State and WVU Tech campuses).

A student, by voluntarily accepting admission to West Virginia University (WVU) or enrolling in a class or course of study offered by WVU, accepts the academic requirements and criteria of the institution. Normally students may finish a program of study according to the requirements under which they were admitted to the program. However, requirements are subject to change at any time with reasonable notice provided to students. It is the student's responsibility to fulfill coursework and degree or certificate requirements and to know and meet criteria for satisfactory academic progress and

completion of the program. Students are expected to adhere to academic requirements and standards in all academic settings, such as classrooms, laboratories, and clinics, and during any activities that are part of academic requirements. Further, WVU students are citizens of a broader academic community. As such, the University expects that every member of its academic community share its historic and traditional commitment to honesty, integrity, and the search for truth. To meet these standards, academic dishonesty is prohibited and is subject to academic penalties. Students who fail to meet academic requirements or standards, or who engage in academic dishonesty, may be subject to one or more of the academic penalties described in the Academic Penalties section.

Any question of interpretation regarding student rights and responsibilities, academic penalties, or appeal processes for final grades, charges of academic dishonesty, or academic penalties shall be referred to the Provost and Vice President of Academic Affairs, the Vice President for Health Sciences, or the divisional campus President, as appropriate, for final determination.

Any behaviors not academic in nature but related to student conduct should be referred to the Campus Student Code (see here (<https://studentconduct.wvu.edu>)) as stipulated in Board of Governors Policy 31 (<http://bog.wvu.edu/files/d/4c27ce4e-93b5-451b-a557-c9d8ab25a773/policy-31-dec-18-2015-amendment.pdf>). Although academic penalties are imposed on students who engage in academic dishonesty according to procedures described below, findings of academic dishonesty may also be taken into consideration with respect to disciplinary penalties and procedures described in the Campus Student Code.

Academic Rights

Each student at West Virginia University has the following academic rights (as well as others; see BOG Policy 15 (<http://bog.wvu.edu/policies>)):

1. Right to have their performance evaluated solely upon performance as measured against academic standards. The student shall not be evaluated prejudicially, capriciously, or arbitrarily. The student shall not be graded, nor shall their performance be evaluated on the basis of race, color, national origin, ancestry, age, physical or mental disability, marital or family status, pregnancy, veteran status, service in the uniformed services (as defined in state and federal law), religion, creed, sex, sexual orientation, genetic information, gender identity, or gender expression (see BOG Policy 44 (<http://bog.wvu.edu/files/d/0d9c7853-4569-4895-b2bc-6bd7f00a3eaf/policy-44-december-18-2015-amendment.pdf>)), or other protected status.
2. Right to appeal any final grade, charge of academic dishonesty, or academic penalty.
3. Right to access a copy of the University catalog and program documents in which all current program requirements and standards are described (e.g. required courses, total credit requirements, time in residence requirements, special program requirements, minimum grade point average, probation standards, professional standards, etc.).
4. Right to receive course syllabi with descriptions of content and requirements for any course in which they are enrolled (e.g., attendance expectations, special requirements, laboratory requirements including time, field trips and costs, grading standards and procedures, professional standards, etc.).
5. Right to assigned grades issued from the instructor of each course to students enrolled in the course consistent with the academic rights set out in the preceding sections.

Definitions and Types of Academic Penalties

In this section:

- Penalties for Failure to Meet Academic Requirements or Standards (p. 12)
- Penalties for Academic Dishonesty (p. 13)

PENALTIES FOR FAILURE TO MEET ACADEMIC REQUIREMENTS OR STANDARDS

A student at West Virginia University who fails to meet academic requirements or standards will be subject to one or more of the following academic penalties:

1. A lower final grade, including failure of a course. A lower grade or failure of the course can be imposed by the course instructor/coordinator. If a student appeals a final grade, the grade shall remain in effect until the appeal is completed.
2. Exclusion of a student from further participation in class prior to any appeal proceedings requires that the course instructor/coordinator obtain approval of the dean of the college or school offering the course.
3. Required repetition or revision of a program requirement, or termination of the student's participation in specific program-related activities.
4. Failure of a program requirement or failure to meet academic standards. Program requirements and standards must be described in the catalog or other program documents provided or available to students. Program requirements may include such items as passing a qualifying exam, maintaining progress on research, developing required technical skills, or meeting professional standards of conduct (including the avoidance of academic dishonesty).
5. Academic probation or suspension at the program, college, or school level for failure to meet program requirements and academic standards, or at the university level for failure to meet grade point average standards. More information concerning probation and suspension of undergraduate students at the university level (<http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification/#probationsuspensionstext>) is available in the Academic Standards section of undergraduate catalog. More information about probation and suspension of graduate or professional students at the program, college, or school level (<http://catalog.wvu.edu/graduate/enrollmentandregistration/#probationsuspensionstext>) is in the Academic Standards section of the graduate catalog as well as in program documents. If a graduate or professional student appeals a penalty of program

suspension, the dean of the college or school offering the student's program will determine if the student shall be allowed to continue in the program until the case is determined.

6. Dismissal from a program, college, school or the university. Dismissal is defined as termination of student status, including any right or privilege to receive some benefit or recognition or certification. A student may be academically dismissed from any program and remain eligible to enroll in courses in other programs at the institution, or a student may be academically dismissed from the institution and not remain eligible to enroll in other courses or programs at the institution, including other divisional campuses (BOG Policy 15 (<http://bog.wvu.edu/files/d/e7102743-6a83-4822-b4a3-a050e5e0711f/policy15-amended-student-academic-rights-amended-april-12-2013.pdf>)). If a student appeals a penalty of program dismissal, the dean of the college or school offering the student's program will determine if the student shall be allowed to continue in the program until the case is determined. Dismissal from a program, college, or school must be communicated to the Associate Provost for Undergraduate or Graduate Academic Affairs, the Health Sciences Associate Vice President for Academic Affairs, or the divisional campus President once the time limit for a student appeal has expired or the appeal process has been completed. The Associate Provost, Associate Vice President, or divisional campus President submits a request to the appropriate office to change the student's status to non-degree. Academic dismissal from the university requires consultation and approval from the student's dean, the Associate Vice President for Academic Affairs (Health Sciences students only), and the Provost's or divisional campus President's Office

PENALTIES FOR ACADEMIC DISHONESTY

The term "academic dishonesty" means plagiarism; cheating and dishonest practices in connection with examinations, papers, and/or projects; and forgery, misrepresentation, or fraud as it relates to academic or educational matters. In addition to the definitions and examples provided below, supplementary information about types and examples of academic dishonesty is available (<http://provost.wvu.edu/governance/academic-standards-resources>).

1. **"Plagiarism"** means the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment, including, but not limited to, the unacknowledged use of materials prepared by another individual.
2. **"Cheating and dishonest practices in connection with examinations, papers, and/or projects"** include, but are not limited to, (i) giving or receiving of any unauthorized assistance in taking quizzes, tests, examinations, or any other assignment for a grade; (ii) depending upon the aid of sources beyond those authorized by the instructor or supervisor in quizzes, tests, examinations, writing papers, preparing reports, solving problems, or carrying out other assignments; (iii) the acquisition or use, without permission, of tests or other academic material belonging to a member of the University faculty or staff; and (iv) engaging in any behavior specifically prohibited by a faculty member in the course syllabus or class discussion.
3. **"Forgery, misrepresentation, or fraud as it relates to academic or educational matters"** includes, but is not limited to, (i) wrongfully altering, or causing to be altered, any records; (ii) use of University documents or instruments of identification with the intent to defraud; (iii) presenting false data or information or intentionally misrepresenting records; (iv) furnishing the results of research projects or experiments for the inclusion in another's work without proper citation; or (v) furnishing false statements in any University academic proceeding; and (vi) providing false or misleading information to gain an academic advantage.

A student at West Virginia University who engages in academic dishonesty will be subject to one or more of the following academic penalties (see the previous section for full descriptions of those penalties that can also be imposed for failure to meet academic requirements or standards):

1. Course-level academic penalties. When academic dishonesty occurs within the context of a course (including individually supervised courses), the course instructor/coordinator has the option of imposing the following academic penalties, including but not limited to:
 - a. Change in assignment or test grade.
 - b. A lower final grade, including failure of a course.
 - c. A final grade of unforgivable failure (UF). The UF penalty can be recommended by the course instructor/coordinator but must be reported to the appropriate office by the dean of the college or school offering the course after the time limit for a student appeal has expired or the appeal process has been completed, upholding the UF penalty. The student may repeat the course, but the undergraduate D/F repeat process will not be applied to the UF.
 - d. Required repetition or revision of the assignment or test.
 - e. Exclusion from further participation in class, including laboratories or clinical experiences.
 - f. Other course resolutions within the discretion of the course instructor/coordinator.
2. Other academic penalties. If academic dishonesty occurs either in a course or within the context of program requirements, the academic penalties below may be imposed.
 - a. Required repetition or revision of a program requirement, or termination of the student's participation in specific program-related activities. When academic dishonesty occurs within the context of program requirements and expectations not associated with a specific course (including, but not limited to, completing qualifying exams, conducting research, performing duties associated with a graduate assistantship, performing required service or professional activities, etc.), the student's program director, supervisor, or chair of an appropriate committee may impose these or similar academic penalties.
 - b. Failure of a program requirement or failure to meet academic standards.
 - c. Academic probation or suspension at the program, college, or school level for failure to meet program requirements and academic standards.
 - d. Dismissal from a program, college, school, or the university.

Appeals

In this section:

- General Information about Appeals (p. 14)
- The Appeal Process (p. 14)

GENERAL INFORMATION ABOUT APPEALS

Students may appeal any final grade, charge of academic dishonesty, or academic penalty described above and imposed by a course instructor/coordinator, the institution, or its constituent academic units through the procedures described in this section of the catalog with the following exceptions:

- Grades for individual course assignments cannot be appealed except in the context of a final grade appeal or a charge of academic dishonesty.
- University, college/school, or program probation based on failure to meet minimum GPA standards may not be appealed. University suspension of undergraduate students based on GPA may be appealed as described in the Academic Standards section of the undergraduate catalog (<http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification/#probationsuspensioncontext>).
- Disciplinary penalties imposed by the Office of Student Conduct, including but not limited to probation, suspension, or expulsion from the university, may not be appealed through this process. Refer to the Campus Student Code for procedures to appeal disciplinary penalties, including those for academic dishonesty

The primary purpose of the appeal procedure is to allow review of a final grade, charge of academic dishonesty, or academic penalty in cases where a student believes that due process was not followed or that the grade, charge, or penalty was imposed unfairly or inconsistently with course, program, and university standards and regulations. Students have the right to appeal a final grade, charge of academic dishonesty, or academic penalty that they believe reflects a capricious, arbitrary, or prejudiced academic evaluation, or reflects discrimination based on criteria listed in BOG Policy 44 (<http://bog.wvu.edu/files/d/0d9c7853-4569-4895-b2bc-6bd7f00a3eaf/policy-44-december-18-2015-amendment.pdf>). Additional grounds for appeal may include: unreasonable severity of the penalty; demonstrable prejudice in the decision-making process; a belief that the evidence does not support the finding of responsibility (in the case of academic dishonesty) or the choice of penalty; or additional evidence or new information that was not considered in determining the penalty. Further guidance for students on preparing an appeal (<http://provost.wvu.edu/governance/academic-standards-resources>) is available

If a student does not appeal a final grade, charge of academic dishonesty, or academic penalty, fails to follow the appeal procedures described below, or does not attend a scheduled meeting regarding the appeal, the final grade, charge of academic dishonesty, or academic penalty will be upheld, regardless of whether or not the student is still enrolled in the course or program

THE APPEAL PROCESS

Steps in the Appeal Process:

The following is a summary of the steps in the appeal process. In addition, a detailed list of the steps involved in each type of appeal (<https://provost.wvu.edu/governance/academic-standards-resources/detailed-appeal-procedures>) is available to assist students, instructors, and administrators in managing the appeal process.

- Students are notified of final grades, charges of academic dishonesty, and other academic penalties.
 - Students are informed of final grades for courses at the end of each academic term through the WVU Portal (<https://portal.wvu.edu>).
 - The person making a charge of academic dishonesty must notify the student in writing via WVU e-mail of the charge and penalty within 10 class days* of discovering the infraction. This person must complete the Academic Dishonesty Form (<http://provost.wvu.edu/governance/academic-standards-resources>) when when an academic penalty for academic dishonesty is imposed, regardless of whether or not the student plans to appeal the charge or penalty.
 - The individual or chair of the committee who imposed an academic penalty must notify the student in writing via WVU e-mail of the academic penalty.
- Prior to filing an appeal, students are strongly encouraged (but not required) to contact the individual or chair of the relevant committee who reported a final grade, made a charge of academic dishonesty, or imposed an academic penalty to express their concerns and attempt to resolve the issue. The individual or committee chair, or another informed individual, must meet with the student (p. 16) to provide information and evidence forming the basis for the grade, charge, or penalty.
- Level 1 appeal (for final grades, charges of academic dishonesty, and academic penalties):
 - The student may begin an appeal by submitting a written appeal via WVU e-mail to the Level 1 appeal reviewer named here (<https://provost.wvu.edu/governance/academic-standards-resources>) within the time limit provided here (p. 16). The student's appeal must include the documentation and evidence forming the basis of their appeal. In the case of a charge and/or penalty for academic dishonesty, the student may appeal the charge, the penalty, or both.
 - The individual or committee that gave the grade, made the charge, or imposed the penalty must provide all relevant documentation (including the criteria for determining the student's final grade in the case of a final grade appeal) to the Level 1 appeal reviewer upon their request.

- The Level 1 appeal reviewer assesses the available evidence and makes a decision about the appeal based on that evidence. The reviewer communicates the decision in writing via WVU e-mail to the student and other individuals or committees that have been involved in the grade, charge, penalty, or appeal to that point. If the appeal involves academic dishonesty, the reviewer completes the Academic Dishonesty Form (<http://provost.wvu.edu/governance/academic-standards-resources>). The reviewer retains all documentation related to the appeal for 5 years. In the case of a final grade appeal, the Level 1 appeal reviewer ensures that a grade modification is submitted if necessary.
- If the student accepts the Level 1 appeal decision, the appeal is concluded.
- Level 2 appeal (for final grades, charges of academic dishonesty, and academic penalties):
 - If the student does not accept the Level 1 appeal decision, the student may continue their appeal by submitting a written appeal via WVU e-mail to the Level 2 appeal reviewer named here (<https://provost.wvu.edu/governance/academic-standards-resources>) within the time limit provided here (p. 16).
 - The Level 1 appeal reviewer forwards all materials included in the appeal to the Level 2 reviewer. Both the student and other individuals or committees may provide additional information if they wish.
 - The Level 2 appeal reviewer assesses the available evidence and makes a decision about the appeal based on that evidence. The reviewer communicates the decision in writing via WVU e-mail to the student and other individuals or committees that have been involved in the grade, charge, penalty, or appeal to that point, including the Level 1 appeal reviewer. If the appeal involves academic dishonesty, the reviewer completes the Academic Dishonesty Form (<http://provost.wvu.edu/governance/academic-standards-resources>). The reviewer retains all documentation related to the appeal for 5 years. In the case of a final grade appeal, the Level 2 appeal reviewer ensures that a grade modification is submitted if necessary.
 - If the student accepts the Level 2 appeal decision, the appeal is concluded. If the appeal concerned a final grade, a charge of academic dishonesty without a penalty of program suspension or dismissal, or an academic penalty other than program dismissal, the appeal is concluded.
- Level 3 appeal (for suspension from a program for academic dishonesty or dismissal from a program):
 - If the penalty is suspension from a program for academic dishonesty or dismissal from a program, the student may continue their appeal by submitting a written appeal via WVU e-mail to the Level 3 appeal reviewer named here (<https://provost.wvu.edu/governance/academic-standards-resources>) within the time limit provided here (p. 16).
 - The Level 3 appeal reviewer may appoint and convene a Student Academic Hearing Committee (SAHC) to hear the case and review the appeal. In the case of an academic penalty of program suspension or dismissal based on academic dishonesty, a hearing is required. SAHC procedures follow.
 - Members are appointed to the SAHC at the discretion of the Level 3 appeal reviewer and shall comprise at least three faculty members. At least one SAHC member should be from the program offering the course or the student's program; at least one should be from outside the program offering the course or the student's program.
 - The SAHC holds a joint hearing with the student and any individuals involved in making the academic dishonesty charge or imposing the academic penalty and may also convene additional individual meetings or request additional materials to collect further evidence. The hearing is set outside of the student's scheduled classes; should the student choose not to appear, the meeting will proceed as scheduled.
 - The student may be accompanied to the hearing or meetings or be advised by a person of his or her choice from the institution. Likewise, the faculty member, academic officer, or committee recommending academic suspension (for academic dishonesty) or dismissal may have an advisor from the institution. Such advisors may consult with but may not speak on behalf of their advisees or otherwise participate directly in the proceedings, unless they are given specific permission to do so by the individual or committee conducting the appeal.
 - In addition, for cases involving program suspension or dismissal based on academic dishonesty, the student may be accompanied to the hearing or meetings by an attorney, who may question witnesses and make arguments on behalf of the student.
 - Witnesses may be called by any of the parties involved.
 - A record of the SAHC hearing shall be prepared in the form of summary minutes and relevant attachments and will be provided to the student upon request.
 - The Level 3 appeal reviewer assesses the available evidence, including the recommendation of the Student Academic Hearing Committee, when available, and makes a decision about the appeal based on the evidence and recommendation. The reviewer communicates the decision in writing via WVU e-mail to the student, and other individuals or committees that have been involved in the charge, penalty, or appeal to that point, including the Levels 1 and 2 appeal reviewers. If the appeal involves academic dishonesty, the reviewer completes the Academic Dishonesty Form (<http://provost.wvu.edu/governance/academic-standards-resources>). The reviewer retains all documentation related to the appeal for 5 years.
 - The appeal is concluded.
- Disciplinary penalties for academic dishonesty: The individual or committee that charged the student with academic dishonesty, or the Level 1, 2, or 3 appeal reviewers may determine, in their judgment, that in addition to the academic penalty already assigned, the academic dishonesty rises to a level of significance warranting a potential disciplinary penalty of University probation, suspension, or expulsion. Examples of such cases and guidance in making this decision is available (<http://provost.wvu.edu/governance/academic-standards-resources>). In this case, they may refer the

matter to the Office of Student Conduct. The Office of Student Conduct may also choose to pursue disciplinary penalties based on evidence of repeated instances of academic dishonesty by a student submitted via Academic Dishonesty Forms (<http://provost.wvu.edu/governance/academic-standards-resources>). The Office of Student Conduct shall then undertake student disciplinary proceedings consistent with WVU BOG Policy 31 (<http://bog.wvu.edu/files/d/4c27ce4e-93b5-451b-a557-c9d8ab25a773/policy-31-dec-18-2015-amendment.pdf>) and the Campus Student Code (<https://studentconduct.wvu.edu>). These proceedings do not affect the academic penalty. If the disciplinary proceedings under the Campus Student Code result in a finding that the academic offense does not warrant additional disciplinary penalty, the case is closed and only any academic penalty imposed and upheld through the academic appeal process will apply.

Time Limits for Steps in the Appeal Process:

- Level 1:
 - Final Grade Appeal
 - Student files initial or continuation of appeal 10 class days after grade is posted
 - Decision about appeal communicated to student 10 class days after student submits appeal
 - Academic Dishonesty Charge
 - Student files initial or continuation of appeal 10 class days after charge is sent to student
 - Decision about appeal communicated to student 10 class days after student submits appeal
 - Academic Penalty
 - Student files initial or continuation of appeal 10 class days after penalty is sent to student
 - Decision about appeal communicated to student 10 class days after student submits appeal
- Level 2 (all types of appeals)
 - Student files initial or continuation of appeal 10 class days after decision at Level 1 is sent
 - Decision about appeal communicated to student 10 class days after student submits Level 2 appeal
- Level 3 (appeals of suspension/dismissal only)
 - Student files initial or continuation of appeal 10 class days after decision at Level 2 is sent
 - Decision about appeal communicated to student at discretion of the Provost's office

*Class days are defined as days during which the University is open and classes are officially in session. If classes are canceled for the University as a whole for part or most of a day, the day will not be deemed a class day.

Communication about Appeals:

All communication with a student concerning an appeal must come directly from, or be directed to, the student. Although students and others involved in the appeal process may consult with third parties, appeals and communication about appeals should be conducted between the student and individuals or committees charged with reviewing the appeal. Communication may take place through written documents, e-mail (using official University e-mail accounts whenever possible), and direct contact (telephone, face-to-face meetings, etc.). Decisions at each level of appeal must be communicated to the student and other individuals involved with the appeal at prior levels in writing transmitted via WVU e-mail. In addition, all penalties for academic dishonesty and the outcomes of all appeals involving academic dishonesty must be reported via the Academic Dishonesty Form (<http://provost.wvu.edu/governance/academic-standards-resources>).

Responsibility for Appeal Decisions:

Detailed information about which individuals or committees are responsible for handling different types and levels of appeals (<https://provost.wvu.edu/governance/academic-standards-resources>) is available. These individuals may refer this responsibility to a designee or to a standing or ad-hoc committee. In some cases, program, college, or school documents may provide additional guidance on who is charged with reviewing specific types of appeals. Any disagreements about who is responsible for appeal decisions will be resolved by the Associate Vice President for Academic Affairs in Health Sciences, the Associate Provost for Undergraduate or Graduate Academic Affairs, or the divisional campus President.

Evidence and Meetings Concerning Appeals:

Individuals and committees reviewing appeals may convene individual or joint meetings or request additional materials to collect further evidence. The student may be accompanied to meetings concerning the grade, charge, penalty, or appeal by a person of his or her choice from the institution. Such advisors may consult with but may not speak on behalf of their advisees or otherwise participate directly in the proceedings, unless they are given specific permission to do so by the individual or committee conducting the appeal. Note that some Level 3 Student Academic Hearing Committee meetings may allow the presence and participation of an attorney.

In this section:

- Undergraduate Academic Probation and Suspension Policy (p. 17)
- Probation Procedures (p. 17)
- Suspension Procedures (p. 17)

- Duration of Suspension (p. 17)
- Appeal of Suspension (p. 17)
- Summer Enrollment for Students Suspended for Fall (p. 17)
- Immediate Reinstatement after Suspension (p. 18)
- Readmission after Serving Suspension (p. 18)

Undergraduate Academic Probation and Suspension Policy

This policy concerns academic probation and suspension (referred to below as probation and suspension) from the University. Individual schools, colleges, and programs may place students on probation or dismiss them from their programs as well, using criteria that are the same as or different from those below. Students who are dismissed from a program may transfer to another program if they meet the program's admission requirements or they may be advised in the Center for Learning, Advising, and Student Success until they are able to be accepted to a program.

Any student with an overall grade point average (GPA) below 2.0 will be on probation for summer and fall. Should a student's overall grade point average (GPA) fall below 2.0 immediately following the spring term, the student will be placed on suspension regardless of previous academic standing(s).

Probation Procedures

At the conclusion of summer and/or fall, students on probation (i.e., with an overall GPA below 2.0) are sent a probation letter (via email to their MIX account from the Office of the University Registrar (OUR)). This letter informs students about their academic status, explains what is meant by probation, provides information on resources available to help them improve their academic performance, and describes the consequences of continued poor performance, including the standards and procedures concerning suspension.

Suspension Procedures

At the conclusion of each spring term only, students placed on suspension are sent a suspension letter rather than a probation letter from the OUR (via e-mail to their MIX account and by post to their permanent address) and are suspended from the University effective at the end of the summer term. This letter informs students that they have been suspended from the University, explains what that means, and provides information about appealing the suspension. The letter also describes procedures for reinstatement to the University after their suspension period and the impact of taking classes at other institutions during the suspension period.

Students may also be suspended at the end of fall or summer term, as recommended to the OUR by the designated academic officer in each school or college, based on a failure to meet the provisions of a prior contract put in place for a reinstated student.

Duration of Suspension

Students who are suspended for the first time may not enroll in classes at WVU (including sections offered through Extended Learning) for the following major term (fall semester). Students suspended for a second time will not be allowed to enroll in classes at WVU (including sections offered through Extended Learning) for one calendar year. Students suspended for a third and final time will not be allowed to return to WVU for a minimum of five years.

Appeal

Suspended students have until early June (exact date specified in written notice of suspension) to appeal the suspension by sending a request to their school or college by e-mail or post. A designated academic officer in each school or college will then have until July 1 to review the requests and to reinstate students whose appeals are approved. Students who appeal and are denied or who do not appeal their suspension will be removed from their fall classes.

Summer Enrollment

Students who are suspended for fall may enroll in summer courses at WVU (main campus, Extended Learning, Potomac State College of WVU and WVU Institute of Technology). Students who are enrolled in summer courses as of July 1 will not be removed from their fall classes until summer grades are available. Students who rehabilitate their overall GPA above 2.0 will be automatically reinstated from suspension. Colleges and schools may elect to defer a reinstatement decision as well until summer grades are available. Each college or school will communicate to the OUR the final decision on reinstatement immediately after summer grades are released. Only summer courses taken at WVU's main campus, Extended Learning, Potomac State College of WVU and WVU institute of Technology will be considered in determining eligibility for reinstatement for the fall following suspension.

Immediate Reinstatement after Suspension

Students who are suspended and subsequently reinstated following a successful appeal or a successful summer term may be retained in their major for advising.

Readmission after Serving Suspension

Suspended students who wish to be readmitted into the University after their required suspension period must contact Undergraduate Admission. Students, at the discretion of their College/School, may remain in their major at the time they leave WVU or change majors upon return. All reinstated students whose GPAs are below the suspension cutoff are given a contract that describes the conditions that must be met to avoid suspension in future terms.

Admissions

In this section:

- Introduction (p. 18)
- Robert C. Byrd Health Sciences Center (p. 18)
- Visiting Students Coming to WVU (p. 18)
- Veterans (p. 19)
- Readmission (p. 19)
- Second Degree Students (p. 19)
- Undergraduate Non-Degree (p. 19)
- Academic Forgiveness Policy (p. 19)
- WVU Transient Students (p. 19)
- Immunization Requirement (p. 20)

Introduction

WVU provides excellent educational programs for well-prepared students. The goal of the University's admission policy is to select applicants who will succeed academically and socially. If space is limited, the better-prepared students are admitted.

WVU enrolls a diverse student population. While preference is given to West Virginia residents, qualified students from other states and countries are encouraged to apply. The University is committed to the goal of equal educational opportunity for all students: no candidate is denied admission because of race, religion, color, sex, sexual orientation, marital status, age, handicap or disability, veteran status, or national origin.

The primary focus of the admissions review is on academic potential. All of the required materials submitted by the applicant - application, transcripts, and standardized test scores - are reviewed carefully.

Applications for admission can be found online at: <http://apply.wvu.edu/> or write to:

Office of Admissions
West Virginia University
P.O. Box 6009
One Waterfront Place, 2nd Floor
Morgantown, WV 26506-6009
Telephone: (304) 293-2121
e-mail: WVUAdmissions@mail.wvu.edu

Some colleges and programs have admission standards that exceed the minimal requirements for admission to the University. For example, admission to the forensics major in the Eberly College of Arts and Sciences and to the professional programs in the Division of Physical Therapy and the School of Pharmacy, among others, is competitive, and preference is given to West Virginia residents. Admission to the University does not ensure admission into a specific major, school, or college.

References to SAT scores for admission requirements are based on SAT administrations prior to March 2016. Please visit <https://admissions.wvu.edu> for updated admission requirements based on concordant SAT scores for tests taken March 2016 and later.

Robert C. Byrd Health Sciences Center

The undergraduate programs at the Robert C. Byrd Health Sciences Center have specific application periods and requirements. Please refer to the program's website for admission requirements for undergraduate health sciences center programs. The undergraduate application is available at: <http://admissions.wvu.edu/apply-now>.

Visiting Students Coming to WVU

Students wanting to take a course at WVU and have the credit transferred to another college or university must complete a Visiting Student Form. The application can be found at: <http://admissions.wvu.edu/admissions/forms>. A form must be completed for each term you plan to attend.

Veterans

Veterans not meeting minimal admission requirements may be reviewed for admission by the Admissions Review Committee.

Readmission

If a student leaves the University for at least one complete semester, an application for readmission must be submitted to the Office of Admissions. Decisions on readmission are based on the student's academic standing.

If another institution(s) was attended, readmission will be based on the WVU academic standing along with academic credit earned at any other institution attended after leaving WVU. In order to be readmitted, student must obtain an overall grade point average of 2.0 at all institutions attended since leaving WVU or attain a combined overall grade point average of 2.0 from all institutions attended including WVU.

If suspended from the University, a student must apply for readmission. Additional information may be found at: http://registrar.wvu.edu/current_students/probation-suspension.

Second Degree Students

College graduates wanting to earn a second bachelor's degree are required to submit an undergraduate application and official transcripts from all institutions previously attended. The Office of Admissions can only accept transcripts sent from the Registrars' Offices of these institutions. Transcripts issued directly to the student or facsimile (fax) transcripts are not considered official. In general, admission is granted on the basis of a cumulative grade point average of at least 2.0 in the first baccalaureate. Selected majors have higher requirements. After admission, the individual department evaluates the transcript and applies any appropriate credit from the first baccalaureate toward completion of the second. Students who have earned a bachelor's degree from an accredited college or university generally meet all of WVU's General Education Foundations (GEF) requirements. All residence requirements must be met to receive a second bachelor's degree. (See Residence Requirements).

Undergraduate Non-Degree

Students with one or more bachelor's degrees from an accredited college or university (including WVU) who want to enroll for undergraduate credit may be admitted as non-degree students. Post-baccalaureate students who are not working toward a graduate degree may earn undergraduate credit and will be assessed undergraduate fees. Candidates for admission to this classification who are not graduates of WVU must submit an undergraduate application and an official transcript from the institution granting the undergraduate degree. The Office of Admissions can only accept transcripts sent from the Registrar's Office of the institution(s) previously attended. Transcripts issued directly to the student or facsimile (fax) transcripts are not considered official. WVU students need only to apply with an undergraduate application.

WVU will admit students who are not degree candidates but who wish to take additional courses. If students meet University requirements, they should submit a complete application and official transcripts from all institutions previously attended. If students have completed fewer than twenty-four college-level credits, they should submit an official high school transcript.

Academic Forgiveness Policy

WVU allows academic forgiveness to some undergraduate students who are not successful in their first attempt at higher education **within the West Virginia system**.

In order to determine eligibility, an Academic Forgiveness form must be completed, which is available at <https://admissions.wvu.edu/forms-and-procedures/academic-forgiveness>. Students should consult with their academic department for advising.

The conditions and rules of the academic forgiveness policy are as follows:

- A student cannot have been enrolled at any higher education institution for at least four calendar years.
- Admission or readmission to WVU under the academic forgiveness policy is contingent upon satisfying the above stated non-enrollment period. In addition, a recommendation that the student be admitted under the academic forgiveness policy must be submitted by the dean of the college or school that the student plans to enter, and the recommendation must be approved by the Associate Provost for Undergraduate Academic Affairs.
- Upon admission to WVU under this policy, the student will be credited with the hours earned for courses completed with a grade of D or higher.
- Grades earned during any prior enrollment period will not be counted for purposes of calculating the student's grade point average, but the grades earned will remain on the student's permanent record.
- The student must meet and complete all coursework required to meet the college's or school's requirements for graduation, but under no circumstances after the student has been admitted under the academic forgiveness policy shall the student complete fewer than sixty credit hours prior to earning a degree.
- A student admitted to WVU under this policy will follow all regulations regarding probation, suspension, and expulsion.

WVU Transient Students

In order to take a course or courses at another college or university, a student must complete a Transient Credit Form, which can be found at: <http://admissions.wvu.edu/r/download/134700>. To receive such approval, a student must have an overall 2.0 grade-point average. All approved college-level

work is accepted for transfer from accredited institutions, provided the above requirements have been met. To view a list of schools and courses already reviewed, visit <http://admissions.wvu.edu>. In addition, an official transcript must be received by the Office of Admissions before any coursework can be counted toward degree requirements. Students cannot choose to transfer courses based on the grades earned. All courses from the institution(s) will be transferred. The academic department will determine what courses satisfy degree requirements.

International students going to their home country for transient study must complete the same Transient Credit Form found at <https://admissions.wvu.edu/forms-and-procedures/transient-credit-application>. Credit only (not grades) will be transferred to WVU from an International institution. All students traveling abroad through the Study Abroad Program should complete the Study Abroad Transient Form which can be found at <http://studyabroad.wvu.edu/home>.

Immunization Requirements

Requirements for immunizations are posted at: <http://studentinsurance.wvu.edu/immunizations>.

In this section:

- Freshman Admission Requirements (p. 20)
- General Equivalency Degree (GED)/Test of Accessing Secondary Completion (TASC)/High School Equivalency Test (HiSET) (p. 21)
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- ACCESS (Attaining College Credits and Experiences while in Secondary School) (p. 22)

Freshman Admission Requirements

To be considered for freshman admission, a student must:

- Submit an application for admission
- Pay required application fees and provide all required documents to be reviewed for admission which includes: an official high school transcript and ACT/SAT test scores. Upon graduation, please ask the high school counselor to send an official final high school transcript verifying graduation to the Office of Admissions.

And successfully complete the following high school credits:

- Four units of English
- Three units of social studies (including U.S. History)
- Four units of college preparatory mathematics (three units must be Algebra I and II and Plane Geometry).
- Three units of science (ALL units must be laboratory science)
- Two units of the same foreign language
- One unit of fine arts

The following is a list of the GPA and test score criteria.

High school grade point average and comprehensive tests are the major criterion used to determine admission to WVU. WVU accepts either ACT (American College Testing) or SAT scores.

High school graduates from West Virginia are eligible to be considered for admission with a 2.0 grade point average and either a composite ACT score of 19 or a combined math and critical reading SAT score of 980. Non-residents are eligible to be considered for admission with a 2.5 overall grade point average and either an ACT composite score of 20 or a combined math and critical reading SAT score of 1020. If space is available and the required high school units, GPA, and test scores are met, the student will be admitted. Therefore, we encourage eligible students to apply as soon as possible after August 1 of their senior year. If one of the requirements is not met, students may still apply, and the Admissions Review Committee will review the application. If appropriate, students should submit a written statement explaining any extenuating circumstances that may have affected their academic performance. Each application is reviewed individually and given full consideration.

Students who graduate fewer than five years before their admission request must present ACT or SAT scores with the admission application. If it is more than five years since the student's class graduated from high school or a GED diploma was earned and no other college has been attended, WVU may waive some of the admission requirements

General Equivalency Degree (GED)/Test of Accessing Secondary Completion (TASC)/ High School Equivalency Test (HiSET)

Students who have completed a General Equivalency Degree (GED) with an average standard score of 2250 (450) or above must request that the State Department of Education mails copies of scores to the Office of Admissions. In addition, a high school transcript must also be mailed to the WVU Office of Admissions.

Beginning January, 2014, the West Virginia Department of Education began to use the Test Assessing Secondary Completion (TASC) exam in place of the GED. The GED will continue to be accepted for students who took the GED prior to January, 2014 or from a state that does not administer the TASC exam. Those students passing the TASC will need to submit their "State of West Virginia High School Equivalency Diploma." A high school transcript must also be mailed to the WVU Office of Admissions. More information about the TASC exam can be found at: <http://www.tasctest.com>.

Beginning January, 2016, the West Virginia Higher Education Policy Commission also approved the use of High School Equivalency Test (HiSET). More information about the HiSET exam can be found at http://hiset.ets.org/states_educators/.

Advanced Placement Program (AP)

WVU encourages students to work to their full capacity and to earn their degree at their own learning speed. As a high school junior or senior, students can take college-level courses at their school through Advanced Placement courses. Administered by the College Board, Advanced Placement examinations verify if a student has earned competency equal to that of a college course. The WVU Office of Admissions' Advanced Placement chart (<http://admissions.wvu.edu/admissions/equivalency>) shows the subject areas and necessary test scores needed to earn WVU equivalent courses. In order to receive Advanced Placement credit, official scores must be sent to the Office of Admissions.

College Level Examination Program (CLEP)

If a student has gained a significant level of maturity through life experiences, he or she may receive college credit for those educationally-related experiences through the College Level Examination Program (CLEP) of the College Board. With the exception of English composition, up to thirty-five hours of general education or elective credit may be earned for successful performance on the CLEP general examinations. Although this program was designed primarily for adults, exceptionally well-qualified high school seniors may use the CLEP program. The chart at the WVU Office of Admissions' website: <http://admissions.wvu.edu/admissions/equivalency> indicates the areas for which WVU grants credit based on the minimum scores required. Students must be enrolled at WVU to receive credit. Students who have taken CLEP examinations prior to enrollment must submit an official CLEP transcript.

Active Military Service Credit

A student with at least one year of active military service may receive college-level credit by submitting a copy of his or her DD214 or a Sailor/Marine/ACE Registry Transcript (SMART) or Army/ACE Registry Transcript System (AARTS) transcript. The chart can be found at <http://admissions.wvu.edu/admissions/equivalency>.

International Baccalaureate (IB)

West Virginia University welcomes applications from students who have attended high schools that offer the international baccalaureate program. Credit given varies with level (standard or higher) and with score. The chart can be found at: <http://admissions.wvu.edu/admissions/equivalency>.

A and AS Levels

West Virginia University welcomes applications from students with Cambridge International A and AS Level Certificates for advanced placement credit.

A maximum of 6 to 8 credits per subject can be awarded for Cambridge International A Level grades ranging from E or above, with the submission of an official Cambridge Examination Certificate. Cambridge International AS Levels with grades of E or above will receive a maximum of 3 to 4 credits, with the submission of an official Cambridge Examination Certificate. For more information, please contact the Office of Admissions, International Unit (<http://oiss.wvu.edu>).

Early Admission

WVU will admit a limited number of rising high school seniors who have demonstrated high academic achievement and maturity to enter college before high school graduation. Students who have completed their junior year in high school with 3.5 GPA or higher and a 26 enhanced ACT composite or 1240 on the SAT and have completed all requirements for graduation from high school except senior English may apply for early admission. In addition to submitting the freshman admission application and required documents (see Freshman Admissions), the principal or guidance counselors must submit a letter supporting the application. The student's parent(s) or guardian(s) must also submit a letter of support for the application. Once the above requirements are met, an interview with the student will be conducted for the Early Admissions Program. Accepted students are admitted as full-time students with all of the rights and privileges offered to other students.

ACCESS (Attaining College Credits and Experiences while in Secondary School)

High school students who have completed their junior year with a 3.0 cumulative GPA may be admitted to enroll in college courses before high school graduation. An ACCESS application for admission must be submitted along with permission from parent(s) or guardian(s) and high school counselor or principal. Coursework completed at the University must be at a level beyond that available in the high school setting.

In this section:

- Transfer Students from Regional Campuses (p. 22)
- Transfers from Other Accredited Institutions (p. 22)
- Application Materials (p. 22)
- Evaluation of Transfer Credit (p. 22)
- Transfer Credit Appeals Process (p. 22)

Transfer Students from Regional Campuses

Students enrolled at Potomac State College of WVU or WVU Institute of Technology must complete the Change of Campus form to transfer to the Morgantown campus. The form can be found at: <http://admissions.wvu.edu/r/download/134772>. WVU admission requirements must be met as well as requirements to specific programs.

Students wanting to transfer to WVU in Morgantown before completing two semesters at any of our regional or branch campuses need to meet freshman admission standards.

Transfers from Other Accredited Institutions

We welcome transfer students who have completed post-secondary coursework at a regionally accredited college or university. To be admitted as a transfer student at WVU, students must have at least a cumulative 2.0 grade point average in all college work attempted. Transfer students who have fewer than twenty-four transferable credit hours must also meet freshman admission standards. Some individual programs and majors have different course requirements and higher grade point average requirements.

Application Materials

To be considered for transfer admissions, the following materials are needed:

1. A completed application for undergraduate admission.
2. Official transcripts of all college work attempted must be sent to the Office of Admissions. Admissions can only accept transcripts sent directly from Registrars' offices. Transcripts issued to the student, or a facsimile (fax) transcript, are not considered official. Before final admission is granted, an official transcript must be submitted covering all courses taken after application to WVU.
3. If you have fewer than 24 transferable credit hours, ACT or SAT scores and a high school transcript must be submitted as part of your application.

All application materials must be received in the Office of Admissions by August 1 for fall admission and December 1 for spring admission.

Evaluation of Transfer Credit

Evaluation of transferable credit will be made after receipt of all final official transcripts and admission to WVU. All credits and grades accepted as transfer credit will be used in the calculation of the cumulative grade point average and total attempted and earned credits. Transfer credits from community colleges and junior colleges outside the West Virginia Regional Campus System are limited to 72 hours of lower-division courses.

In all cases, the application of transfer credit toward completion of a bachelor's degree is determined by the school or college upon enrollment. The student's academic department will determine which credits will be used to meet degree requirements. If more than 58 semester hours are being transferred, entrance requirements for the specific program must be met. Individual consideration is given to a limited number of students with more than 58 transferable hours who do not meet specific program requirements.

Transfer Credit Appellate Process

Students who transfer credits to WVU, from a West Virginia institution, may appeal decisions on how credits were evaluated. Students opting to appeal a transfer evaluation must appeal to the Office of Undergraduate Admissions within one semester of the transfer. Appeals should be made in writing and provide syllabi or other supporting documents. The Office of Undergraduate Admissions will review the appeal and make any technical corrections to work evaluated as needed. If the Office of Undergraduate Admissions finds no technical error in how the credit was evaluated, the student's appeal and syllabi will be forwarded to the respective college through which the course or similar course is offered and reviewed by the Dean's designee for a determination. If it is determined the course in question is not equivalent to an existing course, the appeal will be denied. If the appeal is denied, the student may appeal to the Associate Provost for Undergraduate Academic Affairs. The Associate Provost will convene a panel of faculty members to review the appeal. This panel will decide to either uphold the transfer evaluation as it stands or direct that the evaluation be changed. The Associate Provost will notify all parties to the outcome of the process within 60 days of receipt of the appeal by the Office of Undergraduate Admissions.

Students who wish to appeal the decision of the faculty panel may contact the West Virginia Higher Education Policy Commission. The Commission will review the request and make a recommendation to the President of the University.

In this section:

- International Student Admission (p. 23)
- IGCSE and GSCE Levels (p. 24)
- Admission Requirements (p. 24)
- English Language Proficiency (p. 24)
- Financial Documents and Student Visa (p. 25)
- Student Health Insurance (p. 25)

International Student Admission

West Virginia University is authorized under federal law to enroll non-immigrant foreign nationals as international students. International students wishing to enroll as undergraduate students at WVU must comply with the stated academic requirements for admission and with certain additional academic and non-academic requirements.

Application deadlines are as follows:

- Fall Semester – Apply by June 1, all academic documents need to be submitted by July 1
- Spring Semester – Apply by October 1, all academic documents need to be submitted by November 1
- Summer – Apply by February 15, all academic documents need to be submitted by April 1.

Applications submitted after the deadline and incomplete applications will be considered for the next term.

International students applying for admission to WVU must submit the following:

- Completed International Student Admission Application
- Application fee
- Results of the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). TOEFL results should be sent to WVU directly from the Educational Testing Service (ETS) and the IELTS results should be sent directly from the University of Cambridge Local Examinations Syndicate.
- Original or certified copies of an official academic record in original language of issue
- Original or certified copy of all certificates or diplomas in original language of issue
- Official English translations of academic record and certificates/diplomas
- Copy of current passport or visa for visa status

NOTE: Copies of academic records/transcripts, certificates or diplomas from international institutions may be sent by email for review purposes after application. However, original or certified copies of all official records/transcripts, certificates and diplomas must be submitted by mail or special delivery such as FedEx or DHL after admission or as soon as possible prior to registration.

Transcripts from US institutions must be sent directly from the US institution to West Virginia University.

Applicants for undergraduate programs must submit all secondary school records as well as all university-level records. Undergraduate transfer applicants should submit course descriptions or syllabi for all courses completed at the university level.

International applicants who have completed high school in the United States will also be required to submit ACT or SAT results.

The above items should be sent to the following address by the application deadline: Office of Admissions, West Virginia University, P.O. Box 6009, 2nd Floor, One Waterfront Place, Morgantown, WV 26505-6009.

If possible, all application material should be submitted at one time (TOEFL/IELTS scores and official transcripts from United States institutions should be requested so that all material arrives at WVU close to the same date). Incomplete applications cannot be guaranteed consideration for the desired semester.

Please note: Documents received by WVU, including original documents, become the property of WVU and cannot be returned to or copied for the applicant.

Please review our instructions for applicants from Chinese institutions and an important note on submitted documents.

APPLICANTS FROM CHINESE INSTITUTIONS

Applicants from Chinese institutions should request and submit official transcripts directly through CHESICC. Requests are processed by CHESICC and will be sent electronically to WVU's admissions office. You **will not** need to submit a paper copy of your transcript. Visit CHESICC to get started.

WORLD EDUCATION SERVICES (WES)

To expedite the application process, it is recommended, but not required, that all undergraduate students (both freshmen and transfer) who have attended high school, post-secondary educational institutions and college or universities outside the United States use World Education Services to complete professional credential evaluation of all academic work completed. Transfer applicants should request a "course-by-course" International Credential Advantage Package (ICAP). Freshman applicants should request a "document-by-document" International Credential Advantage Package (ICAP). ICAP evaluations include WES certified copies of official documents.

IMPORTANT NOTE ABOUT NAMES ON SUBMITTED DOCUMENTS

Materials from applicants are retained alphabetically, under the family name, as indicated by the applicant on the International Student Admission Application. It is important that all forms, records and correspondence use the same name and spelling. Your name needs to be as it appears or will appear in your passport. Materials often cannot be matched to files when papers arrive with different names.

IGCSE and GCSE Levels

West Virginia University welcomes applications from students with IGCSE and GCSE Level Certificates from Cambridge International for admissions consideration. We require a minimum of 5 subject passes of which two must be English and Mathematics. The average of the grades must be at least a 2.5 (on a 4.0 scale). A passing grade in the subject of English will be accepted as evidence of sufficient English ability.

Admission Requirements

The following are the minimum admissions requirements for international students applying as freshman or undergraduate transfer students.

FRESHMAN:

- Must have at least a 2.5 grade-point average on a 4.0 scale for general admission.
- Must meet English Proficiency or request conditional admission.
- Please be advised that some majors such as Engineering may reach capacity and therefore will be restricted from entry.
- For direct admission to some colleges and majors, SAT or ACT scores are required and must be sent to WVU directly from the respective testing services. For all other majors, international students are encouraged but not required to submit SAT or ACT scores, if available. SAT/ACT scores are useful for determining scholarship eligibility.

TRANSFER

- Must have at least a 2.5 grade-point average on a 4.0 scale for general admission.
- Must meet English Proficiency or request conditional admission.
- In addition, transfer students who have fewer than 24 transferable credit hours, must also meet freshman admission standards and submit secondary school/high school transcripts. Some individual programs and majors have different course requirements and higher grade point average requirements; please review the various program requirements.
- Grades and credits are transferable for college-level courses from regionally accredited U.S. institutions. Only credits (no grades) are transferable from college-level courses from International institutions.

Applicants must submit academic records from all secondary and post-secondary institutions attended regardless of whether grades were issued or credit was received. WVU requires that original or certified copies of the original academic documents from non-United States institutions be submitted. The required documents include the official academic record (showing course titles, dates taken, and grades received) and diploma(s) or certificate(s) showing degree awarded. These documents must be in the original language of issue; official English translations must be included. Translations must be literal, word-for-word translations and must indicate actual grades received, not an interpretation of the grades. Applicants who have studied in the United States are required to have the institution(s) in the U.S. send the official transcript directly to WVU.

Documents received by WVU become the property of WVU and cannot be returned to the applicant or copied for the applicant. It is therefore recommended that students who receive only one original copy of credentials submit certified copies with the application.

English Language Proficiency

All applicants whose **native** language is not English must provide proof of English language proficiency. WVU uses the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) as the measure of English language proficiency. A score of 500 on the paper-based TOEFL, or 61 on the internet-based TOEFL, or 6.0 on the IELTS is the minimum required of all such undergraduate applicants. Applicants must make arrangements to take the TOEFL/IELTS well in advance of the desired date of enrollment at WVU. Information about registration for the TOEFL can be obtained by writing to: Educational Testing Service, P.O. Box 6151, Princeton, NJ 08541-6151, USA, or by contacting the local

office of the United States Information Service (USIS). Information about registration for IELTS can be obtained by accessing the IELTS website at <http://www.ielts.org>.

TOEFL results are not required for applicants who have received a high school diploma and have obtained the required ACT/SAT test scores or a bachelor's degree from schools in the United States.

In some cases, SAT Reading or ACT English test scores may be used to meet English proficiency. A passing grade in the subject of English on the IGCSE or GCSE certificates from Cambridge International will be accepted for English proficiency.

Applicants who have completed English composition courses which are equivalent to WVU's ENGL 101 and ENGL 102 with a "B" average at a United States institution are not required to submit TOEFL/IELTS scores. Many online English composition courses are not considered equivalent and will require review and approval from the English department.

In some cases, it may be possible to consider applications from students who lack adequate TOEFL or IELTS scores and who will enroll in WVU's Intensive English Program. Such applicants must contact the Intensive English Program and notify the Office of Admissions of their intentions. Admission to the Intensive English Program does not guarantee admission to the University or to a specific program of study. Inquiries should be directed to: Intensive English Program, WVU Department of Foreign Languages, P.O. Box 6298, Morgantown, WV 26506-6298, Telephone: (304) 293-3604. Online: <http://iep.wvu.edu>.

Financial Documents and Student Visa

Before WVU can issue the document necessary to apply for a student visa (Form I-20 or Form DS-2019) the student must provide proof that he or she has the adequate financial resources to provide for his or her expenses incurred while studying at WVU. All financial documents along with a copy of the visa or passport must be submitted to the Office of International Students and Scholars Services. For more on the Student Visa process, visit the Office of International Students and Scholars Services at <http://oiss.wvu.edu/>.

Student Health Insurance

International students will be automatically enrolled in our student health plan unless an appropriate waiver has been submitted and approved. Information regarding the plan, enrollment information, waiver forms, etc., can be found at the Student Health Insurance Plan (<http://studentinsurance.wvu.edu>).

Advising, Enrollment & Grades

In this section:

- Academic Advising (p. 25)
- Goals of Undergraduate Education (p. 25)
- Degree Works (p. 26)

Academic Advising

Every student at West Virginia University has access to academic advising and will be assigned an advisor. WVU students are required to meet with their academic advisors prior to registering for classes each semester. Advisors assist students in understanding major and University requirements including the General Education Foundations (GEF); course registration planning and processes; program and course prerequisites; and academic standing (e.g. probation and suspension). In addition, advisors may assist students with planning for post-baccalaureate education and careers.

It is the student's responsibility to understand their degree requirements. Students are expected to become familiar with the Undergraduate Catalog and Degree Works and prepare for their own course planning and registration processes.

Goals of Undergraduate Education

WVU's undergraduate education is designed to help students acquire a basic foundation in a variety of academic areas in addition to their major field. Students are expected to integrate the perspectives of the humanities, social sciences, natural sciences, and an appreciation of the arts with coursework in their major to facilitate an understanding of the world at large. This foundation for lifelong learning should provide the knowledge and skills necessary to embrace social, cultural, and technological change.

In addition to these various perspectives, students are expected to develop critical thinking and problem-solving skills sufficient for life in contemporary society. These skills include the ability to read critically, listen critically, ask appropriate questions, gather relevant information, and apply critical analysis to reach logical conclusions. Central to these skills are mathematical literacy and proficiency in oral and written communications.

In preparation for life after the university, students are expected to attain proficiency in their major fields. This proficiency should enable them to be competitive in the job market or in admission to graduate or professional schools.

Finally, students are expected to acquire knowledge, understanding, and an appreciation of diversity in languages, cultures, ideas, and peoples, along with a desire to work so that all individuals are treated in a manner consistent with social justice. We hope that students will maintain a lifelong commitment to ethical behavior, responsible citizenship, and public service.

One of the primary ways in which students accomplish WVU's goals of undergraduate education is through completion of the eight General Education Foundations (GEF) areas. Each of the areas is satisfied by completion of courses designated as GEF courses. For a description of the General Education Foundations and a listing of approved courses, visit the Office of Registrar's website: <http://registrar.wvu.edu/>.

In addition to completing the GEF, students receive a well-rounded undergraduate education by completing a first-year seminar requirement, writing and communication skills requirement, and capstone requirement. Each college or school must determine their writing and communication skills requirements. Transferability of writing and communication skill requirements between majors and colleges is at the discretion of the college/school or academic unit. The capstone experience is defined as: an academic experience in which students demonstrate, in a significant, relevant project that has an oral and a written component, their abilities to:

- Gather material independently, as needed
- Think critically about and to integrate the theoretical and/or practical knowledge that they have acquired throughout their undergraduate careers; and
- Reflect on the ethical issues that are implicit in their project and/or their project's design.

Degree Works

Degree Works is the online advising and degree auditing tool at WVU. All undergraduate students should have a completed audit for graduation. Some graduate programs also have an audit available in Degree Works. Please refer to this system regularly. Students can access Degree Works through the WVU Portal (<https://portal.wvu.edu>). More information is available at <http://registrar.wvu.edu/dw>.

Degree Works is NOT an official evaluation. All degree requirements must be verified by student's college or school prior to graduation. Students are responsible for complying with all academic policies published in the University catalog. If students have any questions about the information presented in this audit, they are encouraged to contact their advisor or the Office of the University Registrar at registrar@mail.wvu.edu.

In this section:

- Attendance Policy (p. 26)
- Auditors (p. 26)
- Military Leave (p. 26)
- Preferred Name Policy (p. 27)
- Withdrawal Policy (p. 28)

Attendance Policies

Instructors may set attendance policies that are appropriate for the goals and instructional strategies of their courses and instructors may include attendance records in determining the final course grade. All attendance policies that affect students' grades must be announced in writing (typically within the course syllabus) within the first week of class. Moreover, instructors are responsible for keeping accurate enrollment records, and for keeping accurate attendance records when attendance is used in grading.

Students who are absent from class for any reason are responsible for all missed work and for contacting their instructors promptly, unless the instructors' policies require otherwise. However, instructors cannot require documentation of student illness from any medical provider as part of an attendance policy, as medical conditions are confidential and frequently not verifiable.

Auditors

An auditor may register for courses and must pay full fees but does not receive credit for the course. A student who audits a course must let one semester pass before enrolling in the course for credit. A student may change his or her status from audit to grade or grade to audit only during the registration period. Attendance requirements for auditors are determined by the instructor of the course. The instructor may direct the Office of the University Registrar to remove an auditor from a class list or grade report if attendance requirements are not met.

Military Leave

STUDENTS CALLED TO SERVE IN THE MILITARY

1. Students who withdraw from the University for military service up to and including the 12th week of the semester will receive a full refund of their fees and be administratively withdrawn from their classes. No course grades or credit will be awarded.
2. Students who leave the University for military service after the 12th week of the semester should work with the designated contact person in their home college (usually the academic associate/assistant dean). The student may also contact the Office of the University Registrar (304-293-5355). The contact person will assist the student in reviewing the student's eligibility for credit for their courses on a course-by-course basis with the instructors.

3. The contact person will work with the student's instructors to gather grade information for the student. If the course is not in the student's home college, the contact person can work with his/her counterpart in the appropriate college. Several outcomes are possible:
- If the course is substantially complete and the student has done passing work, the student should receive the grade earned at that time. It is anticipated that this would be the outcome in the majority of the courses. **NOTE: Students who receive orders with sufficient advance notice are expected to notify their professors of their upcoming deployment date and meet with their professors to come to an agreement on what regular course assignments they can reasonably complete prior to the deployment date (the details of this arrangement should be included in a contract initialed by both the instructor and the student; contracts must be placed in the student's file). Students should not be penalized for not completing assignments, quizzes, tests, or exams due after their deployment date.**
 - If a critical competency has yet to be covered in a competency-based course, the instructor should award a grade of "I" and work with the student to develop a plan to complete that critical part of the course. To alleviate confusion at a later date, the plan should be in writing and signed by both the instructor and the student. Students called to active duty for a relatively short duration that includes exam week may arrange for an "I" with provision to make up the final exam after completing the period of duty.
 - If the student chooses to withdraw from the course, the contact person will work with the appropriate University office to provide an administrative withdrawal.

LEAVE FOR MILITARY DRILL

In accordance with the "Veteran Friendly" designation, WVU faculty may allow students who are members of the US Armed Forces (including the National Guard and Active Reserve) to make up tests and assignments that are missed during a semester if the student is officially called up for military service requirements for a limited period and if the delayed coursework completion will not irreversibly impact the student's ability to appropriately master the required subject matter. Absence due to required military obligation should not exceed a cumulative amount of three weeks. Students should notify faculty members of the circumstances of their absence as far in advance as possible and work with faculty members to agree upon a plan of action for completing course requirements.

Preferred Name Policy

West Virginia University recognizes that students may use a different first name from their legal name. To facilitate this, the University allows students to select a preferred name to be used on class rosters, in DegreeWorks, MIX, eCampus and the online University directory (unless the student has directed nondisclosure), and other systems that do not contain official records as technically feasible. Preferred names are **first** names that are different than a student's legal first name. Official records of the University such as the transcript, diplomas, financial aid documents, and others, where legal name is required will **not** be available for the use of a preferred name. If a student changes names legally, these documents will reflect the legal name.

This accommodation is available to two groups of students: transgender and international students. The Office of the University Registrar may make exceptions for other students upon review.

Transgender students who wish to use a preferred name should contact one of the following units on campus to initiate use of their preferred name:

Morgantown Campus

Office of the University Registrar
Evansdale Crossing

Carruth Counseling Center/WellWVU
Health and Education Building
390 Birch Street

LGBTQ+ Center
Hodges Hall G-06
127 Hough Street

Beckley Campus

Trio and Diversity Programs
136 Benedum Center

Keyser Campus

Office of Enrollment Services
75 Arnold Street

International students who wish to use a preferred name should contact the Office of International Students and Scholars (Purinton House) to initiate use of the preferred name.

All students, regardless of University point of contact, will be asked to complete a form to request use of their preferred name. Submission of the form requires verification of photo ID by a WVU staff member. In the alternative, students may also send a letter to the Office of the University Registrar

requesting the use of a preferred name. The letter should contain both the legal name and the preferred name as well as the student's WVU ID number. All letters must be signed and witnessed by a notary public.

The preferred name will remain in use until the student requests that it be deactivated. Deactivation can be initiated via the units listed above.

This process for using a preferred name does not impact students who officially change their legal name.

Withdrawal Policy

There are two types of withdrawals: withdrawal from individual courses for which a student has registered and a complete withdrawal from the University. Deadlines, procedures, and policies concerning withdrawals are available at the Registrar's website. Students are encouraged to discuss withdrawals with their advisor and to consider the impact of withdrawals on their required enrollment and degree progress as well as their eligibility for graduate assistantships, financial aid, or international full-time status. Students who decide not to return for a subsequent term must withdraw from all registered courses prior to the term to avoid being charged tuition and fees.

RE-ENROLLMENT AFTER WITHDRAWAL

After a student withdraws from WVU in two consecutive semesters (excluding summer sessions), a student may not register for further work without approval of the dean of the college or school in which the student wants to register. Enrollment is subject to conditions set by that dean.

In this section:

- Grading System (p. 28)
- Pass / Fail Grading (p. 28)
- Incomplete Grades (p. 29)
- Grade Point Average (p. 29)
- Repeat Policy (p. 30)
- Grade Reports (p. 31)
- Dean's and President's List (p. 31)
- Transcripts (p. 31)

Grading System

Grade	Description
A	Excellent (Given only to students of superior ability and attainment)
B	Good (Given only to students who are well above average but not in the highest group.)
C	Fair (Average for undergraduate students.)
D	Poor but passing (Cannot be counted for graduate credit.)
F	Failure
I	Incomplete
W	Withdrawal from a course before the date specified in the University calendar.
P	Pass (See Pass/Fail grading below)
X	Auditor, no grade and no credit.
CR	Credit but no grade
PR	Progress; final grade to be issued at end of second semester (HSC)
S	Satisfactory
U	Unsatisfactory
H	Honors course (Professional school courses only)
IF	Incomplete grade not removed by next regular term (Computed as an F.)
UF	Unforgivable F (Not eligible for D/F repeat policy.)

Note: Grades that are not reported by faculty at the end of a term will be designated with an NR on the official transcript. Grades that are not reported will become an F at the conclusion of the next semester if a final grade is not submitted.

Pass/Fail Grading

Pass/fail grading encourages students to take elective courses not related to their degree concentrations. Pass/fail grading also facilitates grading in competency-based courses that may be an integral part of an academic program.

Any full-time student who has completed fifteen hours or more and who has maintained a 2.0 grade point average may take a maximum of four hours each semester or summer term on a pass/fail basis. Any course taken on a pass/fail basis must be a free elective. Students are limited to a total

of eighteen hours of pass/fail credit in the collegiate career. Courses in the major, courses in other subjects that are required by the major, and courses taken to satisfy University, college, school, or departmental requirements are excluded from pass/fail. For example, courses elected to satisfy the General Education Foundations (GEF) or foreign language requirements may not be taken for pass/fail grading.

A course taken on a pass/fail basis is graded as a graded course. The instructor turns in the appropriate letter grade to the Office of the University Registrar. This letter grade is then converted to a P on the basis of A, B, C, or D for a pass and F for a fail. The grade of P does not affect your grade point average. However, any F grade affects a student's grade point average whether it is a regular grade or a pass/fail grade.

A student chooses the option of pass/fail grading for a course during the registration period. Once the registration period has ended, he or she may not change the grade status in the course.

A department or unit may designate any performance- or competency-based course as exclusively pass/fail. To institute this, the college or school must have the approval of the Faculty Senate. Courses offered only as pass/fail are not included in the maximum of eighteen hours that may be freely elected as pass/fail under the student option.

Incomplete Grades

A grade of I (Incomplete) is a temporary grade assignment used when unforeseen, non-academic circumstances arise that prohibit students from completing the last course assignments or examinations at the end of the semester. The grade of Incomplete is typically assigned because of an excused absence from the final examination, or because assignments are unavoidably incomplete, as determined by the instructor. Students who are failing a course (exclusive of the incomplete work) may not request an Incomplete.

Students who want to be considered for an Incomplete must apply to their instructor prior to the end of the term. If the instructor agrees, the instructor and the student must negotiate the conditions under which the grade of I will be changed to a letter grade and sign a contract. The date to submit the incomplete work should not be set beyond the last day of class of the following semester. If the student does not complete the terms of contract then the instructor should submit a grade of F. All incomplete contracts must be filed with the department and Dean's Office.

To remove the grade of I, a student does not register for the course again.

If the Incomplete grade is not changed by the end of the next major term (excluding summer), the I grade will be replaced with an IF.

Grade Point Average (GPA)

GRADE POINTS

Each letter grade has a numeric value. Grade points are based on this number value and the credit hour value of the course.

- A- 4
- B- 3
- C- 2
- D- 1
- F/UF- 0
- I- 0
- U- 0

The GPA is computed on all work for which a student registers, with the following exceptions:

- Courses with a grade of CR, H, PR, P, S, W, and X carry no grade value. The grade of incomplete (I) initially carries no grade value.
- When a student receives the grade of I and the incomplete grade is later removed, the grade point average is calculated on the basis of the new grade. If the I grade is not removed within the next semester, the grade is treated as an F (failure).
- If a student is working toward teacher certification, he or she is responsible for every registration in a course in which the grade of A, B, C, D, F, P, X or I is received.

GRADE POINT AVERAGE

All academic units of the University have minimum standards of scholastic quality that must be met or exceeded. Beginning in January 2012, grades earned in Baccalaureate-level college work attempted at other accredited US institutions are included in the calculation of the overall GPA. All credits and grades accepted as transfer credit from all accredited US institutions will be used in the calculation of the cumulative GPA and total attempted and earned credits. Study Abroad credit is treated as non-US and is awarded as credit only, regardless of whether it is taken through a US institution. Only courses with a grade of "D" or higher will be transferred to WVU as earned Study Abroad Credit. To be eligible to receive a baccalaureate degree, a student must have a GPA of at least 2.0 at the time of graduation. To be eligible to receive a graduate degree, a student must have a GPA of at least 2.75. To be eligible to receive a graduate certificate, a student must have a GPA of at least 2.75 in courses applied to the certificate. Some degree or certificate programs require a higher grade point average overall or in the major courses. GPA is based on all work for which a student received

a letter grade other than W and P and coursework excluded under the provisions of the D/F Repeat Policy. The GPA for honors consideration for a baccalaureate is based on baccalaureate-level college work attempted at WVU as well as other regionally accredited US institutions.

GPA CALCULATION

Students need to know how to calculate their overall and semester GPAs. The following example shows how to do it.

Assume a student registered for 16 hours and receive the following grades in these courses:

- English 101 – B
- Mathematics 126 - A
- Geology 101 - C
- Political Science 101 - B
- Spanish 101 - D
- Psychology 491 - P

1. Multiply the credit by the grade value to get the grade points earned for each course using values for letter grades as described in the Grade Points section.
 - English 101, 3, B, 3, $3 \times 3 = 9$
 - Geology 101, 3, C, 2, $3 \times 2 = 6$
 - Spanish 101, 3, D, 1, $3 \times 1 = 3$
 - Mathematics 126, 3, A, 4, $3 \times 4 = 12$
 - Political Science 101, 3, B, 3, $3 \times 3 = 9$
 - Psychology 491, 1, P, 0, $1 \times 0 = 0$
2. Add the total grade points earned and divide by the total credit hours *with a grade value*. Remember that P grades have no grade value, so in this case, the grade points earned total 39 ($9+6+3+12+9$) and there are 15 credit hours ($3+3+3+3+3$) for the GPA calculation. The GPA calculation for this student would be: $39/15=2.6$.

Repeat Policy

D/F REPEAT

WVU has a D/F repeat policy for undergraduate students who have not received their initial baccalaureate degree. If a student earns a D or F in a course at WVU or at any school in the WV State System and the course is taken no later than the semester or summer term in which the student attempts the sixtieth hour (including any class in which the student earns a grade and transfer classes), the student may “D/F repeat” that course. Hours excluded in the attempted hour calculation are from the Intensive English Program and from any course with a grade of W. The course can be repeated only at WVU Morgantown or at one of WVU’s divisional campuses. Students have only one opportunity to improve their original grades under the D/F repeat policy. The new grade becomes the grade that counts toward the student’s cumulative GPA and credit hours for graduation, even if the repeated course grade is lower than the original grade in the course. The D/F repeat policy will be enacted any time an eligible course is repeated.

When a course is D/F repeated, the following procedure occurs:

1. The original grade is disregarded for the purpose of determining the overall GPA; it is marked as excluded (E) in the semester that the student originally took the course.
2. The original grade is not deleted from the student’s permanent record.
3. The second grade is entered on the student’s transcript and marked as included (I) in the semester that the course was repeated.
4. Grades of Unforgivable F (UF) are not eligible for D/F repeat. Such a failure is indicated on the student’s permanent record by an UF and is calculated in the GPA.

OTHER REPEATED COURSES

Courses repeated, but not eligible for the provisions of the D/F repeat policy, follow this procedure:

1. The original grade is included in determining the overall GPA. It is excluded from earned or degree hours and is marked with an (A).
2. The original grade is not deleted from the student’s permanent record.
3. The second grade is entered on the student’s transcript and marked as included (I) in the semester that the course was repeated.
4. Courses repeated more than once (including D/F repeats) are handled the same way with the final attempt carrying earned or degree hours. All attempts are used for determining the GPA.

Grade Reports

During the seventh week of classes in the fall and spring semesters, instructors submit a grade for all undergraduate students earning grades of D or F in undergraduate courses. These grades are used for counseling, are not recorded on the student's official transcript, and disappear from the computer system after the semester is completed. These grades are sent first to the Office of the University Registrar and then to the student via the WVU Portal (<https://portal.wvu.edu>).

Final grades are due to the Office of the University Registrar within 48 hours after the completion of each final exam. Grades are viewable to students within one week of submission to the Office of the University Registrar. The final grades of all seniors provisionally approved for graduation at the close of each semester or summer term are reported to the deans of the students' colleges or schools. Special report forms for this purpose are supplied by the student's dean.

At the end of each semester, grades are available through the WVU Portal (<https://portal.wvu.edu>).

Dean's and President's List

Outstanding undergraduate academic achievement is recognized by awarding President's List and Dean's List status to students who obtain a 4.0 GPA or 3.5 GPA, respectively. Only the highest honor is awarded, and it will be noted on the transcript. Students must be enrolled in a minimum of 12 credit hours of graded courses to be eligible for such recognition with no grades of I (incomplete), NR (not reported), or W (withdrawal). Courses completed with a grade of P, S, or X are excluded from the calculation of credit hours for President's List and Dean's List.

Official Transcripts

Students can order official transcripts through the Office of the University Registrar (<http://registrar.wvu.edu/transcripts>). Before ordering a transcript, students should ensure that all grades and degree(s) have been posted as transcript requests are processed immediately. All financial obligations to West Virginia University must be cleared before transcripts can be released. A West Virginia University transcript is a complete record of a student's enrollment at WVU that includes all undergraduate, graduate, and professional courses.

Academic Calendar

FALL 2017

Date	Activity
Friday, August 11	New Student Orientation
Monday, August 14	General Registration
Wednesday, August 16	On Campus First Day of Classes
Tuesday, August 22	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit
Monday, September 4	Labor Day Recess: University Closed
Thursday, October 5 by noon	Mid-Semester Reports Due
Tuesday, October 24	Last Day to Drop a Class
Saturday, November 18 thru Sunday, November 26	Fall Recess
Monday, December 4	Last Day to Withdraw from the University
Tuesday, December 5	Last Day of Classes
Wednesday, December 6	Prep Day for Finals
Thursday, December 7 thru Wednesday, December 13	Final Exam Week
Thursday, December 14	Winter Recess Begins
Friday, December 15	Commencement

SPRING 2018

Date	Activity
Thursday, January 4	New Student Orientation
Friday, January 5	General Registration
Monday, January 8	On Campus First Day of Classes
Friday, January 12	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit
Monday, January 15	Martin Luther King Jr. Day Recess: University Closed
Tuesday, February 27 by noon	Mid-Semester Reports Due
Saturday, March 10 thru Sunday, March 18	Spring Recess

Friday, March 23	Last Day to Drop a Class
Friday, March 30	Friday Before Easter Recess: University Closed
Thursday, April 26	Last Day to Withdraw from the University
Friday, April 27	Last Day of Classes
Monday, April 30 thru Friday, May 4	Final Exam Week
Tuesday, May 8	Primary Election Day Recess: University Closed
Friday, Saturday, and Sunday, May 11, May 12, and May 13	Commencement
Saturday, May 12	Alumni Day

12-Week Summer Session 2018

Date	Activity
Monday, May 14	Registration
Monday, May 14	On Campus First Day of Classes
Monday, May 28	Memorial Day Recess: University Closed
Friday, June 22	Final Exam for First Six-Week Session
Wednesday, July 4	Independence Day Recess: University Closed
Friday, August 3	Final Exam for Second Six-Week Session and 12-Week Session
Friday, August 10	Degree Conferring Date (No Ceremonies)

*The annual academic calendar dates are subject to change. Please refer to the academic calendar on the Office of the Provost website for most up-to-date information.

Co-Curricular Programs

In this section:

- Education Abroad (p. 32)
- WVU Exchange Programs (p. 32)
- Faculty-Led Programs (p. 33)
- International Student Exchange Programs (ISEP) (p. 34)
- Affiliate Programs (p. 34)
- Additional Information (p. 34)

Education Abroad

In today's increasingly globalized society, direct international experience is a key component of a complete college education. The WVU Office of Global Affairs manages more than 400 exciting and life-enriching programs in over sixty countries all around the world. Education Abroad can be a life-changing cultural experience and supports unique inquiry-based and experiential learning. All WVU students (undergraduate, graduate, and professional) are required to register and have program approval with Global Affairs prior to departure when traveling abroad on university-related activities (international.wvu.edu). Global Affairs program coordinators guide the student through the education abroad process, assist in choosing a program based on interest and needs, ensure appropriate credit transfer, offer travel advice, and provide cultural information about living and learning overseas.

WVU Exchange Programs

WVU exchange programs are managed directly by Global Affairs in conjunction with over thirty select partner institutions around the world. These programs offer WVU students the opportunity to study abroad for a summer, semester or year at a sister institution. Students pay regular WVU tuition and fees, and the host school provides full reciprocal services at a campus abroad. Room and board are paid either to WVU or the exchange institution, depending on the exchange agreement. WVU currently has exchange programs in:

- Australia
- Austria
- Botswana
- Brazil
- Canada
- China
- Columbia

- Denmark
- England
- Estonia
- France
- Germany
- Hong Kong
- Hungary
- India
- Ireland
- Italy
- Japan
- Mexico
- Morocco
- Northern Ireland
- Paraguay
- Peru
- Russia
- South Africa
- South Korea
- Spain
- Sweden
- Taiwan
- Trinidad and Tobago
- Turkey
- Wales

Faculty-Led Programs

Faculty-led programs are education abroad experiences developed and organized by WVU faculty members in conjunction with the Office of Global Affairs. Students study in rigorous but exciting programs where coursework is directly supervised by WVU faculty members. These programs, available throughout the year, are focused on either general education or on specific disciplines such as:

- Law
- Political science
- Foreign languages
- Biology
- Medicine
- Social work
- And much more

Past locations have included:

- Brazil
- China
- England
- Fiji
- France
- Germany
- Ghana
- Italy
- Japan
- Mexico
- Spain
- Vietnam

Contact International Programs or visit the website for a current listing of upcoming programs: <http://studyabroad.wvu.edu/>.

International Student Exchange Program

The International Student Exchange Program (ISEP) is a worldwide network for international education. ISEP allows students from the United States and twenty-seven other countries access to programs at member universities for a semester or a year. Students pay WVU tuition, fees, room, board, and an ISEP fee to WVU (internationalprograms.wvu.edu).

Affiliate Programs

Affiliate programs are education abroad opportunities available to WVU students through our affiliations with various education abroad organizations. Affiliate programs are available during the fall, spring, and summer terms as well as for a complete academic year. Students pay program fees directly to the affiliate organization.

Additional Information

Students must submit application materials to Global Affairs (studyabroad.wvu.edu) and complete the mandatory pre-departure orientation process for credit transfer approval. Students may enroll in courses to fulfill major, minor, General Education Foundations (GEF) requirements or elective credit. Students must be in good academic and disciplinary standing before acceptance to WVU programs or to affiliate programs abroad. Participation in these programs also requires a minimum 2.5 grade point average. Exceptions may be made under special circumstances through appeal to Global Affairs, subject to approval of faculty leaders or program coordinators. Financial aid is available for many programs. WVU Promise Scholarship funds may also be used for certain programs. For more information, visit <http://www.finaid.wvu.edu>.

For more information, please see <http://studyabroad.wvu.edu/> or visit the office in 101 Purinton House.

In this section:

- Benefits (p. 34)
- Curriculum (p. 34)
- General Military Course (GMC) (p. 35)
- Leadership Laboratory (p. 35)
- Nature of Program (p. 35)
- Professional Officer Course (POC) (p. 35)
- Scholarship Program (p. 35)
- Uniform Wear and Deposits (p. 36)
- Time Requirements (p. 36)
- U.S. Air Force Academy (p. 34)

Benefits

Enrolling in AFROTC provides the opportunity to:

- Compete for entry into the Professional Officer Course (POC) and earn an Air Force commission.
- Earn academic elective credit that can be applied toward the requirements for any undergraduate major at WVU, as well as the leadership studies minor program.
- Compete for AFROTC in-college scholarships that pay up to full tuition, fees, and required textbooks, and provide a tax-free monthly stipend between \$300 and \$500 based on academic year.
- Receive free career counseling from full-time AFROTC representatives.
- Try AFROTC during freshman and sophomore years without obligation (unless you accept an AFROTC scholarship).
- Develop leadership and managerial skills.

Curriculum

The curriculum in Aerospace Studies is divided into three distinct areas: Leadership Laboratory, General Military Course (GMC), and Professional Officer Course (POC).

Students should enroll in the following courses:

MINOR CODE - U040

Minimum grade of C in all courses fulfilling minor requirements.

Minimum GPA of 2.5 required.

USAF 252	Air and Space Power 2	1
USAF 371	Leadership Studies 1	3
USAF 372	Leadership Studies 2	3
USAF 481	National Security/Active Duty 1	3
USAF 482	National Security/Active Duty 2	3
Complete 6 credit hours in any HIST or POLS courses.		6
Total Hours		20

General Military Course (GMC)

The U.S. Air Force course of study offered during the freshman and sophomore years is the General Military Course (GMC). This is composed of one class hour and two leadership laboratory hours per week. Two credit hours are awarded for each semester course successfully completed. General military courses are open to all WVU students who:

- Are United States citizens (to receive a scholarship)
- Are in good physical condition
- Have good moral character

Leadership Laboratory (LLab)

Leadership laboratory takes an average of two hours per week, every semester, throughout the student's enrollment in AFROTC. Instruction is conducted in an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. Leadership laboratory involves a study of Air Force customs and courtesies, drill and ceremonies, physical fitness, career opportunities, lifestyle and work of an Air Force junior officer. Students develop leadership potential in a practical, supervised training laboratory, which typically includes field trips to air force installations.

Nature of Program

The U.S. Air Force officer education program at WVU has been in existence since 1948 and is designed to provide training that will develop leadership, managerial, and interpersonal skills vital to a professional U.S. Air Force officer. Its purpose is to qualify you for commissioning in the U.S. Air Force. WVU has the only Air Force ROTC (AFROTC) detachment in West Virginia.

Professional Officer Course (POC)

The Professional Officer Course (POC) corresponds to the junior and senior years of your academic program. The POC is designed to provide highly qualified junior officers for the U.S. Air Force. Admission is based on such factors as leadership, scholarship, physical qualifications, and academic major. Successful completion of the POC qualifies you for appointment as a second lieutenant in the air force upon college graduation. Instruction averages three hours per week throughout the four semesters, plus leadership laboratory. Three hours of credit are awarded for each of the four semesters of work in the POC program. To qualify for the POC, you must meet all the qualifications for the GMC and:

- Have two academic years remaining
- Be a United States citizen
- Be at least 18 years old, or 17 with a parent or legal guardian's consent
- Be physically qualified
- Be selected by a board of U.S. Air Force officers
- Complete a field training course the summer prior to entering
- Complete all graduation and commissioning requirements as follows:
 - Maintain a Cumulative GPA of 2.0 or higher
 - Must commission (graduate) before age 31 (pilots age 29)
 - Pass the Air Force Physical Fitness Assessment (PFA)

Scholarship Program

Outstanding students from any academic discipline may be eligible to compete for an in-college scholarship. Each year a number of scholarships are made available for cadets in their Freshman and/or Sophomore year. A large number of scholarships are available for students majoring in engineering, scientific, mathematical, or nursing fields. If you are selected for an AFROTC scholarship, AFROTC will pay up to 100 percent toward tuition, fees, and textbooks, as well as provide a tax-free monthly allowance between \$300 and \$500 based on academic year. Scholarships are available for two, three, and four years, depending on USAF funding availability.

Uniform Wear and Deposits

Air Force ROTC students will be provided and are required to wear a uniform to ROTC classes and leadership laboratories. Air Force ROTC cadets may purchase their uniforms upon successful completion of the ROTC program.

Time Requirements

On average GMC (Freshmen & Sophomores) will spend 7 - 10 hours a week in ROTC activities. This includes 1 hour in classroom, 2 hours in LLab, 2 hours in Physical Education, and a 2 hour flight meeting (held in the evenings). As a POC (juniors and seniors) will spend 10-20 hours a week.

U.S. Air Force Academy

The president of WVU may annually nominate five outstanding AFROTC students to the U.S. Air Force Academy. A nomination does not guarantee acceptance into the Air Force Academy. Applicants are recommended by the professor of aerospace studies to the WVU president during January of each year.

In this section:

- Nature of the Program (p. 35)
- Basic Course (p. 36)
- Advanced Course (p. 36)
- Leadership Laboratory (p. 35)
- Military Science Minor (p. 37)
- Two-Year Program (p. 37)
- Simultaneous Membership Program (SMP) (p. 38)
- Judge Advocate General (JAG) Programs (p. 38)
- Graduate Medical Programs (p. 38)
- ROTC Scholarship Program (p. 38)
- Army ROTC Nursing Program (p. 39)
- Army ROTC Nursing Scholarships (p. 39)
- Additional Opportunities (p. 39)

Nature of the Program

The curriculum includes the skills expected of a U.S. Army officer, including how to motivate co-workers, cope with unexpected challenges, organize large, complex tasks, and an introduction to the army's values-based leadership techniques. Additionally, students learn skills in demand today in the civilian and business worlds such as teamwork, tact, and effective communications. There are two- and four-year ROTC programs. The traditional four-year program is composed of the Basic Course and the Advanced Course.

The Basic Course

The first two years compose the Basic Course. This includes:

MILS 101	Military Science	2
MILS 102	Military Science	2
MILS 201	Military Science	2
MILS 202	Military Science	2
PE 110	Military Physical Conditioning	1

These courses involve classroom studies in such subjects as military history, leadership development, and national defense. Students can enroll in the program for the first two years without incurring any future military obligation. However, students who desire to make a commitment to obtain a U.S. Army commission at graduation can commit as early as their sophomore year, compete for an ROTC contract, and receive a tax-free monthly stipend of \$350 per month as a contracted cadet. After successful completion of the Basic Course, students can apply for admission into the Advanced Course.

The Advanced Course

After successful completion of the Basic Course, students wishing to earn a commission as an officer in the U.S. Army must enter the Advanced Course. It is required for all contracted cadets and students who have received an ROTC scholarship. Classes required are:

MILS 301	Military Science	3
MILS 302	Military Science (Military Science)	3
MILS 401	Military Science	3

MILS 402	Military Science	3
PE 110	Military Physical Conditioning	1
Select one of the following:		3
HIST 210	Modern Military History	
HIST 256	History of the American Revolution: 1763-1790	
HIST 453	Civil War and Reconstruction	
HIST 460	World War II in America	
Weekly Leadership Lab		

During this part of the program, students will put their management and leadership skills to the test while continuing to hone the traits required for commissioning into the U.S. Army. As a cadet in the Advanced Course, you will spend approximately five weeks of the summer between your junior and senior years attending Advanced Camp at Fort Knox, Kentucky. At this course, students receive intensive training in leadership, basic tactics, physical fitness, land navigation, negotiating a confidence obstacle course, and rappelling. They also have the opportunity to lead other cadets through challenging military missions.

While enrolled in the program, ROTC textbooks, uniforms, and essential materials are furnished at no cost. Additionally, Advanced Course students receive a tax-free monthly stipend allowance of \$450 per month as a junior and \$500 per month as a senior during the school year.

Leadership Laboratory

Leadership laboratory is conducted two hours per week every Thursday afternoon throughout the student's enrollment in Army ROTC. Instruction is conducted in an organized cadet corps with a progression of experiences designed to develop each student's leadership potential.

Leadership laboratory involves the practical application of leadership lessons taught during classroom instruction. The leadership laboratories involve application of field craft, drill and ceremonies, physical fitness, rappelling, rifle marksmanship, team and leadership exercises, and career opportunities. Leadership lab is required for all recipients of an Army ROTC Scholarship and contracted cadets.

Military Science Minor

MINOR CODE - U041

Students enrolled in the Army ROTC program may receive a military science minor by completing the advanced courses listed below. A minimum cumulative GPA of 2.0 is required in these courses.

MILS 301	Military Science	3
MILS 302	Military Science	3
MILS 401	Military Science	3
MILS 402	Military Science	3
Select 1 of the following:		3
HIST 210	Modern Military History	
HIST 256	History of the American Revolution: 1763-1790	
HIST 453	Civil War and Reconstruction	
HIST 460	World War II in America	

Total Hours 15

The Two-Year Program

(Sophomores, Junior College Transfers, and Partnership Schools)

If students miss the first two years of Army ROTC, the two-year program offers the opportunity to achieve the same goals and benefits as the four-year program, but at an accelerated pace. This is designed for sophomores who were unable to take the Basic Course, students transferring after attending a junior college or another institution, or for students attending one of our partnership schools. In this program, students first attend Basic Camp at Fort Knox, Kentucky, in the summer between their sophomore and junior years. This is a fully paid (over \$700 plus room, board, and transportation), four-week training camp designed to be an accelerated version of the two years of leadership development training cadets receive during their first two years of Army ROTC. The course is broken into four phases where cadets begin physical training, drill and ceremonies, team development, combat water survival, and land navigation. Upon graduation from Basic Camp, students may compete for two-year, campus bas scholarships. Students must have a minimum of 59 hours of college credit with a 2.0 GPA (2.5 to compete for a scholarship). Those cadets who successfully complete Basic Camp and contract may be eligible to receive a \$5,000.00 incentive bonus.

Additionally, if a student is currently in the National Guard (Army or Air Force), U.S. Army Reserve, a Veteran from any service, has two years of Senior ROTC (SROTC) experience from another service, or has High School Junior ROTC (JROTC) experience of three years or more, he or she may qualify for entry into the Advanced Course under the two-year program. Students must have a minimum of 59 hours of college credit with a 2.0 (or better) GPA.

Simultaneous Membership Program (SMP)

Students currently in the Army National Guard or U.S. Army Reserve can participate in the Advanced Course as an SMP cadet. Benefits of the SMP include immediate promotion to sergeant (E5) for pay purposes in their current unit, receipt of any Montgomery G.I. Bill kicker, \$350 to \$500 monthly tax-free stipend, and any tuition assistance offered by the service. Currently the West Virginia National Guard pays 100% of in-state or out-of-state tuition for either undergraduate or graduate studies. The U.S. Army Reserve offers loan repayment and 75% tuition assistance.

Information on these programs may be obtained through the Mountaineer Battalion webpage at <http://armyrotc.wvu.edu> or the Professor of Military Science (PMS) at (304) 293-2911 x 33135.

For a detailed overview of Army ROTC, students can call 1-800-USA-ROTC or view online at: <http://www.goarmy.com/rotc>.

Judge Advocate General (JAG) Programs

The JAG Corps is the oldest "law firm" in the U.S., dating back to 1775. There are approximately 1,500 active duty (full-time) attorneys and 2,600 Reserve and National Guard (part-time) attorneys. Students in the Advanced Course should take the LSAT prior to the fall of their senior year. They must then request an educational delay and branch JAG. If accepted to the law school of the student's choice, the educational delay may be granted. While in law school, students may apply for one of 100 summer internships offered by the JAG Corps.

Graduate Medical Programs

The Army offers a variety of graduate programs to ROTC graduates. These include specialties in nursing, dentistry, medicine, psychology, optometry, and veterinary medicine. Interested students must apply for educational delay following graduation and commissioning.

ROTC Scholarship Program

In addition to world-class leadership training, Army ROTC also offers generous scholarships to qualified students. These scholarships are based solely on the student's merits, not financial needs. These merit-based scholarships are available for two, two and a half, three, three and a half, and four years and are available for both graduate and undergraduate programs. These scholarships pay full tuition and fees or room and board (up to \$5,000/ each semester). They also provide \$600 per semester for books and include a \$300 to \$500 per month tax-free stipend, for up to 10-months a year (during the academic school year). Four-year scholarships are normally reserved for applicants who are high school seniors. The application process starts by applying online at: <http://www.goarmy.com/rotc> or by calling: 1-800-USA-ROTC to receive an application by mail. The remaining scholarships are considered campus-based scholarships given at the discretion of the professor of military science.

Students must meet the following requirements for a four-year Army ROTC scholarship:

- Be a citizen of the United States
- Be between the ages of 17 and 26
- Have a high school cumulative grade point average of at least 2.5
- Score a minimum of 920 on the SAT (math/verbal) or 19 on the ACT (excluding the required writing test scores)
- Meet the physical standards
- Be of good moral character
- Exhibit a strong desire to become an Army officer
- Possess leadership potential to become an effective leader. These include appearance, personality, academic excellence, extracurricular activities, and physical fitness
- Be medically qualified by passing a Department of Defense Medical Evaluation Board health physical and eye exam
- Must be eligible for a secret security clearance

Students must meet the following requirements for a three-and-a half, three, two-and-a half and two-year scholarships:

- Be a citizen of the United States
- Be between the ages of 17 and 27
- Have a college grade point average of at least 2.5
- Have a high school diploma or equivalent
- Meet the physical standards
- Be of good moral character
- Exhibit a strong desire to become an Army officer. Possess leadership potential to become an effective leader. These include appearance, personality, academic excellence, extracurricular activities, and physical fitness

- Be medically qualified by passing a Department of Defense Medical Evaluation Board health physical and eye exam
- Must be eligible for a secret security clearance

Army ROTC Nursing Program

Being an Army nurse is one of the most rewarding careers imaginable. Army nurses are officers—and as such are highly respected professionals. They have the opportunity to assume leadership positions in a hospital setting far more quickly than those working in the private sector. They also have the personal satisfaction of caring for the men and women who defend our freedom.

The Army ROTC program offers some unique hands-on opportunities for nursing students that are not available anywhere else. With the Nurse Summer Training Program (NSTP), Army ROTC nurse cadets have the opportunity for a paid, three-week assignment to army hospitals throughout the United States and Germany. While participating in the program, cadets are introduced to the Army Medical Department (AMEDD) and to the roles and responsibilities of an army nurse corps officer. Cadets gain hands-on experience, under the guidance of an experienced army nurse, allowing them to hone their clinical skills and become comfortable with developing their professional skills as a member of the U.S. Army Healthcare Team. For more information go online to: http://www.goarmy.com/rotc/nurse_program.jsp.

Army ROTC Nursing Scholarships

Army ROTC offers qualified undergraduate nursing students two-, three-, and four-year scholarships. These scholarships are merit-based and are awarded to those who possess a strong record of academic achievement and who demonstrate that they have the potential to become leaders. These scholarships defray the full cost of tuition and provide a tax-free allowance for books and necessary materials. Additionally, those awarded an Army ROTC nursing scholarship are eligible to receive a tax-free stipend up to \$500 per month, to help defray living expenses, for up to ten months of the academic year. The scholarships would pay full in-state or out-of-state tuition and fees. There will also be incentive items given during their junior and senior years. The nursing scholarship will also cover the cost of the NCLEX review course as well as the cost of the NCLEX test.

Additional Opportunities

Students enrolled in the Army ROTC program can participate in numerous fully funded military training opportunities during their summer breaks. These opportunities include, but are not limited to, Airborne School, Air Assault School, Mountain Warfare School, Pentagon Internship Program, and the Nurse Summer Training Program. There are also opportunities to study abroad through numerous fellowship programs.

Degree Regulations

In this section

- Undergraduate Degree Requirements (p. 39)
- Credit Residence Requirements (p. 39)
- Work Done Out of Residence (p. 40)
- Credit Validation (p. 40)

Undergraduate Degree Requirements

All undergraduate degree programs include the General Education Foundations (GEF), require a minimum grade point average of 2.0 or higher, and require a minimum of 120 credit hours. In addition, the various colleges and schools may determine their own specific graduation requirements which may include additional course or credit requirements, minimum course grades, and grade point averages higher than a 2.0.

Every undergraduate degree program at WVU requires that students satisfactorily complete the General Education Foundations. For General Education Foundations definitions, please see the list of approved GEF courses (<http://registrar.wvu.edu/gef>). All undergraduate students at WVU are also required to fulfill a Writing and Communication Skills and a Capstone course. It is determined by the degree-granting college and/or academic unit which course fulfills the Writing and Communications Skills requirement. Please note that transfer courses do not fulfill the Writing and Communication Skills or Capstone requirements. In exceptional cases, students can petition their college to have a transfer course approved as fulfilling the Writing and Communication Skills requirement. Students will need to provide evidence of process writing. Because of their unique concept, Capstone courses can never be transferred from another institution, including courses taken while studying abroad.

Students entering WVU as an undergraduate student with fewer than twenty-nine hours must also earn a passing grade in First Year Seminar in their first semester at WVU. Those who do not pass the course must re-enroll for subsequent semesters until they earn a passing grade.

Credit Residence Requirements

Candidates for an undergraduate degree from West Virginia University should plan to complete at least 30 their final 36 credit hours in residence. Students who do not complete 30 of the final 36 credit hours in residence must complete a minimum of 90 total credit hours in residence in order to earn a WVU degree. Individual colleges, schools, or departments might have additional residence requirements as part of their degree or major requirements. Students should consult their respective academic unit with questions regarding specific degree or major residence requirements. Transfer coursework (excluding Potomac State College and WVU Institute of Technology courses); WVU administered credit by examination, placement

credit, and experiential learning credit; Advanced Placement (AP) credit; International Baccalaureate (IB) credit; College Level Examination Program (CLEP) credit; high school dual enrollment credit; and military training credit are examples of the types of coursework excluded from WVU residence credit. While WVU administered credit by examination, placement credit, and experiential learning credit will be excluded from WVU residence credit, it does not interrupt the final 30 credit hours in residence if earned during this period.

Note: Resident credit hours are not synonymous with West Virginia State residency definitions for tuition purposes.

Work Done Out of Residence

Coursework completed at another institution (including Potomac State College and WVU Institute of Technology) is considered non-WVU resident credit hours. Students transferring to WVU from another institution will receive a preliminary evaluation of transfer credits upon admission to the University. Transfer credits from two-year community colleges and junior colleges are limited to a maximum of seventy-two hours of lower-division credit. Coursework accepted from two-year colleges is limited to lower-division credit; in some cases, upper-division courses may not apply toward a student's degree at WVU. WVU students who wish to take courses at another accredited institution and receive transfer credit should review the transient approval process and consult the Office of Admissions's website (http://admissions.wvu.edu/admissions/university-requirements/transfer_equivalency) for the Transient Application Form.

Credit Validation

Students returning to WVU to complete a degree after a significant break in enrollment may be asked to retake certain courses to validate their subject knowledge (or otherwise demonstrate mastery). This significant break is normally defined by the department offering the course. Typically, a course must be revalidated if taken seven or more years previously. However, certain programs may have shorter time limitations that require re-enrollment or validation sooner. This requirement to re-enroll or demonstrate subject mastery in a course is at the discretion of the department chair and dean.

Coursework deemed to be insufficient to meet current course standards will still be factored into a student's GPA and may be treated as elective credit (as allowed by the student's academic major).

In this section:

- Awarding Degrees (p. 40)
- Official Program Designations (p. 40)
- Double Majors (p. 41)
- Dual Degrees (p. 41)
- Second Degrees (p. 41)
- Reverse Transfer (p. 41)
- Diploma Retention Policy (p. 41)

Awarding Degrees

All degrees are conferred by the WVU Board of Governors as recommended by the faculties of the various colleges and schools. A degree is granted at the end of the semester or summer term in which a student completes all the requirements for that degree, provided the student has submitted an application for graduation at his or her major department's academic dean's office and the dean has certified completion of all degree requirements.

A student becomes eligible to graduate when he or she completes the requirements of the University, college or school, and major degree program according to the Undergraduate Catalog in effect at the time the student first entered WVU. With the consent of the student's advisor and dean, a student may choose to meet the conditions published in a later catalog. If a student entered WVU more than seven years previously, the student must complete the requirements in a catalog that is no more than seven years old.

Students must observe any program changes that are enacted by the West Virginia University Faculty Senate, West Virginia University Board of Governors, the West Virginia Higher Education Policy Commission, or by local, state, or federal law.

WVU policy dictates that, in view of their professional responsibilities to the general public, the faculty of a professional school may recommend to the president of the University, in writing, that a student be removed from its rolls. The recommendation of the faculty must indicate that the student is not fit to meet the qualifications and responsibilities of the profession.

WVU will not issue a diploma or a transcript to any student until payment of all tuition, fees, and other indebtedness to any unit of the University is made.

Official Program Designations

Degree program: A degree program is an area of study approved as such by the institution and the Board of Governors (BOG) and listed on the official inventory of degree programs (<https://www.wvhepc.org/resources/degree%20inventory%20update/progoffpubpriv.html#IDX1>). The degree, which is an award signifying a rank or level of educational attainment and which is conferred on students who have successfully completed a degree program, is represented by the official degree designation (e.g., B.A.—bachelor of arts, B.S.—bachelor of science, etc.)

Major: A major is a field of study within an approved degree program, having its own curriculum. A degree program may have more than one major.

Area of Emphasis: An area of emphasis is a specific subject area within an approved degree program and major. Normally, a minimum of 12 credit hours and no more than 18 credit hours are expected for an area of emphasis within a baccalaureate degree program. Normally, a minimum of 6 and no more than 12 credit hours would be expected for an area of emphasis within a graduate degree program.

Minor: A minor is an area of study outside of the major that encourages students to pursue a secondary field. Students may not earn a minor in the same field as their major. Requirements for a minor are set by the academic unit offering the minor and must include at least 15 hours of coursework, with a minimum of 9 hours at the upper division level (course numbers 300 or above). Minors are only available to students earning a baccalaureate degree.

Certificate program: A certificate program is a coherent, specialized curriculum designed for students in search of a specific body of knowledge for personal/career development or professional continuing education. Normally, a minimum of 12 and no more than 21 credit hours constitute a certificate program at the baccalaureate or graduate level.

Double Majors

The double major is the awarding of one degree with two majors offered by one college/school. For instance, a student who completes majors in English and history earns one B.A. degree. A student who completes multiple majors with the same degree designation offered by different colleges/schools will be awarded dual degrees. The completion of double or multiple majors must lead to the same degree and can only be achieved simultaneously. Students must be accepted into each major and fulfill all requirements of each major in addition to satisfying all University requirements. Students who complete multiple majors within one degree will be awarded one degree, and the transcript will list the degree and each major.

Dual Degrees

The dual degree is the concurrent awarding of two distinct baccalaureate degrees (i.e. B.A., B.S., B.S.E., B.S.J., B.S.B.A.). Dual degrees will not be awarded when a student has completed a double major with the same degree designation. Students pursuing two majors in different degree programs are expected to have the full range of skills, competencies, and experiences as students graduating from each of the programs independently. Therefore, students must be admitted into each degree program and fulfill all requirements for each degree. Students should pay particular attention to GEF requirements for each degree. Simultaneous completion of dual baccalaureate degrees requires students to complete a minimum of thirty unique credit hours that are not used to satisfy their primary degree requirements. For example, if the student's primary degree program requires a minimum of 120 credit hours, the student must complete a minimum of 150 credit hours to earn both degrees.

Second Degrees

Some students decide to continue their undergraduate studies after receiving their first bachelor's degree. Students who attempt to earn dual baccalaureate degrees from WVU but do not fully complete requirements for both degrees simultaneously will become second degree candidates. Students who have previously earned a bachelor's degree, whether from WVU or another institution, must complete a minimum of thirty hours beyond the first degree. Second degree candidates must meet all requirements for their degree program, major, college, or school and the University, including residence requirements. General Education Foundations (GEF) requirements, however, are generally considered satisfied by completion of the first undergraduate degree. In the event that courses taken for the first bachelor's degree are required courses for the second degree program, the college or school granting the second degree may approve course substitutions. In no circumstance may the coursework in the second degree program be fewer than thirty credit hours after the conferral of the first degree. Students who have already earned a WVU bachelor's degree cannot earn a second bachelor's degree with the same degree designation and within the same college as the first degree.

Reverse Transfer

Students who are admitted to a professional program in their last year of bachelor's degree coursework may request reverse transfer of professional coursework to fulfill the requirements of the bachelor's degree at WVU, Potomac State College or WVU Institute of Technology. Students are required to complete at least 90 hours of the three-year curriculum at WVU with no more than 30 credits transferring in from a regionally accredited professional program. Examples of professional programs may include but are not limited to: Doctor of Veterinary Medicine, Doctor of Medicine, Doctor of Dental Science, etc.

Diploma Retention Policy

Diplomas retained by or returned to the Office of the University Registrar will be held for two years. This includes diplomas that are retained in the office for financial holds, have been returned to sender, or shipped to the office for pick up. After two years of the conferral date, any request for a diploma by the student will incur fees and fall under all policies associated with ordering a replacement diploma.

In this section:

- Graduation (p. 42)
- Graduation with Honors (p. 42)

Graduation

In order to graduate, a student is required to complete an application for graduation the semester or summer term in which he or she expects to graduate. If a student is uncertain about graduation requirements, the student should meet with his or her academic advisor for guidance.

Graduation with Honors

WVU recognizes distinguished academic achievement by awarding degrees cum laude, magna cum laude, and summa cum laude. This distinction can be awarded on initial or second baccalaureates and specified entry-level professional degrees. All candidates for a baccalaureate with a GPA of 3.8 or higher graduate summa cum laude. Those with a grade point average of less than 3.8, but equal to or above 3.6, graduate magna cum laude. Those with a GPA of less than 3.6, but equal to or above 3.4, graduate cum laude.

The grade point average for honors consideration for a baccalaureate is based on baccalaureate-level college work attempted through the final semester. This calculation includes baccalaureate-level college work attempted at institutions accredited by regional accreditors in the United States. Credit hours earned with a grade of P or S are not considered in the determination. Grades of F, however, are computed as hours attempted. The grade point average through the penultimate semester will be used for notations in the commencement programs. Students who received academic forgiveness are not eligible to graduate with honors.

Students must meet residency requirements at WVU to be considered for graduation with honors.

The GPA for honors consideration for entry-level professional degrees is based on baccalaureate-level and professional-level work attempted through the last semester. This calculation includes baccalaureate-level and professional-level college work attempted at all regionally accredited higher education institutions attended. Credit hours earned with a grade of P or S are not considered in the determination.

Students entering and completing a second baccalaureate program following completion of the initial degree are eligible to receive the honors designation. Grade point averages for graduation with honors on second baccalaureates shall be computed on all baccalaureate-level work, excluding credit earned with a P or S. This includes work completed for the first degree as well.

FERPA

In this section:

- Notice to Students Regarding FERPA (p. 42)
- Designation of Directory Information (p. 42)
- Designation of Limited Use Directory Information (p. 43)
- Withholding Directory Information (p. 43)
- Parent/Guest Access to Online Student Records (p. 43)

Notice to Students Regarding FERPA

Students at West Virginia University (WVU) benefit from the Family Educational Rights and Privacy Act of 1974. This Act, with which WVU intends to comply fully, was designed to protect the privacy of education records, to establish the right of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading data through informal and formal hearings. A more detailed explanation of rights afforded to students by FERPA can be found at: <http://ferpa.wvu.edu/home>.

Designation of Directory Information

WVU designates the following categories of student information as public or "Directory Information." This information may be disclosed at West Virginia University's discretion for any purpose:

- Name of Student
- Official Address
- Telephone Number
- Place of Birth
- Age of Student
- Names and Addresses of Parents
- Major and Minor Fields of Study
- Class Status (i.e., freshman)
- Enrollment Status (i.e., full time or part time)
- Dates of Attendance
- Previous Educational Institution(s) Attended
- Degree(s) and Date(s) Conferred, including anticipated graduation dates

- Awards
- Honors
- Participation in Officially Recognized Activities and Sports
- Weight and Height of Members of Athletic Teams
- Duties and Responsibilities, including Dates of Service, of Graduate Assistants, Student Workers, Interns, or Student Volunteers

Designation of Limited Use Directory Information

WVU designates the following categories of student information as “Limited Use Directory Information:”

- University issued student electronic mail addresses (“Email Addresses”)
- Photographs, videos or other media containing a student’s image or likeness (collectively “Student Images”)

Accordingly, this information will not be provided to external parties not contractually affiliated with the University. Use and disclosure of this information shall be limited to (1) publication on websites hosted by, on behalf of, or for the benefit of the University, including the online directory available at: <http://directory.wvu.edu>; (2) those officials within the University who have access, consistent with the Family Educational Rights and Privacy Act, to such information and only in conjunction with an official institutional purpose.

Withholding Directory Information

Currently enrolled students, using the official West Virginia University Confidentiality form, may withhold disclosure of Directory Information under the Family Educational Rights and Privacy Act of 1974. To withhold disclosure, completed forms must be received in the Mountaineer Hub or mailed to the Office of the University Registrar at West Virginia University, PO Box 6878, Morgantown, WV 26506. Official forms are available at <http://registrar.wvu.edu/forms>. Requests will be processed as soon as is practicable upon receipt.

The failure on the part of any student to specifically request, on the official form, the withholding of Directory Information indicates individual approval for disclosure. Additionally, a request to withhold Directory Information shall have no effect on previous disclosures, if any, made by WVU before the receipt of a request to withhold Directory Information; nor will a student’s request to withhold Directory Information revoke an otherwise valid written FERPA release already on file with the University.

Parent/Guest Access to Online Student Records

The Parent/Guest Portal is the exclusive method by which a University student may grant a third-party access to his or her records. Information that is protected from disclosure pursuant to the Family Educational Rights and Privacy Act (FERPA), such as grades, financial aid details, and student account/billing information is maintained in a secure online environment. A student may grant permission to a parent or guest to access this information and make payments through this portal. Due to the protection of students’ rights under FERPA, a student may restrict the information that a parent or guest is able to access and revoke access at any time. For more information on the Parent/Guest Portal, please visit: <http://parent-guest.portal.wvu.edu/>.

For FERPA updates and more information on West Virginia University’s FERPA policy, please visit: <http://ferpa.wvu.edu> or contact the Office of the University Registrar.

Financial Aid

In this section:

- Application Process (p. 43)
- Aid Offer Notification (p. 44)
- Employment Opportunities (p. 44)

To receive an offer of aid, a student must be admitted to WVU as a degree seeking student. Students who believe they need financial assistance should apply as early as possible.

Application Process

To apply for financial aid, a student must first apply for a US Department of Education Federal Student Aid ID at <https://fafsa.ed.gov>. If the student is considered a dependent for financial aid purposes, a parent must also apply for a Federal Student Aid ID at <https://fafsa.ed.gov>. The FSA ID is used to sign the online Free Application for Federal Student Aid (FAFSA), review processed information, correct FAFSA data, and conduct other important business directly with the US Department of Education. Students are advised to save their FSA ID because they will need it for future transactions.

Students can complete the FAFSA at <https://fafsa.ed.gov> and include WVU’s school code – 003827 – on their application. The FAFSA should be submitted prior to March 1 for full consideration. The FAFSA must be completed annually for continued consideration for aid.

Aid Offer Notification

WVU will receive students' FAFSA information electronically if the WVU school code was included on the FAFSA. After a FAFSA is reviewed for accuracy, a financial aid award notification will be sent to the student's MIX email.

Employment Opportunities

Student employment opportunities are available on-and-off campus. For assistance go to <http://studentemployment.wvu.edu> or call the Mountaineer Hub at 304-293-1988.

In this section:

- Satisfactory Academic Progress (p. 44)
- Consequences of Withdrawal (p. 44)

Satisfactory Academic Progress

Students who wish to receive funds administered by Student Financial Support and Services (<http://financialaid.wvu.edu>) must make measurable academic progress toward completion of an eligible degree. Regulations require students meet minimum standards for grade point average and successfully complete a minimum percentage of attempted credit hours. The complete Satisfactory Academic Progress Policy (<http://financialaid.wvu.edu/home/maintain/academic-progress>) is available online.

Consequences of Withdrawal

If a student receives federal, state, or institutional financial aid and withdraws from all classes during the semester, the student may be required to return a portion of their financial aid. Refer to the Financial Aid Repayment Policy (<http://financialaid.wvu.edu/home/maintain/withdrawing>) or the terms and conditions accompanying other financial awards from WVU. Withdrawing from one or more classes may also impact future financial aid eligibility per the Satisfactory Academic Progress Policy (<http://financialaid.wvu.edu/home/maintain/academic-progress>).

Additional Information

For more information on applying and maintaining financial aid eligibility while enrolled at WVU, visit financialaid.wvu.edu.

Minors

In this section:

- General Statement (p. 44)
- Rationale (p. 44)
- Requirements (p. 44)
- Procedures for Declaring and Completing a Minor (p. 45)
- Course Requirements (p. 45)

General Statement

Each academic unit in the University may, at its discretion, offer formal academic minors. The University does not require that an academic program unit offer a minor or that its students take a minor. Minors will be described in the catalog and identified on the student's transcript in the same manner that majors are identified. If a department requires a concentration of courses in a secondary area and that concentration is not a formal minor, then the department should refer to this group of courses as an 'area of emphasis' rather than a 'minor' in order to avoid confusion.

Rationale

A minor formally recognizes strategic work in an area of study and thus encourages students to pursue a secondary field. The opportunity to earn a formal minor or minors may encourage students to organize what has been elective work into more coherent focus areas; the posting of those minors to students' transcripts will better communicate focus areas of the student's academic career. Such program options should prove appealing to both students and departments. A formal academic minor could enhance the attractiveness of graduates on the job market, help in student recruitment and retention, and provide another measure of productivity for academic units in addition to the number of majors.

Requirements

Requirements for a minor are set by the academic unit offering the minor and must include at least fifteen hours of course work, with a minimum of nine hours at the upper division level (course numbers 300 or above). Units offering a minor may require specific courses and/or may require a minimum performance standard for courses taken to fulfill minor requirements (e.g., "a GPA of 2.0 across courses counted toward the minor is required" or "a grade of 'C' or higher must be earned in all courses counted toward the minor"). Courses in the minor may not be taken pass/fail.

Students may not earn a minor in the same field as their major. Students completing the MDS degree may not earn a minor in the same field as any of their MDS concentration areas. Courses required for completion of the student's major may be applied to completion of a minor so long as that minor is not in the same field (i.e., offered by the same academic unit) as the major. Courses required for completion of one minor may be applied to completion of a second minor should such requirements overlap.

Students majoring in World Languages may complete a foreign language minor that is not in the same area of emphasis as their major.

The establishment of academic minors does not change the College of Arts and Sciences policy that no more than forty-two hours in one department subject and no more than sixty hours from a department with more than one subject may be counted toward the minimum hours required for graduation.

Procedures for Declaring and Completing a Minor

Students declare minors once they enter their major fields of study. The following steps should be followed to assure that completion of a minor is appropriately recognized and posted to the student's transcript:

1. A student interested in completing a minor (or minors) works with his or her major advisor to incorporate minor requirements into schedule planning. Students are welcome to consult with advisors in the minor department. Students who wish to complete a minor in music, women's studies, leadership studies, or ROTC must work directly with advisors for those programs.
2. Complete an Academic Status Update Form with their advisor.
3. When completing the Application for Graduation, the student indicates the minor(s) for which certification is requested.
4. The student's major advisor/major college advisement office certifies that all minor requirements have been completed and reports both major and minor certifications to the Office of the University Registrar on the Tentative Graduation form. Women's studies and music minors are certified by those programs.

Note: Minors are only awarded at the time of the conferral of a baccalaureate degree.

Course Requirements

Requirements for academic minors are set by the department offering the minor. Substitutions may not be made without written approval of the minor department. Courses in the minor may not be taken pass/fail. A student may not complete a minor in his or her major field. (For rules concerning minors that are part of the multidisciplinary studies degree, see: <http://mds.wvu.edu/>).

Programs, Courses & Credits

In this section:

- Official Program Designations (p. 45)
- Accelerated Bachelor's/Master's Programs (p. 46)
- Undergraduate Certificate Programs (p. 47)
- Minors (p. 47)

Official Program Designations

Degree program: A degree program is an area of study approved as such by the institution and the Board of Governors (BOG) and listed on the official inventory of degree programs (<https://www.wvhepc.org/resources/degree%20inventory%20update/progoffpubpriv.html#IDX1>). The degree, which is an award signifying a rank or level of educational attainment and which is conferred on students who have successfully completed a degree program, is represented by the official degree designation (e.g., B.A.—bachelor of arts, B.S.—bachelor of science, etc.)

Major: A major is a field of study within an approved degree program, having its own curriculum. A degree program may have more than one major.

Area of Emphasis: An area of emphasis is a specific subject area within an approved degree program and major. Normally, a minimum of 12 credit hours and no more than 18 credit hours are expected for an area of emphasis within a baccalaureate degree program. Normally, a minimum of 6 and no more than 12 credit hours would be expected for an area of emphasis within a graduate degree program.

Minor: A minor is an area of study outside of the major that encourages students to pursue a secondary field. Students may not earn a minor in the same field as their major. Requirements for a minor are set by the academic unit offering the minor and must include at least 15 hours of coursework, with a minimum of 9 hours at the upper division level (course numbers 300 or above). Minors are only available to students earning a baccalaureate degree.

Certificate program: A certificate program is a coherent, specialized curriculum designed for students in search of a specific body of knowledge for personal/career development or professional continuing education. Normally, a minimum of 12 and no more than 21 credit hours constitute a certificate program at the baccalaureate or graduate level.

Accelerated Bachelor's/Master's Programs

Accelerated Bachelor's/Master's degree programs (ABM programs) offer WVU students the opportunity to pursue both a bachelor's and a master's degree in the same discipline or in related disciplines in an accelerated time frame. Students in these approved programs are able to begin taking courses for the master's degree prior to completion of the bachelor's degree.

ADMISSION TO ABM PROGRAMS

An Accelerated Bachelor's/Masters (ABM) program may directly admit first-year students (early admission), or may admit students after completion of at least 60 credits (regular admission), or both.

Early Admission:

- For early admission, entering WVU first-year students must have a minimum high school GPA of 3.0 and SAT or ACT test scores above the 70th percentile, or higher, as determined by the program. Early admitted students must meet the standards described below for regular admission to continue in the ABM program after the completion of 60 credits

Regular Admission:

- Only currently enrolled WVU students may be considered for regular admission to the program. Transfer students must complete at least 24 credit hours as degree-seeking students at WVU before applying to the program. ABM programs are not available to students seeking a second (or subsequent) bachelor's degree.
- Regular admission may not be any earlier than the semester in which an undergraduate student is expected to complete 60 credits or any later than the semester after which the student needs two additional semesters to complete the bachelor's degree. The minimum standard for regular admission is a cumulative undergraduate GPA of 3.0, with no provisional admissions allowed. Additional admissions criteria (such as completion of particular courses, entrance exam scores, letters of recommendation, or personal statements) are determined by individual programs.

REQUIREMENTS FOR ABM PROGRAMS

Students in ABM programs complete all requirements for both degrees. Students are conferred both degrees simultaneously following completion of the requirements for both degrees. Acceleration of the time to complete the two degrees can be facilitated by allowing students to begin some of the work for the master's degree prior to completion of the bachelor's degree, and by allowing students to count up to 12 credits of specific courses at the 400-level or above toward both bachelor's and master's degree requirements. An ABM program may allow specific courses (at the 400-level or above) that are required for one degree to be substituted for specific course requirements for the other degree. The bachelor's degree in an ABM program must require at least 120 credits and the master's degree must require at least 30 credits, including any courses (up to 12 credits) that are approved to count for both degrees.

Programs are responsible for reporting to the Office of the University Registrar any courses completed by a student enrolled in an ABM program that are to be applied to both the student's bachelor's degree and the student's master's degree. Any course completed by a student in the ABM program that will be used to meet both bachelor's and master's degree requirements must be identified in writing to the Office of the Registrar by the ABM program director within 60 days following posting of the student's grade in the course. Otherwise, the course will only meet requirements of the student's primary curriculum at the time of course completion.

ENROLLMENT IN ABM PROGRAMS

Students accepted to an ABM program will be dually enrolled in the bachelor's and master's degree programs after completion of at least 60 undergraduate credits and admission to the master's degree program. Students must complete a separate application for admission to the master's degree program (including payment of an application fee).

Students enrolled in a master's degree program as part of an ABM program may enroll in graduate-level courses approved for their program without completing a Senior Petition.

Unless given specific permission by the relevant dean, students admitted to an ABM program must maintain full-time continuous enrollment during fall and spring terms. Enrollment requirements in summer term are determined by individual programs.

Students who are admitted to an ABM program may not pursue a dual degree, double major, or certificate. They may pursue minors and areas of emphasis, as approved by their advisor. However, students admitted to an ABM program will not be approved for course overloads (more than 17 credits in any term that includes more than one graduate-level course, more than 20 credits in any term that does not include graduate-level courses).

GRADUATION

Students admitted to an ABM program will have their bachelor's and master's degrees conferred simultaneously upon completion of all requirements for both degrees.

TUITION AND FINANCIAL AID

Students in an ABM degree program are charged undergraduate tuition and are eligible for undergraduate financial aid prior to completion (or near completion) of the minimum number of credits normally required for their bachelor's degree. After that, students are charged graduate tuition and are eligible for graduate assistantships (with permission of their program) or other graduate student funding opportunities and financial aid. Changes in students' tuition and financial aid status may be made only at the end of an academic year (May). Students will be charged graduate tuition during the academic year when they are expected to complete the program. Colleges/schools may choose to provide tuition scholarships to ABM students to reduce students' college tuition charges.

CONTINUED ELIGIBILITY AND TERMINATION

Students in an ABM degree program must maintain a minimum cumulative GPA of 3.0 (or higher, if specified by the program) in both their undergraduate and graduate courses throughout their enrollment. Grades in courses at the 400 level or higher that will be counted toward both the bachelor's and master's degree (maximum of 12 credits) will be included in calculation of both the undergraduate and the graduate GPA for the purposes of determining satisfactory performance.

Students' eligibility to remain in the ABM program will be evaluated at the end of each semester. Students failing to meet program or University standards will be placed on program probation for no more than one semester, after which they will be terminated from the ABM degree program. Terminated students as well as students who choose not to continue in the ABM degree program will be eligible to receive their bachelor's degree when they have completed the bachelor's degree requirements. The credits earned by such students in graduate-level courses will apply to the minimum credits required by the bachelor's degree program. The bachelor's degree program may decide to allow such students to substitute graduate-level courses taken as part of the ABM program for specific undergraduate course requirements, but the program is not required to do so.

Approved ABM Programs:

- Bachelor of Science/Master of Science in Applied and Environmental Microbiology
- Bachelor of Science/Master of Science in Physical Education Teacher Education

Undergraduate Certificate Programs

For a complete list of certificates and information on WVU's undergraduate certificates, please see our Undergraduate Certificates page (p. 53).

Minors

For a complete list of minors and information on WVU's minors, please see our Minors page (p. 44).

In this section:

- Abbreviations Used in Course Listings (p. 47)
- Plan for Numbering Courses (p. 48)
- Common Course Numbers & Descriptions (p. 48)
- Eligibility to Enroll in 500-Level Courses (p. 49)
- Graduate Credit via Senior Petition (p. 49)
- Final Exams (p. 49)
- Last Week of Classes (p. 49)

Abbreviations Used in Course Listings

Abbreviation	Description
HR	credit hours per course
Lec	lecture period
Rec	recitation period
Lab	laboratory period
GLAB	graded lab
WEB	web-based course
CONC	concurrent - listed with PR meaning the course may be completed at the same time as enrollment in the course for which it is listed
PR	prerequisite - course must be completed in a term prior to enrollment in the course for which it is listed
Coreq	co-requisite - courses must be taken in the same term
Consent	consent of instructor required
CR	credit but no grade

Plan for Numbering Courses

For convenience, each course of study is designated by the name of the department in which it is given and by the number of that course. The plan for numbering courses is as follows:

Courses 1–99 Developmental and community college certificate courses (does not require WVU Faculty Senate approval) and undergraduate professional development courses (courses that are designed for professional development and require students to possess a high school diploma. These courses do not count toward graduation).

Courses 100 Freshmen/Lower Division: Intended primarily for freshmen, although upper-division students may take them if needed to complete degree requirements.

Courses 200 Sophomores/Lower Division: Intended primarily for sophomores. These courses may have 100 or 200-level prerequisites.

Courses 300 Juniors/Upper Division: Intended primarily for juniors. These courses may have extensive prerequisites or be limited to specific majors.

Courses 400 Seniors/Upper Division: Intended primarily for seniors and selected graduate students. These courses are typically limited to advanced undergraduates within a particular major or degree program and selected graduate students.

Courses 500 Undergraduate Seniors and Master's Level: Courses intended for advanced undergraduate and graduate students. Undergraduates in any class carrying a 500-level course number must receive approval.

Courses 600 Master's Level: Courses intended for master's degree students (no undergraduates permitted).

Courses 700 Master's and Doctoral Degree Level: Courses intended for doctoral students and advanced master's students (no undergraduates permitted).

Courses 800 Master's and Doctoral Degree Level: Courses intended for students in graduate-level professional programs (no undergraduates permitted).

Courses 900 Professional Development: Courses intended for professional development. Students must possess a bachelor's degree. These courses do not count toward graduation and are not applicable towards a graduate degree. Grading is S/U only.

Undergraduate Common Course Numbers & Descriptions

199. Orientation to [subject/field]. 1-2 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities, and opportunities.

293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

298. Honors, 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice such as a tutor or assistant.

491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

492. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

495. Independent Study. 1-6 Hr. Faculty-supervised study of topics not available through regular course offerings.

496. Senior Thesis. 1-3 Hr. PR: Consent.

497. Research. 1-6 Hr. Independent research projects.

498. Honors, 1-3 Hr. PR: Students in Honors Program with consent by the honors director. Independent reading, study, or research.

499. Global Service Learning. 1-3 Hr. PR: Consent. Theory and practice of global service-learning. The main objective will be to pair the experiential aspects of meaningful and sustained service in the host community with work from the student's anchor course by offering a methodological framework for cultural immersion and community service as well as adding to the content of the anchor course.

Eligibility to Enroll in 500-Level Courses

Advanced undergraduate students may request permission to enroll in a graduate course numbered 500-599. Undergraduate students may not enroll in 600 or above level courses unless they are enrolled in a master's degree program as part of an ABM program. To qualify, students must be classified as either a Junior or Senior and have a minimum of a 3.0 cumulative grade point average on a 4.0 scale. To enroll in 500-599 courses, students must complete an Undergraduate Application to Enroll in 500-Level Courses, found on the Office of the University Registrar's website, and have it approved. Non-WVU students will also be required to submit an undergraduate application for admission and have his or her official transcripts sent to the Office of Admissions from all of the colleges and universities previously attended; the transcript cannot be one sent to the student or by facsimile (fax).

Graduate Credit via Senior Petition

Students classified as seniors may begin graduate study early through the University's senior petition policy. Senior petition applies only to courses numbered 400–599, and students can receive only 15 graduate hours through the senior petition process. If a student is permitted to receive graduate credit, that credit cannot count toward the undergraduate degree. To qualify, students must be classified as seniors and have a minimum of a 3.0 cumulative grade point average on a 4.0 scale. To be granted permission to earn graduate credit as an undergraduate senior, students must complete the Senior Petition to Earn Graduate Credit, found on the Office of the University Registrar's website, and have this approved. Students enrolled in a master's degree program as part of an ABM program may enroll in graduate-level courses approved for their program without completing a Senior Petition.

Finals

The last week of each semester of the academic year is designated as finals week. Final examinations for the summer term are given on the last day of classes. The website <http://registrar.wvu.edu/> gives the dates and times for final examinations. (See specific term Course Registration Information link for further information.)

Students who take a section of a multi-section course may be required to take the departmental final examination, given during the regular final examination period.

Last Week of Classes

Practical laboratory tests, make-up examinations, and regularly scheduled short quizzes are the only tests permitted for day classes during the week of classes preceding finals week unless the faculty member petitions the associate provost for Undergraduate Academic Affairs and the petition is approved by the beginning of the second week of the semester in which the final exam is to be given. Evening classes have their final exams on the last meeting of the class preceding finals week.

Final Examination Policy

No substantial examinations may be given during the last week of classes or during the study days preceding the final examination period. An examination is considered to be substantial if it counts for more than 30 percent of the final course grade. The only examinations permitted during the last week of classes are final examinations for evening classes (classes meeting at 6 p.m. or later, or classes meeting at 4 p.m. or later if the class meets once a week), quizzes or non-substantial examinations, and bona fide make-up examinations.

The study days preceding final examinations are not to be used as dates on which papers are due, quizzes or examinations are administered, or for any other class-related activity, other than office hours

The final examination period is reserved for scheduled final examinations. No other class-related activity, with the exception of office hours, may be scheduled during the final examination period. No final examinations may be given before the examination period begins, and no change in time from that published in the official examination schedule is permitted without approval. An instructor with a compelling reason to change the time of an examination must obtain the approval of the dean of the college or school and the Associate Provost for Graduate or Undergraduate Academic Affairs before announcing an alternative examination procedure to the students.

In a course extending over two semesters, when the subject matter is continuous, the second-semester final examination may include the subject matter of the first semester.

The final examination schedule for each academic term is determined by the Office of the University Registrar. The final examination date and time for a class is determined by the class meeting time. Common examinations are scheduled for certain courses that administer examinations at the same time for all students enrolled in the course. Common examinations may only be administered during the specified common examination time slot in order to minimize conflicts in the students' schedules and help ensure room availability. No courses other than those listed on the final examination schedule may use a common examination time. Common examinations may only be administered for courses in which the total course enrollment exceeds 500 students or there are more than 20 sections of the course. Finals are held in the location of the regularly scheduled class meeting unless students are otherwise notified.

If a student has more than three final examinations on any one calendar day of the final examination period, the student may make arrangements to take the last examination of the day during the make-up examination time period. If a student has two final examinations scheduled during the same

common examination time period, the student must contact the departments administering the common examinations to make arrangements for a make-up examination.

A student may address complaints related to the final examination procedures in a course to the dean of the college or school in which the course is offered, or to the Associate Provost for Graduate or Undergraduate Academic Affairs.

In this section:

- Classification of Students (p. 50)
- Course Overload (p. 50)
- Credit Hour Definition (p. 50)
- Credit by Exam (p. 51)
- Experiential Learning (p. 51)

Classification of Students

WVU undergraduates are classified as freshmen, sophomores, juniors, or seniors. These classifications are based upon the number of hours completed. The classifications are as follows:

Classification	Hours
Freshman	1-28 Earned Credit Hours, Inclusive
Sophomore	29-58 Earned Credit Hours, Inclusive
Junior	59-88 Earned Credit Hours, Inclusive
Senior	89 or More Earned Hours

Note: Classification of students will be updated starting Summer 2018.

Course Overload

Undergraduate students are not permitted to enroll in more than 20 credits in a fall or spring semester or 14 credits in a summer semester without approval. The student's dean or dean's designee may approve requests of 21 credits in the fall or spring semester or 15 credits in the summer semester. Requests to enroll in credits higher than this limit must be approved by the student's dean or dean's designee and the Associate Provost for Undergraduate Academic Affairs.

Credit Hour Definition

West Virginia University courses offered for credit are based on semester hours. Semesters are fifteen weeks long plus one week for final exams. A single credit hour is equivalent to fifty minutes of guided instruction within the classroom. An hour of preparation, or related activity outside of the classroom, is equivalent to sixty minutes.

FACE-TO-FACE CLASSROOM LEARNING

One credit hour is equivalent to one hour of guided instruction (fifty minute class) and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or the equivalent amount of work over a different amount of time such as during the summer academic term, when courses may vary in duration. One credit hour in other academic activities, as established by the institution, such as laboratory work, internships, practicums, studio work, study abroad, experiential learning opportunities, and online learning, must include an equivalent amount of required work.

ONLINE LEARNING

One credit hour of online learning is equivalent to fifteen hours of direct instruction and thirty hours of additional student work. Direct instruction can occur via computer-assisted (modules), multi-media interaction, discussions, and/or completion of exams/quizzes/assessments as documented in the course syllabus and approved to meet best practices in online learning. Student work includes activities like readings and supplemental home work. Students must fulfill these hours to complete the course requirements as set forth by the course instructor. Online courses developed from existing face-to-face instruction adhere to the defined learning outcomes and assessments of the original face-to-face format for the course. All WVU online programs are reviewed for nationally accepted standards for online learning.

EXPERIENTIAL LEARNING

In experiential learning, including opportunities representing laboratory/lecture courses, undergraduate research (with or without laboratory), professional development internships, and service learning, a total of three hours of classroom and preparation time per week over a period of fifteen weeks for one credit hour or the equivalent amount of work over a shorter period of time is required. Courses must incorporate adequate opportunities to document student progress and student completion of the stated learning objectives for each experience.

STUDY ABROAD

One credit hour is equivalent to fifteen hours of guided instruction and thirty hours of cultural, linguistic or other types of engagements as described by the syllabus and approved by the faculty, department Chair, Dean, and Associate Provost. Exceptions to this general rule would need to be justified and approved on an individual basis.

STUDIO/ENSEMBLE WORK

In studio courses in the arts, design, and theatre, one credit hour is equivalent to one and a half hours of guided instruction and three hours for studio class practice or projects each week for fifteen weeks as defined by the National Association of Schools of Art and Design (NASAD). In accordance with the National Association of Schools of Music standards, one credit hour of ensemble work in the music field represents three hours of practice each week, on average, for a period of fifteen weeks plus the necessary individual instruction as defined by the major subject.

VARIABLE CREDIT OFFERINGS

Variable credit courses often represent student experiences that range in credit hours based on the focus and discipline of the experience. Practicums (teaching and research), field experience, undergraduate and graduate research and laboratory rotations and credit, and independent studies offer a range of contact. One credit hour is equivalent to fifteen contact hours of guided instruction (e.g., student progress meetings, mentoring) and thirty hours of student work to complete the requirements set forth by the advisor or course instructor (e.g., team meetings, review sessions, thesis/dissertation preparation) over a fifteen week period. Instructors/mentors and students should discuss the appropriate number of total credit hours for a given course based on the time needed to attain outcomes of the particular endeavor.

Credit by Exam

A student who is currently enrolled may receive credit for a course or courses upon demonstration of competency in the course content at the discretion of the department. The department offering the course determines evaluation standards for the student's competency. If skill and cognitive abilities are components of the course, then both are evaluated. A college, school, or department may ask a student to prepare a self-evaluation statement. The purpose of the statement is to determine competency and the methods by which the student achieved it. Students interested in pursuing credit by exam should begin by consulting with the department offering the course. A fee is required to pursue credit by exam.

Credit is given only when a satisfactory degree of competency is shown. While WVU administered credit by examination and placement credit will be excluded from WVU residence credit, it does not interrupt the final thirty credit hours in residence if earned during this period.

Experiential Learning

Each academic unit has a policy of general applicability controlling the allocation of credit for ad hoc experiential learning. No credit shall be granted for ad hoc experiential learning that is not sanctioned by an approved policy. At a minimum, each discipline shall adhere to accreditation standards of that discipline with respect to credits given toward student advancement based on experiential learning. There should be an equivalence in quantity and quality of ad hoc experiential learning effort and conventional academic effort for a set amount of credit within a discipline. Credit awarded for experiential learning will be posted as transfer work to West Virginia University with the course number of three zeros (000). The course prefix will vary by department granting credit. Credits applied to a student's record through experiential learning will count in degree (or earned) hours. No formal grade will be entered. While WVU administered experiential learning credit will be excluded from WVU residence credit, it does not interrupt the final thirty credit hours in residence if earned during this period.

Tuition, Fees and Residency

In this section:

- Cost of an Academic Year's Work (p. 51)
- Tuition and Fees (p. 51)
- Identification Card (p. 52)

Cost of an Academic Year's Work

Student Financial Support & Services (<http://financialaid.wvu.edu>) provides an estimate of the total cost of attendance (<http://tuition.wvu.edu>) for an academic year. This estimate includes University tuition and fees and estimated campus room and board, but does not include books and supplies, transportation, and personal expenses.

Tuition and Fees

Tuition and fee structures (<http://revenueservices.wvu.edu/tuition-and-fees>) vary by residency classification and academic program at WVU. Students are charged for University tuition, College tuition, and University fees. In some cases, students are charged an additional fee for WVU Online courses or programs. Senior citizens of West Virginia (age 65 and older) may take courses at WVU for reduced tuition and fees (<https://admissions.wvu.edu/how-to-apply/senior-citizen-students>).

Identification Card

Registered students are eligible for an identification card (Mountaineer Card (<http://wvucard.wvu.edu>)). The Mountaineer Card gives access to certain activities and privileges on campus. Students have free access to the Student Recreation Center, the PRT, and athletic events, and may ride the local bus system (Mountain Line (<http://www.busrider.org>)) by using their ID card. On- and off-campus students have access to the WVU Libraries. WVU reserves the right to refuse issuance of an identification card and misuse may result in confiscation of the card. Lost or broken cards can be replaced for a fee.

Residency Classification

Residency policy (<http://admissions.wvu.edu/forms-and-procedures/residency-reclassification>) is established by the WV Higher Education Policy Commission Series 25. The WVU Office of Admissions assigns students a residency classification for admission, tuition, and fee purposes. Students who are legal residents of West Virginia pay "resident" tuition and fees at WVU; students who are residents of other states and nations pay "non-resident" tuition and fees.

Academic Common Market

West Virginia University participates in the Academic Common Market (ACM) of the Southern Regional Education Board (SREB). Hundreds of undergraduate and graduate programs are available for residents of SREB states. The ACM program is not competitive or merit-based, but applicants must meet state residency and college program requirements.

To qualify, students must be a resident of one of the 16 SREB states, select and plan to enroll in a program eligible for residents of their home state, complete the admission process at the institution offering the eligible ACM program and be certified as a resident of their home state by contacting the coordinator for their state of residence.

Key components of the Academic Common Market include the following:

- The ACM eliminates unnecessary duplication of academic programs among participating states, recognizing that it is impractical for any institution or single state to develop or maintain degree programs in every field of knowledge.
- The ACM provides access across state lines for programs not available in a student's home state. Programs may be added to, or deleted from, the inventory at any time due to program availability, curricular, instructional, or other needs. Currently enrolled students continue to study at resident rates if a program is deleted during their academic careers.
- The ACM lists existing degree programs that have the capacity to serve additional students. The ACM degrees available at West Virginia University for residents of SREB states are available at <http://admissions.wvu.edu/cost-and-aid/academic-common-market>.
- First-professional degree programs, such as law, medicine, dentistry, pharmacy and optometry, are not offered in the ACM and cannot be requested.
- Some institutions and states may impose additional acceptance requirements, such as full-time enrollment status or GPA requirements.

For more information about the ACM at WVU, visit <http://admissions.wvu.edu/cost-and-aid/academic-common-market>. (<http://undergraduateacademicaffairs.wvu.edu/home/acmatwvu>)

For further information regarding specific state requirements, students should contact the Southern Regional Education Board (www.sreb.org) (<http://catalog.wvu.edu/undergraduate/residency/www.sreb.org>).

Tuition and Fee Regulations

All tuition and fees are payable to the Office of Student Accounts prior to the first day of each term. Policies are in place concerning late fees, financial holds, and collections (<http://studentaccounts.wvu.edu/policies>). Students can review their charges, waivers, scholarships, and payments online through the STAR Information System, which can be accessed through the WVU portal at portal.wvu.edu. Payments can also be made from the same website. Payments of tuition, fees, and other charges by check, draft, or money order are subject to WVU's Non-Sufficient Funds Check Policy (<http://financialservices.wvu.edu/policies/nsf-non-sufficient-fund-check-policy>). A processing fee is added to credit card payments.

Arrangements can be made with the Office of Student Accounts for payment from officially accepted scholarships, loan funds, grants, or contracts.

WVU places restrictions on students who have outstanding debts to the University. The restriction may include, but is not limited to, the withholding of a student's registration, diploma, or transcript. No degree is conferred and no transcripts are issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University. The Office of Student Accounts provides information concerning refunds (<http://studentaccounts.wvu.edu/refunds>).

Students who fail to drop courses prior to the end of the add/drop period are responsible for tuition and fees whether or not they attend those courses. See the Registrar's Office for withdrawal information.

Undergraduate Certificates

Academic Certificate Policies

Academic certificates at the undergraduate level may only be awarded simultaneously with a baccalaureate degree. Academic certificates at the graduate and professional levels may be awarded either simultaneously with a graduate or professional degree or independently of any degree program. Completion of an academic certificate will be noted on students' transcripts.

Certificate programs may require admission to the certificate program prior to enrollment in specified certificate courses. Students must be admitted to the certificate program in order to be awarded the certificate.

Students who complete a WVU graduate certificate prior to enrolling in a degree program may apply up to 12 credit hours to the degree program. No more than 6 credits earned from a different institution or applied to both a certificate and a degree can be used to meet certificate requirements. Applicability of credits earned from a different institution to certificate requirements is the decision of the program offering the certificate.

Davis College of Agriculture, Natural Resources, and Design

Majors

The Davis College of Agriculture, Natural Resources, and Design is organized into three schools: Agriculture and Food; Design and Community Development; Natural Resources. There are a wide variety of major areas of study in which undergraduate students can earn a baccalaureate degree, including a college-wide pre-major for students that wish to explore courses throughout the college prior to deciding on a degree program. There also is a college-wide Multidisciplinary Studies major. These majors are listed below by the school in which they are taught. More detailed information on each major is provided in the appropriate school's section on the following pages.

SCHOOL OF AGRICULTURE AND FOOD

- Agroecology
- Animal and Nutritional Sciences
- Applied and Environmental Microbiology
- Biochemistry
- Environmental, Soil and Water Sciences
- Horticulture
- Human Nutrition and Foods

SCHOOL OF DESIGN AND COMMUNITY DEVELOPMENT

- Agricultural and Extension Education
- Design Studies
- Fashion, Dress and Merchandising
- Interior Design
- Landscape Architecture

SCHOOL OF NATURAL RESOURCES

- Agribusiness Management
- Energy Land Management
- Environmental and Energy Resources Management
- Environmental and Natural Resource Economics
- Forest Resources Management
- Recreation, Parks, and Tourism Resources
- Wildlife and Fisheries Resources
- Wood Science and Technology

Nature of Program

The Davis College offers students career paths that are exciting and rewarding. Through our diverse academic programs, students and faculty team up to discover agricultural practices that increase yields while improving the environment, producing bio-based energy alternatives, creating more nutritious and flavorful foods, restoring degraded ecosystems, conserving forests and natural resources, and designing both built and natural environments. Graduates of the Davis College pursue scientific and management careers that foster the wise management, utilization, and conservation of our soils, water, forests, wildlife, domestic animals, food, fiber, and living spaces.

The Davis College helps students adjust to their major and get to know their fellow students and professors. Distinguished faculty share their knowledge through hands-on learning in the field, classroom, and lab, and through academic advising. In the Davis College, we are committed to helping students succeed through a strong academic support system. Whether students are interested in animals, design, the environment, biosciences, or food and health, the Davis College is the perfect place for academic and personal growth.

Accredited Programs

The following programs within the College are accredited by nationally and/or internationally recognized organizations: landscape architecture by the Society of Landscape Architecture; forest resource management and recreation, parks, and tourism resources by the Society of American Foresters; wood science and technology by the Society of Wood Science and Technology; agricultural and extension education by the National Council for

Accreditation of Teacher Education; interior design by the National Association of Schools of Art and Design; and the didactic undergraduate program in dietetics by the American Dietetic Association.

Honoraries and Student Organizations

Students are encouraged to become active in honoraries and student professional associations and organizations. Those with a sufficiently high grade point average may be selected for membership in Phi Kappa Phi, the University-wide honorary recognizing excellence in scholarship. Within the College, outstanding students may be chosen for membership in Alpha Tau Alpha, Gamma Sigma Delta, Phi Upsilon Omicron, or Alpha Zeta. There are over twenty student clubs and organizations sponsored by the College.

College-Wide Majors

There is a College-wide pre-major for the undecided student who enrolls in the Davis College and wishes to explore different academic areas before choosing a major from which to graduate. The Davis College offers a Multidisciplinary Studies major which requires completion of at least two minors of the required three minors in the Davis College and allows flexibility in defining an academic program that fits the student's career goals.

Pre-Agriculture, Forestry, and Consumer Sciences Major

The Pre-Agriculture, Forestry, and Consumer Sciences (PAFCS) major in the Davis College is for the student who is undecided as to his or her career path and would like to explore different academic areas in the Davis College or other WVU colleges before choosing a major. A student cannot complete graduation requirements in the PAFCS major.

Students who meet WVU admissions requirements may be accepted directly into the Davis College pre-agriculture, forestry, and consumer sciences major. Students are advised by the Davis College's Associate Dean for Academic Affairs Office or a faculty advisor designated by the associate dean's office.

General Education Foundations courses are combined with introductory courses from majors in which the student may have an interest. PAFCS students are encouraged to talk with professors throughout the Davis College to gain knowledge of the many career options in our College.

There is no specific time when it is appropriate to choose a major since different majors have widely varying course requirements. Students can transfer into many majors at the end of the sophomore year and graduate in four years. However, some majors are more tightly structured and require initiation of studies in the freshman year to complete studies in four years. The PAFCS student's faculty advisor will provide him or her with guidance on major requirements throughout WVU.

ADMINISTRATION

DEAN

- Daniel J. Robison - Ph.D. (University of Wisconsin-Madison)

ASSOCIATE DEAN OF ACADEMIC AFFAIRS

- J. Todd Petty - Ph.D. (University of Georgia)
Academic Affairs

ASSOCIATE DEAN OF RESEARCH

- Timothy T. Phipps - Ph.D. (University of California)
Agriculture and Forestry Experiment Station

SCHOOL/DIVISION DIRECTORS

- Gerald E. D'Souza - Ph.D. (Mississippi State University)
Division of Resource Economics and Management
- Matthew A. Jenks - Ph.D. (Purdue University)
Division of Plant & Soil Sciences
- Robert Burns - Ph.D. (Pennsylvania State University)
Division of Forestry and Natural Resources
- Robert Taylor - Ph.D. (Mississippi State University)
Division of Animal and Nutritional Sciences
- Judith Wasserman - MLA, MRP (Cornell University)
School of Design and Community Development

Degree Designation Learning Goals

BACHELOR OF SCIENCE (BS)

Upon graduation, students will have attained the following knowledge bases, and career competency skills:

- A working knowledge of the basic sciences and scientific methods.
- A working knowledge of their discipline.
- The ability to write and present scholarly information.
- The ability to integrate knowledge and possess problem solving/critical thinking skills necessary for professional and social development and life-long learning and civic engagement.

BACHELOR OF SCIENCE IN AGRICULTURE (BSAGR)

Upon graduation, students will have attained the following discipline knowledge bases, and career competency skills:

- Graduates will acquire a high level of competency in the basic sciences required for disciplinary competency.
- Graduate will integrate basic knowledge and managerial skills related to the animal, plant, nutritional and food sciences disciplines.
- Graduates will acquire sufficient written and oral communication skills, problem solving and critical thinking skills to effectively impact lifelong societal and professional developments critical to their respective discipline of interest.
- Graduates will attain depth of knowledge relative to the scope of subfields of the animal, food and nutritional sciences disciplines.

BACHELOR OF SCIENCE IN FORESTRY (BSF)

Upon graduation, students will have attained the following knowledge bases and career competency skills:

- Ability in preparing and delivering effective oral presentations.
- Proficiency in English composition, technical/business writing, and writing for non-professional audiences.
- Ability to read with comprehension a variety of documents, and critically evaluate opposing viewpoints.
- Understanding of the components, patterns, and processes of biological and ecological systems across spatial and temporal scales.
- Understanding of molecular biology, cells, organisms, populations, species, communities, and ecosystems.
- Understanding of physical and chemical properties, measurements, structure, and states of matter.
- Ability to understand and use the basic approaches and applications of mathematics and statistics for analysis and problem solving.
- Understanding of, and an ability to address, moral and ethical questions and an ability to use critical reasoning skills.
- Understanding of human behavior and social and economic structures, processes, and institutions of importance across a broad range of societies.
- Understanding of the diverse dimensions of the human experience and culture.
- Understanding of taxonomy and ability to identify forest and other tree species, their distribution, and associated vegetation and wildlife.
- Understanding of soil properties and processes, hydrology, water quality, and watershed functions.
- Understanding of ecological concepts and principles including the structure and function of ecosystems, plant and animal communities, competition, diversity, population dynamics, succession, disturbance, and nutrient cycling.
- Ability to make ecosystem, forest, and stand assessments.
- Understanding of tree physiology and the effects of climate, fire, pollutants, moisture, nutrients, genetics, insects and diseases on tree and forest health and productivity.
- Ability to identify and measure land areas and conduct spatial analysis.
- Ability to design and implement comprehensive inventories that meet specific objectives using appropriate sampling methods and units of measurement.
- Ability to analyze inventory data and project future forest, stand, and tree conditions.
- Ability to develop and apply silvicultural prescriptions appropriate to management objectives, including methods of establishing and influencing the composition, growth, and quality of forests, and understand the impacts of those prescriptions.
- Ability to analyze the economic, environmental, and social consequences of forest resource management strategies and decisions.
- Ability to develop management plans with specific multiple objectives and constraints.
- Understanding of the valuation procedures, market forces, processing systems, transportation and harvesting activities that translate human demands for timber-based and other consumable forest products into the availability of those products.
- Understanding of the valuation procedures, market, and non-market forces that avail humans the opportunities to enjoy non-consumptive products and services of forests.
- Understanding of the administration, ownership, and organization of forest management enterprises.
- Understanding of forest policy and the processes by which it is developed.
- Understanding of how federal, state, and local laws and regulations govern the practice of forestry.

- Understanding of professional ethics, including the Society of American Foresters Code, and recognition of the responsibility to adhere to ethical standards in forestry decision making on behalf of clients and the public.
- Ability to understand the integration of technical, financial, human resources, and legal aspects of public and private enterprises.

BACHELOR OF SCIENCE IN LANDSCAPE ARCHITECTURE (BSLA)

Upon graduation students will have attained the following knowledge bases and career competency skills.

- The competencies required for entry level positions in the profession of landscape architecture.
- Critical and creative design thinking and the ability to understand, apply and communicate the subject matter of the professional curriculum
- Application of a design process including project definition, problem identification, information collection, analysis, synthesis, conceptualization and implementation.

BACHELOR OF SCIENCE IN RECREATION (BSR)

Upon graduation, students will have attained the following knowledge bases and career competency skills:

- Ability in preparing, and delivering effective oral presentations.
- A proficiency in English composition, technical/business writing, and writing for non-professional audiences.
- Ability to read with comprehension a variety of documents, and critically evaluate opposing viewpoints.
- Understanding of the components, patterns, and processes of biological and ecological systems across spatial and temporal scales,
- Understanding of molecular biology, cells, organisms, populations, species, communities, and ecosystems.
- Understanding of physical and chemical properties, measurements, structure, and states of matter.
- Ability to understand and use the basic approaches and applications of mathematics and statistics for analysis and problem solving.
- Understanding of, and an ability to address, moral and ethical questions and an ability to use critical reasoning skills.
- Understanding of human behavior and social and economic structures, processes, and institutions of importance across a broad range of societies.
- Understanding of the diverse dimensions of the human experience and culture.
- Knowledge of the elements of botany, zoology, entomology, plant pathology, plant physiology, and genetics essential to an understanding of higher-order ecological processes.
- Understanding of taxonomy and systematics and ability to identify dominant and/or ecologically significant components of the flora and fauna of ecosystems at regional to continental scales.
- Knowledge of the important life history characteristics of dominant and special-concern species.
- Knowledge of soil properties and processes, hydrology, water quality, and watershed functions.
- Understanding of ecological concepts and principles including the structure and function of ecosystems, plant and animal communities, competition, diversity, population dynamics, succession, disturbance, and nutrient cycling.
- Understanding of the effects of climate, fire, pollutants, moisture, nutrients, insects and diseases, and other environmental factors on ecosystem health and functioning at local and landscape scales.
- Ability to identify, measure, and map land areas and conduct spatial analyses.
- Ability to design and implement accurate inventories and assessments of dominant or critical ecosystem components and services, ecosystem properties, and indicators of ecosystem health, including trees and other vegetation, vertebrate fauna, biodiversity, soil and water resources, timber, and recreational opportunities.
- Ability to summarize and statistically analyze inventory and assessment data, evaluate the status of important ecosystem components, describe and interpret interactions and relationships, and project future ecosystem conditions.
- Understanding of the valuation procedures, including market and nonmarket forces that apply to ecosystem goods and services such as timber, water, recreational opportunities, carbon and nutrient cycling, and plant and animal biodiversity.
- Ability to explain the relationships between demand, costs of production, and availability of those goods and services.
- Ability to describe procedures for measuring stakeholder values and managing conflicts in the evaluation and establishment of management objectives.
- Ability to evaluate and understand the economic, ecological, and social trade-offs of alternative land uses and ecosystem management decisions at local, regional, and global scales.
- Knowledge and understanding of environmental policy as applied to ecosystems and the processes by which it is developed.
- Ability to develop and apply prescriptions for manipulating the composition, structure, and function of ecosystems to achieve management objectives, and understand the impacts of those prescriptions at local and landscape scales.
- Ability to identify and control or mitigate specific threats to ecosystems such as insects, diseases, fire, pollutant stressors, and invasive plants or animals.
- Knowledge of the methods and procedures unique to the production of ecosystem goods and services such as timber, recreation, water, and wildlife populations.
- Ability to describe the process of adaptive management and its application to the management of ecosystems.

- Understanding of how federal, state, and local laws and regulations apply to management practice.
- Ability to develop management plans with specific objectives and constraints that are responsive to ownership or stakeholder goals and demonstrate clear and feasible linkages between current condition and desired future condition.
- Understanding of professional ethics, including the Society of American Foresters Code, and recognition of the responsibility to adhere to ethical standards in the practice of ecosystem management on behalf of clients and the public.
- Ability to integrate the knowledge, understanding, and skills from prior coursework in the development of collaborative solutions to realistic management problems.

BACHELOR OF MULTIDISCIPLINARY STUDIES (BMDS)

Upon graduation, students will have attained the following knowledge bases and career competency skills:

- Knowledge of and aptitude with principles, practices, facts, concepts, theories and tools in three minor areas
- The ability to write and present information
- The ability to analyze problems from different perspectives, recognize uncertainties, propose options, construct predictions, and make sound decisions using appropriate information resources and analytical tools

Admission

The general high school credit requirements for admission into the Davis College are the same as those required by the University.

All students are admitted directly to the College and are assigned a faculty advisor.

Minors

There are a wide variety of approved minors in the Davis College. Minors can be combined with major fields to broaden or further focus the student's academic studies. In addition, three minors can be combined in a Multidisciplinary Studies (MDS) major. You can earn an MDS degree in the Davis College or in other WVU colleges. The Davis College minors include:

- Agribusiness Management
- Agriculture and Natural Resources Law
- Applied and Environmental Microbiology
- Arboriculture
- Conservation Ecology
- Environmental Economics
- Environmental Protection
- Equine Studies
- Fashion Merchandising
- Food Science and Technology
- Food Service Production
- Forestry Resource Management
- Horticulture
- Landscape Studies
- Nutrition and Food Studies
- Pest Management
- Recreation, Parks, and Tourism Resources
- Rural Community Development
- Soil Science
- Sustainable Design
- Sustainable Low-Rise Residential Construction
- Wildlife and Fisheries Resources
- Wood Science and Technology

School of Agriculture and Food

Programs of Study

The School of Agriculture is home to the Division of Animal and Nutritional Sciences and Division of Plant and Soil Sciences. The Division of Animal and Nutritional Sciences houses majors in Animal & Nutritional Science, Human Nutrition & Food, and Biochemistry. Biochemistry is part of the

Intercollegiate Undergraduate Program in Biochemistry, a collaboration between the Davis and Eberly Colleges. The Division of Plant and Soil Sciences administers majors in Applied and Environmental Microbiology, Agroecology, Environmental Protection and Horticulture. As a student in this school, you may pursue a degree that enables you to go to graduate schools and professional programs, study basic sciences and their application, pursue a career in commercial agriculture, or work for federal or state agencies. The pre-professional programs of applied and environmental microbiology and biochemistry, among others, meet requirements for entry into professional school programs such as veterinary and human medicine, allied health professions, the pharmaceutical industry, and other graduate level programs.

Courses that you will take in the school of agriculture depend on a student's particular program. The school of agriculture offers a diverse range of course work and classes range from applied and environmental microbiology, animal and human nutrition, plant science, and soil science to environmental sciences, animal production, biochemistry, animal and plant breeding and genetics, food science, animal and plant pathology, physiology, horticulture, and agroecology. To assist in equipping yourself for one of the varied careers in agriculture, you will take supporting courses in other divisions of the Davis College and in other colleges. The programs are flexible and permit you to obtain a broad background and take sufficient courses in one area during the last two years to prepare you for your postgraduate career choice. Other programs are geared towards preparing you to tackle the applied problems found in the agriculture and green industry right out of college.

Pre-Professional Programs (Veterinary Medicine, Human Medicine, Pharmacy, Law, and Allied Health Professions)

The bachelor of science programs in Animal & Nutritional Sciences, Applied & Environmental Microbiology Biochemistry, Human Nutrition & Food, among others, provide students with the academic requirements for entry into professional schools or colleges of veterinary medicine. The West Virginia Higher Education Policy Committee has agreements for positions with the School of Veterinary Medicine at Mississippi State University and the Virginia-Maryland Regional College of Veterinary Medicine for students who have been a West Virginia resident for at least the past five years at the time of application. Students in Applied and Environmental Microbiology can pursue an accelerated environmental microbiology Master's program that can earn students a Master of Science degree in 5 years facilitating access to professional programs. Because only a limited number of students are accepted into graduate programs and veterinary medicine each year, students are urged to have alternative goals.

FACULTY

DIVISION DIRECTORS

- Matthew A. Jenks - Ph.D. (Purdue University)
Plant and Soil Sciences
- Robert L. Taylor, Jr. - Ph.D. (Mississippi State University)
Animal and Nutritional Sciences (Immunology and genetics of disease resistance)

PROFESSORS

- Alan R. Biggs - Ph.D. (Pennsylvania State University)
Plant Pathology, Tree Fruits
- Kenneth P. Blemings - Ph.D. (University of Wisconsin)
Nutritional biochemistry
- Mirjana Butalovic-Danilovich - Ph.D. (University of Ljubljana, Slovenia)
Extension Specialist, Consumer Horticulture, Master Gardener Program Coordinator
- Rakesh Chandran - Ph.D. (Virginia Tech)
Weed management in horticultural systems, IPM, Innovative strategies for weed control
- Robert A. Dailey - Ph.D. (University of Wisconsin)
Reproductive physiology
- Jason Hubbart - Ph.D. (University of Idaho-Moscow)
Fresh water supply regimes, Biogeochemical cycling, ecohydrology
- Jacek Jaczynski - Ph.D. (Oregon State University)
Food science and technology
- Matthew A. Jenks - Ph.D. (Purdue University)
Plant genetics, specialty crops
- P. Brett Kenney - Ph.D. (Kansas State University)
Meat science
- Hillar Klandorf - Ph.D. (British Council for National Academic Awards)
Physiology
- William L. MacDonald - Ph.D. (Iowa State University)
Plant Pathology, Forest and Shade Tree Diseases
- Kristen Matak - Ph.D. (Virginia Tech)
Food science and human nutrition

- Louis M. McDonald - Ph.D. (University of Kentucky)
Soil Science, Soil Chemistry
- Joseph S. Moritz - Ph.D. (Kansas State University)
Nutrition and feed manufacture
- Joseph B. Morton - Ph.D. (Montana State University)
Plant Pathology, Mycorrhizal Interactions, Field Crop Diseases
- Daniel Panaccione - Ph.D. (Purdue State University)
Plant Pathology, Mycology, Mycotoxins, Molecular Biology
- Jeffrey Skousen - Ph.D. (Texas A&M University)
Soil Science, Land Reclamation, Soil and Water Conservation, Watershed Restoration
- James A. Thompson - Ph.D. (University of Minnesota)
Soil science, Pedology, Land use
- Janet C. L. Tou - Ph.D. (University of Toronto)
Nutrition in bone health and chronic diseases
- Matthew E. Wilson - Ph.D. (Iowa State University)
Reproductive Physiology
- Jianbo Yao - Ph.D. (McGill University)
Functional genomics

ASSOCIATE PROFESSORS

- Kimberly M. Barnes - Ph.D. (University of Nebraska)
Lipid metabolism
- Vagner Benedito - Ph.D. (Wageningen University, The Netherlands)
Genetics and developmental biology, Plant genomics, Functional genetics and plant physiology
- Scott A. Bowdridge - Ph.D. (Virginia Tech)
Food animal production, parasite immunology
- Eugene E. Felton - Ph.D. (University of Missouri)
Animal science and ruminant nutrition
- Marlon Knights - Ph.D. (West Virginia University)
Reproductive physiology and animal production
- James B. Kotcon - Ph.D. (University of Wisconsin)
Plant Pathology, Agroecology, Nematology, Organic Farming Practices
- K. Marie Krause - Ph.D. (University of Wisconsin-Madison)
Ruminant nutrition
- Melissa Olfert - Dr.P.H., M.S.,R.D. (Loma Linda University)
Human nutrition and foods
- Yong-Lak Park - Ph.D. (Iowa State University)
Entomology, Geospatial Ecology of Insects, Integrated Pest Management, Spatial Interaction between Insect and Plant Diseases
- Eugenia M. Pena-Yewtukhiw - Ph.D. (University of Kentucky)
Soil Science
- Sven Verlinden - Ph.D. (Purdue University)
Horticulture, Post Harvest Physiology, Molecular Biology

ASSISTANT PROFESSORS

- Daniel L. Frank - Ph.D. (Virginia Tech)
Extension specialist, horticulture
- Michael Gutensohn - Ph.D. (University of Cologne, Germany)
Plant biochemistry and genetics, Metabolic engineering, Plant-insect interactions
- Matthew Kasson - Ph.D. (Pennsylvania State University)
Forest pathology, fungal-insect interactions, fungal phylogenetics
- Teiya Kijimoto - Ph.D. (Tokyo Institute of Technology)
Evolutionary developmental biology of morphological diversification
- Nik Kovicich - Ph.D. (Carleton University)
Metabolic engineering, Metabolite transport, Plant metabolic response to stress
- Kang Mo Ku - Ph.D. (University of Illinois Urbana-Champaign)
Food crops physiology and quality, Plant metabolomics
- Melissa D. Ventura-Marra - Ph.D., R.D. (Florida International University)

Diet related health disparities

- Daniel J. Mathew - Ph.D. (University of Missouri)
Reproductive Physiology
- Cangliang Shen - Ph.D. (Colorado State University)
Safety of meat and fresh produce
- Nicole Waterland - Ph.D. (Ohio State University)
Horticulture, Flower Senescence
- Amy Welsh - Ph.D. (University of California-Davis)
Conservation genetics

TEACHING ASSOCIATE PROFESSOR

- Megan Govindan - M.P.H., M.S., R.D. (West Virginia University)
Director of Didactic Program in Dietetics and Human nutrition and foods
- Margaret A. Minch - D.V.M. (Ohio State University)
Veterinary medicine
- Crystal E. Smith - Ed.D. (West Virginia University)
Equine management

TEACHING ASSISTANT PROFESSOR

- Adam M. Burda - MS, RDN, LDN (Indiana University of Pennsylvania)
Director of the Graduate Dietetic Internship Program
- David Davis - Ph.D. (Virginia Tech)
Landscape, turf, specialty crops

VISITING ASSISTANT PROFESSOR

- John Hando - Ph.D. (West Virginia University)
Environmental health and safety specialist

FACULTY EMERITI

- James W. Amrine, Jr.
- Robert E. Anderson
- John A. Balasko
- John F. Baniecki
- Bradford C. Bearce
- Gary K. Bissonnette
- James L. Brooks
- William B. Bryan
- Linda Butler
- William E. Collins
- Leslie Dozsa
- Betty J. Forbes
- Mannon E. Gallegly, Jr.
- Henry W. Hogmire
- William H. Hoover
- E. Keith Inskeep
- Robert F. Keefer
- Paul E. Lewis
- M. Zafar Alam Nomani
- Phillip Osborne
- Ronald A. Peterson
- Edward C. Prigge
- John C. Sencindiver
- Alan Sexstone
- Rabindar N. Singh
- Paul M. Smith

- Charles B. Sperow, Jr.
- Willem Van Eck
- Wayne R. Wagner
- John Warren
- Richard K. Zimmerman

ADJUNCT FACULTY

- Robert L. Cochrane - Reproductive physiology
- Jesse Fallon - Veterinary medicine
- Michael Glenn - Soil Science
- Ann Hubbs - Veterinary medicine
- Cynthia Huebner - Invasive Plants and Ecology
- Eric K. Johnson - Mechanical and aerospace engineering
- Lee Kass - Plant and Soil Sciences, History of Genetics
- Barbara Jean Meade - Veterinary sciences
- David D. Moran - Hydrodynamics and mathematics
- Stephen S. Miller - Horticulture
- Donald Nuss - Plant Pathology
- Tong-Man Ong - Genetics
- Dale W. Porter - Toxicology
- Caird E. Rexroad III - Genetics
- George R. Seiler - Veterinary sciences
- Alfred H. Stiller - Chemistry
- Richard Z. Woodworth - Agriculture
- Paul F. Ziemkiewicz - Land Reclamation
- Thomas van der Zwet - Plant Pathology

In this section:

- Applied and Environmental Microbiology (p. 62)
- Environmental Protection (p. 63)
- Equine Studies (p. 63)
- Food Science and Technology (p. 64)
- Food Service Production (p. 65)
- Horticulture (p. 65)
- Nutrition and Food Studies (p. 66)
- Pest Management (p. 66)
- Soil Science (p. 67)

APPLIED AND ENVIRONMENTAL MICROBIOLOGY

MINOR CODE - U082

The minor in Applied and Environmental Microbiology is designed to introduce students to the beneficial and harmful roles of microorganisms in a variety of diverse environments including plants, animals, soil, food, air, and water. Emphasis is given to the importance of microorganisms in such applied areas as public health, plant disease, pollution and pollution abatement, biological control of pests, bio-deterioration, and ecology.

A minimum GPA of 2.5 is required in all minor courses

A grade of C or higher must be earned in all minor courses

Minor Requirements

AEM 341	General Microbiology	4
PPTH 401	General Plant Pathology	4
Minimum of seven hours selected from the following: **		7
AEM 401	Environmental Microbiology	
ENVP 401	Environmental Microbiology	
AEM 408	Applied Water Microbiology	

AEM 420	Soil Microbiology	
ENVP 420	Soil Microbiology	
AGRN 420	Soil Microbiology	
AEM 445	Food Microbiology	
AEM 449	Food Microbiology Lab	
AEM 493 Special Topics course		
AEM 495	Independent Study	
PPTH 409	Nematology	
PPTH 470	Forest Pest Management	
PPTH course - Research-Airborne Fungi		
PPTH 503	Mycology	

Total Hours 15

* Maximum of four hours of special topics courses (AEM 493 or PPTH 493) can be applied toward the 15-hour total and requires approval of the division director.

** Courses with the same title are equivalent to each other.

ENVIRONMENTAL PROTECTION

MINOR CODE - U061

This minor is designed to provide students the opportunity to study the science and techniques which are applied to safe-guard the quality of the environment with emphasis on water, soil and crop protection. This minor would benefit students from agronomy, horticulture, and other disciplines with significant backgrounds in chemistry and biological science, who intend to work in an area where their major is applied to environmental protection. A grade of C or higher must be earned in all minor courses.

REQUIRED COURSES

ENVP 155	Elements of Environmental Protection	3
ENVP 460	Environmental Impact Assessment	3

Select three of the following: * 9

AEM 408	Applied Water Microbiology	
ENVP 355	Environmental Sampling and Analysis	
ENVP 401	Environmental Microbiology	
AEM 401	Environmental Microbiology	
ENVP 412	Pest Management	
ENTO 412	Pest Management	
ENVP 420	Soil Microbiology	
AEM 420	Soil Microbiology	
AGRN 420	Soil Microbiology	
ENVP 425	Environmental Soil Management	
AGRN 425	Environmental Soil Management	
ENVP 451	Principles of Weed Science	
AGRN 451	Principles of Weed Science	
ENVP 455	Reclamation of Disturbed Soils	
AGRN 455	Reclamation of Disturbed Soils	

Total Hours 15

* Courses with the same title are equivalent to each other.

EQUINE STUDIES

MINOR CODE - U130

This minor is designed for students who wish to advance their knowledge of equine management practices or wish to find employment within the equine industry. Students will gain knowledge of equine management related to reproduction, nutrition, health, training methods, design of facilities, and economy of the industry.

REQUIRED COURSES

A&VS 281	Introduction to Equine Care and Use	3
ANPR 344	Light Horse Science	4
Complete 1 of the following tracks		11
Management Track		
A&VS 330	Equine Facility Design and Management	
ARE 421	Rural Enterprise Development	
Select at least 2 of the following:		
A&VS 343	Equine Hoof and Limb	
ANPR 338	Horse/Livestock/Poultry Evaluation	
A&VS 370	Riding Theory and Techniques	
A&VS 463	Equine Events Management	
Science Track		
ANNU 260	Animal Nutrition	
ANPH 301	Introduction to Animal Physiology	
ANPH 440	Equine Exercise Physiology	
Select at least 2 of the following:		
A&VS 343	Equine Hoof and Limb	
ANPR 338	Horse/Livestock/Poultry Evaluation	
A&VS 370	Riding Theory and Techniques	
A&VS 497	Research	
Equine Assisted Activities and Therapies Track*		
A&VS 425	Principles of Therapeutic Horsemanship 1	
A&VS 426	Principles of Therapeutic Horsemanship 2	
Select at least 2 of the following		
A&VS 370	Riding Theory and Techniques	
A&VS 330	Equine Facility Design and Management	
ARE 421	Rural Enterprise Development	
DISB 380	Disability and the Family	
DISB 482	Disability in the Community	
PSYC 241	Introduction to Human Development	
PSYC 281	Introduction to Abnormal Psychology	
Total Hours		18

* If a student wishes to become a candidate for certification to become a PATH registered level riding instructor, the minor and the following classes must be completed: A&VS 293: Riding Theory and Techniques, A&VS 491: Professional Field Experiences (Volunteerism for EAAT), and A&VS 482 Practicum for Equine Assisted Activities and Therapies Instructor Certification.

FOOD SCIENCE AND TECHNOLOGY**MINOR CODE - U057**

The minor in Food Science and Technology is for students interested in pursuing careers in the food industry. The students will gain knowledge of food processing, engineering, chemistry, microbiology, and marketing. The minor will broaden career opportunities to food safety and quality assurance, food science/technology, food engineering, sensory evaluation, new food marketing research, food development, technical sales and marketing, and state or federal food inspectors. A minimum GPA of 2.0 is required in all minor courses

Minor Requirements

FDST 200	Food Science and Technology	3
FDST 308	Food Plant Sanitation	3
ARE 431	Marketing Agricultural Products	3
Electives - Select three of the following:		9
AEM 341	General Microbiology	
ARE 204	Agribusiness Management	
ARE 406	Applied Quantitative Methods	

FDST 365	Muscle Foods Technology	
FDST 445	Food Microbiology	
or AEM 445	Food Microbiology	
FDST 491	Professional Field Experience	
HN&F 171	Introduction to Human Nutrition	
HN&F 348	Science of Food Preparation	
HN&F 350	Cross-Cultural Cuisine	
HN&F 353	Food Service Systems Management	
Total Hours		18

FOOD SERVICE PRODUCTION

MINOR CODE - U104

The minor in food service production is designed to provide students educational opportunities in the areas of hospitality and/or foodservice management and/or food production management. Emphasis is given to those courses that provide expanded knowledge on management, food production, and food safety. Students must obtain a 75% or higher on the ServSafe® Food Safety and Alcohol examinations offered in in order to obtain the minor. A minimum GPA of 2.0 is required in all minor courses

A grade of C or higher must be earned in all minor courses

ARE 440	Futures Markets and Commodity Prices	3
FDST 200	Food Science and Technology	3
FDST 445	Food Microbiology	3
HN&F 353	Food Service Systems Management	3
Choose two of the following:		6
ANPR 341	Beef Production	
ANPR 350	Milk Production	
ANPR 353	Pork Production	
ANPR 356	Small Ruminants	
ANPR 367	Poultry Production	
ARE 204	Agribusiness Management	
FDST 308	Food Plant Sanitation	
FDST 365	Muscle Foods Technology	
HN&F 348	Science of Food Preparation	
HN&F 512	Maternal and Child Nutrition	
Total Hours		18

HORTICULTURE

MINOR CODE - U062

The minor in Horticulture is designed to provide students educational opportunities in the area of ornamental horticulture as it relates to current urban environments. Emphasis is given to learning about the establishment and management of herbaceous and woody plants used in commercial and home settings. The program would complement the curricula of students interested in careers in various aspects of management and care of turf, parks, and recreational areas, and in landscaping planning. A grade of C or higher must be earned in all minor courses.

A minimum GPA of 2.0 is required in all minor courses

Minor Requirements

PLSC 206	Principles of Plant Science	4
HORT 220	General Horticulture	3
Select three of the following		9
HORT 330	Plant Propagation	
HORT 441	Garden Center Management	
HORT 444	Handling and Storage of Horticultural Crops	
HORT 445	Greenhouse Management	
Total Hours		16

NUTRITION AND FOOD STUDIES**MINOR CODE - U143**

A grade of C- or higher is required all minor coursework.

Required Courses:

HN&F 126	Society and Food	3
HN&F 171	Introduction to Human Nutrition	3

Select one of the following:

HN&F 200	Nutrition/Activity/Health	3
HN&F 271	Fundamentals of Nutrition	3

Select three of the following:

AGBI 410	Introductory Biochemistry	9
HN&F 350	Cross-Cultural Cuisine	
HN&F 353	Food Service Systems Management	
HN&F 460	Advanced Nutrition	
HN&F 472	Community Nutrition	
HN&F 491	Professional Field Experience	

Total Hours 18

* Students may not combine the Nutrition & Food Studies minor with the Food Science & Technology minor, Foodservice Production Minor, or Bachelor of Science in Human Nutrition & Foods.

PEST MANAGEMENT**MINOR CODE - U059**

This minor is designed to introduce students to insects, plant pathogens, and weeds as pests that attack or compete with agricultural crops, ornamentals, and forest trees. Emphasis will be placed on environmentally sound management systems based on cultural, biological, and chemical strategies. This program complements current degrees and strengthens the background of students in horticulture, crops agronomy, environmental protection and other majors in biological sciences. A minimum GPA of 2.0 is required in all minor courses.

A grade of C or higher must be earned in all minor courses

Minor Requirements

Select one of the following: 4

ENTO 412	Pest Management	4
ENVP 412	Pest Management	
PPTH 401	General Plant Pathology	4

Select at least three of the following: * 7

AGRN 451	Principles of Weed Science	
ENVP 451	Principles of Weed Science	
ENTO 450	Insect Ecology	
ENTO 470	Forest Pest Management	
PPTH 470	Forest Pest Management	
PPTH 470	Forest Pest Management	
PLSC 453	Organic Crop Production	
PPTH 409	Nematology	
ENTO 493 Special Topics course	**	
PPTH 493 Special Topics course	**	

Total Hours 15

* Courses with the same title are equivalent to each other.

** No more than four hours may be taken as special topics.

SOIL SCIENCE MINOR CODE - U060

This minor is designed to introduce students to the relationships of soils to environmental protection and agricultural production. It serves as a means to broaden and strengthen the backgrounds of students majoring in non-soils curricula within the Davis College as well as students majoring in biological, earth science, and environmental curricula in other WVU colleges.

A grade of C or higher must be earned in all minor courses

Minor Requirements

AGRN 202	Principles of Soil Science	3
AGRN 203	Principles of Soil Science Laboratory	1
Select one of the following:		3
AGRN 425	Environmental Soil Management	
ENVP 425	Environmental Soil Management	
Select at least three of the following: *		8
AGRN 125	Soil Judging	
AGRN 410	Soil Fertility	
AGRN 415	Soil Survey and Land Use	
AGRN 417	Soil Genesis and Classification	
AGRN 420	Soil Microbiology	
AEM 420	Soil Microbiology	
ENVP 420	Soil Microbiology	
AGRN 430	Soil Physics	
AGRN 455	Reclamation of Disturbed Soils	
ENVP 455	Reclamation of Disturbed Soils	
Total Hours		15

* Courses with the same title are equivalent to each other.

Agroecology

Bachelor of Science in Agriculture - Agroecology Major

Agroecology is the interdisciplinary study of how agricultural production of plants and animals affects and is affected by the local environment. Agroecology emphasizes sustainable and environmentally friendly approaches to agricultural production. The agroecology major combines concepts of crop production with those of environmental protection to develop a balance between production and environmental issues. This major provides students the opportunity to specialize in ecological/sustainable aspects of crop production. Potential areas of employment include: farm and environmental consulting, organic farms, parks, lawn care and maintenance companies, agricultural supply companies, cooperative extension, and state and federal government support agencies.

Click here to view Suggested Plan of Study (p. 70)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3

F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

GEF 5, 6, 7	9	
Required Courses		
AGRL 111	Professions in Agriculture (preferred)	1
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory (GEF 2)	4
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory (GEF 8)	4
Select one of the following; (GEF 1):		6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
CHEM 111	Survey of Chemistry	4
CHEM 112	Survey of Chemistry	4
Select one of the following (GEF 3):		3
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
AGRN 202 & AGRN 203	Principles of Soil Science and Principles of Soil Science Laboratory	4
AGRN 410	Soil Fertility	3
AGRN 451	Principles of Weed Science	3
Select one of the following (GEF 4):		3
ARE 150	Introductory Agricultural and Agribusiness Economics	
OR		
ECON 201	Principles of Microeconomics	
and any 3 credit ARE course		
A&VS 251	Principles of Animal Science	4
ENTO 404	Principles of Entomology	4
ENVP 155	Elements of Environmental Protection	3
or ENVP 119	Soil in the City	
or PLSC 105	Plants and People: Past and Present	
GEN 101	Beginner's Guide-Genetics	3
PLSC 206	Principles of Plant Science (GEF 8)	4
PPTH 401	General Plant Pathology	4
STAT 211	Elementary Statistical Inference (GEF 8)	3
Required Agroecology Courses		15
AGRN 120	Principles of Agroecology	
AGRN 480	Field Methods and Case Studies in Agroecology (fulfills Writing and Communication Skills requirement)	
Select 2 of the following: *		
ENTO 450	Insect Ecology	
PLSC 453	Organic Crop Production	
AGRN 454	Forage Crops	
Pick one of the following*		
AGRN 493	Special Topics	

AGRN 491	Professional Field Experience
AGRN 496	Senior Thesis
Agroecology Electives (Students may specialize in the following options if desired)	
15	
Option 1: Crop Science	
AGRN 315	Turfgrass Management
AGRN 425	Environmental Soil Management
AGRN 452	Grain and Special Crops
AGRN 493	Special Topics
AGRN 495	Independent Study
BIOL 350	Plant Physiology
ENTO 412	Pest Management
GEN 371	Principles of Genetics
HORT 220	General Horticulture
HORT 330	Plant Propagation
HORT 443	Vegetable Crops
HORT 444	Handling and Storage of Horticultural Crops
HORT 445	Greenhouse Management
HORT 493	Special Topics
PLSC 453	Organic Crop Production
Option 2: Soil Health	
AGRN 415	Soil Survey and Land Use
AGRN 417	Soil Genesis and Classification
AGRN 425	Environmental Soil Management
AGRN 430	Soil Physics
AGRN 452	Grain and Special Crops
AGRN 455	Reclamation of Disturbed Soils
AEM 341	General Microbiology
AEM 401	Environmental Microbiology
AEM 420	Soil Microbiology
Option 3: Plant Health Management	
AGRN 452	Grain and Special Crops
ENTO 412	Pest Management
ENTO 470	Forest Pest Management
ENTO 471	Urban Tree and Shrub Health
ENTO 493	Special Topics
GEN 371	Principles of Genetics
PLSC 453	Organic Crop Production
PPTH 401	General Plant Pathology
PPTH 409	Nematology
PPTH 471	Urban Tree and Shrub Health
Option 4: Entrepreneurship or Ag Business	
ARE 110	Agribusiness Accounting
ARE 204	Agribusiness Management
ARE 382	Agricultural and Natural Resources Law
ARE 421	Rural Enterprise Development
ARE 461	Agribusiness Finance
BUSA 201	Survey of Economics
BUSA 202	Survey of Accounting
BUSA 310	Survey of Business Law
ENTR 340	Survey of Entrepreneurship
ENTR 380	Survey of Business Planning
ENTR 415	Entrepreneurship in Action

Free Electives	17
Total Hours	120

* Students may choose only one of the following: AGRN 454, AGRN 496, or AGRN 493 & 495.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
AGRL 111	1 STAT 211 (GEF 8)	3
ENGL 101 (GEF 1)	3 BIOL 102 & BIOL 104 (GEF 8)	4
Select on of the following (GEF 3):	3 AGRN 202 & AGRN 203	4
MATH 126A	PLSC 206 (GEF 8)	4
MATH 126B		
MATH 126C		
BIOL 101 & BIOL 103 (GEF 2)	4	
AGRN 120	3	
	14	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 ARE 150 (GEF 4)	3
CHEM 111	4 CHEM 112	4
GEN 101	3 ENVP 119, 155, or PLSC 105	3
Free Electives	3 Option course 1	3
GEF 5	3 Free Elective	3
	16	16

Third Year

Fall	Hours Spring	Hours Summer	Hours
PPTH 401	4 Option course 2	3 AGRN 491	3
A&VS 251	4 Option course 3	3	
AGRN 451	3 GEF 6	3	
ENTO 450	3 Free Electives	6	
	14	15	3

Fourth Year

Fall	Hours Spring	Hours
AGRN 410	3 ENTO 450, PLSC 453, or AGRN 454	3
ENTO 404	4 AGRN 480	3
Option course 4	3 Option course 5	3
Free Elective	3 GEF 7	3
	Free Elective	2
	13	14

Total credit hours: 120

Major Learning Goals

AGROECOLOGY

Agroecology is the study of relationships among organisms and habitats in agricultural ecosystems. Climate and soil properties, activities of other organisms, and management practices affect the growth and development of plants and animals, the composition of products from them, and other processes that sustain human life and the functioning of other ecosystems. Agroecology extends from organisms to landscapes and connects with economic, political, social, and cultural aspects of food and agricultural systems and their impacts on the biosphere. Principles of agroecology can be

applied to the design and management of sustainable systems that meet human needs and provide other ecosystem services while minimizing their ecological footprint.

Upon completion of the major students should be able to:

- Develop and implement sustainable agricultural production plans and systems.
- Diagnose and solve applied production problems in ways that minimize adverse local, regional and global impacts.
- Develop and communicate recommendations to address environmental, economic, and production outcomes in agriculture.
- Characterize and solve soil potential and plant health problems.

Animal Nutritional Sciences

Degrees Offered

- Bachelor of Science - Animal & Nutritional Sciences Major
- Bachelor of Science in Agriculture - Animal & Nutritional Sciences Major

Bachelor of Science - Animal & Nutritional Sciences Major

The curriculum in science, with its flexible design, provides the necessary background in biochemistry, chemistry, mathematics, physics, and modern concepts of biology in preparation for professional schools of dentistry, human medicine, optometry, pharmacy, veterinary medicine or graduate study in such fields as animal breeding, animal physiology, biochemistry and nutrition.

Bachelor of Science in Agriculture - Animal & Nutritional Sciences Major

This curriculum provides the necessary background in agricultural economics, agronomy, breeding, nutrition, and physiology to prepare for careers in production and management of dairy, livestock or poultry, and in food processing and technology.

Click the link below to view the corresponding Degree Requirements and Suggested Plans of Study.

- Bachelor of Science in Agriculture - Animal & Nutritional Sciences (p. 71)
- Bachelor of Science - Animal & Nutritional Sciences (p. 73)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS FOR BACHELOR OF SCIENCE IN AGRICULTURE - ANIMAL & NUTRITIONAL SCIENCES MAJOR

Select one of the following:

ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF2 Science & Technology (may also fulfill program Science requirements)		
GEF3 Mathematics & Technology (may also fulfill program Science requirements)		
GEF Requirements 4 - 8		21
A&VS 105	Professional Orientation (may count toward Agriculture requirement)	2
Biological and Physical Sciences Requirements (students must take 24 hours of science courses)		
Biology		8
A&VS 251 and/or PLSC 206 may be substituted for biology courses		
Chemistry		8
College Algebra or equivalent		3
Science Electives		5
Courses in Agriculture		42
Elect a minimum of a three-credit course, excluding Assigned Topics, in each of the following categories. Elect additional courses to obtain a total of 45 hours in the college.		
Animal Science		
Plant Science		
Soil Science		
Agriculture Economics		
Capstone Experience (Choose one of the following):		3
Fulfills Writing and Communication Skills requirement		
A&VS 402	Values and Ethics	
A&VS 491	Professional Field Experience	
A&VS 496	Senior Thesis	
Free Electives (Number of electives may vary depending on GEF courses taken. Students must earn at least 120 credits to graduate.)		22
Total Hours		120

SUGGESTED PLAN OF STUDY FOR BACHELOR OF SCIENCE IN AGRICULTURE - ANIMAL & NUTRITIONAL SCIENCES MAJOR

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF)	3 A&VS 150	2
A&VS 105	2 ARE 150 (GEF)	3
Select one of the following (GEF):	4 BIOL 102 & BIOL 104	4
BIOL 101 & BIOL 103	CHEM 112	4
A&VS 251	GEF	3
PLSC 206		
CHEM 111	4	
MATH 126C (Level depends on QRA score; fulfills GEF)	3	
	16	16

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF)	3 PLSC 206	4
A&VS 251	4 ANPH 301	3
WMAN 150 (GEF)	3 Science elective	3
Science elective	3 GEF	3
GEF	3 GEF	3
	16	16

Third Year

Fall	Hours Spring	Hours
ANNU 361	3 AGRN 202	3
ANPR 341	3 AGRN 203	1
ANPR 343	1 ANPH 400	3
ARE 382	3 ANPR 338	3
GEF	3 Electives	6
Elective	3	
	16	16

Fourth Year

Fall	Hours Spring	Hours
ARE 421	4 A&VS 402	3
ARE 435	3 Electives	6
ANPR 339	2	
A&VS 409	3	
Elective	3	
	15	9

Total credit hours: 120

CURRICULUM REQUIREMENTS FOR BACHELOR OF SCIENCE - ANIMAL & NUTRITIONAL SCIENCES MAJOR

Select one of the following: 6

ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF 4-8		21
A&VS 105	Professional Orientation (may count toward Agriculture requirement)	2

Science requirements

Students must reach 40 hours of science credits

Biology Requirement (also fulfills GEF 2 requirement)		8
Chemistry Requirement		8
Physics Requirement		8
Math Requirement (also fulfills GEF 3 requirement)		6
Calculus or Advanced Chemistry Requirement		8
CHEM 231	Organic Chemistry: Brief Course	
CHEM 233	Organic Chemistry	
CHEM 234	Organic Chemistry	
CHEM 235	Organic Chemistry Laboratory	
CHEM 236	Organic Chemistry Laboratory	
AGBI 410	Introductory Biochemistry	
MATH 150	Applied Calculus	
MATH 153	Calculus 1a with Precalculus	
MATH 154	Calculus 1b with Precalculus	
MATH 155	Calculus 1	
MATH 156	Calculus 2	

Science Electives (as necessary to reach at least 40 hours of science credits) 2

Courses in Agriculture 21

Capstone Experience (Choose one of the following): 3

Fulfills Writing and Communication Skills requirement

A&VS 402	Values and Ethics	
A&VS 491	Professional Field Experience	

A&VS 496	Senior Thesis	
Free Electives (Number of electives may vary; students must earn a minimum of 120 credits to graduate)		27
Total Hours		120

SUGGESTED PLAN OF STUDY FOR BACHELOR OF SCIENCE - ANIMAL & NUTRITIONAL SCIENCES MAJOR

First Year

Fall	Hours Spring	Hours
A&VS 105	2 A&VS 150	2
ENGL 101 (GEF 1)	3 BIOL 117	4
CHEM 115	4 CHEM 116	4
BIOL 115 (GEF 2)	4 MATH 128 (if needed or GEF)	3
Depending on QRA score select one of the following (GEF 3):	3 GEF 4	3
MATH 126A		
MATH 126B		
MATH 126C		
MATH 129		
MATH 150		
MATH 153		
MATH 155		
	16	16

Second Year

Fall	Hours Spring	Hours
A&VS 251	4 ANNU 260	3
CHEM 233	3 CHEM 234	3
CHEM 235	1 CHEM 236	1
PHYS 101	4 PHYS 102	4
ENGL 102 (GEF 1)	3 GEF 6	3
GEF 5	3 GEF 7	3
	18	17

Third Year

Fall	Hours Spring	Hours
ANPH 301	3 A&VS 402	3
AGBI 410	3 GEN 371	4
AEM 341	4 GEF 8	6
Elective	3	
GEF 8	3	
	16	13

Fourth Year

Fall	Hours Spring	Hours
Electives	9 Electives	12
Science Elective	3	
	12	12

Total credit hours: 120

Major Learning Goals

ANIMAL & NUTRITIONAL SCIENCES

1. Graduates will acquire a high level of competency in the basic sciences required for disciplinary competency.
2. Graduates will integrate basic knowledge and managerial skills related to the animal, nutritional and food sciences disciplines.

3. Graduates will acquire sufficient written and oral communication skills, problem solving and critical thinking skills to effectively impact lifelong societal and professional developments critical to their respective discipline of interest.
4. Graduates will attain depth of knowledge relative to the scope of subfields of the animal and nutritional sciences:
 - a. Animal production, management and marketing
 - b. Animal nutrition
 - c. Environmental stewardship

Applied Environmental Microbiology

Bachelor of Science - Applied & Environmental Microbiology Major

The major in applied and environmental microbiology is ideal for students desiring a career at the forefront of human and plant health, industry, food science, and the environment. In this curriculum, future professional microbiologists are prepared with basic backgrounds in the areas of microbial ecology, environmental microbiology, soil microbiology, public health microbiology of food and water, plant pathology, and molecular biology. With supporting coursework in such areas as organic chemistry, biochemistry, genetics, plant science, soil science, physics, calculus, and statistics students will be well prepared for employment, further educational training at the graduate level, or for professional school (medical and dental school). Employment opportunities include: environmental laboratories (federal, state, and private); pharmaceutical industry; food industry (food production and food safety); and clinical laboratories in the health care industry. This major requires 120 total hours.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

GEF 1, 4, 5, 6, and 7		18
AGRL 111	Professions in Agriculture (preferred)	1
CHEM 115	Fundamentals of Chemistry (GEF 2)	4
CHEM 116	Fundamentals of Chemistry (GEF 8)	4
MATH 150	Applied Calculus (or higher (GEF 3)	3
Select one of the following:		3
STAT 211	Elementary Statistical Inference	
ECON 225	Elementary Business and Economics Statistics	
Required Courses		
AGBI 410	Introductory Biochemistry	3
AGRN 202	Principles of Soil Science	3
AGRN 203	Principles of Soil Science Laboratory	1

CHEM 233	Organic Chemistry	3
CHEM 235	Organic Chemistry Laboratory	1
CHEM 234	Organic Chemistry	3
CHEM 236	Organic Chemistry Laboratory	1
AEM 341	General Microbiology	4
AEM 401	Environmental Microbiology (fulfills Capstone & Writing and Communication Skills requirements)	4
GEN 371	Principles of Genetics	4
PHYS 101	Introductory Physics (GEF 8)	4
PHYS 102	Introductory Physics (GEF 8)	4
PLSC 206	Principles of Plant Science	4
PPTH 401	General Plant Pathology	4
Restricted Electives (minimum of 18 hours)		18
AGBI 514	Animal Biotechnology	
BIOL 312	Introduction to Virology	
BIOL 454	Immunology	
BIOL 455	Evolution of Infectious Diseases	
BIOL 456	Microbial Symbiosis	
AEM 408	Applied Water Microbiology	
AEM 420	Soil Microbiology	
AEM 445	Food Microbiology	
AEM 449	Food Microbiology Lab	
AEM 495	Independent Study	
ENVP 355	Environmental Sampling and Analysis	
ENVP 460	Environmental Impact Assessment	
PPTH 409	Nematology	
PPTH 470	Forest Pest Management	
PPTH 503	Mycology	
Free Electives		26
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
AGRL 111	1 CHEM 116 (GEF 8)	4
CHEM 115 (GEF 2)	4 PLSC 206	4
ENGL 101 (GEF 1)	3 STAT 211	3
MATH 150 (GEF 3)	3 GEF 5	3
GEF 4	3 Free Elective	1
	14	15

Second Year

Fall	Hours Spring	Hours
AGRN 202	3 AEM 341	4
AGRN 203	1 PHYS 102 (GEF 8)	4
ENGL 102 (GEF 1)	3 GEF 7	3
PHYS 101 (GEF 8)	4 Free Elective	4
GEF	3	
	14	15

Third Year

Fall	Hours Spring	Hours
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
Restricted Electives	6 AEM 401	4

Free Elective	6 Restricted Electives	3
	Free Elective	3
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	16	14
Fourth Year		
Fall	Hours Spring	Hours
AGBI 410	3 GEN 371	4
PPTH 401	4 Restricted Elective	3
Restricted Electives	6 Free Electives	9
Free Elective	3	
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	16	16

Total credit hours: 120

Major Learning Goals

APPLIED ENVIRONMENTAL MICROBIOLOGY

The learning outcomes of the applied and environmental microbiology are centered on establishing well-rounded individuals that can solve real world problems and seize opportunities as they relate to environmental, food, water, and soil microbiology. Students will be able to take on leadership functions in a variety of careers, manage laboratories, and have a foundational knowledge of genetics, biochemistry, plant pathology, food science, soil and water science that prepares them for graduate programs.

Upon completion of the major the students should be able to:

- Communicate effectively about microorganisms and their impact in and on the environment.
- Isolate and identify microorganisms from a variety of environments.
- Use a variety of methods to determine nutritional strategies and physiology of microorganisms.
- Determine and consult on the cause, and propose solutions for, problems involving microorganisms.
- Assist in managing medical and environmental laboratories and consulting services that diagnose and solve microbiological problems and develop opportunities in microbiology.

Accelerated BS/MS Applied Environmental Microbiology

CURRICULUM REQUIREMENTS

GEF 1, 4, 5, 6, and 7		18
AGRL 111	Professions in Agriculture	1
CHEM 115	Fundamentals of Chemistry (GEF 2)	4
CHEM 116	Fundamentals of Chemistry (GEF 8)	4
MATH 150	Applied Calculus (GEF 3)	3
Select one of the following:		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Required Courses		
AGBI 410	Introductory Biochemistry	3
AGRN 202	Principles of Soil Science	3
AGRN 203	Principles of Soil Science Laboratory	1
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	4
CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory	4
AEM 341	General Microbiology	4
AEM 401	Environmental Microbiology	4
GEN 371	Principles of Genetics	4
PHYS 101	Introductory Physics (GEF 8)	4
PHYS 102	Introductory Physics (GEF 8)	4
PLSC 206	Principles of Plant Science	4
PPTH 401	General Plant Pathology	4

Restricted Electives		18
AGBI 514	Animal Biotechnology	
BIOL 312	Introduction to Virology	
BIOL 454	Immunology	
BIOL 455	Evolution of Infectious Diseases	
BIOL 456	Microbial Symbiosis	
AEM 408	Applied Water Microbiology	
AEM 420	Soil Microbiology	
AEM 445	Food Microbiology	
AEM 449	Food Microbiology Lab	
AEM 495	Independent Study	
ENVP 355	Environmental Sampling and Analysis	
ENVP 460	Environmental Impact Assessment	
PPTH 470	Forest Pest Management	

Free Electives		14
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Total Hours		108
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First Year

Fall	Hours Spring	Hours
AGRL 111	1 CHEM 116 (GEF 8)	4
CHEM 115 (GEF 2)	4 PLSC 206	4
ENGL 101 (GEF 1)	3 STAT 211 (GEF 8)	3
MATH 150 (GEF 3)	3 Free Electives	4
Free Elective	3	
	14	15

Second Year

Fall	Hours Spring	Hours
AGRN 202 & AGRN 203	4 AEM 341	4
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
ENGL 102 (GEF 1)	3 GEF 5	3
GEF 4	3 Free Electives	4
Free Elective	3	
	17	15

Third Year

Fall	Hours Spring	Hours
PHYS 101 (GEF 8)	4 PHYS 102 (GEF 8)	4
PPTH 401	4 Restricted Electives	9
Restricted Elective	3 GEF 7	3
GEF 6	3	
	14	16

Fourth Year

Fall	Hours Spring	Hours
AGBI 410	3 AEM 401	4
GEN 371	4 Graduate Course 3	3
Restricted Elective	3 Graduate Course 4	3
Graduate Course 1	3 Restricted Elective	3
Graduate Course 2	3	
	16	13

Fifth Year

Fall	Hours Spring	Hours
Graduate Elective	12 Graduate Electives	12
	12	12

Total credit hours: 144

NOTE: See Graduate Catalog for Master's degree requirements (M.S. in Applied Environmental Microbiology, Accelerated Program).

Biochemistry

Degree Offered

Bachelor of Science

Nature of Program

The biochemistry curriculum prepares students for careers requiring a strong background in basic principles of the physical and life sciences. The program is a collaborative effort between the Division of Animal and Nutritional Sciences in the Davis College of Agriculture, Natural Resources and Design, and the Departments of Biology and Chemistry in the Eberly College of Arts and Sciences.

Students completing a biochemistry major are prepared for professional employment in the expanding fields of agricultural and environmental sciences, chemical industry, health-related industries and biotechnology-based industries. The curriculum provides students with the interdisciplinary background in biochemistry, biology, chemistry, mathematics, physics and molecular biology necessary as preparation for professional schools of human and veterinary medicine, dentistry, optometry, and pharmacy. It also provides strong preparation for graduate study in fields such as animal and plant agriculture, biochemistry, biology, molecular biology, genetics, biotechnology, chemistry, food science, nutrition and physiology. The curriculum is modeled after the American Society of Biochemistry and Molecular Biologists guidelines. The degree requirements for a American Chemical Society certified degree can be met within the framework of the program.

Performance Requirements

To maintain biochemistry major status and to graduate, students must maintain at least a 2.0 overall GPA and a 2.0 cumulative GPA in coursework in biology, chemistry, and biochemistry.

Minors

All students have the possibility of earning one or more minors; list of all available minors and their requirements (p. 44). Please note that students may not earn a minor in their major field.

FACULTY

ANIMAL AND NUTRITIONAL SCIENCES DIRECTOR

- Robert L. Taylor - Ph.D. (Mississippi State University)
Professor of Poultry Science, Animal physiology, Immunology

BIOLOGY CHAIR

- Richard B. Thomas
Professor of Physiological plant ecology, Forest ecology, Global climate change

CHEMISTRY CHAIR

- Kung Wang - Ph.D. (Purdue University)
Eberly Distinguished Professor of Chemistry, Organic chemistry, Stereoselective synthesis, Natural products

PROFESSORS

- Ashok P. Bidwai - Ph.D.
Molecular genetic analysis of protein kinase, CK2 in Drosophila
- Kenneth P. Blemings - Ph.D. (University of Wisconsin)
Dean of the Honors College, Protein and Amino Acid Metabolism
- Jonathan R. Cumming - Ph.D. (Cornell University)
Environmental plant physiology, Ecophysiology of root-mycorrhizal-soil interactions, Urban ecology
- Robert A. Dailey - Ph.D. (University of Wisconsin)
Reproductive physiology
- Stephen DiFazio - Ph.D. (Oregon State University)

- Plant genomics, Molecular ecology, Plant population genetics, Biotechnology risk assessment
- Harry O. Finklea - Ph.D. (California Institute of Technology)
Analytical/physical chemistry, Electron transfer kinetics, Solid oxide fuel cells, Gas phase sensors
 - Terry Gullion - Ph.D. (William and Mary)
Physical chemistry, Solid State NMR, Biological Materials, Polymers
 - Lisa A. Holland - Ph.D. (University of North Carolina-Chapel Hill)
Analytical chemistry, Micro-separations, High-throughput drug screening
 - E. Keith Inskeep - Ph.D. (University of Wisconsin)
Reproductive physiology
 - Jacek Jaczynski - Ph.D. (Oregon State University)
Food Safety
 - Charles Jaffe - Ph.D. (University of Colorado)
Theoretical chemistry, Molecular dynamics, Chaotic systems
 - P. Brett Kenney - Ph.D. (Kansas State University)
Muscle protein functionality
 - Fred L. King - Ph.D. (University of Virginia)
Analytical chemistry, Mass spectrometry, Trace elements, Gas-phase chemistry
 - Hillar Klandorf - Ph.D. (British Council for National Academic Awards)
Oxidative stress and aging
 - Gerald E. Lang
Plant ecology, Biogeochemistry, Wetland ecology
 - James B. McGraw
Plant ecology: Evolutionary ecology of perennial plants, Conservation biology, Demography, Forest remote sensing
 - Joseph S. Moritz - Ph.D. (Kansas State University)
Effect of feed form on animal performance
 - John H. Penn - Ph.D. (University of Wisconsin-Madison)
Chemical education, On-line instruction methods in organic chemistry
 - Jeffrey L. Petersen - Ph.D. (University of Wisconsin-Madison)
Associate Chairperson, Chemistry; Physical inorganic chemistry, Electrophilic transition metal complexes, X-ray crystallography
 - Kenneth Showalter - Ph.D. (University of Colorado)
Bennett Distinguished Professor, physical chemistry, Chemical kinetics, Multi-stability and oscillating chemical systems
 - Bjorn Soderberg - Ph.D. (Royal Institute of Technology, Sweden)
Organic synthesis using transition metals
 - Janet C. L. Tou - Ph.D. (University of Toronto)
Human nutrition and foods
 - Jianbo Yao - Ph.D. (McGill University)
Functional genomics

ASSOCIATE PROFESSORS

- Kimberly M. Barnes - Ph.D. (University of Nebraska)
Curriculum committee chair, Intercollegiate Undergraduate Program in Biochemistry; Lipid metabolism
- Suzanne Bell - Ph.D. (University New Mexico)
Analytical chemistry, Forensic science
- Clifton P. Bishop - Ph.D. (University of Virginia)
Molecular genetics, Developmental biology, Forensic biology
- Jonathan Boyd - Ph.D. (Texas Tech University)
Analytical biochemistry and toxicology
- Kevin C. Daly - Ph.D. (University of Arizona)
Associate Chair for Graduate Studies, Biology; Sensory neurobiology, Neural coding, Brain-behavior interactions, Comparative psycho-biology
- Sarah M. Farris - Ph.D. (University of Illinois at Urbana-Champaign)
Evolution and development of the insect brain, Neuroanatomy
- Eugene E. Felton - Ph.D. (University of Missouri)
Ruminant nutrition
- Glen Jackson - Ph.D. (West Virginia University)
Mass spectrometry, forensic chemistry
- Marlon Knights - Ph.D. (West Virginia University)
Reproductive physiology

- K. Marie Krause - Ph.D. (University of Wisconsin)
Dairy science nutrition
- Justin Legleiter - Ph.D. (Carnegie Mellon University)
Biophysical chemistry, Atomic force microscopy
- Kristen Matak - Ph.D. (Virginia Tech)
Food science and human nutrition
- William T. Peterjohn
Ecosystem ecology: Effects of global change on ecosystem dynamics, Nitrogen cycling in natural ecosystems.
- Michelle Richards-Babb - Ph.D. (Lehigh University)
Office of Undergraduate Research; Chemical education
- Rita V.M. Rio - Ph.D. (Yale University)
Symbioses
- Alan M. Stolzenberg - Ph.D. (Stanford University)
Inorganic chemistry, Bio-inorganic chemistry, Organometallic chemistry
- Michelle D. Withers - Ph.D. (University of Arizona)
Biology education, Neurobiology

CLINICAL ASSOCIATE PROFESSORS

- Donna Ford-Werntz - Ph.D. (Washington University/Missouri Botanical Garden)
Plant systematics: Portulacaceae, West Virginia flora

TEACHING ASSOCIATE PROFESSORS

- Erin Battin - Ph.D. (Clemson University)
Bio-inorganic chemistry
- Megan Govidan - M.P.H., M.S., R.D. (West Virginia University)
Human nutrition and foods
- Margaret A. Minch - D.V.M. (The Ohio State University)
Veterinary medicine
- Betsy Ratcliff - Ph.D. (University of Binghamton-SUNY)
Physical chemistry
- Jennifer Stueckle - Ph.D. (West Virginia University)
Aquatic toxicology
- Mingming Xu - Ph.D. (Ohio University)
Analytical chemistry

ASSISTANT PROFESSORS

- Scott Bowdridge - Ph.D. (Virginia Tech)
Veterinary immunology
- Andrew Dacks - Ph.D. (University of Arizona)
Neurobiology
- Fabien Goulay - Ph.D. (University of Rennes, France)
Physical chemistry, Laser spectroscopy
- Jennifer Hawkins
Plant comparative genomics, Molecular evolution
- Jessica Hoover - Ph.D. (University of Washington)
Organometallics chemistry, Catalysis
- Melissa Marra - Ph.D., R.D. (Florida International University)
Healthy aging and nutritional prevention of chronic disease
- Joseph W. McFadden - Ph.D. (Virginia Tech)
Lipid metabolism and metabolomics
- Blake Mertz - Ph.D. (Iowa State University)
Computational biophysics and chemistry
- Melissa Olfert - Ph.D., M.S., R.D. (Loma Linda University)
Health and wellness
- Brian Popp - Ph.D. (University of Wisconsin-Madison)
Organic and organometallic chemistry, Catalysis
- Stephen Valentine - Ph.D. (Indiana University)
Mass spectrometric analysis of biomolecules

- Shuo Wei - Ph.D. (University of Miami)
Development of the nervous system

TEACHING ASSISTANT PROFESSORS

- Kevin Barry - Ph.D. (University of Maryland)
- Laura Christian - Ph.D. (The University of Texas at Austin)
- Dana Huebert-Lima - Ph.D. (University of Wisconsin-Madison)
Associate Chair for Undergraduate Studies, Biology; Epigenetics
- Kevin Lee
Virology, Cell and molecular biology methods
- Joshua Osbourn - Ph.D. (University of Pittsburgh)
Organic chemistry
- Stephanie T. Young - Ph.D. (West Virginia University)
Molecular and Forensic Biology

SENIOR LECTURERS

- Sue Raylman - Ph.D.
Animal behavior
- Mark Schraf - M.S. (West Virginia University)
Analytical chemistry
- Susan Studlar
Bryology and botany
- Beth Thomas - M.S. (Clemson University)
Invertebrate zoology

PROFESSORS EMERITI

- Charles H. Baer
- David F. Blaydes
- Roy B. Clarkson
- William E. Collins
- Dorothy C. Dunning
- Jorge A. Flores - Ph.D. (The George Washington)
Animal physiology, endocrinology of reproduction
- Ramsey H. Frist
- Roland B. Guthrie
- Philip E. Keeting
Molecular endocrinology, Cancer biology
- Denis W. H. MacDowell - Ph.D. (Massachusetts Institute of Technology)
Organic chemistry
- Joseph A. Marshall
- Ethel C. Montiegel
- Robert S. Nakon - Ph.D. (Texas A&M University)
Inorganic chemistry
- Richard P. Sutter
- Leah A. Williams
- Anthony Winston - Ph.D. (Duke University)
Polymer chemistry

Click the appropriate link below to view the corresponding Biochemistry Track Requirements and Suggested Plans of Study.

- American Chemical Society (ACS) (p. 85)
- American Society of Biochemistry and Molecular Biology (ASBMB) (p. 86)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

- **Writing Requirement;** Biochemistry Bachelor of Science students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and at least two additional **SpeakWrite Certified Courses™** from: BIOL 115, BIOL 117, BIOL 219, BIOL 411, CHEM 403.

University Requirements 19

WVUE 191	First Year Seminar	
GEF Requirements: number of credits will vary depending on overlap		

Program Core Requirements 5

AGBI 199	Orientation to Biochemistry	
AGBI 410	Introductory Biochemistry (Minimum grade of C-)	
AGBI 412	Introduction to Biochemistry Wet Laboratory (Minimum grade of C-)	

Biology Requirement 15

BIOL 115	Principles of Biology (Minimum grade of C-. May substitute BIOL 101-104)	
BIOL 117	Introductory Physiology (Minimum grade of C-)	
BIOL 219	The Living Cell (Minimum grade of C-)	
BIOL 310	Advanced Cellular/Molecular Biology	

Chemistry Requirement 28

Select one set (Minimum grade of C-):

CHEM 115 & CHEM 116 & CHEM 215	Fundamentals of Chemistry and Fundamentals of Chemistry and Introductory Analytical Chemistry	
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or:

CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry	
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and all of the following:

CHEM 233	Organic Chemistry (Minimum grade of C-)	
CHEM 234	Organic Chemistry (Minimum grade of C-)	
CHEM 235	Organic Chemistry Laboratory (Minimum grade of C-)	
CHEM 236	Organic Chemistry Laboratory (Minimum grade of C-)	
CHEM 341	Physical Chemistry: Brief Course	
CHEM 342	Experimental Physical Chemistry	
CHEM 462	Biochemistry 2	
CHEM 464	Biochemistry 2 Laboratory	

Mathematics and Statistics Requirement 8

Minimum grade of C-		
MATH 155	Calculus 1	
or MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2	
STAT 211	Elementary Statistical Inference	3

A track is required. 31

Number of credits may vary depending on courses selected

Biochemistry Electives

AEM 341	General Microbiology
AEM 401	Environmental Microbiology
AEM 408	Applied Water Microbiology
AEM 420	Soil Microbiology
AEM 445	Food Microbiology
AGBI 386	Undergraduate Research Experience 1
AGBI 486	Undergraduate Research Experience 2
AGBI 496	Senior Thesis
AGBI 497	Research
AGBI 498	Honors
AGBI 512	Nutritional Biochemistry
AGBI 513	Nutritional Biochemistry Laboratory
AGBI 514	Animal Biotechnology
ANPH 301	Introduction to Animal Physiology
ANPH 400	Growth and Lactation Physiology
ANPH 405	Animal Physiology Laboratory
ANPH 424	Physiology of Reproduction
A&VS 402	Values and Ethics
A&VS 451	Current Literature in Animal Science
A&VS 496	Senior Thesis
A&VS 497	Research
BIOL 302	Biometry
BIOL 312	Introduction to Virology
BIOL 313	Molecular Basis of Cellular Growth
BIOL 324 & BIOL 325	Molecular Genetics and Molecular Genetics Laboratory
BIOL 335	Cell Physiology
BIOL 348	Neuroscience 1
BIOL 350	Plant Physiology
BIOL 386	Undergraduate Research
BIOL 410	Cell and Molecular Biology Methods
BIOL 411	Introduction to Recombinant DNA
BIOL 413	Molecular Endocrinology
BIOL 414	Molecular Endocrinology-Laboratory
BIOL 415	Epigenetics
BIOL 420	Genomics
BIOL 423	Biochemistry of Nucleic Acids and Proteins
BIOL 424	Protein Structure and Function
BIOL 425	Developmental Genetics
BIOL 426	Molecular Biology of Cancer
BIOL 432	Forensic Biology
BIOL 436	General Animal Physiology
BIOL 440	Comparative Anatomy

BIOL 441	Vertebrate Microanatomy
BIOL 453	Molecular Basis of Disease
BIOL 454	Immunology
BIOL 496	Senior Thesis
BIOL 497	Research
CHEM 310	Instrumental Analysis
CHEM 312	Environmental Chemistry
CHEM 339	Organic Syntheses
CHEM 422	Intermediate Inorganic Chemistry
CHEM 460	Forensic Chemistry
CHEM 496	Senior Thesis
CHEM 497	Research
CHEM 514	Mass Spectrometry Principles and Practices
CHEM 516	Bioanalytical Chemistry
CHEM 552	Biochemical Toxicology
ENTO 404	Principles of Entomology
ENTO 412	Pest Management
FDST 445	Food Microbiology
FDST 449	Food Microbiology Lab
GEN 371	Principles of Genetics
HN&F 460	Advanced Nutrition
HN&F 473	Medical Nutrition Therapy 1
HN&F 474	Medical Nutrition Therapy 2
HORT 330	Plant Propagation
PPTH 401	General Plant Pathology
VETS 302	Animal Pathology
VETS 401	Veterinary Anatomy
VETS 405	Parasitology

Capstone Requirement

ASBMB Track, select one of the following options:

AGBI 386 & AGBI 486	Undergraduate Research Experience 1 and Undergraduate Research Experience 2
A&VS 402	Values and Ethics

ACS Track, complete both of the following:

CHEM 401 & CHEM 403	Chemical Literature and Undergraduate Seminar
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General Electives

11

Number of electives may vary depending on course options selected

Total Hours 120

AMERICAN CHEMICAL SOCIETY (ACS) TRACK

CHEM 310	Instrumental Analysis	3
CHEM 401	Chemical Literature (Minimum grade of C-)	1
CHEM 403	Undergraduate Seminar	1
CHEM 422	Intermediate Inorganic Chemistry	3
CHEM 497	Research	3
PHYS 111	General Physics (Minimum grade of C-)	4
PHYS 112	General Physics (Minimum grade of C-)	4

Biochemistry Electives (See list above) 12

Total Hours 31

SUGGESTED PLAN OF STUDY FOR THE AMERICAN CHEMICAL SOCIETY (ACS) TRACK**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 GEF 4	3
ENGL 101 (GEF 1)	3 BIOL 117 (GEF 8)	4
AGBI 199	1 CHEM 116 (GEF 8)*	4
BIOL 115 (GEF 2)	4 MATH 156	4
CHEM 115 (GEF 8)*	4	
MATH 155 (GEF 3)	4	
	17	15

Second Year

Fall	Hours Spring	Hours
BIOL 219	4 ENGL 102 (GEF 1)	3
CHEM 233 & CHEM 235	4 GEF 5	3
PHYS 111	4 BIOL 310	3
STAT 211	3 CHEM 234 & CHEM 236	4
	PHYS 112	4
	15	17

Third Year

Fall	Hours Spring	Hours
GEF 6	3 F 7	3
AGBI 410 & AGBI 412	4 CHEM 341 & CHEM 342	4
CHEM 215	4 CHEM 462 & CHEM 464	4
Biochemistry Elective 1	3 General Elective	3
	14	14

Fourth Year

Fall	Hours Spring	Hours
CHEM 401 (Capstone)	1 CHEM 310	3
CHEM 422	3 CHEM 403 (Capstone)	1
CHEM 497	3 Biochemistry Elective 3	3
Biochemistry Elective 2	3 Biochemistry Elective 4	3
General Elective	3 General Elective	3
General Elective	2	
	15	13

Total credit hours: 120

* Students may substitute CHEM 117 and 118 for CHEM 115, 116, and 215.

AMERICAN SOCIETY OF BIOCHEMISTRY AND MOLECULAR BIOLOGY (ASBMB) TRACK

AGBI 401	Senior Seminar in Biochemistry	1
BIOL 313 or BIOL 410	Molecular Basis of Cellular Growth Cell and Molecular Biology Methods	3
Choose one of the following:		3
AGBI 386 & AGBI 486	Undergraduate Research Experience 1 and Undergraduate Research Experience 2	
A&VS 402	Values and Ethics	
BIOL 423	Biochemistry of Nucleic Acids and Proteins	3
Choose one of the following:		8

PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics	
PHYS 101 & PHYS 112	Introductory Physics and General Physics	
PHYS 111 & PHYS 112	General Physics and General Physics	
Biochemistry Electives (see list above)		13
Total Hours		31

SUGGESTED PLAN OF STUDY FOR THE AMERICAN SOCIETY OF BIOCHEMISTRY AND MOLECULAR BIOLOGY (ASBMB) TRACK

First Year

Fall	Hours Spring	Hours
WVUE 191	1 GEF 4	3
ENGL 101 (GEF 1)	3 BIOL 117 (GEF 8)	4
AGBI 199	1 CHEM 116 (GEF 8)*	4
BIOL 115 (GEF 2)	4 MATH 156	4
CHEM 115 (GEF 8)*	4	
MATH 155 (GEF 3)	4	
	17	15

Second Year

Fall	Hours Spring	Hours
BIOL 219	4 ENGL 102 (GEF 1)	3
CHEM 233 & CHEM 235	4 GEF 5	3
PHYS 101	4 BIOL 310	3
STAT 211	3 CHEM 234 & CHEM 236 PHYS 102	4 4
	15	17

Third Year

Fall	Hours Spring	Hours
GEF 6	3 GEF 7	3
AGBI 410 & AGBI 412	4 BIOL 313 or 410	3
CHEM 215*	4 CHEM 341 & CHEM 342	4
Biochemistry Elective 1	3 CHEM 462 & CHEM 464	4
	14	14

Fourth Year

Fall	Hours Spring	Hours
BIOL 423	3 AGBI 401	1
Biochemistry Elective 2	4 Biochemistry Elective 4	3
Biochemistry Elective 3	3 Capstone	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	13

Total credit hours: 120

* Chem 117 and 118 may be substituted for Chem 115, 116, and 215.

Major Learning Goals

BIOCHEMISTRY

1. Graduates will demonstrate a working knowledge of the basic sciences of biology, chemistry, mathematics and scientific methods.
2. Graduates will demonstrate a working knowledge of biological mechanisms, including biochemistry, biotechnology, functional genomic, nutrition, physiology and reproduction necessary for understanding of the disciplines.
3. Graduates will demonstrate the ability to write and present scientific information.
4. Graduates will demonstrate the ability to integrate knowledge and possess problem solving/critical thinking skills necessary for professional and social development and life-long learning and civic engagement.

Environmental, Soil and Water Sciences

Bachelor of Science - Environmental, Soil and Water Sciences

This major prepares students for careers in areas which safeguard the quality of the environment. The curriculum consists of two elements: interdisciplinary training in a broad array of environmental protection sciences, and a specialization in either pest management or soil and water conservation. Students work with their advisor to select courses from both the environmental protection electives and the specialization electives that match their individual interests and career goals. Recent graduates in this option are employed by municipal, state, and federal governmental agencies; consulting firms, especially those specializing in land reclamation, water quality, or pest management; and companies associated with natural resource industries.

In addition to the required curriculum students can enhance their career qualifications by also completing some or all of the following options:

- A minor in a relevant field (Geology, Resource Economics, Wildlife Conservation, etc.)
- USDA Soil Scientist Certification: thirty hours in biological, physical or earth science, including at least fifteen hours in soils courses such as:

AGRN 410	Soil Fertility	3
AGRN 415	Soil Survey and Land Use	3
AGRN 417	Soil Genesis and Classification	4
AGRN 420	Soil Microbiology	3
AGRN 425	Environmental Soil Management	3
AGRN 430	Soil Physics	3
AGRN 455	Reclamation of Disturbed Soils	3
- USDA Soil Conservationist Certification: thirty hours in natural resources or agricultural disciplines including at least twelve hours from soils, crops, or plant science, with at least three hours in soils and three hours in crop or plant science.
- ENVP 415 Hazardous Waste Training. Equivalent to OSHA 40-hour HAZWOPER course.
- Information on academic requirements for other professional certifications may be obtained at <https://www.agronomy.org/certifications> or <http://www.naep.org/>

Program Admissions

Students who meet University admission requirements may be accepted directly into Davis College as Environmental, Soil and Water Sciences majors.

[Click here to view the Suggested Plan of Study \(p. 90\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3

F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

Required Courses

GEF 1, 5, 6, and 7	15	
ENGL 305	Technical Writing	3
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory (GEF 8)	4
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory (GEF 8)	4
Select one of the following pairs (GEF 2 & 8):		8
CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry	
CHEM 111 & CHEM 112	Survey of Chemistry and Survey of Chemistry	
Select one of the following:		4
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory	
GEOL 110 & GEOL 111	Environmental Geoscience and Environmental Geoscience Laboratory	
Select one of the following (GEF 3):		3
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
MATH 150	Applied Calculus	
AGRL 111	Professions in Agriculture	1
AEM 341	General Microbiology	4
AGEE 110	Microcomputer Applications in Agricultural Education	3
AGEE 220	Group Organization and Leadership (GEF 4)	3
AGRN 202	Principles of Soil Science	3
AGRN 203	Principles of Soil Science Laboratory	1
ARE 204	Agribusiness Management	3
ENVP 119	Soil in the City	3
ENVP 155	Elements of Environmental Protection	3
PLSC 206	Principles of Plant Science	4
STAT 211	Elementary Statistical Inference	3
WMAN 150	Principles of Conservation Ecology	3
ENVP/AGRN 425	Environmental Soil Management (Capstone Experience)	3
Restricted Electives		15
AEM/ENVP 401	Environmental Microbiology	
AEM 408	Applied Water Microbiology	
AGRN 455	Reclamation of Disturbed Soils	
AEM 420	Soil Microbiology	
AGBI 410	Introductory Biochemistry	
AGRN 125	Soil Judging	
AGRN 415	Soil Survey and Land Use	
AGRN 430	Soil Physics	

BIOL 361	Plant Ecology	
CE 347	Introduction to Environmental Engineering	
CE 351	Introductory Soil Mechanics	
CHEM 231	Organic Chemistry: Brief Course	
ENVP 355	Environmental Sampling and Analysis	
ENVP 460	Environmental Impact Assessment	
FHYD 444	Watershed Management	
GEOL 321	Geomorphology	
GEOL 365	Environmental Geology	
GEOL 462	Introductory Hydrogeology	
GEOL 463	Physical Hydrogeology	
GEOL 488	Environmental Geochemistry	
PHYS 101	Introductory Physics	
PHYS 102	Introductory Physics	
PLSC 491	Professional Field Experience	
POLS 338	Environmental Policy	
RESM 420	Aquaculture Management	
RESM 440	Foundations of Applied Geographic Information Systems	
RESM 441	Introduction Geographic Information Systems Natural Science	
RESM 480	Environmental Regulation	
WMAN 446	Freshwater Ecology	
WMAN 449	Stream Ecosystem Assessment	
Free Electives (used to reach 120 minimum required for degree)		10
Select one Area of Emphasis		17
Total Hours		120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
AGRL 111	1 AGEE 110	3
ENGL 101 (GEF 1)	3 ENVP 155	3
BIOL 101 & BIOL 103 (GEF 8)	4 ENVP 119	3
Select one of the following (GEF 3):	3 BIOL 102 & BIOL 104 (GEF 8)	4
MATH 126A	WMAN 150	3
MATH 126B		
MATH 126C		
MATH 150		
Select one of the following:	4	
GEOL 101 & GEOL 102		
GEOL 110 & GEOL 111		
	15	16

Second Year

Fall	Hours Spring	Hours
CHEM 111 or 115 (GEF 2)	4 PLSC 206	4
ENGL 102 (GEF 1)	3 CHEM 112 or 116 (GEF 8)	4
STAT 211	3 GEF 6	3
GEF 5	3 AGRN 202	3
Restricted Elective	3 AGRN 203	1
	16	15

Third Year

Fall	Hours Spring	Hours
AEM 341	4 Area of Emphasis Required Course	3
ARE 204	3 Restricted Electives	7
ENGL 305	3 Free Electives	4
GEF 7	3	
Area of Emphasis Required Course	3	
	16	14

Fourth Year

Fall	Hours Spring	Hours
AGEE 220 (GEF 4)	3 Area of Emphasis Required Courses	8
ENVP 425 or AGRN 425	3 Restricted Electives	5
Area of Emphasis Required Course	3	
Free Electives	6	
	15	13

Total credit hours: 120

ENVIRONMENTAL ASSESSMENT AND RECLAMATION AREA OF EMPHASIS

ENVP 255	Elements of Environmental Management	3
ENVP 355	Environmental Sampling and Analysis	3
ENVP 455	Reclamation of Disturbed Soils	3
ENVP 460	Environmental Impact Assessment	3
Total Hours		12

SOIL AND WATER SCIENCES AREA OF EMPHASIS

AGRN 125	Soil Judging	1
AGRN 410	Soil Fertility	3
AGRN 415	Soil Survey and Land Use	3
AGRN 417	Soil Genesis and Classification	4
AGRN 420	Soil Microbiology	3
AGRN 430	Soil Physics	3
Total Hours		17

Major Learning Goals**ENVIRONMENTAL, SOIL AND WATER SCIENCES**

The learning outcomes of the environmental protection major center on developing individuals who are effective stewards of soil and water resources. A thorough science-based curriculum will allow students - after completion of the major - to assess, evaluate, manage, and safeguard soil and water resources and develop plans to use and/or mitigate impacts on these resources. The major emphasizes long term sustainability, conservation, and stewardship balanced with the need to develop soil and water resources for current and future human use.

Soil & Water Sciences Area of Emphasis

- Describe the important roles of soil and water in the environment in agricultural and non-agricultural systems.
- Design and implement sustainable soil and water management practices.
- Evaluate existing soil, water and landscape resources to develop recommendations for sustainable land use practices.

Horticulture**Bachelor of Science in Agriculture - Horticulture Major**

Horticulture is the art and science of propagating, producing, and marketing of greenhouse, nursery, fruit, and vegetable crops. Students in horticulture study the physiology, culture, harvesting, quality control, sales and utilization, such as landscape placement, of horticultural crops. Horticulture prepares students for careers as greenhouse and nursery managers, landscape contractors, supply company representatives, state and federal nursery inspectors, and educators in public gardens, schools and extension.

Click here to view the Suggested Plan of Study (p. 94)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

Required Courses

GEF 1, 5, 6, and 7		15
AGRL 111	Professions in Agriculture (preferred)	1
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory (GEF 8)	4
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory (GEF 8)	4
CHEM 111	Survey of Chemistry (GEF 2)	4
CHEM 112	Survey of Chemistry (GEF 8)	4
Select one of the following (GEF 3):		3
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
PLSC 105	Plants and People: Past and Present	3
A&VS 251	Principles of Animal Science	4
AGRN 202	Principles of Soil Science	3
AGRN 203	Principles of Soil Science Laboratory	1
AGRN 410	Soil Fertility	3
Select one of the following (GEF 4):		3
ARE 150	Introductory Agricultural and Agribusiness Economics	
ECON 201	Principles of Microeconomics (And any 3 credit ARE course)	
ARE 204	Agribusiness Management	3
BIOL 350	Plant Physiology	4
ENTO 404	Principles of Entomology	4
GEN 101	Beginner's Guide-Genetics	3
PLSC 206	Principles of Plant Science	4
PPTH 401	General Plant Pathology	4
Required Horticulture Courses		
HORT 220	General Horticulture	3

HORT 260	Woody Plant Materials	3
or HORT 262	Herbaceous Plant Materials	
HORT 330	Plant Propagation	3
HORT 444	Handling and Storage of Horticultural Crops	3
HORT 445	Greenhouse Management	3
HORT 480	Case Studies in Horticulture (fulfills Writing and Communication Skills requirement)	3
Select one of the following:		3
HORT 491	Professional Field Experience	
HORT 495 & PLSC 444	Independent Study and Western European Gardens, Landscapes and Architecture	
HORT 496	Senior Thesis	
Horticulture Electives (Students may specialize in the following options if desired)		15
Option 1: Specialty Crop Production		
AGRN 451	Principles of Weed Science	
HORT 441	Garden Center Management	
HORT 443	Vegetable Crops	
HORT 493	Special Topics	
HORT 495	Independent Study	
PLSC 453	Organic Crop Production	
Option 2: Landscape and Turf Management		
AGRN 315	Turfgrass Management	
AGRN 451	Principles of Weed Science	
ENTO/PPTH 471	Urban Tree and Shrub Health	
HORT 260 or HORT 262	Woody Plant Materials Herbaceous Plant Materials	
HORT 493	Special Topics	
LARC 212	History of Landscape Architecture	
Option 3: Public Horticulture		
AGEE 220	Group Organization and Leadership	
AGEE 421	Agricultural and Natural Resource Communications	
BIOL 351/PPTH 471	Plant Diversity	
ENTO 471	Urban Tree and Shrub Health	
HORT 260 or HORT 262	Woody Plant Materials Herbaceous Plant Materials	
HORT 493	Special Topics	
LARC 212	History of Landscape Architecture	
Option 4: Plant Health Management		
AGRN 451	Principles of Weed Science	
ENTO 412	Pest Management	
ENTO/PPTH 470	Forest Pest Management	
ENTO/PPTH 471	Urban Tree and Shrub Health	
ENTO 493	Special Topics	
ENTO 495	Independent Study	
PPTH 409	Nematology	
PPTH 493	Special Topics	
PPTH 495	Independent Study	
Option 5: Plant Science		
BIOL 351	Plant Diversity	
CHEM 231	Organic Chemistry: Brief Course	
GEN 371	Principles of Genetics	
STAT 211	Elementary Statistical Inference	
HORT 493	Special Topics	

HORT 495	Independent Study	
PLSC 493	Special Topics	
PLSC 495	Independent Study	
Option 6: Entrerpreneurship/Ag Business		
ARE 110	Agribusiness Accounting	
ARE 382	Agricultural and Natural Resources Law	
ARE 421	Rural Enterprise Development	
ARE 461	Agribusiness Finance	
BUSA 201	Survey of Economics	
BUSA 202	Survey of Accounting	
BUSA 310	Survey of Business Law	
ENTR 340	Survey of Entrepreneurship	
ENTR 380	Survey of Business Planning	
ENTR 415	Entrepreneurship in Action	
Free Electives		10
Total Hours		120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
AGRL 111	1 BIOL 102 & BIOL 104 (GEF 8)	4
BIOL 101 & BIOL 103 (GEF 8)	4 PLSC 206	4
ENGL 101 (GEF 1)	3 GEF 5	3
Select one of the following (GEF 3): MATH 126A MATH 126B MATH 126C	3 Free Elective	3
PLSC 105	3	
	14	14

Second Year

Fall	Hours Spring	Hours
A&VS 251	4 AGRN 202	3
CHEM 111 (GEF 2)	4 AGRN 203	1
ENGL 102 (GEF 1)	3 CHEM 112 (GEF 8)	4
HORT 220	3 HORT 330	3
	ARE 150 (GEF 4)	3
	14	14

Third Year

Fall	Hours Spring	Hours Summer	Hours
BIOL 350	4 ARE 204	3 HORT 491	3
ENTO 404	4 GEF 6		3
GEN 101	3 GEF 7		3
HORT 260	3 Option course 2		3
Option course 1	3 Free Elective		3
	17	15	3

Fourth Year

Fall	Hours Spring	Hours
AGRN 410	3 HORT 480	3
HORT 444	3 HORT 445	3

PPTH 401	4 Option course 4	3
Option course 3	3 Option course 5	3
	Free Elective	4
<hr/>		
	13	16
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Total credit hours: 120

Major Learning Goals

HORTICULTURE

The learning outcomes of the horticulture programs are centered around mastering skills that will allow students to take on leadership functions and roles in all facets of horticulture. The horticulture program trains students to not only manage horticultural plant materials but also to lead inter- and multi-disciplinary teams to solve current and future problems in the production, marketing, and use of horticultural crops.

Upon completion of the major the students should be able to:

- Demonstrate critical thinking skills and problem solving abilities in areas such as:
 - Basic business concepts
 - Integrated Pest Management (weed science, entomology, plant pathology)
 - Genetics
 - Plant physiology
 - Soil science
 - Microbiology
 - Agrochemistry
- Develop and implement sustainable and profitable production plans, systems and uses
- Analyze methods to improve productivity and efficiency of horticultural and green industry operations
- Be aware of and engage in current issues and people in horticultural production, landscaping, public green space, sustainability, and livable spaces
- Communicate professionally (written and oral) and demonstrating mastery of interpersonal communication skills necessary to lead and engage diverse and interdisciplinary teams

Human Nutrition and Food

Bachelor of Science - Human Nutrition & Food Major

This program of study is a good pre-professional option for students who wish to pursue the professional school programs of human medicine and the allied health professions.

Students are required to complete core courses as well as courses in food science, nutrition, food service management, sociology, psychology, economics, chemistry, biology, physiology, and microbiology. Students are encouraged to select electives in areas that support anticipated career preferences, e.g., business, food science, nutritional biochemistry, advertising, writing, and exercise physiology. There are required objectives for Didactic Program in Dietetics.

Students must meet cumulative GPA requirements of 3.0 or higher to apply to the Didactic Program in dietetics. This program meets the academic requirements for membership in the Academy of Nutrition and Dietetics and leads to a bachelor of science degree. After completion of the Didactic Program in Dietetics, seniors are eligible to apply for competitive dietetic internships, by participating in a national match. Acceptance into an internship is not guaranteed. The dietetic internship involves an additional one to two years, depending on the site and whether graduate study is included. Upon completion of the internship, the graduate is eligible to take the examination to become a registered dietitian (RD).

Click here to view the Suggested Plan of Study (p. 97)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

Curriculum Requirements

Minimum GPA in Major: 2.5

WVUE 191	First Year Seminar	1
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General Education Foundations

ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	6
FDST 200	Food Science and Technology	3
PSYC 101	Introduction to Psychology	3
HN&F 350	Cross-Cultural Cuisine	3
GEF 6 - The Arts & Creativity		3
SOCA 105	Introduction to Anthropology	3
AGEE 220 or BUSA 320 or ARE 204	Group Organization and Leadership Survey of Management Agribusiness Management	3
ECON 201	Principles of Microeconomics	3
PSYC 251 or PSYC 241	Introduction to Social Psychology Introduction to Human Development	3

Human Nutrition & Foods Core Curriculum

A minimum grade of C- required for all HN&F courses.

A minimum GPA of 2.5 is required in the major.

HN&F 171	Introduction to Human Nutrition	3
HN&F 271	Fundamentals of Nutrition	3
HN&F 348	Science of Food Preparation	3
HN&F 353	Food Service Systems Management	3
HN&F 460	Advanced Nutrition	3
HN&F 472	Community Nutrition	3
HN&F 473	Medical Nutrition Therapy 1	3
HN&F 474	Medical Nutrition Therapy 2	3
HN&F 401	Senior Seminar in Nutrition (fulfills Capstone and Writing & Communication Skills requirement)	2
HN&F Electives		10

(A minimum of 6 credits must be in HN&F must be 200-level and above.)

Math and Science Requirements

Math Requirement (A minimum grade of C- or higher is required in MATH 126)		6
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MATH 126A & MATH 128	College Algebra 5-Day and Plane Trigonometry	
MATH 126B & MATH 128	College Algebra 4-Day and Plane Trigonometry	
MATH 126C & MATH 128	College Algebra 3-Day and Plane Trigonometry	
Or		
MATH 129	Pre-Calculus Mathematics	
Or		
MATH 150	Applied Calculus	
Biology Requirement:		8
BIOL 101 & BIOL 103 & BIOL 102 & BIOL 104	General Biology and General Biology Laboratory and General Biology and General Biology Laboratory	
Or		
BIOL 115 & BIOL 117	Principles of Biology and Introductory Physiology	
ANPH 301	Introduction to Animal Physiology	3
or PSIO 241	Elementary Physiology	
or PSIO 441	Mechanisms of Body Function	
AEM 341	General Microbiology	4
CHEM 115	Fundamentals of Chemistry	4
CHEM 116	Fundamentals of Chemistry	4
Select one of the following:		4
CHEM 231	Organic Chemistry: Brief Course	
Students not taking CHEM 231 must take all of the following:		
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	
CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory	
AGBI 410	Introductory Biochemistry	3
or BIOC 339	Introduction to Biochemistry	
STAT 211	Elementary Statistical Inference	3
or ECON 225	Elementary Business and Economics Statistics	
PHYS 101	Introductory Physics	4
PHYS 102	Introductory Physics	4
Business and Social Science Requirements		
ARE 110	Agribusiness Accounting	3
or BUSA 202	Survey of Accounting	
CSAD 270	Effective Public Speaking	3
or AGEE 421	Agricultural and Natural Resource Communications	

Total Hours

120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 BIOL 102 & BIOL 104	4
BIOL 101 & BIOL 103	4 PSYC 101 (GEF 4)	3
HN&F 171 (GEF 2A)	3 ENGL 101 (GEF 1)	3
Select one of the following (GEF 3):	3 MATH 128	3
MATH 126A		

MATH 126B		
	11	13
Second Year		
Fall	Hours Spring	Hours
HN&F 271	3 CHEM 116	4
ENGL 102 (GEF 1)	3 AEM 341	4
CHEM 115	4 ARE 110	3
PSYC 251 (GEF 8)	3 STAT 211	3
FDST 200 (GEF 2A)	3 ECON 201 (GEF 8)	3
	16	17
Third Year		
Fall	Hours Spring	Hours
HN&F 348	3 HN&F 350	3
ANPH 301	3 HN&F 353	3
PHYS 101	4 PHYS 102	4
BUSA 320 (GEF 8)	3 AGEE 421	3
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
	17	17
Fourth Year		
Fall	Hours Spring	Hours
HN&F 472	3 HN&F 401	2
HN&F 473	3 HN&F 460	3
AGBI 410	3 HN&F 474	3
GEF	3 SOCA 105 (GEF 7)	3
HN&F Elective	3 HN&F Elective	3
	15	14

Total credit hours: 120

AREA OF EMPHASIS IN DIETETICS

A grade of C- or higher is required in all coursework

HN&F 472	Community Nutrition	3
HN&F 473	Medical Nutrition Therapy 1	3
HN&F 474	Medical Nutrition Therapy 2	3
HN&F 491	Professional Field Experience	3
Total Hours		12

Note: Students must have a minimum GPA of 3.0 to be eligible for the Area of Emphasis in Dietetics, and to receive a Didactic Program in Dietetics Verification Statement. HNF 491: Professional Field Experience, can be completed during fall, spring or summer term. Students in the Human Nutrition & Foods major who wish to sit for the Nutrition and Dietetics Technician Registered (NDTR) exam, Certified Dietary Manager (CDM) exam or apply for dietetic internships, must meet academic standards and must declare this area of emphasis to be verified.

First Year

Fall	Hours Spring	Hours
WVUE 191	1 BIOL 102 & BIOL 104	4
BIOL 101 & BIOL 103	4 PSYC 101	3
CHEM 115	4 ENGL 101	3
HN&F 171	3 MATH 128	3
Select one of the following (GEF 3):	3 CHEM 116	4
MATH 126A		

MATH 126B

		15	17
Second Year			
Fall	Hours Spring		Hours
HN&F 271	3 CHEM 234		3
ENGL 102	3 CHEM 236		1
ECON 201	3 AEM 341		4
CHEM 233	3 FDST 200		3
CHEM 235	1 ARE 110 or BUSA 202		3
PSYC 251	3 STAT 211		3
		16	17
Third Year			
Fall	Hours Spring		Hours
HN&F 348	3 HN&F 491		3
ANPH 301	3 HN&F 353		3
PHYS 101	4 HN&F 350		3
AGEE 220, BUSA 320, or ARE 204	3 PHYS 102		4
	AGEE 421 or CSAD 270		3
		13	16
Fourth Year			
Fall	Hours Spring		Hours
HN&F 473	3 HN&F 474		3
HN&F 472	3 HN&F 460		3
AGBI 410	3 HN&F 401		2
GEF 6	3 SOCA 105		3
HN&F Elective	3		
		15	11

Total credit hours: 120

Major Learning Goals

HUMAN NUTRITION AND FOODS

1. Graduates will acquire a high level of competency in the basic sciences required for disciplinary competency.
2. Graduates will integrate basic knowledge and managerial skills related to the nutritional and food science disciplines.
3. Graduates will acquire sufficient written and oral communication skills, problem solving and critical thinking skills to effectively impact lifelong societal and professional developments critical to their respective discipline of interest.
4. Graduates will attain depth of knowledge relative to the scope of subfields of human nutritional sciences.

School of Design and Community Development

Programs of Study

The majors in the School of Design and Community Development focus on improving the quality of life of individuals and groups by designing interactions, educational programs, and services between people and their environments to better address the needs and desires of communities and their residents. We imagine, educate, evaluate, plan, and produce experiences, products, settings and services that have the potential to transform lives. Given the range of our programs and the portability of skills taught in them, outcomes for students vary. Some of our graduates find employment in communities as teachers, extension agents, and community development specialists. Others find careers in traditional design and retail settings. And others find placement in a wide spectrum of innovative organizations that use design and design thinking as a way to fully understand and engage with their clients and markets. Study abroad is strongly encouraged encouraged in all of our programs, and is required in Interior Design.

Accreditation

The agricultural and extension education program is accredited by the National Council for Accreditation of Teacher Education (NCATE). The interior design program is accredited by the National Association of Schools of Art and Design (NASAD). The landscape architecture program is accredited by the American Society of Landscape Architects (ASLA).

FACULTY

DIRECTOR

- Judith Wasserman - Master of Landscape Architecture and Master of Regional Planning (Cornell University)
Director, School of Design and Community Development

PROFESSORS

- Cindy Beacham - Ph.D. (Virginia Tech)
Design Studies-Design Thinking, Design Pedagogy, Design for Children, Evidence Based Design
- Deborah A. Boone - Ph.D. (Ohio State University)
Agricultural & Extension Education-Extension education, Leadership development, Program evaluation and development
- Harry N. Boone, Jr. - Ph.D. (Ohio State University)
Agricultural & Extension Education-Computing technology, Teaching methods, Social science research
- Michael J. Dougherty - Ph.D. (Virginia Technical)
Landscape Architecture-Environmental design and planning
- Stacy A. Gartin - Ph.D. (Ohio State University)
Agricultural & Extension Education-Communications, Program planning, Leadership development, Teaching methods
- Nora M. MacDonald - M.S. (Iowa State University)
Fashion, Dress & Merchandising-Educational pedagogy, Apparel design, Functional apparel, Fashion merchandising, Visual merchandising

ASSOCIATE PROFESSORS

- Peter Butler - M.L.A. (Iowa State)
Landscape Architecture-Cultural landscape planning and interpretation, Community design
- Ronald Dulaney Jr. - M. Arch. (Virginia Tech)
Interior Design-Architectural design, Design and culture, Design media, Material and fabrication processes, Poetics of construction
- Hodjat Ghadimi - Ph.D. (Ohio State University)
Design Studies-Intelligent build environment, Innovation economics, Energy-environment-economy interaction modeling, Sustainable development planning, GeoDesign
- Michael Hasenmyer - M.L.A. (North Carolina State University)
Landscape Architecture-Virtual simulation, Design education
- Kerry S. Odell - Ph.D. (Ohio State University)
Agricultural & Extension Education-Research methodology, Microcomputer applications, Teaching methods
- Charles B. Yuill - M.L.A. (University of Massachusetts)
Landscape Architecture-Computer applications, Site analysis

ASSISTANT PROFESSORS

- Jessica Blythe - Ph.D. (University of Florida)
Agricultural & Extension Education-Agricultural education, STEM education, Teaching methods, Effective teacher professional development, Quantitative and qualitative research methods
- Debanjan Das - Ph.D. (University of Missouri)
Omni Channel Retailing, Global Issues and Fashion, Sustainability Issues in Fashion, Fashion Promotion and Merchandise Planning and Control
- Vaike Haas - M.L.A. (University of Michigan)
Landscape Architecture-Native species, Stormwater management, Regional greenspace
- J. Chris Haddox - M.S. (West Virginia University)
Design Studies-LEED AP, Green Advantage Certified, Sustainable design and Construction, Green building theory and practice
- Shan Jiang - Ph.D. (Clemson University)
Landscape Architecture-Planning and design of the build environment, Architecture and health, Therapeutic landscapes
- Katie Baker Jones - Ph.D. (University of Missouri)
Fashion, Dress & Merchandising-Fashion media, Fashion studies, Sustainable fashion, Fashion as material culture
- Ashley Kyber - M.S. (Clemson University), M.F.A. (Cranbrook)
Landscape Architecture-Community design landscape/public art, Environmental/green design
- Craig Nelson, M.I.D. (North Carolina State University)
Design Studies-Designing consumer products, Industrial design, Prototyping, Brand identity
- Lisa Orr - M.L.A. (University of California at Berkeley)
Landscape Architecture-Vernacular and cultural landscape analysis and theory, Landscape architectural graphics and representation
- Stefania Staniscia - Ph.D. (IUAV University of Venezia, IT)
Landscape Architecture-Landscape Design with focus on brownfields and energy landscape

- Jennifer Yang, Ph.D. (Virginia Tech)
Fashion, Dress & Merchandising-Merchandise, Planning and control, Product merchandising, Mass-customization, Product fit

VISITING ASSISTANT PROFESSORS

- Jason McKibben - M.Ed. (Texas A&M)
Agricultural & Extension Education-Teaching and learning in agricultural mechanics, Experiential learning, STEM in agriculture
- Lee Mullett - M.S. (West Virginia University)
Interior Design-Teaching, Design
- William Plyler - Ph.D. (West Virginia University)
Interior Design-Architectural design, Design technology
- Elijah Pollard - M.F.A. (SUNY)
Fashion, Dress & Merchandising-Fine Arts, Design

FACULTY EMERITI

- Donald R. Armstrong
- William H. Hagerty
- Mary Rose Jones
- Layle D. Lawrence
- Marian B. Liddell
- George W. Longenecker
- Janice I. Yeager

In this section:

- Fashion Merchandising (p. 101)
- Landscape Studies (p. 101)
- Rural Community Development (p. 102)
- Sustainable Design (p. 102)

FASHION MERCHANDISING

MINOR CODE - U097

A minor in Fashion Merchandising prepares students to understand the role of apparel in today's marketplace and the global nature of the fashion and apparel industry. Students are expected to obtain a grade of "C" or better in each course.

Minor Requirements

FDM 140	Introduction to Textiles	3
FDM 210	Fashion and Dress Through History	3
or FDM 220	Fashion, the Body, and Culture	
FDM 360	Fashion Merchandising	3
FDM 361	Merchandise Planning and Control	3
FDM 470	Global Issues and Fashion	3
Total Hours		15

LANDSCAPE STUDIES

MINOR CODE- U084

The undergraduate minor in landscape studies is offered to any student enrolled at West Virginia University who is interested in gaining a broad understanding of the body of knowledge and the skills involved with landscape architecture. The main focus of the minor is to provide students with a comprehensive landscape architecture theoretical background, including both cultural and historical issues related to the discipline, and planning and design issues at an urban and a regional scale. Students can select among a variety of courses depending on their own interest.

Completion of a minor in landscape studies will require a grade of C or better in all courses. Students completing the minor are required to take:

A grade of C or higher must be earned in all minor courses

LARC 105	Introduction to Landscape Architecture	3
LARC 212	History of Landscape Architecture	3
Select three of the following:		9

LARC 361	Interior Plantscaping	
LARC 448	Design Analysis	
LARC 452	Contemporary Issues in Landscape Architecture	
LARC 465	Regional Design	
LARC 466	Introduction to Urban Design Issues	
LARC 570	Meanings of Place	

Total Hours

15

RURAL & COMMUNITY DEVELOPMENT

MINOR CODE - U066

This minor covers the concepts and principles pertaining to rural community development and requires courses focusing on the economy, communication and leadership, and community design principles. A minimum GPA of 2.0 is required in all minor courses

ARE 204	Agribusiness Management	3
ARE 411	Rural Economic Development	3
AGEE 220	Group Organization and Leadership	3
AGEE 421	Agricultural and Natural Resource Communications	3
Select two of the following:		6
LARC 465	Regional Design	
LARC 466	Introduction to Urban Design Issues	
LARC 570	Meanings of Place	

Total Hours

18

SUSTAINABLE DESIGN

MINOR CODE - U098

The minor in Sustainable Design develops in students a sound understanding of the principles of sustainability and sustainable design. With guidance from a variety of faculty, students will be challenged to examine their surrounding environments as well as their own lifestyles through the lens of sustainability. The three tiers of minor coursework prepare students to complete the minor with two industry-recognized green credentials that will enhance their competitiveness in the job market. For additional information on the minor in Sustainable Design, please contact Chris Haddox at 304-293-3657 or at chris.haddox@mail.wvu.edu

A minimum GPA of 2.0 is required in all minor courses

Tier 1 - Select three of the following:		9
DSGN 280	Sustainable Design and Development	
DSGN 140	Sustainable Living	
or RESM 140	Sustainable Living	
or PLSC 140	Sustainable Living	
or WDSC 100	Forest Resources in United States History	
RESM 480	Environmental Regulation	
or ENVP 155	Elements of Environmental Protection	
Tier 2 - Select two of the following:		6
ARE 382	Agricultural and Natural Resources Law	
RESM 493 course subject matter changes.		
FOR 425	Global Forest Resources	
DSGN 340	Design for Energy Efficiency	
WDSC 320	Sustainable Construction	
ENVP 460	Environmental Impact Assessment	
Tier 3		3
DSGN 470	Leadership in Energy and Environmental Design Green Building Systems	

Total Hours

18

Agricultural and Extension Education

Bachelor of Science in Agriculture - Agricultural & Extension Education Major

The agricultural and extension education curriculum is designed to prepare students for entry into agricultural teaching, extension, or other professional employment in government, industry, or entrepreneurship where competence in communications and leadership are required. In order to prepare career-ready graduates, the curriculum provides flexibility to develop programs in options emphasizing teacher preparation, extension education, or production and technical agriculture. Courses are selected by the student in consultation with an advisor that will prepare the student to achieve his or her aspirations.

Admission

All Agricultural and Extension Education students will enter the major in a basic program of study. Students will devote their freshman and sophomore years (first 59 hours) to the completion of GEF and basic agriculture curriculums.

To continue in the major beyond the sophomore year, a student must apply for and be accepted into one of three areas of emphasis: teacher education, extension education, or agricultural and environmental technology. The application process will occur during the semester a student has completed or will complete the requirements for "junior" status (59 hours or greater) at West Virginia University. Once a student enters an area of emphasis, he/she will proceed through key courses as a member of a cohort composed of students entering the area of emphasis during the same year.

To be admitted into one of three areas of emphasis, a students must complete the following courses: Eng 101, Eng 102, Math 121, Chem 111, Biol 101/103, and AGEE 103.

To enter the teacher education area of emphasis, students must meet the following:

- 2.50 or greater GPA
- Complete AGEE 202
- Successfully complete the PRAXIS CORE tests (Reading, Writing, and Math) (Students are exempt from this requirement if they meet West Virginia Department of Education exemption criteria (currently ACT of 26 or greater or a revised SAT score of 1170 or higher (combined Critical Reading and Math score)).)

To enter the extension education area of emphasis, students must meet the following:

- 2.00 or greater GPA

To enter the agricultural and environmental technology areas of emphasis, students must meet the following:

- 2.00 or greater GPA

Click the appropriate link below to view the corresponding Area of Emphasis (AOE) Requirements and Suggested Plans of Study.

- Agricultural & Environmental Technology (p. 106)
- Agricultural Teacher Education (p. 104)
- Extension Education (p. 105)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3

F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

GEF Requirements 1, 3, 5, 6, & 8	18	
University Requirements		
First Year Seminar		
AGEE 102	Educational Colloquium in Agricultural and Extension Education	1
Capstone Course		
AGEE 489	Agriculture and Extension Education Reflective Seminar (fulfills Writing and Communication Skills requirement)	1
Major Requirements		
AGEE 101	Global Food and Agricultural Industry (GEF 7)	3
AGEE 103	Basics of Agricultural Mechanization	2
AGEE 110	Microcomputer Applications in Agricultural Education	3
or CS 101	Intro to Computer Applications	
AGEE 203	Agriculture Mechanics Practica	3
AGEE 220	Group Organization and Leadership (GEF 4)	3
AGEE 421	Agricultural and Natural Resource Communications	3
AGEE 431	Adult Education in Agriculture and Natural Resources	2
AGEE 440	Principles of Cooperative Extension	2
AGRN 202	Principles of Soil Science	3
AGRN 203	Principles of Soil Science Laboratory	1
ARE 204	Agribusiness Management	3
A&VS 251	Principles of Animal Science	4
PLSC 206	Principles of Plant Science (GEF 2)	4
PSYC 101	Introduction to Psychology (GEF 8)	3
PSYC 241	Introduction to Human Development (GEF 8)	3
Area of Emphasis (Select One)		30
Agriculture Electives		12
Courses from the following subjects: A&VS, AEM, AGBI, AGEE, AGRN, ANNU, ANPH, ANPR, ARE, CDFS, DSGN, ENTO, ENVM, ENVP, FDM, FDST, FMAN, FOR, GEN, HORT, ID, LARC, PLSC, PPTH, RESM, RPTR, WDSC, or WMAN		
Additional electives to reach a minimum of 120 credits (number of credits needed may vary)		16
Total Hours		120

AGRICULTURAL TEACHER EDUCATION AREA OF EMPHASIS

An effective agriculture teacher can assist in the economic and social development of a community. Middle school, high school, and adult classes strengthened by supervised agricultural experience programs are the methods whereby the agriculture teacher helps students become involved and established in production agriculture and off-farm occupations that require agricultural knowledge and skills.

Students completing this program will meet the requirements for certification by the West Virginia Department of Education. The program provides graduates with the opportunity to become qualified to teach in the broad field of agriculture as well as to become prepared to teach in such areas as production, agribusiness, conservation and forestry, agricultural mechanics, processing, horticulture, and natural resources. In addition to teaching, graduates have the opportunity for employment with governmental agencies and in private enterprise.

To be eligible for student teaching and subsequent certification to teach, the student must:

- possess a 2.5 grade point average on the total of all college credits, including hours earned in professional education and technical agriculture courses
- must pass competency tests in reading, writing, mathematics (Praxis Core Academic Skills for Educators) and agriculture content endorsement (Praxis II - Agriculture) prior to student teaching
- must pass the principles of teaching and learning test (Praxis Principles of Learning and Teaching Grades 7-12) for grades 7-12

- complete the required agriculture and professional education courses

REQUIREMENTS

AGEE 202	Site Based Tutoring in Agriculture and Extension Education	1
AGEE 330	Shop Theory and Methods	3
AGEE 426	Directing Future Farmers of America and Supervised Agricultural Experiences	3
AGEE 430	Methods of Teaching Agriculture	3
AGEE 434	Managing Learning Environment	3
AGEE 438	Agriculture Education Curriculum Development	2
AGEE 488	Professional Agricultural Internship	12
RDNG 422	Reading in the Content Areas	3
SPED 304	Special Education in Contemporary Society	3
SPED 360	Differentiation of Instruction for Students with Special Needs	3
Total Hours		36

SUGGESTED PLAN OF STUDY FOR AGRICULTURAL TEACHER EDUCATION AREA OF EMPHASIS

First Year

Fall	Hours Spring	Hours
AGEE 102	1 AGE 101 (GEF 7)	3
AGEE 103	2 AGE 110	3
ENGL 101 (GEF 1)	3 AGE 220 (GEF 4)	3
A&VS 251	4 PSYC 101 (GEF 8)	3
Electives	4 MATH 121 (GEF 3)	3
	14	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 AGE 203	3
PLSC 206 (GEF 2)	4 AGE 202	1
PSYC 241 (GEF 8)	3 GEF 6	3
ARE 204	3 GEF 8	3
GEF 5	3 Electives	4
	16	14

Third Year

Fall	Hours Spring	Hours
SPED 304	3 AGE 426	3
AGRN 202	3 AGE 434	3
AGRN 203	1 SPED 360	3
AGEE 440	2 RDNG 422	3
AGEE 421	3 Restricted Electives	4
Electives	2	
	14	16

Fourth Year

Fall	Hours Spring	Hours
AGEE 430	3 AGE 438	2
AGEE 330	3 AGE 488	12
AGEE 431	2 AGE 489	1
Restricted Electives	8	
	16	15

Total credit hours: 120

EXTENSION EDUCATION AREA OF EMPHASIS

This option prepares students with a foundation for extension education, agribusiness positions related to human resource management, international and corporate training and development, agricultural literacy and public relations, political interests, and commodity service organizations.

Coursework in this option will focus on a core of agricultural courses along with emphasis in non-formal education, designing educational/training programs and professional presentations, leadership development, teaching/training methods, and interpersonal communications. A twelve credit, twelve week internship related to the student's career objective is required.

REQUIREMENTS

AGEE 430	Methods of Teaching Agriculture	3
AGEE 491	Professional Field Experience	12
JRL 101	Media and Society	3
POLS 102	Introduction to American Government	3
POLS 220	State and Local Government	3
POLS 240	Introduction to Public Administration	3
PR 215	Introduction to Public Relations	3
Total Hours		30

SUGGESTED PLAN OF STUDY FOR EXTENSION EDUCATION AREA OF EMPHASIS

First Year

Fall	Hours Spring	Hours
AGEE 102	1 AGE 101 (GEF 7)	3
AGEE 103	2 MATH 121 (GEF 3)	3
A&VS 251	4 AGE 110	3
ENGL 101 (GEF 1)	3 AGE 220 (GEF 4)	3
Electives	4 PSYC 101 (GEF 8)	3
	14	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 AGE 203	3
PLSC 206 (GEF 2)	4 JRL 101	3
PSYC 241 (GEF 8)	3 GEF 6	3
ARE 204	3 GEF 8	3
GEF 5	3 Elective	4
	16	16

Third Year

Fall	Hours Spring	Hours
POLS 102	3 POLS 240	3
AGRN 202	3 PR 215	3
AGEE 440	2 AGE 421	3
AGRN 203	1 Restricted Electives	6
Restricted Electives	6	
	15	15

Fourth Year

Fall	Hours Spring	Hours
POLS 220	3 AGE 489	1
AGEE 431	2 AGE 491	12
Electives	6 Electives	2
AGEE 430	3	
	14	15

Total credit hours: 120

AGRICULTURAL & ENVIRONMENTAL TECHNOLOGY AREA OF EMPHASIS

Today agriculture faces a tremendous challenge to provide food, fiber, and industrial raw supplies for billions of people at a time when resources are becoming more limited. Agriculture, meanwhile, has become more technical and complex, and qualified college graduates are needed to meet the future demands in this vital field.

This option is an undergraduate studies program that allows students some measure of flexibility in meeting their own educational objectives, particularly when those objectives may not be fulfilled entirely by any other single college major. This option prepares students to enter into the broad field of production and technical agriculture. The curriculum combines a broad range of technical courses in animal science, crop and soil science, horticulture, biological systems, agricultural mechanics, and agricultural economics. Additional courses in interpersonal and group leadership and communications training give students a competitive edge in the job market.

Students who desire to become owners, managers, or employees in production and or technical agriculture realize that they need a broad-based preparation. Agriculture presents opportunities in the farming and ranching business and industry, research and development, education, communications, governmental employment, and conservation and recreation.

The experiences gained through coursework and internships prove invaluable. General agriculture internships in production and technical agriculture, agribusiness, and commodity organizations enable students to enhance their communications, problem-solving and technical abilities, and management and decision making abilities. A twelve credit, twelve week internship related to the student's career objective is required.

REQUIREMENTS

AGEE 491	Professional Field Experience	12
Upper-Level courses selected from the other divisions in the college in consultation with Advisor		24
Courses from the following subjects: AEM, AGBI, AGRN, AGEE, AGRN, ANNU, ANPH, ANPR, ARE, A&VS, CDFS, DSGN, ENTO, ENVM, ENVP, FDM, FDST, FMAN, FOR, GEN, HORT, ID, LARC, PLSC, PPTH, RESM, RPTR, WDSC, or WMAN		
Total Hours		36

SUGGESTED PLAN OF STUDY FOR AGRICULTURAL & ENVIRONMENTAL TECHNOLOGY AREA OF EMPHASIS

First Year

Fall	Hours Spring	Hours
AGEE 102	1 AGEE 101 (GEF 7)	3
AGEE 103	2 AGEE 110	3
ENGL 101 (GEF 1)	3 MATH 121 (GEF 3)	3
A&VS 251	4 AGEE 220 (GEF 4)	3
Electives	4 PSYC 101 (GEF 8)	3
	14	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 AGEE 203	3
PLSC 206 (GEF 2)	4 GEF 6	3
PSYC 241 (GEF 8)	3 GEF 8	3
GEF 5	3 Electives	6
ARE 204	3	
	16	15

Third Year

Fall	Hours Spring	Hours
AGRN 202	3 AGEE 421	3
AGEE 440	2 Upper Level Ag Courses	6
AGRN 203	1 Restricted Electives	6
Upper Level Ag Courses	6	
Restricted Electives	3	
	15	15

Fourth Year

Fall	Hours Spring	Hours
AGEE 431	2 AGEE 489	1

Upper Level Ag Courses	9 AGEE 491	12
Restricted Electives	3 Upper Level Ag Course	3
	14	16

Total credit hours: 120

Major Learning Goals

AGRICULTURE AND EXTENSION EDUCATION

All students in the Agricultural and Extension Education undergraduate program will:

- Complete a core curriculum in general education foundations.
- Complete a core curriculum in basic agricultural knowledge.
- Complete a core curriculum in technology, leadership, and communication.
- Complete at least one area of emphasis (teacher education, extension education, or agricultural and environmental technology) in agricultural and extension education.

Students in the teacher education area of emphasis will:

- Develop the pedagogical skills necessary to enter and be successful in a high school teaching position.
- Complete all PRAXIS tests required for teacher certification in West Virginia.
- Complete a twelve week internship/student teaching placement in a middle/high school agricultural education program.

Students in the extension education area of emphasis will:

- Develop the academic knowledge and skills necessary to enter and succeed in a Master of Science program.
- Develop the educational and communication skills necessary to successfully enter and succeed in an Extension position.
- Complete a twelve week internship in an Extension related position.

Students in the agricultural and environmental technology area of emphasis will:

- Develop the educational and communication skills necessary to successfully enter and succeed in an agriculturally related career.
- Develop the academic knowledge and skills needed to enter and succeed in an agriculturally related career.
- Complete a twelve week internship in an area related to their career goal.

Design Studies

Bachelor of Science - Design Studies Major

Design is a way of thinking (about what might be better), and a process (of iterative prototyping), as well as the product of that thinking and process. The Design Studies program at West Virginia University provides the opportunity for cross-disciplinary study by pairing design thinking and design process courses with an approved minor or approved area of concentration of your choice.

Description of Program

Design Studies is a four-year, student-focused curriculum that is open to all freshmen and to students transferring into the program as long as they meet the GPA requirement. Students must have a minimum GPA of 2.5 overall to enter the program, and must maintain an overall 2.25 GPA throughout their time in the major.

Students meet with their academic advisor at the beginning of their program to determine a program of study for their academic major. Each student, as a requirement for graduation, must participate in a minimum of six credit hours of internship. Internships will be allowed only after the student has finished a minimum of 50% of their minor coursework, and completed the required third year design studies coursework. Typically, internships will occur during the summer between the student's third and fourth years. Internship experiences will be unique to each student and will reflect their area of interest in the design fields.

Career Opportunities

Demand for graduates with Design Studies degrees has traditionally come from production, sales, marketing, and management firms related to design products and studio-trained designers (fashion, interiors, etc.). More recently there has been growing recognition that design thinking/process supports entrepreneurship and innovation in all venues. Internet searches of *Business Week* and/or *Fast Company* using the key word "design" will provide a quick overview of the rapidly expanding career potential in this field.

The offering of an interdisciplinary design major by West Virginia University is unique in the state and within the University. Design Studies brings together positive aspects of the studio-based design majors and the multi-disciplinary studies major to provide a design-focused program that is flexible and student-centered. Acceptance into the program is noncompetitive. Employment in design-related occupations is expected to continue growing.

Click here to view the Suggested Plan of Study (p. 110)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Program Requirements

Specifically, the major consists of:

1. University requirements
2. A common design core
3. Additional design-related courses
4. Internship or professional field experience
5. An approved minor, certificate, or approved concentration contributing to a design-related specialty
6. A capstone experience

Students take a core of design courses to learn and understand the design language. A minor, certificate, or approved area of concentration (e.g. Associates Degree) is required to focus their area of study and provide a context for their design thinking. Finally, design-related requirements and recommended electives are chosen to support the understanding of design in a variety of contexts. The capstone requirement will be met with a one-hour seminar course to prepare for the internship experience, a six-to-nine hour professional field experience or external study and a final course where students synthesize and present their experiences in the work environment. Each student meets individually with her/his advisor to determine the most appropriate coursework choices for all requirements at the beginning of the semester in which they declare Design Studies their major.

Curriculum for the Design Studies major is determined by the area of interest chosen by the student. The area of interest is explored through an approved minor, certificate, or concentration area. A list of minors currently approved for the Design Studies major includes: advertising, arts administration, business administration, communications, disability studies (certificate), electronic media, entrepreneurship, event planning, history/historic preservation, horticulture, landscape studies, photography, public relations, sustainable design and theatre.

NOTES

1. Students must complete a minimum of 120 hours to graduate in this major.
2. Minors may require courses to be taken in summer. Check your specific minor for schedule requirements.
3. All Design Studies majors must complete nine hours of Recommended Electives at the 300 level or above (see advising booklet and requirements for specific minors).
4. GEF choice options are directed by the minor or concentration area chosen by the student. Please see specific requirements for your individual area of study before making course choices.

CURRICULUM REQUIREMENTS

GEF Requirements

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	6
BIOL 105 & BIOL 106	Environmental Biology and Environmental Biology Laboratory	4
GEF 3, 4, 5, 6, and 7		15

University Requirements

WVUE 191	First Year Seminar	1
DSGN 480	Designing Innovative Futures (fulfills Writing and Communication Skills and Capstone requirements)	3

Major Requirements

Design Studies Core Requirements:

A minimum grade of C- and minimum GPA of 2.25 is required for all Design Studies Core Requirements

DSM 130	Introduction to Design	3
DSGN 140	Sustainable Living	3
DSGN 220	Design Thinking	3
ID 330	Design for Quality of Living	3
DSGN 491	Professional Field Experience: Capstone	6

Additional Major Requirements

CSAD 270	Effective Public Speaking	3
Foreign Language (2 levels of same language)		6

Approved Minor * 15

Minor Related Electives ** 27

Design Related Electives 8

Free Electives (Number of electives may vary based on GEF courses and other electives chosen) 14

Total Hours 120

* Approved minors include: Advertising, Arts Administration, Business Administration, Communication Studies, Disability Studies, Electronic Media, Entrepreneurial Studies, Event Planning, History, Horticulture, Landscape Studies, Photography, Public Relations, Sustainable Design, Theatre. Other areas of concentration (e.g. Associates Degrees) must be approved by the Design Studies faculty.

** A minimum of 9 hours must be 300 level classes or above.

SUGGESTED PLAN OF STUDY

The following minimum requirements are set to insure that students who graduate from the program will have the appropriate skill level and knowledge to succeed in their chosen field of professional work. Design studies require a minimum of 120 credit hours for graduation.

First Year

Fall	Hours Spring	Hours
WVUE 191	1 Design Related Course	3
DSM 130	3 Minor Course	3
ENGL 101 (GEF 1)	3 GEF 3	3
GEFs 4, 5, and 6	9 GEF 7	3
	16	12

Second Year

Fall	Hours Spring	Hours
DSGN 140	3 Minor Course	3
ENGL 102 (GEF 1)	3 DSGN 220	3
CSAD 270	3 Foreign Language	3
Foreign Language	3 Minor Related Electives	6
BIOL 105 & BIOL 106 (GEF 2)	4	
	16	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
ID 330	3 Design Related Course	2 DSGN 491	6
Design Related Course	3 Minor Course	3	
Minor Course	3 Minor Related Electives	7	
Minor Related Elective	3		
	12	12	6

Fourth Year

Fall	Hours Spring	Hours
Minor Course	3 Free Electives	9
DSGN 480	3 Minor Related Electives	7
Minor Related Elective	4	
Free Elective	5	
	15	16

Total credit hours: 120

FIRST-YEAR LEVEL

Students should begin the Design Studies program with an introduction to design and first-year courses. Students should make an appointment with the program chair at the end of the first semester to determine course selection based on a chosen required minor, certificate or concentration area. Design studies is an open-enrollment major for incoming freshmen. Students may also transfer into the major during either fall or spring semesters as long as they meet the minimum entry requirements. Transfer students must have an overall GPA of a 2.5 to apply for acceptance into the Design Studies major. It is advisable that students interested in transferring into the major make an appointment with the Advising Center (contact Joy Patterson at joy.patterson@mail.wvu.edu) to discuss details prior to officially transferring paperwork.

SECOND-, THIRD-, AND FOURTH-YEAR LEVELS

All design studies students are required to maintain at least an overall 2.25 GPA to remain in the program with good academic standing.

- Students' grades will be monitored each semester.
- Any student who has an overall GPA below 2.25 will be notified and put on academic probation for the upcoming semester. It will be necessary for the student to raise their GPA to the required 2.25 in order to continue in the design studies major coursework.
- Students who have an overall GPA below the required 2.25 will not be allowed to enroll in DSGN, DSM or ID coursework until the GPA has returned to the minimum required.
- Students who have not been permitted to enroll in design courses because of a low GPA may enroll in design courses after they have met the appropriate GPA, space permitting.
- All Design Studies students are required to earn at least a C- in each required Interior Design, Design & Merchandising and Design Studies (DSGN) course.
- Students' grades in DSGN, DSM and ID courses will be monitored each semester.
- Any student who has earned a grade of "D" or lower in any of the DSGN, DSM or ID courses will be notified of the problem and will be expected to repeat the course and earn a grade of C- or above prior to graduation.

Major Learning Goals**DESIGN STUDIES**

The primary student learning outcomes for the Design Studies major include preparing students to:

1. Integrate design thinking into the business context provided by their minor course of study,
2. Synthesize knowledge gained through coursework and experiential activities effectively, and explain its application to real work situations within the design profession and selected area(s) of interest in verbal and written formats,
3. Effectively evaluate and use research in the context of a design problem,
4. Share work experience with others and gain a greater understanding of design in a variety of contexts,
5. Understand the daily realities of their professional design area and how those realities relate to the expectations of other design contexts.

Fashion, Dress and Merchandising

Bachelor of Science - Fashion, Dress and Merchandising Major

AREAS OF EMPHASIS: FASHION DESIGN, FASHION MERCHANDISING

PROGRAM OVERVIEW

Students in the Fashion, Dress and Merchandising (FDM) program obtain a broad-based background in fashion design and fashion merchandising. They may pursue a Fashion Merchandising or a Fashion Design Area of Emphasis (AOE); both curricula consist of a minimum of 120 credit hours. A minor in Business Administration or Entrepreneurship is included in the Fashion Merchandising Area of Emphasis.

FDM students are encouraged to seek summer employment in the textile, apparel, or retail fields in order to gain experience and integrate coursework into business professional settings. All FDM students may elect to take a 3-credit-hour work practicum following their second year in the program. Both program options require a 6-credit-hour internship in which students apply textile, apparel, and/or merchandising subject matter in a professional setting. The practicum and internship are available during the summer term only.

PROGRAM OPPORTUNITIES

FDM students may elect to participate in a faculty-led, study abroad summer program to observe the textile, apparel, and retail industries in Italy, preferably following her/his freshman or sophomore year. This 6-credit-hour program, *Disegno Italia*, has established connections with fashion schools in Milan, the design capital of Italy. A semester abroad during spring semester Junior year also can be arranged. Students who study abroad must register with the WVU Office of International Programs, Third Floor, Stansbury Hall, phone: (304) 293-6955, ext. 0. Website: <http://internationalprograms.wvu.edu>.

An elective fashion study tour enables students to observe fashion industry and retail sites, view historic costume displays and collections, and network with graduates of the FDM program. A teaching practicum is another elective opportunity that enables a student to broaden his or her perspective. Students are encouraged to enter design and research competitions and exhibitions sponsored by industry, professional societies, and the University. A student organization, the Fashion Business Association, enriches the student experience by bringing working professionals to campus to share their experiences and providing students with opportunities to develop their leadership skills.

CAREER OPPORTUNITIES

All FDM graduates are prepared for entry-level positions or graduate study. Retail opportunities often begin with an executive training program and may lead to positions in management, buying, allocating, planning, fashion promotion, personnel, or visual merchandising. Placement may be found with department stores, specialty stores, mass merchandisers, discount operations, and with small and large chain organizations. Opportunities in the apparel field include design, technical design, sample coordination, sourcing specialist, showroom sales executive, and merchandising. Opportunities in the textile field include sales executive, color analyst, promotion, or education.

Our students have been successful in gaining admission to graduate school in areas such as historic costume and textiles, social psychology of dress, apparel design, textile design, merchandising, and business. With additional study at the graduate level, students may secure positions with fiber and fabric producers, museums that exhibit and preserve textiles and apparel, colleges and universities, and in upper-level apparel business management. The opportunities are many and the employment possibilities varied.

Click the appropriate link below to view the corresponding Area of Emphasis (AOE) Requirements and Suggested Plans of Study.

- Fashion Design (p. 114)
- Fashion Merchandising (p. 115)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3

F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

Maintain a 2.25 overall GPA.

GEF Requirements 2, 5, and 7	10	
WVUE 191	First Year Seminar	1
ENGL 101	Introduction to Composition and Rhetoric (GEF 1)	3
ENGL 102	Composition, Rhetoric, and Research (GEF 1)	3
MATH 126A	College Algebra 5-Day (or higher - GEF 3; Minimum grade of C-)	3
CSAD 270	Effective Public Speaking (GEF 4)	3
ARHS 101	Landmarks of World Art (GEF 6)	3
or ARHS 160	Survey of Art History 2	
SOCA 101	Introduction to Sociology (GEF 8)	3
PSYC 101	Introduction to Psychology (GEF 8)	3

Major Requirements

Fashion, Dress & Merchandising Core Courses:

A minimum grade of C- is required in all FDM courses

FDM 110	Introduction to Fashion Business	3
FDM 130	Design Concepts of Dress	3
FDM 140	Introduction to Textiles	3
FDM 220	Fashion, the Body, and Culture	3
FDM 235	Product Development	3
FDM 251	Applied History of Fashion and Dress	3
FDM 260	Visual Merchandising	3
FDM 360	Fashion Merchandising	3

Business Requirements

ADV 215	Principles of Advertising	3
ENGL 304	Business and Professional Writing (fulfills Writing and Communication Skills requirement)	3
Required Emphasis Area (Fashion Design or Merchandising)		33

Capstone Experience

FDM 491	Professional Field Experience	6
Electives (used to reach minimum of 120 required for degree)		19

Total Hours	120
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ELECTIVE PRACTICUM

The practicum is an elective, 3-credit course for all FDM students, and is designed to allow students to gain experience and apply their coursework in a professional setting. It is offered through WVU in the summer term only. The practicum is 6-weeks long and is completed during one summer session; students register and pay for 3-credit-hours.

Site Selection: It is up to each student to select and secure his or her own practicum site using all available resources. It is wise to interview at more than one practicum site in order to locate the best possible position. Prior site approval by the practicum course instructor is required. The site must specialize in some aspect of the fashion industry. Students must select a site that will be different from their internship site in order to enhance their competitiveness.

Procedure: Students take the practicum after completing the required prerequisites successfully. An application and approval form, signed contract, and resume are required for registration. All paperwork needs to be complete and submitted by the deadlines or the student will be deleted from the course

roster. Prior to embarking on this work experience, all students must participate in the mandatory orientation session(s) which is held at the end of spring semester prior to the practicum.

INTERNSHIP REQUIREMENT

The internship is a required capstone course for all students in the FDM program. It is offered through WVU during the summer term only. All FDM students are required to have a 6-credit-hour internship. This experience is a minimum of eight weeks long and spans both summer terms. All FDM students must register and pay for the credits at the beginning of the summer term and complete the internship during the summer term.

Site Selection: It is up to each student to select and secure his or her own internship site using all available resources including the development of networking contacts. These can be made through the Fashion Business Association, study tour, the WVU Career Services Center, and FDM internship instructors. Students should be prepared to interview when recruiters come to campus during the academic year. It is wise to interview with more than one internship site in order to locate the best possible position that will lead to an enhancement of career goals. Approval of the site ahead of time by the internship course instructor is required for all proposed sites. The site must specialize in some aspect of fashion merchandising or apparel design.

Procedure: Students may take the internship after completing the required prerequisites successfully. An application and approval form, signed contract, and resume are required for registration. This paperwork needs to be complete and submitted by the summer deadlines or the intern will be deleted from the course roster. Prior to embarking on the internship, all students must participate in the mandatory orientation session(s). The summer orientation session is held at the end of spring semester prior to the internship.

FASHION DESIGN AREA OF EMPHASIS

Fashion Design Emphasis Requirements

ART 111	Drawing 1	3
or ART 112	Drawing 2	
or ART 121	Visual Foundations 1	
or ART 122	Visual Foundations 2	
ARHS 101	Landmarks of World Art	3
or ARHS 120	Survey of Art History 1	
FDM 210	Fashion and Dress Through History	3
FDM 230	Apparel Production and Fit	3
FDM 250	Flat Pattern Design	3
FDM 330	Fashion Design and Illustration	3
FDM 350	Draping	3
FDM 393	Special Topics (Advanced Patternmaking)	3
FDM 430	Fashion Design Portfolio	3
Restricted Electives		6
BUSA 201	Survey of Economics	
BUSA 202	Survey of Accounting	
BUSA 310	Survey of Business Law *	
FDM 310	Merchandising Practicum	
FDM 361	Merchandise Planning and Control	
FDM 470	Global Issues and Fashion	
FDM 490	Teaching Practicum	
Study Abroad: Disegno Italia		
THET 105	Costuming	
THET 219	Intermediate Costume Construction	
THET 425	Advanced Costume Construction	

Total Hours

33

SUGGESTED PLAN OF STUDY FOR FASHION DESIGN AREA OF EMPHASIS

Students may enter the FDM program as first-semester freshmen. Enrollment in the required first-year FDM courses is not limited. The following courses have open enrollment and should be taken by all students the first year in the major: FDM 110, FDM 130, FDM 140. FDM courses are to be taken in sequence. Therefore, it is important that students follow the Suggested Plan of Study that follows. Selected outside courses must be completed prior to enrolling in certain FDM courses.

First Year

Fall	Hours Spring	Hours
FDM 110	3 FDM 130	3
MATH 126A (GEF 3)	3 FDM 140	3
ENGL 101 (GEF 1)	3 PSYC 101 (GEF 8)	3
ARHS 101 or 120 (GEF 6)	3 ARHS 160 or 101 (GEF 8)	3
WVUE 191	1 GEF 5	3
	13	15

Second Year

Fall	Hours Spring	Hours
FDM 220	3 FDM 250	3
FDM 230 (Requires minimum grade of B-)	3 FDM 251	3
CSAD 270 (GEF 4)	3 FDM 260	3
ART 111, 112, 121, or 122	3 SOCA 101 (GEF 8)	3
ENGL 102 (GEF 1)	3 GEF 7	3
	15	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
FDM 330	3 FDM 350	3 FDM 491 (Capstone)	6
FDM 360	3 ADV 215	3	
FDM 393 (Advanced Patternmaking)	3 GEF 2	4	
ENGL 304	3 Electives	4	
Elective	3		
	15	14	6

Fourth Year

Fall	Hours Spring	Hours
FDM 210	3 FDM 235	3
FDM 430	3 Restricted Elective	3
Restricted Elective	3 Electives	6
Electives	6	
	15	12

Total credit hours: 120

FASHION MERCHANDISING AREA OF EMPHASIS**Merchandising Emphasis Requirements**

FDM 293	Special Topics (Fashion Consumer Behavior)	3
FDM 361	Merchandise Planning and Control	3
FDM 493	Special Topics (Omni-channel Fashion Retailing)	3
FDM 493	Special Topics (Fashion Promotion)	3
PSYC 251	Introduction to Social Psychology	3
Business Administration or Entrepreneurial Studies Minor (students must choose one)		18
Total Hours		33

SUGGESTED PLAN OF STUDY FOR FASHION MERCHANDISING AREA OF EMPHASIS

Students may enter the FDM program as first-semester freshmen. Enrollment in the required first-year FDM courses is not limited. The following courses have open enrollment and should be taken by all students the first year in the major: FDM 110, FDM 130, FDM 140. FDM courses are to be taken in sequence. Therefore, it is important that students follow the Suggested Plan of Study that follows. Selected outside courses must be completed prior to enrolling in certain FDM courses.

First Year

Fall	Hours Spring	Hours
FDM 110	3 FDM 130	3
MATH 126A (GEF 3)	3 FDM 140	3
ENGL 101 (GEF 1)	3 ARHS 101 or 160 (GEF 6)	3
SOCA 101	3 PSYC 101	3
WVUE 191	1 GEF 5	3
	13	15

Second Year

Fall	Hours Spring	Hours
FDM 220	3 FDM 251	3
ADV 215	3 FDM 260	3
ENGL 102 (GEF 1)	3 FDM 293 (Fashion Consumer Behavior)	3
CSAD 270 (GEF 4)	3 Minor Course	3
Minor Course	3 GEF 7	3
	15	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
FDM 360	3 FDM 361	3 FDM 491 (Capstone)	6
FDM 470	3 Minor Course	3	
ENGL 304	3 GEF 2	4	
PSYC 251	3 Electives	4	
Minor Course	3		
	15	14	6

Fourth Year

Fall	Hours Spring	Hours
FDM 493 (Omni-channel Fashion Retailing)	3 FDM 493 (Fashion Promotion)	3
Minor Course	3 Minor Course	3
Electives	9 Electives	6
	15	12

Total credit hours: 120

Major Learning Goals**FASHION, DRESS AND MERCHANDISING**

Fashion, Dress and Merchandising is grounded in the social and physical sciences - as well as art and design - and is structured through a business lens. Upon graduation from the FDM program at WVU, students will be able to demonstrate the following entry-level competencies:

- apply leadership/management skills including the ability to work as a member of a team, critique oneself and others constructively, and communicate effectively in written and oral formats;
- utilize critical and creative thinking strategies in order to interpret customer needs/wants in the development of innovative solutions in the textile and apparel pipeline;
- utilize process knowledge of the textile and apparel supply chain through an understanding of industry terminology, design principles and processes, business theories and regulations in the development, promotion, and sale of fashion products;
- exhibit awareness of global political and economic issues, environmental sustainability, and social/cultural change within the textile and apparel industries;
- utilize textile and clothing core knowledge related to aesthetics and appearance, socio-psychological theories, and dress and human interaction throughout history to serve as a foundation for textile and apparel business decisions;
- utilize a variety of analysis and synthesis skills that enable them to investigate, analyze, and communicate solutions to problems using a variety of formats.

These competencies are incorporated across the FDM program curriculum. Students are introduced to these learning goals incrementally as they progress from entry-level courses to and including the capstone internship.

PROGRAM REQUIREMENTS

The following minimum requirements are set to insure that students who graduate from the program will have the appropriate skill level and knowledge to succeed in this competitive field.

Students must meet the following requirements in order to continue in the program beyond the first year:

1. Maintain a 2.25 overall GPA.
2. All FDM students must earn a C- or above in all FDM courses, and (MATH 126A or MATH 126B or MATH 126C).
3. Any student who has an overall GPA below 2.25 will be notified of the deficiency and will not be permitted to enroll in FDM courses.
4. Students who have not been permitted to enroll in FDM courses because of a low GPA may enroll in FDM courses after meeting the 2.25 minimum overall GPA, space permitting.
5. Any student who has earned a grade of D+ or lower in any of the FDM courses will be notified of the problem and will not be permitted to enroll in the next sequence of FDM courses.
6. Students who have not been permitted to enroll in the next sequence of FDM courses because of receiving a grade of D+ or lower for one of the required FDM courses may correct the problem by repeating the course(s) the next time it is offered, space permitting, and earning a C- or above. Please note that most FDM courses are offered only once per academic year.
7. Fashion Design students are required to earn a minimum grade of B- in FDM 230 in order to remain in the Fashion Design area of emphasis.

Interior Design

Program Overview

Interior design intersects the fine and applied arts, social sciences, humanities, and building sciences. To practice interior design is to craft, through design acts, architectural interiors that are sensible, thought-provoking, fitting, and safe for their inhabitants. The interior design program at West Virginia University prepares students for entry-level interior design practice and meets the education requirement, via Route 2, for National Council for Interior Design Qualifications (NCIDQ) certification (<http://ncidqexam.cdn.bypronto.com/wp-content/uploads/sites/232/2013/12/ExamEligibilityRequirements.pdf>). NCIDQ certification is the basic credential required by most states that license interior design professionals. In addition to an educational requirement, NCIDQ certification requires the completion of two years in a professional internship as an interior designer and passing the NCIDQ examination.

The interior design program offers the Bachelor of Science (BS) degree and is accredited by the National Association of Schools of Art and Design (NASAD).

Career Opportunities

Many recent alumni of the program have gained employment within interior design and architecture firms, while others have pursued graduate degrees in fields including interior design, architecture, historic preservation and sustainability studies. Some have followed less traditional paths in design publishing, product sales, and entrepreneurship, to name a few.

According to the United States Department of Labor (*Occupational Outlook Handbook*), the 2012 median pay for interior designers was approximately \$48,000 per year, and approximately 25% of all interior designers were self-employed. Employment for interior designers is expected to rise 13% between 2012 and 2022.

Program Opportunities

In addition to the required study abroad experience, students have opportunities to enroll in courses associated with interior design's allied programs and faculty within the School of Design and Community Development. Courses in product design, sustainability, design studies, and global economies are regularly offered, and a minor in Sustainable Design is available.

The interior design program has an active student chapter of the American Society of Interior Designers (ASID), and all interior design majors are encouraged to join its ranks and maintain membership throughout their studies.

Admission Requirements

The interior design program at WVU is a competitive access major with required sequential studio course offerings and elective courses in interior design. Four (4) qualifying courses are offered during the first year of study. These are:

- ID 100 Interior Design Peer Mentoring
- ID 110 Introduction to Interior Design
- ID 125 Interior Design Foundations

- DSGN 293 Design Representation

To continue in the major beyond the first year, students must successfully complete ID 125 with a grade of B- or better and each of the other three courses with a grade of C- or better. Additionally, in order to become eligible for selection to continue in the second year, a cumulative grade point average (GPA) of 2.67 must be earned in the first-year qualifying courses.

If more than twenty students apply to move forward into the second year, only the top twenty students will be allowed to continue in the major. The top twenty students will be determined based upon:

- Cumulative GPA ranking in the first year qualifying courses
- Performance in the Gateway Project conducted at the end of the first year
- Overall GPA
- A Faculty Interview, if requested by the faculty

Click here to view the Suggested Plan of Study (p. 119)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

Minimum GPA of 2.67 in all ID courses is required

Minimum grade of C- in all ID courses is required

GEF Requirements

ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	6
CSAD 270	Effective Public Speaking (may fulfill GEF 4)	3
DSGN 340	Design for Energy Efficiency (may fulfill GEF 2A)	3
GEF 2A (non-lab) course		3
ARHS 120 or ARHS 160	Survey of Art History 1 (may fulfill GEF 6) Survey of Art History 2	3
GEFs 3, 5, and 8		12
Foreign Language (6 credits in the same language)		6

University Requirements

WVUE 191	First Year Seminar	1
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Major Requirements

ID 100	Interior Design Peer Mentoring	1
ID 110	Introduction to Interior Design	3

ID 125	Design Foundations	3
ID 155	Interior Design Graphics 1	3
ID 200	Interior Materials and Structures	3
ID 225	Space Planning	3
ID 230	History of Interiors and Furniture 1	3
ID 235	Interior Design Graphics 2	3
ID 240	Codes and Interior Construction	2
ID 260	History of Interiors and Furniture 2 (fulfills Writing and Communication Skills requirement)	3
ID 270	Interior Lighting Design	3
ID 293	Special Topics (Design Representation)	3
ID 325	Computer-Aided Drafting and Design	2
ID 330	Design for Quality of Living	3
ID 355	Contract Interior Design 1	3
ID 375	Residential Interior Design	3
ID 376	Interior Design Graphics 3	2
ID 420	Interior Design Professional Practices	3
ID 450	Interior Design Seminar	1
ID 455	Contract Interior Design 2 (Capstone experience)	3
Semester Study Abroad		12
Electives (Number of electives may vary based on GEF and other courses selected; students must earn 120 credits to graduate)		18
Total Hours		120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ID 125	3 ID 293 (Design Representation)	3
ID 110	3 ENGL 101 (GEF 1)	3
ID 100	1 GEF	3
ARHS 120 or 160 (GEF 6)	3 GEF	3
WVUE 191	1 GEF	3
GEF	3	
	14	15

Second Year

Fall	Hours Spring	Hours
ID 155	3 ID 225	3
ID 200	3 ID 235	3
ID 230	3 ID 240	2
ID 325	2 ID 260	3
ENGL 102 (GEF 1)	3 Foreign Language (fulfills GEF 8)	3
Foreign Language (fulfills GEF 7)	3	
	17	14

Third Year

Fall	Hours Spring	Hours
Semester Study Abroad	12 ID 270	3
	ID 375	3
	ID 376	2
	CSAD 270 (GEF 4)	3
	DSGN 340 (GEF 2A)	3
	GEF	3
	12	17

Fourth Year

Fall	Hours Spring	Hours
ID 330	3 ID 450	1
ID 355	3 ID 455	3
ID 420	3 Free Electives	12
Free Electives	6	
		15
		16

Total credit hours: 120

Major Learning Goals

INTERIOR DESIGN

Interior designers create architectural interiors that improve inhabitants' quality of life and protect the health, safety, and welfare of the public. Upon graduation from the interior design program at WVU, students will be able to demonstrate entry-level professional competencies that include:

- applying the elements and principles of design to the analysis and development of architectural interiors;
- understanding relationships between architecture, architectural interiors, interior artifacts, and the human condition – through historical, theoretical, social, and scientific lenses;
- utilizing hand and computer drawing and modeling technologies, techniques and conventions in the study, visualization, and presentation of architectural interiors;
- selecting and integrating appropriate building materials and construction assemblies; building systems; finishes, furnishings & equipment (FFE); and codes during the design of architectural interiors;
- understanding professional and ethical responsibilities, opportunities, and constraints associated with interior design practices.

These competencies are introduced in both design studio and lecture courses and are developed and expanded incrementally along the curriculum. The holistic integration and synthesis of these competencies in the design of architectural interiors are centered in design studio courses which are rigorous laboratories and typically have a high number of contact/meeting hours in relation to credit hours.

Maintaining Good Standing

In order to remain in the program, interior design students are required to maintain at least a 2.67 GPA in ID courses. Students' GPAs will be monitored each semester. Any student who has an ID GPA below 2.67 will be notified of the deficiency and will have one semester to raise their ID GPA to 2.67 or above. Students who do not raise their ID GPA to 2.67 or above after one semester may not be permitted to enroll again in interior design courses.

All interior design students are required to earn at least a C- in all ID courses.

All studio courses are to be taken sequentially. Any student who has earned a grade of D+ or lower in any of the interior design studio courses will be notified of the problem and will not be permitted to enroll in their next ID studio course until the course in which a D+ or lower was earned is repeated and completed with a grade of C- or higher. Interior design studio courses are: ID 125, ID 155, ID 225, ID 235, ID 355, ID 375, ID 376, and ID 455. Any student who earns a grade of D+ or lower in ID 455 must retake it and earn a C- or higher in order to graduate.

Typically, only one section of each interior design course is offered annually.

Computer Expectation Policy

All students are expected to have, upon the first day of the ID 155 course, a computer that meets the interior design program's hardware and software specifications. These specifications are updated annually and published by the beginning of May. Please contact the interior design program for a full copy of the policy.

Studying Abroad

Graduation from the interior design program requires a full semester of study abroad through a WVU approved program. While only six credit hours earned abroad are required to fulfill the study abroad requirement, graduation in four years typically requires that students complete approximately fifteen (15) credit hours during the study abroad semester. Among courses completed during study abroad, students must successfully complete at least two courses (6 credit hours) in design, and at least half of all credit hours earned must be in art and design subjects.

The semester study abroad requirement may already be satisfied for interior design students who are non-U.S. citizens studying at WVU with a student visa. These students should meet with the program coordinator for advising during pre-registration for the semester that their cohort studies abroad to identify acceptable design and art courses that may be taken on-campus during the typical study abroad semester.

Landscape Architecture

Bachelor of Science in Landscape Architecture - Landscape Architecture Major

Landscape architecture is the art of design, planning, and arranging natural and man-made elements on the land. It applies cultural and scientific knowledge with concern for the conservation and stewardship of natural and aesthetic amenities to create an environment that serves a useful and enjoyable purpose. This involves consideration of the quality of life in urban and natural settings, as well as the interaction of humans with nature. The landscape architecture program at West Virginia University strives to equip students with techniques and skills through problem-solving in design theory, site construction, land use planning, and planting design. It emphasizes a philosophy of responsibility and commitment to ethical standards regarding the natural environment, personal relationships, and professional practice.

The faculty represents a multi-disciplinary team with practical experience in creative and scientific research, design, consultation, and public service. This diversity is the nucleus of the program, allowing for a strong undergraduate curriculum supplemented by related courses in the arts, sciences, engineering, and planning, reflecting the needs of the Appalachian region and current trends within the profession.

Graduates of the program can assume traditional landscape architectural roles, e.g., positions with design consulting firms, governmental planning departments, construction firms, transportation planning agencies, etc. In addition, WVU graduates are prepared for design and planning positions meeting the needs common to West Virginia and other rural areas.

The landscape architecture program is fully accredited by the Landscape Architecture Accreditation Board of the American Society of Landscape Architects. To graduate students must complete a minimum of 120 total credits.

[Click here to view the Suggested Plan of Study \(p. 122\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

In addition to the following curriculum requirements, students will be required to work at least one summer in an approved landscape architecture office or equivalent. Student will be required to earn a grade of C- or better in all of their Landscape Architecture/Horticulture Courses.

Timely completion of required MATH courses and CE 200 is critical for advancement in this program of study.

A portfolio review by the faculty will be required for all students at the end of the second year of the curriculum. Projects will be submitted by the student for formal review by the entire landscape architecture faculty. If the work is unsatisfactory, the student will not be allowed to proceed to the next level of coursework until his or her work meets satisfactory standards.

GEF Requirements

ENGL 101	Introduction to Composition and Rhetoric	3
ENGL 102	Composition, Rhetoric, and Research	3

PLSC 206	Principles of Plant Science	4
MATH 126A	College Algebra 5-Day	3
LARC 212	History of Landscape Architecture	3
MATH 128	Plane Trigonometry	3
BIOL 105 & BIOL 106	Environmental Biology and Environmental Biology Laboratory	4
GEFs 4, 5, 7, and 8		12
University Requirements		
WVUE 191	First Year Seminar	1
Capstone Course		
LARC 451	Advanced Landscape Architectural Design 2	5
Major Requirements		
LARC 120	Landscape Architectural Drawing	3
LARC 121	Landscape Architectural Graphics	3
LARC 223	Computer Graphics in Landscape Architecture	3
LARC 231	Landscape Construction Materials and Methods	3
LARC 250	Theory of Landscape Architectural Design	3
LARC 251	Landscape Architectural Design	3
LARC 261	Planting Design	3
LARC 330	Landscape Architectural Construction 1	4
LARC 331	Landscape Architectural Construction 2	4
LARC 350	Landscape Architectural Design 2	4
LARC 351	Landscape Architectural Design 3	4
LARC 360	Natural Systems Design	4
LARC 450	Advanced Landscape Architectural Design 1 (fulfills Writing and Communication Skills requirement)	5
LARC 484	Professional Practice	3
Select one of the following:		3
LARC 465	Regional Design	
LARC 466	Introduction to Urban Design Issues	
CE 200	Land Surveying	3
Studio Art Courses (Art 111 and Art 112 or as advised)		6
Electives		18
Total Hours		120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 LARC 121	3
LARC 120	3 PLSC 206 (GEF 2)	4
LARC 223	3 MATH 128 (GEF 8)	3
Select one of the following (GEF 3):	3 GEFs 5 and 7	6
MATH 126A		
MATH 126B		
MATH 126C		
WVUE 191	1	
GEF 4	3	
		<hr/>
		16

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 LARC 251	3
LARC 250	3 LARC 261	3

BIOL 105 & BIOL 106 (GEF 8)	4 LARC 212 (GEF 6)	3	
CE 200	3 Studio Art Course	3	
Studio Art Course	3 Electives	3	
	16	15	
Third Year			
Fall	Hours Spring	Hours Summer	Hours
LARC 330	4 LARC 231	3 Summer Professional Experience	
LARC 350	4 LARC 331	4	
LARC 360	4 LARC 351	4	
Electives	3 LARC 465	3	
	15	14	0
Fourth Year			
Fall	Hours Spring	Hours	
LARC 450	5 LARC 451	5	
LARC 484	3 Electives	9	
Electives	3		
GEF 8	3		
	14	14	

Total credit hours: 120

Major Learning Goals

LANDSCAPE ARCHITECTURE

Graduates of the Program will complete coursework and an internship(s) providing the knowledge and skills in environmental design problem solving, design theory, site construction, land use planning, community development, and ecological design to enter into and thrive in the profession of Landscape Architecture.

Graduates of the program are prepared to assume traditional landscape architectural roles, e.g., positions with design consulting firms, governmental design and planning departments, construction firms, transportation planning agencies, etc. To accomplish this goal graduates will:

1. Demonstrate a working knowledge of the core skills and techniques of landscape architecture including; graphic communication – both hand graphics and computer based, environmental analysis, design development methods and processes, and site engineering and design implementation.
2. Demonstrate knowledge in allied fields such as plant ecology, community design, environmental restoration, and urban design that are critical adjuncts to the practice of landscape architecture.
3. Develop and present project results through graphic, written, and oral presentations.
4. Have the problem solving / critical thinking skills necessary for focused professional development, as well as for broader social development and life-long learning and community participation and engagement.

School of Natural Resources

Robert C. Burns, Division Director of Forestry and Natural Resources
email: robert.burns@mail.wvu.edu (Robert.Burns@mail.wvu.edu)

Gerard D'Souza, Division Director of Resource Economics and Management
email: gdsouza@mail.wvu.edu

Programs of Study

The School of Natural Resources is home to programs in Agribusiness Management; Energy Land Management; Environmental and Energy Resources Management; Environmental and Natural Resources Economics (eQuad); Forest Resources Management; Recreation, Parks, and Tourism Resources; Wildlife and Fisheries Resources; and Wood Science and Technology. As a student in this school you may pursue a degree that enables you to begin a career in agribusiness management; arboriculture and urban forestry; conservation ecology; environmental and resource economics; fisheries biology; forest management; forest products industry; land management; natural resources management; outdoor recreation, and wildlife biology. Students are also well-prepared for graduate study in these or allied fields.

Courses that you will take in the School depend on a student's particular program. A primary mission of the School of Natural Resources is to further the understanding, stewardship, and sustainable use of renewable natural resources by educating students to become knowledgeable professionals and citizens, advancing and communicating research knowledge, and providing technical information and professional service to society. Students completing a Bachelor of Science degree in the School of Natural Resources fulfill broad general education foundation requirements, Bachelor of Science degree requirements, and a study of at least one discipline in depth. The School of Natural Resources strives to spark a passion in our students for the principles of stewardship and sustainability of our renewable natural resources by:

- offering students the education to assume leadership roles
- advancing research knowledge
- providing technical information and professional service to society

Accreditation

The B.S.F. in Forest Resources Management and B.S. in Recreation, Parks, and Tourism Resources are accredited by the Society of American Foresters. The Wildlife and Fisheries Resources curriculum requires the coursework needed for professional certification by The American Fisheries Society (Fisheries emphasis) or The Wildlife Society (Wildlife emphasis) under 2014 guidelines. The Wood Science and Technology program is accredited by the Society of Wood Science and Technology. The Energy Land Management program is one of ten programs in North America accredited by the American Association of Professional Landmen.

FACULTY

DIVISION DIRECTORS

- Robert C. Burns (Director, Division of Forestry and Natural Resources) - Ph.D. (The Pennsylvania State University)
- Gerard E. D'Souza (Director, Division of Resource Economics and Management) - Ph.D. (Mississippi State University)

PROFESSORS

- James T. Anderson - Ph.D. (Texas Tech University)
Wildlife ecology and management
- Robert C. Burns - Ph.D. (The Pennsylvania State University)
Understanding recreational behavior, motivations, and satisfaction levels
- Alan R. Collins - Ph.D. (Oregon State University)
Resource economics
- Ben Dawson-Andoh - Ph.D. (University of British Columbia)
Wood microbiology and chemistry
- Gerard E. D'Souza - Ph.D. (Mississippi State University)
Production economics, Finance
- John W. Edwards - Ph.D. (Clemson University)
Wildlife ecology and management
- Jerald J. Fletcher - Ph.D. (University of California, Davis)
Energy, environmental and resource economics
- Tesfa Gebremedhin - Ph.D. (Oklahoma State University)
Farm management, Agribusiness
- Kyle J. Hartman - Ph.D. (University of Maryland)
Aquatic ecology, Fish management
- David W. McGill - Ph.D. (The Pennsylvania State University)
Woodland owner outreach, forest regeneration
- Joseph F. McNeel - Ph.D. (Virginia Tech)
Forest harvest and operations
- J. Todd Petty - Ph.D. (University of Georgia)
Stream and river ecology, watershed assessment and restoration
- Tim T. Phipps - Ph.D. (University of California, Davis)
Resource economics, Agricultural policy
- Chad Pierskala - Ph.D. (University of Minnesota)
Public resource land management and agricultural tourism
- Peter V. Schaeffer - Ph.D. (University of Southern California)
Regional science, Applied microeconomics
- Steven Selin - Ph.D. (University of Oregon)
Human dimensions and Natural resources management

- Dennis K. Smith - Ph.D. (Pennsylvania State University)
Rural development, Agribusiness management
- Jingxin Wang - Ph.D. (University of Georgia)
Biomass logistics, utilization and bioenergy, forest BMPs

ASSOCIATE PROFESSORS

- Cheryl Brown - Ph.D. (University of California, Berkeley)
Agricultural and food policy and economics, Agribusiness
- Gregory A. Dahle - Ph.D. (Rutgers University)
Arboriculture and urban forestry
- Jinyang Deng - Ph.D. (University of Alberta)
Ecotourism
- David B. DeVallance - Ph.D. (Oregon State University)
Renewable materials manufacturing and biofuel evaluation
- Kathryn Arano Gazal - Ph.D. (Mississippi State University)
Forest economics and policy
- Donald J. Lacombe - Ph.D. (Florida State University)
Spatial econometrics, Public choice and industrial organization
- JingJing Liang - Ph.D. (University of Wisconsin-Madison)
Forest ecology and biodiversity
- Jamie Shuler - Ph.D. (North Carolina State University)
Forest regeneration and restoration
- Kaushlendra Singh - Ph.D. (University of Georgia)
Thermo-chemical conversion and bioenergy
- Dave Smaldone - Ph.D. (University of Idaho)
Environmental and Cultural Interpretation, Nature-based tourism
- Mark Sperow - Ph.D. (Colorado State University)
Production and resource economics
- Ben D. Spong - Ph.D. (Oregon State University)
Forest operations, roads, and harvesting
- Michael P. Strager - Ph.D. (West Virginia University)
Spatial analysis, Decision support
- Amy Welsh - Ph.D. (University of California-Davis)
Conservation genetics and wildlife forensics
- Nicholas P. Zegre - Ph.D. (Oregon State University)
Watershed and forest hydrology

ASSISTANT PROFESSORS

- Donald Brown - Ph.D. (Texas State University)
Herpetology, wildlife ecology
- Levan Elbakidze - Ph.D. (Texas A&M University)
Shale gas; water and energy economics
- Xiaoli Etienne - Ph.D. (University of Illinois)
Commodity futures markets and price analysis
- Shawn Grushecky - Ph.D. (West Virginia University)
Energy land management
- Christopher Latuma - Ph.D. (University of Tennessee)
Ornithology and bird ecology
- Kudzayi Maumbe - Ph.D. (Michigan State University) Tourism
Tourism
- Gloria Oporto - Ph.D. (University of Maine)
Biomaterials
- James S. Rentch - Ph.D. (West Virginia University)
Forest ecology
- Doolarie Singh-Knights - Ph.D. (West Virginia University)
Agribusiness and economics
- Heather Stephens - Ph.D. (Ohio State University)

Resource, energy and regional economics

- Mo Zhou - Ph.D. (University of Wisconsin – Madison)
Forestry and carbon credits, natural resources policy

VISITING ASSISTANT PROFESSORS

- Charlene Kelly - Ph.D. (Virginia Tech)
Watershed biogeochemistry
- Kirsten Stephan - Ph.D. (University of Idaho)
Soil and vegetation management

ADJUNCT PROFESSORS

- Patricia M. Mazik - Ph.D. (Memphis State University)
Aquatic toxicology, fish physiology
- Sheldon Owen - Ph.D. (West Virginia University)
Extension wildlife specialist
- Stuart A. Welsh - Ph.D. (West Virginia University)
Ichthyology
- Petra B. Wood - Ph.D. (University of Florida)
Avian ecology

In this section:

- Arboriculture (p. 126)
- Agribusiness Management (p. 127)
- Agricultural and Natural Resources Law (p. 127)
- Conservation Ecology (p. 127)
- Environmental Economics (p. 128)
- Forestry Resources Management (p. 128)
- Recreation, Parks, and Tourism Resources (p. 129)
- Sustainable Low-Rise Residential Construction (p. 129)
- Wildlife and Fisheries Resources (p. 129)
- Wood Science and Technology (p. 130)

ARBORICULTURE

MINOR CODE- U073

The minor in arboriculture is designed to provide students educational opportunities in the area of ornamental horticulture as it relates to current urban environments. Emphasis is given to the establishment and management of herbaceous and woody plants used in commercial, recreational, and home settings.

A minimum GPA of 2.0 is required in all minor courses

Minor Requirements

AGRN 410	Soil Fertility	3
FOR 205	Dendrology	3
Select one of the following:		3
HORT 260	Woody Plant Materials	
LARC 260	Ornamental Woody Plants and Groundcovers	
Select 9 hours from the following:		9
ENTO 404 & PPTH 401	Principles of Entomology and General Plant Pathology	
ENTO 470	Forest Pest Management	
ENTO 471	Urban Tree and Shrub Health	
FMAN 315	Survey of Arboriculture	
FMAN 491	Professional Field Experience *	
PLSC 491	Professional Field Experience *	
PPTH 470	Forest Pest Management	
PPTH 471	Urban Tree and Shrub Health	

Select two of the following electives: 6

AGRN 315	Turfgrass Management	
FMAN 440	Forestry Consulting	
HORT 262	Herbaceous Plant Materials	
HORT 441	Garden Center Management	

Total Hours 24

* Must be related to an arboriculture topic and must be approved in advance by the director of the Division of Plant and Soil Sciences or the director of the Division of Forestry and Natural Resources.

AGRIBUSINESS MANAGEMENT

MINOR CODE- U047

Principles pertaining to agribusiness management.

A minimum GPA of 2.0 is required in all minor courses.

ARE 110	Agribusiness Accounting	3
ARE 204	Agribusiness Management	3
ARE 461	Agribusiness Finance	3

Select one of the following: 3

ARE 431	Marketing Agricultural Products	
ARE 435	Marketing Livestock Products	

Select one of the following: 3

ARE 382	Agricultural and Natural Resources Law	
ARE 421	Rural Enterprise Development	
ARE 440	Futures Markets and Commodity Prices	
ARE 482	Enterprise Operation Law	

Total Hours 15

AGRICULTURAL AND NATURAL RESOURCES LAW

MINOR CODE - U139

Program Requirements

A minimum GPA of 2.0 is required in all minor courses.

Minor Requirements

ARE 382	Agricultural and Natural Resources Law	3
RESM 450	Land Use Planning Law	3
RESM 480	Environmental Regulation	3

Select one of the following: 3

ARE 482	Enterprise Operation Law	
ENLM 400	Energy Land Management Contracts 1	

Choose one of the following: 3

ARE 360	Current Issues In Agriculture	
ARE 450	Agriculture, Environmental and Resource Policy	
ENLM 420	Energy Land Management Contracts 2	
FOR 421	Renewable Resources Policy and Governance	
RESM 455	Practice of Land Use Planning	

Total Hours 15

CONSERVATION ECOLOGY

MINOR CODE - U071

This minor is designed to provide students specialized knowledge and skills in the area of conservation ecology. Completion of this minor allows new career opportunities, enhances lifelong learning, and promotes the role of an informed and active citizen.

Minor Requirements

WMAN 150	Principles of Conservation Ecology	3
WMAN 200	Restoration Ecology	3
WMAN 313	Wildlife Ecosystem Ecology	4
WMAN 421	Renewable Resources Policy and Governance	3
Select one of the Following:		3-4
GEN 371	Principles of Genetics	
WMAN 330	Conservation Genetics	
Total Hours		16-17

ENVIRONMENTAL ECONOMICS**MINOR CODE - U053**

Fifteen hours and a GPA of at least 2.0 in courses counted toward the minor.

Environmental Problems or Issues (select one of the following):		3
ARE 187	Energy Resource Economics	
ARE 201	Principles of Resource and Energy	
ENVP 155	Elements of Environmental Protection	
FOR 140	West Virginia's Natural Resources	
Environmental and Resource Economics		9
ARE 220	Introductory Environmental and Resource Economics	
ARE 401	Applied Demand Analysis	
ARE 410	Environmental and Resource Economics	
Law, Policy, or Analysis (select one of the following):		3
ARE 382	Agricultural and Natural Resources Law	
ARE 450	Agriculture, Environmental and Resource Policy	
Total Hours		15

FORESTRY RESOURCES MANAGEMENT**MINOR CODE - U090**

The minor in Forestry Resources Management is designed to provide students educational opportunities in the area of forest resources management.

Emphasis is given to those courses that provide a specific skill set or knowledge base needed to understand sustainable forest management in the Appalachian region. This minor requires a grade of C or higher in each course.

A grade of C or higher must be earned in all minor courses

Minor Requirements

FMAN 212	Forest Ecology	3
FMAN 222	Forest Mensuration	4
FMAN 311	Silvicultural Systems	4
FOR 205	Dendrology	3
FMAN 330	Principles of Forestry Economics	4
Select one of the following:		3
FMAN 433	Forest Management	
FHYD 444	Watershed Management	
FMAN 440	Forestry Consulting	
FOR 326	Remote Sensing of Environment	
FOR 421	Renewable Resources Policy and Governance	
WDSC 422	Harvesting Forest Products	
WDSC 423	Forest Roads	
Total Hours		21

RECREATION, PARKS, AND TOURISM RESOURCES

MINOR CODE - U085

The minor in Recreation, Parks, and Tourism Resources is designed to provide students with specialized knowledge and skills that may open the door to new career opportunities, enhance lifelong learning, and promote their role as an informed and active citizen. The minor emphasizes the ecological, economic, and social psychological aspects of managing outdoor recreation and tourism resources. A grade of "C" or higher must be earned in all courses counted toward the minor.

Minor Requirements

RPTR 142	Introduction to Recreation, Parks and Tourism	2
RPTR 239	Sustainable Tourism Development	3
RPTR 242	Environmental and Cultural Interpretation	3
RPTR 365	Planning and Design in Recreation, Parks and Tourism	3
FOR 438 or RPTR 491	Human Dimensions Natural Resource Management Professional Field Experience	3
RPTR 335 or RPTR 433	Management in Recreation, Parks and Tourism Organizations Recreation Resource Management	3
Total Hours		17

SUSTAINABLE LOW-RISE RESIDENTIAL CONSTRUCTION

MINOR CODE - U126

This minor is designed to provide students with a background in sustainable low-rise residential (i.e. single family, multi-family town houses and 2-3 story apartment buildings) construction materials and practices.

WDSC 245	Residential Building Materials	3
WDSC 320	Sustainable Construction	3
SAFM 470	Managing Construction Safety	3
A minimum of nine hours selected from the following:		9
WDSC 225	Finished Wood Products	
WDSC 341	Wood Mechanics	
ID 240	Codes and Interior Construction	
ID 325	Computer-Aided Drafting and Design	
DSGN 293	Special Topics	
Total Hours		18

WILDLIFE AND FISHERIES RESOURCES

MINOR CODE - U044

The Wildlife and Fisheries Resources minor is designed to provide students with the necessary background and skills to effectively conserve and manage fish and wildlife habitats and populations. A minimum GPA of 2.0 is required in all minor courses.

Minor Requirements

WMAN 175	Introduction to Wildlife and Fisheries	3
WMAN 224	Vertebrate Natural History	3
Select Three of the following courses		9-12
WMAN 300	Wildlife and Fisheries Techniques	
WMAN 313	Wildlife Ecosystem Ecology	
WMAN 330	Conservation Genetics	
WMAN 425	Mammalogy	
WMAN 426	Ornithology	
WMAN 445	Introduction to Fisheries Management	
WMAN 446	Freshwater Ecology	
WMAN 450	Advanced Wildlife and Fisheries Management	
Total Hours		15-18

WOOD SCIENCE AND TECHNOLOGY

The minor in Wood Science and Technology is designed to provide students with specialized knowledge and skills in the properties, manufacture, and utilization of wood and related biomaterial products. Emphasis is given to courses that provide a fundamental education in the properties of wood, manufacturing processes for wood-based materials, and utilization of wood materials.

MINOR CODE - U045

A minimum GPA of 2.0 is required in all minor courses

Required Courses

WDSC 223	Wood Anatomy and Structure	3
Select one of the following.		3
WDSC 340	Physical Properties of Wood	
WDSC 341	Wood Mechanics	
WDSC 413	Wood Chemistry	
Select four of the following:		12
WDSC 100	Forest Resources in United States History	
WDSC 232	Wood Grading and Procurement	
WDSC 320	Sustainable Construction	
WDSC 330	Wood Machining	
WDSC 337	Wood Adhesion and Finishing	
WDSC 340	Physical Properties of Wood	
WDSC 341	Wood Mechanics	
WDSC 351	Forest Products Protection	
WDSC 362	Forest Product Decision-Making	
WDSC 413	Wood Chemistry	
WDSC 422	Harvesting Forest Products	
WDSC 465	Wood-based Composite Materials	

Total Hours

18

Agribusiness Management

Bachelor of Science - Agribusiness Management Major

The goal of this major is to provide students with a breadth of knowledge that will prepare them for entry-level management positions or starting their own enterprise in a variety of rural, land-based, agricultural and/or food-related businesses. Students with this major can expect to find employment in: agribusiness (including nursery and landscaping) firms or farms; financial institutions; or state and federal government agencies dealing with land use, food and agriculture. Employment in these areas requires the essential components of this major: a broad educational background combined with knowledge of managing natural resource-based businesses. By selecting appropriate coursework in consultation with their advisor, the flexibility of this major provides students with the opportunity to create their own area of expertise or follow course tracks for entrepreneurship, equine management, food science and technology, horticulture, or livestock, as well as to pursue coursework in preparation for graduate school.

Click here to view the Suggested Plan of Study (p. 132)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3

F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

Minimum GPA of 2.0 is required for this major

GEF Requirements 1, 2, 5, 6, 7, & 8 25

WVUE 191 First Year Seminar 1

Required Courses

AGEE 110 Microcomputer Applications in Agricultural Education 3

ARE 110 Agribusiness Accounting 3

ARE 150 Introductory Agricultural and Agribusiness Economics (GEF 4) 3

ARE 204 Agribusiness Management 3

ARE 360 Current Issues In Agriculture (fulfills Writing and Communication Skills requirement) 3

ARE 382 Agricultural and Natural Resources Law 3

ARE 421 Rural Enterprise Development 4

ARE 431 Marketing Agricultural Products 3

ARE 461 Agribusiness Finance 3

ARE 482 Enterprise Operation Law 3

ARE 484 Agribusiness Strategic Management 3

ECON 202 Principles of Macroeconomics (GEF 8) 3

ARE 494 Seminar 1

Capstone Experience: 3

ARE 491 Professional Field Experience

or ARE 496 Senior Thesis

STAT 111 Understanding Statistics (GEF 3) 3

Restricted Electives 30

The restricted electives must be selected in consultation with the advisor, include at least four courses from the Davis College, and selected from the list below:

Upper-division (300-400 level) courses from the following subjects: ADV, AGBI, AGEE, ARE, AGRN, ANNU, ANPH, ANPR, A&VS, AEM, BIOL, COMM, DSGN, ECON, ENLM, ENTO, ENTR, ENVP, FIN, FDST, FMAN, FOR, GEOG, GEOL, HORT, HN&F, LARC, LDR, PLSC, POLS, PSYC, PR, RPTR, RESM, SOCA, WMAN, WGST, and WDSC.

STAT at 200-level or higher.

AGEE 220 Group Organization and Leadership

AGRN 202 Principles of Soil Science
& AGRN 203 and Principles of Soil Science Laboratory

ARE 220 Introductory Environmental and Resource Economics

ANNU 260 Animal Nutrition

A&VS 251 Principles of Animal Science

A&VS 281 Introduction to Equine Care and Use

DSGN 280 Sustainable Design and Development

FDST 200 Food Science and Technology

HORT 220 General Horticulture

MATH 150 Applied Calculus

PLSC 206 Principles of Plant Science

POLS 210 Law and the Legal System

Free Electives

20

Total Hours

120

Suggested Plan of Study**First Year**

Fall	Hours Spring	Hours
ARE 150 (GEF 4)	3 STAT 111 (GEF 3)	3
ENGL 101 (GEF 1)	3 AGEE 110	3
GEF 5, 6, or 7	3 GEF 5, 6, or 7	3
GEF 2	4 GEF 5, 6, or 7	3
WVUE 191	1 Free Elective	3
	14	15

Second Year

Fall	Hours Spring	Hours
ARE 110	3 ECON 202 (GEF 8)	3
ARE 204	3 Restricted Elective	3
ENGL 102 (GEF 1)	3 Restricted Elective	3
Restricted Elective	3 Free Elective	3
Free Elective	3 GEF 8	3
	15	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
ARE 360	3 ARE 431	3 ARE 491	3
ARE 382	3 ARE 461	3	
ARE 494	1 ARE 482	3	
Restricted Elective	3 Restricted Elective	3	
Restricted Elective	3 GEF 8	3	
GEF 8	3 Free Elective	1	
	16	16	3

Fourth Year

Fall	Hours Spring	Hours
ARE 421	4 ARE 484	3
Restricted Elective	3 Restricted Elective	3
Restricted Elective	3 Restricted Elective	3
Free Elective	3 Free Elective	4
	13	13

Total credit hours: 120

Major Learning Goals**AGRIBUSINESS MANAGEMENT**

Students who complete this major should be able to:

- Clearly articulate business problems, theories, and arguments related to agriculture or small businesses.
- Demonstrate an understanding of major ideas in marketing, accounting, finance, and management related to agriculture or small businesses.
- Read, analyze, and interpret business statements; utilize computer software in accounting, Excel and similar applications.
- Think carefully, logically, and creatively about problems related to agribusiness management and/or rural economic development.
- Carefully analyze arguments pertaining to agribusiness management.
- Write clearly and logically in business and professional settings.
- Work cooperatively within a business or professional setting (i.e., be a team player).

Energy Land Management

Bachelor of Science in Energy Land Management

This major focuses on energy land management and how it relates to energy development with an emphasis on the management, coordination, and development of surface and mineral interests. This program provides a strong foundation in the key aspects of energy land management and produces trained professionals that are critically needed in the energy and regulatory sectors. Upon completion of this program, students will understand how energy lands are managed and associated energy resources can be developed and used for maximum social, economic, and environmentally responsible benefit. Students will develop a detailed knowledge related to the identification and leasing of mineral estates; be proficient in drilling site development, transportation planning, pipeline development, and route planning; will have a thorough knowledge of post-processing planning and infrastructure development; and comprehend the ethical, regulatory, and environmental framework in which they must operate.

Click here to view the Suggested Plan of Study (p. 135)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

GEF 1, 4, 5, 6, & 7		18
Energy Land Track		18
WVUE 191 or FOR 101	First Year Seminar Careers in Natural Resources Management 1	
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory (GEF 2B)	
GEOL 103 & GEOL 104	Earth Through Time and Earth Through Time Laboratory (GEF 8)	
STAT 201 or STAT 211	Applied Statistical Modeling (GEF 8) Elementary Statistical Inference	
ARE 187	Energy Resource Economics (GEF 8)	
Choose one of the following (GEF 3):		
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
Geology		3
GEOL 373	Introduction to Petroleum Geology	
Petroleum Engineering		3

PNGE 200	Introduction to Petroleum Engineering	
GIS and Remote Sensing		3
RESM 440	Foundations of Applied Geographic Information Systems	
Policy		3
Choose 1 of the following:		
FOR 421	Renewable Resources Policy and Governance	
FOR 438	Human Dimensions Natural Resource Management	
ARE 450	Agriculture, Environmental and Resource Policy	
Computer		3
CS 101	Intro to Computer Applications	
or FOR 240	Introduction to Computing in Natural Resources	
Natural Resource Management		18
Select 6 from the following		
AGRN 455	Reclamation of Disturbed Soils	
ARE 220	Introductory Environmental and Resource Economics	
ARE 360	Current Issues In Agriculture	
ARE 382	Agricultural and Natural Resources Law	
ARE 410	Environmental and Resource Economics	
ENVP 460	Environmental Impact Assessment	
FHYD 444	Watershed Management	
FMAN 212	Forest Ecology	
FMAN 222	Forest Mensuration	
FOR 140	West Virginia's Natural Resources	
FOR 310	Elements of Silviculture	
FOR 326	Remote Sensing of Environment	
RESM 480	Environmental Regulation	
WDSC 422	Harvesting Forest Products	
WDSC 444	Bio-based Energy Systems	
WMAN 150	Principles of Conservation Ecology	
WMAN 175	Introduction to Wildlife and Fisheries	
WMAN 200	Restoration Ecology	
Business		15
Accounting - Select 1 of the following		
BUSA 202	Survey of Accounting	
ARE 110	Agribusiness Accounting	
Law - Select 1 of the following		
BUSA 310	Survey of Business Law	
ARE 482	Enterprise Operation Law	
Management - Select 1 of the following		
BUSA 320	Survey of Management	
ENTR 340	Survey of Entrepreneurship	
ARE 204	Agribusiness Management	
Marketing - Select 1 of the following:		
BUSA 330	Survey of Marketing	
ENTR 300	Creativity and Idea Generation	
ARE 431	Marketing Agricultural Products	
WDSC 470	Marketing Forest Products	
Finance - Select 1 of the following:		
BUSA 340	Survey of Finance	
ENTR 380	Survey of Business Planning	
ARE 461	Agribusiness Finance	

Energy Land Management

ENLM 150	Introduction to Energy Land Management	3
ENLM 200	Principles of Energy Land Management	3
ENLM 250	Managing Non-Technical Risks	3
ENLM 300	Ethics and Negotiations for Energy Land Managers	3
ENLM 400	Energy Land Management Contracts 1	3
ENLM 420	Energy Land Management Contracts 2	3
ENLM 441	Applied Geographic Information Systems and Energy Land Management	1
ENLM 450	Energy Land Management Strategic Planning (Capstone Experience and fulfills Writing and Communication Skills requirement)	3
ENLM 491	Professional Field Experience	3
Electives (may vary depending on GEF overlap)		12
Total Hours		121

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 GEOL 103 & GEOL 104 (GEF 8)	4
MATH 126A, 126B, or 126C (GEF 3)	3 ENLM 150	3
GEOL 101 & GEOL 102 (GEF 2B)	4 Elective	3
WVUE 191 or FOR 101	1 GEF 5	3
ARE 187 (GEF 8)	3 GEF 6	3
	14	16

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 Natural Resource Management 1	3
ENLM 200	3 FOR 240	3
STAT 201 or 211 (GEF 8)	3 PNGE 200	3
Business - Accounting	3 ENLM 250	3
GEF 7	3 Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
Natural Resource Management 2	3 RESM 440	3 ENLM 491	3
Natural Resource Management 3	3 ENLM 441	1	
ENLM 300	3 ENLM 400	3	
Business - Marketing	3 GEOL 373	3	
GEF 4	3 Business - Law Elective	3	
	15	16	3

Fourth Year

Fall	Hours Spring	Hours
Natural Resource Management 4	3 Business - Finance	3
Natural Resource Management 5	3 ENLM 450	3
Policy	3 Elective	3

ENLM 420	3 Natural Resource Management 6	3
Business - Management	3	
	15	12

Total credit hours: 121

Major Learning Goals

ENERGY LAND MANAGEMENT

This new B.S. degree program and major will provide undergraduate students a knowledge-based framework that will develop skillsets essential to a successful career in Energy Land Management. Upon graduation from this degree program and major, students will be able to:

- demonstrate the role of professional energy land managers in energy development
- compare and contrast land management activities associated with multiple energy production systems
- demonstrate the impacts of energy development on local communities and be able to develop plans that minimize impacts
- explain the role of media in the energy business, the necessity of appropriate communication in crisis situations, and the concept of non-technical risks associated with energy development
- demonstrate a complete knowledge of ethics and standards of practices in association with energy development and an understanding of common negotiating strategies
- interpret the types of interests in energy resource ownership including the ability to recognize the differences between mineral and surface estates, the ability to interpret mineral and surface deeds, and the ability to understand the key elements of energy-related leases
- recognize the basic process of permitting of energy development at both the State and Federal level, and be able to manage the complexities of energy land development through the use of lease and production management software
- apply their collective experience and knowledge gained through the Energy Land Management Curriculum as a professional energy land manager upon graduation.

Environmental and Energy Resources Management (E*Quad)

Bachelor of Science - Environmental & Energy Resources Management (E*Quad)

The objective of this major is to examine the interdisciplinary relationships involved in the business of energy production and utilization along with associated environmental management, regulatory and policy issues. This major will provide a strong foundation for students interested in pursuing a career in the growing energy and environmental sectors of the economy, whether in private business, government, consulting, or for entrepreneurial ventures of their own design. The program emphasizes the core components of both business and STEM (science, technology, engineering and math) learning in its curriculum. Some students, upon completion of this degree, may find it desirable to obtain a graduate degree to further expand their career opportunities.

Click here to view the Suggested Plan of Study (p. 138)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3

F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

General requirements

ENGL 101	Introduction to Composition and Rhetoric	3
ENGL 102	Composition, Rhetoric, and Research	3
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory (GEF 2B)	4
MATH 150	Applied Calculus (GEF 3)	3
ARE 150	Introductory Agricultural and Agribusiness Economics (GEF 4)	3
GEF 5, 6, 7, 8		18
WVUE 191	First Year Seminar	1

Major requirements

ARE 187	Energy Resource Economics	3
ARE 199	Orientation to Agriculture and Resource Economics	1
ARE 201	Principles of Resource and Energy	3
ARE 382	Agricultural and Natural Resources Law	3
ARE 421	Rural Enterprise Development	4
ARE 445	Energy Economics	3
ECON 202	Principles of Macroeconomics	3
PHYS 101	Introductory Physics	4
PLSC 206	Principles of Plant Science	4
RESM 440	Foundations of Applied Geographic Information Systems	3
RESM 441 or RESM 442	Introduction Geographic Information Systems Natural Science Introduction Geographic Information Systems Social Science	2
RESM 480	Environmental Regulation	3
RESM 494	Seminar	1
ARE 491	Professional Field Experience	5
Restricted Electives		36

Selected and approved in consultation with advisor. Must include at least three courses from each of the four restricted elective categories: Economics, Energy, Entrepreneurship, and Environment.

Economics

ARE 220	Introductory Environmental and Resource Economics
ARE 401	Applied Demand Analysis
ARE 410	Environmental and Resource Economics (fulfills Writing and Communication skills requirement)
ARE 450	Agriculture, Environmental and Resource Policy
ECON 302	Intermediate Macro-Economic Theory

Energy

DSGN 340	Design for Energy Efficiency
DSGN 470	Leadership in Energy and Environmental Design Green Building Systems
ENGR 310	Energy Engineering
RESM 450	Land Use Planning Law
WDSC 444	Bio-based Energy Systems

Entrepreneurship

ARE 204 or BUSA 320	Agribusiness Management Survey of Management
AGEE 421	Agricultural and Natural Resource Communications
ARE 431 or BUSA 330	Marketing Agricultural Products Survey of Marketing

ARE 461 or BUSA 340	Agribusiness Finance Survey of Finance	
ARE 482	Enterprise Operation Law	
Environment		
AGRN 455 or ENVP 455	Reclamation of Disturbed Soils Reclamation of Disturbed Soils	
ENVP 355	Environmental Sampling and Analysis	
ENVP 415	Hazardous Waste Training	
ENVP 460	Environmental Impact Assessment	
GEOG 205	Natural Resources	
GEOG 207	Climate and Environment	
GEOG 415	Global Environmental Change	
WMAN 200	Restoration Ecology	
Free Electives to reach minimum 120 credits for degree (number of electives may vary)		7
Total Hours		120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ARE 187	3 ARE 150 (GEF 4)	3
BIOL 101 & BIOL 103 (GEF 2B)	4 PLSC 206	4
ENGL 101 (GEF 1)	3 GEF 5, 6, or 7	3
MATH 150 (GEF 3)	3 GEF 5, 6, or 7	3
WVUE 191	1 Free elective	2
	14	15

Second Year

Fall	Hours Spring	Hours
ARE 199	1 ARE 201	3
ARE 204 (Entrepreneurship restricted elective)	3 ECON 202	3
ARE 220 (Economics restricted elective)	3 GEF 5, 6, or 7	3
ENGL 102	3 GEF 8	3
PHYS 101	4 Free Elective	3
	14	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
ARE 382	3 ARE 431 (Entrepreneurship restricted elective)	3 ARE 491	5
DSGN 340 (Energy restricted elective)	3 ARE 445	3	
ENGR 310 (Energy restricted elective)	3 RESM 480	3	
GEOG 205 (Environment restricted elective)	3 ENVP 415 (Environment restricted elective)	3	
RESM 440	3 GEF 8	3	
RESM 441 or 442	2		
	17	15	5

Fourth Year

Fall	Hours Spring	Hours
ARE 421	4 ARE 410 (Economics restricted elective)	3
ECON 302 (Economics restricted elective)	3 ARE 482 (Entrepreneurship restricted elective)	3
GEOG 207 (Environment restricted elective)	3 RESM 450 (Energy restricted elective)	3
RESM 494	1 GEF 8	3
Free Elective	2	
	13	12

Total credit hours: 120

Major Learning Goals**ENVIRONMENTAL AND ENERGY RESOURCE MANAGEMENT**

Upon completing this major, students are able to:

- Explain the interdisciplinary relationships involved in the business of energy production and utilization along with associated environmental management, regulatory and policy issues.
- Analyze the legal, regulatory, and economic aspects of energy and environmental projects.
- Demonstrate the ability to apply academic knowledge gained in the classroom within a professional setting.
- Coordinate the management of human and capital resources to comply with regulatory, institutional, and socioeconomic conditions for energy and environmental programs.
- Access data resources and obtain information from industry and professional networks when researching professional issues in support of lifelong learning.

Environmental and Natural Resource Economics**Bachelor of Science - Environmental & Natural Resource Economics Major**

The objective of this major is to provide students with the necessary training for the application of economic theory and analysis to environmental and natural resource issues. The flexibility of this major allows students to design (with their advisor) a program of study which focuses on environmental and natural resource issues tailored to the student's own interests (such as water use and quality, soil protection, waste management, ecosystem management, and land use). The curriculum reflects the breadth of training required to prepare students for careers in private and government sectors dealing with environmental and natural resource management and policy analysis.

Students with this major can expect to find employment with state and federal government agencies or with private industry in environmental policy analysis and management of natural resources. Many students, upon completion of this degree, may find it desirable to obtain a graduate degree to expand their career opportunities. Students completing this degree will be prepared for graduate study in environmental and natural resource economics and policy.

Click here to view the Suggested Plan of Study (p. 140)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4

F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

GEF Requirements	29	
*Must include two 4 credit courses each with a laboratory.		
WVUE 191	First Year Seminar	1
AGEE 110	Microcomputer Applications in Agricultural Education	3
ARE 150	Introductory Agricultural and Agribusiness Economics (GEF 4)	3
ARE 187	Energy Resource Economics (GEF 8)	3
ARE 220	Introductory Environmental and Resource Economics	3
ARE 382	Agricultural and Natural Resources Law	3
ARE 410	Environmental and Resource Economics (Counts as Writing Course Requirement)	3
ARE 445	Energy Economics	3
ARE 450	Agriculture, Environmental and Resource Policy	3
ARE 494	Seminar	1
ARE 496	Senior Thesis (Capstone Experience) *	3
ECON 202	Principles of Macroeconomics	3
ECON 225	Elementary Business and Economics Statistics (or equivalent)	3
ECON 301	Intermediate Micro-Economic Theory	3
ECON 302	Intermediate Macro-Economic Theory	3
ECON 421	Introduction to Mathematical Economics	3
ECON 425	Introductory Econometrics	3
Calculus Requirement:		3
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
RESM 440	Foundations of Applied Geographic Information Systems	3
RESM 442	Introduction Geographic Information Systems Social Science	2
RESM 480	Environmental Regulation	3
Restricted Electives (selected in consultation): **		22
AGRN 202	Principles of Soil Science	
AGRN 203	Principles of Soil Science Laboratory	
Student must select either an approved minor or at least four courses at the 300 or 400 level in AGRN, ARE, ECON, ENVP, FMAN, or FOR.		
Free Electives		11
Total Hours		120

* Consult with Undergraduate Coordinator for approval of Capstone Experience (Senior Thesis).

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ARE 187 (GEF 8)	3 AGE 110	3

BIOL 101 & BIOL 103 (GEF 2B)	4 ARE 150 (GEF 4)	3
ENGL 101 (GEF 1)	3 ENVP 155 (Suggested GEF 8)	3
WVUE 191	1 GEF 5, 6, 7	3
Select one of the following (GEF 3):	3 Select one of the following:	3
MATH 126A	STAT 211	
MATH 126B	ECON 225	
	14	15

Second Year

Fall	Hours Spring	Hours
ARE 220	3 AGRN 202 (Suggested Restricted Elective)	3
ENGL 102 (GEF 1)	3 AGRN 203 (Suggested Restricted Elective)	1
ECON 202	3 GEF 5, 6, 7	6
MATH 150	3 Restricted Elective	3
CHEM, GEOL, or GEOG w/ Lab (GEF 8)	4 Free Elective	3
	16	16

Third Year

Fall	Hours Spring	Hours
ARE 382	3 ARE 440 (Suggested Restricted Elective)	3
ARE 494	1 ARE 445	3
ECON 301	3 ECON 302	3
ECON 421	3 RESM 480	3
Restricted Elective	3 Free Elective	3
Free Elective	2	
	15	15

Fourth Year

Fall	Hours Spring	Hours
ENVP 355 (Suggested Restricted Elective)	3 ARE 410	3
RESM 440	3 ARE 450	3
RESM 442	2 ARE 496	3
Restricted Electives	6 ECON 425	3
	Free Elective	3
	14	15

Total credit hours: 120

Major Learning Goals**ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS**

Students who complete this major should be able to:

- Demonstrate an understanding of how to apply economic theory and quantitative analysis to environmental and natural resource problems and policies.
- Understand how to apply the tools of economics (such as benefit-cost analysis and environmental impact analysis) to specific environmental issues such as cap and trade or emission fees; land conservation, environmental degradation and water quality.
- Think logically and creatively about how economics and economic policies apply to: (a) the management of non-renewable natural resources (such as optimal depletion); and (b) renewable natural resources (such as forestry and fishery economics).
- Carefully explain laws and regulation to promote environmental protection, land conservation and agriculture.
- Apply GIS and similar computer software to better visualize and solve natural resource management problems.
- Write clearly and logically in business and professional settings.

Forest Resources Management

Bachelor of Science in Forestry - Forest Resource Management Major

This curriculum is designed to prepare graduates for a career in the management of forests and associated natural resources. In forestry, we face growing demands for wood products along with increasing public consciousness of the value of wild lands for recreation, wildlife habitat, watershed protection, aesthetics, and environmental protection. Our curriculum is designed to provide a balanced but business-centered approach to forest management. The major emphasis is on management and utilization of timber resources, but we also orient students to management of forests for recreation, wildlife, and water. We also stress the importance of forest ecology, environmental protection, and aesthetic qualities in forest management.

Curriculum Structure

We are accredited by the Society of American Foresters and require the completion of 120 credit hours of coursework. Required courses include biological, physical, and social sciences, English composition, communication, mathematics, forest science and management, and liberal studies. We require a five-week summer field practice; this period, along with laboratories in several of many of our courses, provides ample opportunity to gain field experience. Overall, we have designed the curriculum to provide the needed blend of scientific, technical, and managerial knowledge professionals need to manage public or private forest resources. Elective hours are used to develop additional professional competence in specialized areas. Once students meet the two-year experience requirement, they are qualified to be a registered forester in the state of West Virginia. Students can also minor in Arboriculture, Recreation, Wildlife Management, or Wood Science among the many minors available throughout the University.

Career Opportunities

Our graduates find a variety of career opportunities. Many are professional foresters with governmental agencies, such as the U.S.D.A. Forest Service and state forestry services, and many others are employed by private wood industries such as lumber and wood products companies and pulp and paper companies. Many of our graduates work in private forestry consulting or have chosen a career in urban forestry. Other employment opportunities include careers in vegetation management as well as natural resources managers for oil and gas companies in the Appalachian region. In addition, a significant number of our students go on to graduate school, studying a wide range of scientific and technical specializations to prepare them for research, teaching, or advanced managerial careers.

As a graduate professional forester, you could expect to do field work such as estimating the volume and value of areas of timberland, planning and supervising timber harvesting operations, and doing forest protection work including fire, insect, and disease control. Managerial work would include planning timber crop rotations; evaluating the economics of alternative forest management plans; and planning for integration of forest land for recreation, timber, watershed, wildlife, and environmental protection. With experience and proven performance in these activities, professional foresters often advance to executive management positions in public forestry agencies or forest products industries.

Click here to view the Suggested Plan of Study (p. 144)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

The Writing and Communications Skills requirement in the FRM curriculum is fulfilled through the different major courses that FRM students are required to take, as well as in FRM elective courses. Most of these FMAN courses (e.g., FMAN 212, FMAN 222, FMAN 311, FMAN 320, FMAN 330, FMAN 423, FMAN 433, FMAN 434) have significant writing components where students are required to prepare full technical reports like laboratory reports, management plan write-ups, and other writing assignments. Most of these writing requirements provide a feedback mechanism to students' writing (e.g., reports are corrected then given back to students for revisions). In addition to addressing the writing skills of students, some of these courses also require students to deliver oral presentations, particularly in the capstone course (FMAN 434).

Major in Forest Resources Management Requirements

A minimum GPA of 2.0 is required for all Forest Resources Management major courses.

Any required FOR, FMAN, or FHYD course must be completed with a final grade of C- or better.

Some major requirements will fulfill specific GEF requirements. Please see curriculum requirements listed below for details on which additional GEF you will need to select.

FOR 101 or WVUE 191	Careers in Natural Resources Management 1 First Year Seminar	1
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research * Accelerated Academic Writing	6
Choose from one of the following:		4
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory	
BIOL 115	Principles of Biology	
Choose from one of the following:		4
CHEM 111	Survey of Chemistry	
CHEM 115	Fundamentals of Chemistry	
ECON 201	Principles of Microeconomics	3
Choose from one of the following:		3
MATH 126A	College Algebra 5-Day (or)	
MATH 126B	College Algebra 4-Day (or)	
MATH 126C	College Algebra 3-Day	
MATH 150	Applied Calculus	3
STAT 211	Elementary Statistical Inference	3
COMM 104	Public Communication	3
AGRN 202	Principles of Soil Science	3
AGRN 203	Principles of Soil Science Laboratory	1
Choose from one of the following:		4
ENTO 470	Forest Pest Management	
PPTH 470	Forest Pest Management	
FHYD 444	Watershed Management	3
FMAN 212	Forest Ecology	3
FMAN 222	Forest Mensuration	4
FMAN 311	Silvicultural Systems	4
FMAN 330	Principles of Forestry Economics	4
FMAN 400	Forest Resources Management Field Practice	6
FMAN 433	Forest Management	3
FMAN 434	Forest Resources Management Planning (Capstone Experience)	3
FOR 205	Dendrology	3
FOR 206	Winter Dendrology	1
Choose from one of the following:		3
FOR 240	Introduction to Computing in Natural Resources	
CS 101	Intro to Computer Applications	
FOR 326	Remote Sensing of Environment	3
FOR 421	Renewable Resources Policy and Governance	3
FOR 438	Human Dimensions Natural Resource Management	3

PLSC 206	Principles of Plant Science	4
WDSC 223	Wood Anatomy and Structure	3
WDSC 232	Wood Grading and Procurement	3
WDSC 422	Harvesting Forest Products	3
WMAN 234	Forest Wildlife Management	3
Restricted Electives		14
FMAN 315	Survey of Arboriculture	
FMAN 251	Forest Fire Protection	
FMAN 320	Arboriculture and Urban Trees	
FMAN 322	Advanced Forest Measurements	
FMAN 413	Regional Silviculture	
FMAN 423	Urban Forest Management	
FMAN 440	Forestry Consulting	
FMAN 450	Forest Valuation and Investment	
FMAN 490	Teaching Practicum	
FMAN 491	Professional Field Experience	
FMAN 496	Senior Thesis	
FOR 140	West Virginia's Natural Resources (also fulfills GEF 8 requirement)	
FOR 340	Natural Resource Entrepreneurship	
FOR 424	Vegetation of West Virginia	
FOR 425	Global Forest Resources	
FOR 426	Global Forest Resources Practicum	
FOR 470	Problems in Forestry, Wood Science, Wildlife, or Recreation	
FOR 491	Professional Field Experience	
FOR 495	Independent Study	
GEF 6 and 7		6
Total Hours		120

* ENGL 101 and 102 will fulfill 6 credits of GEF 1 requirement. Choosing ENGL 103 will also fulfill 3 credits of GEF 1 requirement. If ENGL 103 is chosen, the student must also choose another 3 credits of ENGL writing course to fulfill the 6 credits ENGL requirements for the FRM curriculum.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 PLSC 206	4
Choose one of the following (GEF 2):	4 MATH 150 (GEF 8)	3
BIOL 101 & BIOL 103	FOR 240 or CS 101	3
BIOL 115	FRM Elective	3
Choose one of the following (GEF 8):	4 GEF 6	3
CHEM 111		
CHEM 115		
FOR 101 or WVUE 191	1	
Choose one of the following (GEF 3):	3	
MATH 126A		
MATH 126B		
MATH 126C		

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 FMAN 222	4
FOR 205	3 ECON 201 (GEF 4)	3
STAT 211 (GEF 8)	3 WMAN 234	3
FMAN 212	3 FOR 326	3
GEF 7	3 FRM Elective	3
	15	16

Third Year

Fall	Hours Spring	Hours Summer	Hours
FMAN 311	4 FMAN 330	4 FMAN 400	6
WDSC 223	3 AGRN 202	3	
FOR 438	3 AGRN 203	1	
FRM Elective	3 WDSC 232	3	
	FOR 206	1	
	FRM Elective	3	
	13	15	6

Fourth Year

Fall	Hours Spring	Hours
FMAN 433	3 ENTO 470 or PPTH 470	4
FOR 421	3 FMAN 434	3
WDSC 422	3 COMM 104 (GEF 5)	3
FHYD 444	3 FRM Elective	2
	12	12

Total credit hours: 120

Major Learning Goals

FOREST RESOURCES MANAGEMENT

Students graduating from the Forest Resources Program should be able to:

Knowledge

- Describe, identify, and quantify forest ecosystem resources across different parts of the central Appalachian region and different biomes.

Comprehension

- Describe the assemblages of flora and fauna across the landscape and identify patterns and potential impacts of management and restoration activities as they relate to freshwater ecosystem services (water quality, quantity, habitat), soils, and ecological principles.
- Explain ecological processes, including the effects of human impacts, as they pertain to the sustainable forest management.

Application

- Develop and evaluate forest management alternatives based on knowledge from forest mensuration, silviculture, forest ecology, forest economics, forest hydrology and soils, and forest policy.
- Quantify forest resources and predict future growth using growth and yield models.

Synthesis

- Develop a forest management plan for forest landowners.
- Prepare and present forest management plan recommendations through technical writing and oral presentation.

Recreation, Parks, and Tourism

Bachelor of Science in Recreation - Recreation, Parks, & Tourism Resources Major

The recreation, parks, and tourism resources major prepares students for careers providing outdoor recreation and tourism opportunities for a wide range of public, commercial, and non-profit agencies. This is a natural resource management degree program, emphasizing the ecological, economic,

social, and psychological aspects of managing outdoor recreation and tourism resources. A required core of natural resource-based recreation and tourism management courses is complemented by forestry and natural resource management emphasis courses and other required University courses.

Further information on the recreation, parks, and tourism resources major is available at the program's website at: <http://recreation.wvu.edu/> or e-mail the program coordinator at: David.Smaldone@mail.wvu.edu. Come visit our Recreation, Parks, and Tourism Resources office in the Division of Forestry and Natural Resources, 325 Percival Hall, P.O. Box 6125, West Virginia University, Morgantown, WV 26506-6125.

Professional Preparation and Areas of Emphasis

The professional preparation program in Recreation, Parks, and Tourism Resources is grounded in the RPTR core required courses and capped with a professional internship program, usually during the summer following the student's junior year. Students are encouraged to develop focused emphasis areas in specialties such as park and outdoor recreation, adventure recreation, or sustainable tourism through careful selection of focused electives. RPTR majors are also urged to seek both volunteer and paid seasonal employment and service learning opportunities in the recreation, parks, and tourism field to enhance their employability when graduating. Finally, RPTR majors are mentored into becoming active in professional societies and associations such as the student-led Professional Recreation and Park Society, Society of American Foresters, and National Recreation and Park Association, and they are encouraged to earn professional certification in areas such as sustainable tourism, leadership, and wilderness first responder.

[Click here to view the Suggested Plan of Study \(p. 148\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

Recreation, Parks, and Tourism Requirements

WVUE 191	First Year Seminar	1
ENGL 101 & ENGL 102 or ENGL 103 & ENGL 305	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research (GEF 1) Accelerated Academic Writing and Technical Writing	6
MATH 126A or MATH 126B or MATH 126C	College Algebra 5-Day (or higher, for GEF 3) College Algebra 4-Day College Algebra 3-Day	3
STAT 211	Elementary Statistical Inference (GEF 8)	3
Select one of the following (GEF 2):		4
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory	
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory	

BIOL 115	Principles of Biology	
Select one of the following (GEF 8):		4
BIOL 105 & BIOL 106	Environmental Biology and Environmental Biology Laboratory	
CHEM 111	Survey of Chemistry	
GEOL 110 & GEOL 111	Environmental Geoscience and Environmental Geoscience Laboratory	
WDSC 100	Forest Resources in United States History (GEF 5)	3
PSYC 101	Introduction to Psychology (GEF 4)	3
GEF 6		3
Natural Resource Management Requirements		
WMAN 150	Principles of Conservation Ecology (GEF 7)	3
FOR 140	West Virginia's Natural Resources (GEF 8)	3
FOR 240	Introduction to Computing in Natural Resources	3
FOR 421	Renewable Resources Policy and Governance	3
FOR 438	Human Dimensions Natural Resource Management	3
FOR 205 or FOR 424	Dendrology Vegetation of West Virginia	3
Choose 1 of the following:		3
FOR 340	Natural Resource Entrepreneurship	
ARE 220	Introductory Environmental and Resource Economics	
Any BUSA course		
AGEE 421	Agricultural and Natural Resource Communications [†]	3
FMAN 212	Forest Ecology	3
FOR 310	Elements of Silviculture	3
Select 1 group of the following:		3
GEOG 350	Geographic Information Systems and Science	
RESM 440 & RESM 441 or RESM 442	Foundations of Applied Geographic Information Systems and Introduction Geographic Information Systems Natural Science Introduction Geographic Information Systems Social Science	
Select 1 of the following:		3
COMM 100 & COMM 102	Principles of Human Communication and Human Communication in the Interpersonal Context	
COMM 104	Public Communication	
CSAD 270	Effective Public Speaking	
RPTR Core Requirements		
RPTR 142	Introduction to Recreation, Parks and Tourism [*]	2
RPTR 145	Recreation Services for Special Populations	3
RPTR 148	Wilderness First Responder	3
RPTR 239	Sustainable Tourism Development [*]	3
RPTR 242	Environmental and Cultural Interpretation ^{* †}	3
RPTR 335	Management in Recreation, Parks and Tourism Organizations [*]	3
RPTR 433	Recreation Resource Management	3
RPTR 450	Social Research Methods in Natural Resource Management	3
RPTR 485	Professional Development Seminar (Capstone Experience) [*]	1
RPTR 491	Professional Field Experience	6
Area of Emphasis (1 Area Required)		12
Focused Electives		12
Total Hours		120

* At the end of the junior year, after completing the above required RPTR courses (noted with the *), students must complete an approved 400-hour internship of not less than eight weeks with a recreation, parks, or tourism agency. Most recreation internships occur during the summer months.

† AGEE 421 and RPTR 242 fulfill the Writing and Communication Skills requirement.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 WMAN 150 (GEF 7)	3
BIOL 101 & BIOL 103 (GEF 2)	4 PSYC 101 (GEF 4)	3
RPTR 142	2 WDSC 100 (GEF 5)	3
FOR 140 (GEF 8)	3 RPTR 242	3
MATH 126B (GEF 3)	3 ENGL 102 (GEF 1)	3
WVUE 191	1	
	16	15

Second Year

Fall	Hours Spring	Hours Summer	Hours
Select one of the following (GEF 8):	4 CSAD 270	3 RPTR 148	3
BIOL 105 & BIOL 106	FOR 240	3	
CHEM 111	STAT 211 (GEF 8)	3	
GEOL 110 & GEOL 111	RPTR Emphasis Course	3	
FOR 205	3 RPTR 145	3	
RPTR 239	3		
FOR 340	3		
	13	15	3

Third Year

Fall	Hours Spring	Hours Summer	Hours
FMAN 212	3 GEF 6	3 RPTR 491	6
RPTR 335	3 RPTR 485	1	
RPTR 433	3 Focused Elective	3	
RPTR Emphasis Course	3 RPTR Emphasis Course	3	
GIS Class	3 RPTR 450	3	
	15	13	6

Fourth Year

Fall	Hours Spring	Hours
FOR 310	3 RPTR Emphasis Elective	3
FOR 421	3 AGEE 421	3
FOR 438	3 Focused electives	3
Focused electives	3 Focused electives	3
	12	12

Total credit hours: 120

ADVENTURE RECREATION AREA OF EMPHASIS REQUIREMENTS

RPTR 251	Leadership in Experiential Education	3
RPTR 150	Backcountry Living Skills	3
Restricted electives		6
Total Hours		12

PARK AND OUTDOOR RECREATION AREA OF EMPHASIS REQUIREMENTS

RPTR 251	Leadership in Experiential Education	3
RPTR 365	Planning and Design in Recreation, Parks and Tourism	3

FMAN 423	Urban Forest Management	3
RPTR 200-400 Level Electives		3
(Additional Electives are chosen after consultation with your advisor.)		
Total Hours		12

SUSTAINABLE TOURISM AREA OF EMPHASIS REQUIREMENTS

BUSA 330	Survey of Marketing	3
GEOG 425	Urban and Regional Planning	3
or GEOG 209	Economic Geography	
or ARE 411	Rural Economic Development	
RPTR 472	Tourism System and Destination Management	3
RPTR 200-400 Level Elective		3
(Additional Electives are chosen after consultation with your advisor.)		
Total Hours		12

Major Learning Goals

RECREATION, PARKS, AND TOURISM

Students graduating from the RPTR program shall be able to:

1. Demonstrate entry-level knowledge about operations and strategic management/planning/policy related to parks, recreation, tourism, natural resources and/or related professions.
2. Demonstrate an understanding of the roles, significance, and benefits of leisure and recreation to societies in the past, present, and future.
3. Demonstrate the ability to design, implement, and evaluate services that facilitate various outdoor recreation and tourism experiences and opportunities.
4. Apply classroom knowledge to professional recreation and tourism settings through fieldwork, service learning, practicum, and internship experiences.
 - Students graduating from the program shall demonstrate, through a comprehensive internship of not less than 400 hours and no fewer than 10 weeks, the potential to succeed as professionals in park, recreation, tourism, or related organizations.
5. Describe and apply comprehensive natural resource management principles and strategies (from both ecological and social sciences) by analyzing natural resource recreation and tourism management problems and policy.
6. Demonstrate an understanding of how the scientific method can be applied strategically to improve the management and planning of recreation and tourism areas and organizations.
7. Demonstrate the use of a wide range of effective communication skills to enhance the management and planning of recreation and tourism programs, areas and organizations.
8. Earn at least one field relevant certification (Wilderness First Responder; Association for Challenge Course Technology—Level 1, etc.).

Wildlife and Fisheries Resources

Bachelor of Science - Wildlife & Fisheries Resources Major

The wildlife and fisheries resources curriculum prepares students for professional positions as wildlife and fish biologists, natural resources conservation officers, wildlife and fisheries managers and planners, wildlife or fisheries communication specialists, wildlife and fisheries toxicologists, and environmental consultants. The program is unique in the region as our graduates are fully trained in both the wildlife and fisheries fields. The curriculum provides a solid basic background in biology, ecology, and natural resource management. Students fulfilling this program will select a concentration in wildlife or fisheries (or both) to meet the requirements for professional certification as either a wildlife biologist (certified through The Wildlife Society) or fisheries biologist (certified through The American Fisheries Society). A careful selection of restricted electives enables students to specialize in related natural resource areas and to have the opportunity for widening employment in other environmental fields. Other options can be tailored to your objectives. Students will be able to consult with their advisor in the selection of courses from a group of restricted electives to develop their area of emphasis.

Special Opportunities

Students will have special opportunities to enhance their education in the WVU Wildlife and Fisheries Resources Program. The Program has student chapters of The American Fisheries Society, The Wildlife Society, and the Society for Conservation Biology. Student participation in these organizations leads to opportunities for further field experience with state and federal agency biologists, graduate students, and faculty. A USGS Fish and Wildlife Cooperative Research Unit is also housed within our program. This unit provides three additional faculty members conducting extensive research programs all around the country. In addition, the WVDNR provides a liaison biologist to the Unit that provides a direct link from students to the state's

natural resources agency. Undergraduates benefit from the personnel at the Unit in several ways: the Unit and liaison provide federal and state contacts for employment opportunities; the Unit research programs may provide summer employment on fish and wildlife projects, and faculty in the Unit also teach in our program.

All of our faculty are involved with graduate training. This active research program provides invaluable classroom experiences as faculty remain up-to-date with all the latest studies and methods in the field. Students also benefit through volunteer experiences and summer employment opportunities for students working on research projects.

In the Wildlife and Fisheries Resources Program, you will be advised by caring faculty members who understand what it will take to be successful in this field. All students are required to take a Professional Experience course (internship) as part of the curriculum, but we encourage students to get as much additional experience working with professionals throughout their time in the program. The curriculum also includes a capstone class that allows students to showcase their learning through management plans and research projects.

Career opportunities in wildlife and fisheries are expanding. Even so, we encourage our students to consider going for advanced degrees when they finish here. Such qualified seniors find that assistantships are readily available due to the solid course background, training, and experience they received while here at WVU.

Click here to view the Suggested Plan of Study (p. 151)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

A minimum of C- must be obtained in all courses required for the major.

Core Requirements

WVUE 191	First Year Seminar	1
ENGL 101	Introduction to Composition and Rhetoric	3
ENGL 102	Composition, Rhetoric, and Research	3
Select one of the following sets:		8
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory	
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory	
OR		
BIOL 115	Principles of Biology	
BIOL 117	Introductory Physiology	
Select one of the following:		4
CHEM 111	Survey of Chemistry	

CHEM 115	Fundamentals of Chemistry	
Select one of the following:		3
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
STAT 211	Elementary Statistical Inference	3
CSAD 270	Effective Public Speaking	3
WMAN 100	The Tradition of Hunting	3
WMAN 150	Principles of Conservation Ecology	3
WMAN 175	Introduction to Wildlife and Fisheries	3
WMAN 205	Wildlife-Fisheries Camp	3
WMAN 224	Vertebrate Natural History	3
WMAN 234	Forest Wildlife Management	3
WMAN 300	Wildlife and Fisheries Techniques (fulfills Writing and Communication skills requirement)	3
WMAN 313	Wildlife Ecosystem Ecology	4
WMAN 330	Conservation Genetics	3
WMAN 421	Renewable Resources Policy and Governance	3
Select one of the following:		3
WMAN 425	Mammalogy	
WMAN 426	Ornithology	
BIOL 433	Herpetology	
WMAN 445	Introduction to Fisheries Management	3
WMAN 446	Freshwater Ecology	4
WMAN 450	Advanced Wildlife and Fisheries Management (Capstone; fulfills Writing and Communication skills requirement)	4
WMAN 491	Professional Field Experience	3
AGRN 202	Principles of Soil Science	3
AGRN 203	Principles of Soil Science Laboratory	1
FOR 205	Dendrology	3
Select one of the following:		3
FOR 240	Introduction to Computing in Natural Resources	
CS 101	Intro to Computer Applications	
RESM 440	Foundations of Applied Geographic Information Systems	3
RESM 441	Introduction Geographic Information Systems Natural Science	2
Policy & Administration--select one of the following:		3
ARE 382	Agricultural and Natural Resources Law	
ARE 450	Agriculture, Environmental and Resource Policy	
ENVP 460	Environmental Impact Assessment	
FOR 438	Human Dimensions Natural Resource Management	
POLS 338	Environmental Policy	
RESM 450	Land Use Planning Law	
RESM 480	Environmental Regulation	
GEF 6		3
Select 1 Required Area of Emphasis		24
Notes:		
** An additional English writing based course will be needed for certification requirements if ENGL 103 is taken.		
Total Hours		121

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours Summer	Hours
WVUE 191	1 WMAN 150 (GEF 7)	3 WMAN 205	3

ENGL 101 (GEF 1)	3 Select one of the following:	4	
WMAN 100 (GEF 5)	3 BIOL 102 & BIOL 104		
WMAN 175 (GEF 8)	3 BIOL 117		
Select one of the following (GEF 2):	4 GEF 6 requirement	3	
BIOL 101 & BIOL 103	Area of Emphasis Course	3	
BIOL 115			
Select one of the following (GEF 3):	3		
MATH 126A			
MATH 126B			
MATH 126C			
	17	13	3

Second Year

Fall	Hours Spring	Hours Summer	Hours
Select one of the following (GEF 8):	4 ENGL 102 (GEF 1)	3 WMAN 491	2
CHEM 111	FOR 240	3	
CHEM 115	CSAD 270 (GEF 4)	3	
FOR 205	3 WMAN 234	3	
STAT 211 (GEF 8)	3 AGRN 202	3	
WMAN 224	3 AGRN 203	1	
	13	16	2

Third Year

Fall	Hours Spring	Hours
WMAN 300	3 WMAN 313	4
WMAN 421	3 WMAN 330	3
WMAN 491	1 Select one of the following:	3
FOR 310 (or other Area of Emphasis Course)	3 BIOL 433	
Area of Emphasis Course	3 WMAN 425	
	WMAN 426	
	Area of Emphasis Course	3
	13	13

Fourth Year

Fall	Hours Spring	Hours
WMAN 445	3 WMAN 446	4
RESM 440	3 WMAN 450	4
RESM 441	2 Area of Emphasis Course	3
Policy & Administration Course	3 Area of Emphasis Course	3
Area of Emphasis Course	3	

Area of Emphasis 3
Course

17

14

Total credit hours: 121

FISHERIES SCIENCES AREA OF EMPHASIS REQUIREMENTS

*A minimum of C- must be obtained in all courses required for the area of emphasis.

Physical Sciences: select two of the following: 6

CHEM 112	Survey of Chemistry
CHEM 116	Fundamentals of Chemistry
CHEM 231	Organic Chemistry: Brief Course
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory
GEOL 110 & GEOL 111	Environmental Geoscience and Environmental Geoscience Laboratory
GEOL 203	Physical Oceanography
GEOL 321	Geomorphology
PHYS 101	Introductory Physics
AGRN 225	Advanced Soil Judging
AGRN 410	Soil Fertility
AGRN 415	Soil Survey and Land Use
AGRN 417	Soil Genesis and Classification
AGRN 420	Soil Microbiology
AGRN 425	Environmental Soil Management
AGRN 455	Reclamation of Disturbed Soils

Fisheries--select one of the following: 3

BIOL 341	Ichthyology
RESM 420	Aquaculture Management
WMAN 314	Marine Ecology
WMAN 449	Stream Ecosystem Assessment
WMAN 550	Fish Ecology

Quantitative Sciences--select one of the following: 3

MATH 150	Applied Calculus
STAT 312	Intermediate Statistical Methods
STAT 511	Statistical Methods 1

Restricted Electives: * 12

Notes:

** Any 100-400 level course in Biology (BIOL), Geology (GEOL), Forestry (FOR), Forest Management (FMAN), Wildlife and Fisheries (WMAN), or Resource Management (RESM) agreed upon between the student and the advisor.

Total Hours 24

WILDLIFE SCIENCES AREA OF EMPHASIS REQUIREMENTS

*A minimum of C- must be obtained in all courses required for the area of emphasis.

Physical Sciences: select one of the following: 3

CHEM 112	Survey of Chemistry
CHEM 116	Fundamentals of Chemistry
CHEM 231	Organic Chemistry: Brief Course
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory

GEOL 110 & GEOL 111	Environmental Geoscience and Environmental Geoscience Laboratory	
GEOL 203	Physical Oceanography	
GEOL 321	Geomorphology	
PHYS 101	Introductory Physics	
AGRN 225	Advanced Soil Judging	
AGRN 410	Soil Fertility	
AGRN 415	Soil Survey and Land Use	
AGRN 417	Soil Genesis and Classification	
AGRN 420	Soil Microbiology	
AGRN 425	Environmental Soil Management	
AGRN 455	Reclamation of Disturbed Soils	
Botany--select one of the following:		3
BIOL 350	Plant Physiology	
BIOL 351	Plant Diversity	
BIOL 353	Flora of West Virginia	
BIOL 361	Plant Ecology	
BIOL 363	Plant Geography	
BIOL 450	Plant Systematics	
FOR 424	Vegetation of West Virginia	
PLSC 206	Principles of Plant Science	
Forestry		3
FOR 310	Elements of Silviculture	
Wildlife Biology--select from WMAN 425, WMAN 426, or BIOL 433 if not used above, or one of the following:		3
WMAN 221	Interpretive Bird Study	
WMAN 250	Big Game Ecology and Management	
WMAN 260	Waterfowl Ecology	
Restricted Electives*		12
Notes:		
** Any 100-400 level course in Biology (BIOL), Geology (GEOL), Forestry (FOR), Forest Management (FMAN), Wildlife and Fisheries (WMAN), or Resource Management (RESM) agreed upon between the student and the advisor.		
Total Hours		24

Major Learning Goals

WILDLIFE AND FISHERIES RESOURCES

Upon the successful completion of a Wildlife and Fisheries Resources degree students will be able to:

- Comprehend the historical importance of wildlife and fisheries management, and the role contemporary agencies play in wildlife and fisheries management in the United States.
- Demonstrate expertise on the life-history characteristics of game and non-game wildlife and fishes.
- Identify and classify using common and Latin names West Virginia trees, plants, reptiles, mammals and fishes by sight and birds and amphibians by sight and sound.
- Explain and employ commonly used wildlife and fisheries management principles, methods, and techniques.
- Define, explain, and apply knowledge regarding biological and chemical processes, population ecology and population dynamics, community and ecosystem ecology, aquatic ecology (lakes, streams, and rivers), terrestrial ecology (forests and grasslands) and wetland ecology in relation to wildlife and fisheries management and research applications.
- Demonstrate laboratory, computer and quantitative skills relevant to wildlife and fisheries science.
- Critically evaluate peer-reviewed literature and apply research findings to the conservation and management of wildlife and fisheries resources.
- Conduct a research project or compose a management plan focused on wildlife or fisheries that includes project design, collecting, analyzing and interpreting data, and reporting results as a research paper or management plan in appropriate scientific style, and presenting the project to their peers.

Wood Science and Technology

Bachelor of Science - Wood Science & Technology Major

Accredited by the Society of Wood Science and Technology (SWST), the Wood Science and Technology curriculum prepares students in key skill sets using hands-on cutting-edge technology, innovation in new product development, marketing, and manufacturing to directly work in an ever-growing the U.S. forest products industry (biorefining, renewable materials, and sustainable construction). According to the American Forest and Paper Association (AF&PA), the U.S. forest products industry is one of the top ten manufacturing sector employers, which employs about one million workers and accounts for approximately six percent of the total U.S. manufacturing GDP. Some examples of products include: energy efficient green building construction materials, lignocellulosic materials for packaging, pharmaceutical and catalysis applications, highly advanced carbon materials for adsorption and electrochemical applications, energy and fuels applications from lignocellulosic materials, green fibers for textile and paper applications, and sporting goods. One of the most sensible alternatives to reduce global warming is the use of wood as a raw material in manufacturing of various products, which enables an environmentally friendly method to store atmospheric carbon in various wood products for prolonged periods. The Wood Science and Technology curriculum is highly focused on these aspects of the forest products industry.

Professional Areas of Emphasis

Students may choose a specialized professional area of emphasis in *Processing, Utilization, Renewable Materials Marketing, or Sustainable Low-Rise Residential Construction*.

PROCESSING AREA OF EMPHASIS

The Area of Emphasis in Processing provides flexibility within the context of a fundamental wood science and renewable materials-based curriculum by requiring that students complete a minor plus specialized wood processing courses and restricted electives. Students transferring into wood science and technology from a related discipline may use the previous major instead of a minor as the area of emphasis provided the student has passed at least fifteen semester hours of core coursework from the previous discipline as indicated by a common course prefix (i.e., FMAN) with a C grade or better and has received approval from the wood science and technology faculty. Potential careers include, but are not limited to production of wood products and other renewable plant-based materials (including residential construction materials and components, furniture and cabinets, and engineered wood products); marketing of building and related products; and research.

UTILIZATION AREA OF EMPHASIS

The Area of Emphasis in Utilization consists of forestry, wood science, restricted electives, and related courses. The Utilization area of professional emphasis prepares graduates for careers in timber harvesting, forest engineering, primary processing of wood products, and timber procurement.

RENEWABLE MATERIALS MARKETING AREA OF EMPHASIS

The Renewable Materials Marketing Area of Emphasis prepares students for a career in marketing of wood and other renewable materials and products. Specific careers may include retail or wholesale marketing, sales, purchasing, or distribution of products.

SUSTAINABLE LOW-RISE RESIDENTIAL CONSTRUCTION AREA OF EMPHASIS

The Sustainable Low-Rise Residential Construction Area of Emphasis prepares students for careers in management, supervision, and specifying of materials for single family and multi-family, low-rise residential (i.e. town houses and 2-3 story apartment buildings) construction.

Special Opportunities

A regional center for development of the wood products industry, the Appalachian Hardwood Center, is allied with the Wood Science and Technology Program. The center's staff frequently provides opportunities for educational and professional development of wood science and technology students. Students sometimes find part-time employment in the research program of the center as well as with the faculty's teaching and research program.

Career Opportunities

The U.S. forest products industry employs about one million workers. West Virginia University is one of the nine American universities, which provide accredited programs specifically designed to educate professionals to manage and provide technical expertise to the industry. The unique manufacturing sector focus of the program and the large base of potential employers result in an excellent job market for wood science and technology graduates. Career opportunities are quite diverse. The jobs span the spectrum from standing timber through manufacture of products to their marketing, distribution, and end use. Graduates may work in sawmills as production managers or as timber procurement foresters, buying timber and planning harvesting operations in accordance with sound forest management and environmental practices. They may also gain employment as quality assurance managers, production supervisors, and process engineers for companies that manufacture furniture, cabinets, state-of-the-art engineered wood products, renewable construction and bioproducts. Graduates may become product designers and estimators, purchasers and sellers of materials and services, or supervisors and managers of residential construction projects. Some of our graduates go on to graduate school in wood science or related disciplines, including forestry, business administration, and engineering. They work in all parts of the nation and in both rural and urban communities, yet approximately half find employment in West Virginia. Many of the leaders in the nation's wood products industry are WVU graduates.

Click the appropriate link below to view the corresponding Area of Emphasis (AOE) Requirements and Suggested Plans of Study.

- Processing (p. 158)
- Renewable Materials Marketing (p. 159)
- Sustainable Low-Rise Residential Construction (p. 160)
- Utilization (p. 161)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

Students seeking the B.S. in Wood Science and Technology must select from one of four Areas of Emphasis.

Select one of the following:		1
FOR 101	Careers in Natural Resources Management 1	
WVUE 191	First Year Seminar	
Select one of the following (GEF 1):		6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory (GEF 2)	4
Select one of the following (fulfills Writing and Communication Skills requirement):		3
ENGL 304	Business and Professional Writing	
ENGL 305	Technical Writing	
Select one of the following (GEF 8):		4
CHEM 111	Survey of Chemistry	
CHEM 115	Fundamentals of Chemistry	
MATH 150	Applied Calculus (GEF 3)	3
PHYS 101	Introductory Physics (GEF 8)	4
STAT 211	Elementary Statistical Inference (GEF 8)	3
BUSA 201	Survey of Economics (GEF 4)	3
FOR 203	Careers in Natural Resources Management 2	1
FOR 205	Dendrology	3
FOR 240	Introduction to Computing in Natural Resources	3
FOR 438	Human Dimensions Natural Resource Management	3

FMAN 222	Forest Mensuration	4
WDSC 100	Forest Resources in United States History (GEF 5)	3
WDSC 223	Wood Anatomy and Structure	3
WDSC 232	Wood Grading and Procurement	3
WDSC 340	Physical Properties of Wood	3
WDSC 341	Wood Mechanics	3
WDSC 362	Forest Product Decision-Making	4
WDSC 413	Wood Chemistry	3
WDSC 422	Harvesting Forest Products	3
WDSC 465	Wood-based Composite Materials	3
WDSC 491	Professional Field Experience	3
Capstone Experience:		4
WDSC 480	Senior Projects 1	
WDSC 481	Senior Projects 2	
GEF 6 and GEF 7		6
Complete an Areas of Emphasis: *		34
Total Hours		120

- * For advanced students transferring into wood science and technology from a related major to qualify, the area of emphasis must:
1. Include a core consisting of at least fifteen semester hours of coursework from the student's previous major
 2. Must all be from a single discipline as indicated by the course prefix (i.e., FMAN)
 3. Must have been passed with a C grade or better, and
 4. Must be approved by the Wood Science and Technology Faculty

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 BUSA 201 (GEF 4)	3
FOR 101	1 FOR 240	3
WDSC 100 (GEF 5)	3 MATH 150 (GEF 3)	3
BIOL 101 & BIOL 103 (GEF 2)	4 Approved GEF 06	3
WDSC 223	3 Approved GEF 07	3
	14	15

Second Year

Fall	Hours Spring	Hours
CHEM 111 (GEF 8)	4 WDSC 232	3
ENGL 102 (GEF 1)	3 PHYS 101 (GEF 8)	4
FOR 205	3 FOR 203	1
AoE Requirement	6 STAT 211 (GEF 8)	3
	AoE Requirement	3
	16	14

Third Year

Fall	Hours Spring	Hours Summer	Hours
WDSC 341	3 WDSC 340	3 WDSC 491	3
WDSC 413	3 FMAN 222		4
WDSC 422	3 ENGL 304 or 305		3
AoE Requirement	6 AoE Requirement		6
	15	16	3

Fourth Year

Fall	Hours Spring	Hours
FOR 438	3 WDSC 465	3
WDSC 362	4 WDSC 481	2

WDCS 480	2 AoE Requirement	7
AoE Requirement	6	
	15	12

Total credit hours: 120

PROCESSING AREA OF EMPHASIS

WDCS 330	Wood Machining	3
WDCS 337	Wood Adhesion and Finishing	3
WDCS 351	Forest Products Protection	3
University Approved Minor *		15
Restricted Electives *		10
Total Hours		34

* Credit hours for the minor and restricted electives are estimates and are dependent upon selected minor. A minimum of 34 credit hours is needed under the area of emphasis. Restricted electives must contribute to the student's professional development and must be approved by the student's advisor.

SUGGESTED PLAN OF STUDY FOR THE PROCESSING AREA OF EMPHASIS

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 BUSA 201 (GEF 4)	3
FOR 101 or WVUE 191	1 FOR 240	3
WDCS 223	3 MATH 150 (GEF 3)	3
WDCS 100 (GEF 5)	3 GEF 6	3
BIOL 101	4 GEF 7	3
& BIOL 103 (GEF 2)		
	14	15

Second Year

Fall	Hours Spring	Hours
CHEM 111 or 115 (GEF 8)	4 ORIN 164 or 260	1
ENGL 102 (GEF 1)	3 PHYS 101 (GEF 8)	4
FOR 205	3 WDCS 232	3
Approved Restricted Elective	3 STAT 211 (GEF 8)	3
Approved Restricted Elective	3 Approved Restricted Elective	3
	16	14

Third Year

Fall	Hours Spring	Hours Summer	Hours
WDCS 330 (Alt. Yr.)	3 ENGL 304 or 305	3 WDCS 491	3
WDCS 341	3 FMAN 222	4	
WDCS 413	3 WDCS 340	3	
WDCS 422	3 WDCS 351	3	
Minor Requirement	3 Minor Requirement	3	
	15	16	3

Fourth Year

Fall	Hours Spring	Hours
FOR 438	3 WDCS 465	3
WDCS 337	3 WDCS 481	2
WDCS 362	4 Minor Requirements	6
WDCS 480	2 Approved Restricted Elective	1

Minor requirement	3	
	15	12

Total credit hours: 120

RENEWABLE MATERIALS MARKETING AREA OF EMPHASIS

ACCT 201	Principles of Accounting	3
ARE 204	Agribusiness Management	3
ARE 461	Agribusiness Finance	3
BUSA 330	Survey of Marketing	3
WDSC 470	Marketing Forest Products	3
Select 1 of the following Minors: *		15
Agribusiness Management		
Business Administration		
Entrepreneurial Studies		
Restricted Elective *		4
Total Hours		34

* Credit hours for the minor and restricted electives are estimates and are dependent upon selected minor. A minimum of 34 credit hours is needed under the area of emphasis. Restricted electives must contribute to the student's professional development and must be approved by the student's advisor.

SUGGESTED PLAN OF STUDY FOR RENEWABLE MATERIALS MARKETING AREA OF EMPHASIS

First Year

Fall	Hours Spring	Hours
BIOL 101 & BIOL 103 (GEF 2)	4 BUSA 201 (GEF 4)	3
ENGL 101 (GEF 1)	3 MATH 150 (GEF 3)	3
FOR 101 or WVUE 191	1 FOR 240	3
WDSC 100 (GEF 5)	3 GEF 6	3
WDSC 223	3 GEF 7	3
	14	15

Second Year

Fall	Hours Spring	Hours
ACCT 201	3 ORIN 164 or 260	1
ARE 204	3 PHYS 101 (GEF 8)	4
CHEM 111 or 115 (GEF 8)	4 STAT 211 (GEF 8)	3
ENGL 102 (GEF 1)	3 WDSC 232	3
FOR 205	3 Approved Restricted Elective	3
	16	14

Third Year

Fall	Hours Spring	Hours Summer	Hours
WDSC 341	3 ENGL 304 or 305	3 WDSC 491	3
WDSC 413	3 FMAN 222	4	
WDSC 422	3 WDSC 340	3	
Minor requirement	3 WDSC 470 (alt. yr.)	3	
Minor requirement	3 Minor Requirement	3	
	15	16	3

Fourth Year

Fall	Hours Spring	Hours
FOR 438	3 ARE 461	3
WDSC 362	4 BUSA 330	3
WDSC 480	2 WDSC 481	2
Minor requirement	3 WDSC 465	3
Minor requirement	3 Approved Restricted Elective	1
	15	12

Total credit hours: 120

SUSTAINABLE LOW-RISE RESIDENTIAL CONSTRUCTION AREA OF EMPHASIS

ID 240	Codes and Interior Construction	2
SAFM 470	Managing Construction Safety	3
DSGN 340	Design for Energy Efficiency	3
WDSC 320	Sustainable Construction	3
Select 1 of the following Minors: *		15
Agribusiness Management		
Business Administration		
Entrepreneurial Studies		
Sustainable Design		
Restricted Electives *		8
Total Hours		34

* Credit hours for the minor and restricted electives are estimates and are dependent upon selected minor. A minimum of 34 credit hours is needed under the area of emphasis. Restricted electives must contribute to the student's professional development and must be approved by the student's advisor.

SUGGESTED PLAN OF STUDY FOR SUSTAINABLE LOW-RISE CONSTRUCTION AREA OF EMPHASIS**First Year**

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 BUSA 201 (GEF 4)	3
FOR 101 or WVUE 191 (or equivalent)	1 FOR 240	3
WDSC 223	3 MATH 150 (GEF 3)	3
WDSC 100 (GEF 5)	3 GEF 6	3
BIOL 101 & BIOL 103 (GEF 2)	4 GEF 7	3
	14	15

Second Year

Fall	Hours Spring	Hours
CHEM 111 or 115 (GEF 8)	4 ORIN 164 or 260	1
ENGL 102 (GEF 1)	3 PHYS 101 (GEF 8)	4
FOR 205	3 WDSC 232	3
Restricted Elective	3 Minor Requirement	3
Restricted Elective	3 STAT 211 (GEF 8)	3
	16	14

Third Year

Fall	Hours Spring	Hours Summer	Hours
WDSC 341	3 WDSC 340	3 WDSC 491	3

WDSC 413	3 FMAN 222	4	
WDSC 422	3 ENGL 304 or 305	3	
Minor requirement	3 WDSC 320	3	
Minor requirement	3 ID 240	2	
	15	15	3

Fourth Year

Fall	Hours Spring	Hours	
DSGN 340	3 SAFM 470	3	
FOR 438	3 WDSC 465	3	
WDSC 362	4 WDSC 481	2	
WDSC 480	2 Minor requirement	3	
Minor requirement	3 Restricted elective	2	
	15	13	

Total credit hours: 120

UTILIZATION AREA OF EMPHASIS

FHYD 444	Watershed Management	3
FMAN 212	Forest Ecology	3
FMAN 311	Silvicultural Systems	4
FMAN 330	Principles of Forestry Economics	4
FOR 326	Remote Sensing of Environment	3
WDSC 444	Bio-based Energy Systems	3
WMAN 234	Forest Wildlife Management	3
Restricted Electives *		11
Total Hours		34

* Restricted electives must contribute to the student's professional development and must be approved by the student's advisor.

SUGGESTED PLAN OF STUDY FOR THE UTILIZATION AREA OF EMPHASIS**First Year**

Fall	Hours Spring	Hours	
ENGL 101 (GEF 1)	3 BUSA 201 (GEF 4)	3	
FOR 101 or WVUE 191	1 FOR 240	3	
WDSC 100 (GEF 5)	3 MATH 150 (GEF 3)	3	
BIOL 101 & BIOL 103 (GEF 2)	4 GEF 6	3	
WDSC 223	3 GEF 7	3	
	14	15	

Second Year

Fall	Hours Spring	Hours	
CHEM 111 or 115 (GEF 8)	4 WDSC 232	3	
ENGL 102 (GEF 1)	3 ORIN 164 or 260	1	
FOR 205	3 PHYS 101 (GEF 8)	4	
FMAN 212	3 STAT 211 (GEF 8)	3	
Approved Restricted Elective	3 Approved Restricted Elective	3	
	16	14	

Third Year

Fall	Hours Spring	Hours Summer	Hours
ENGL 304 or 305	3 FMAN 222	4 WDSC 491	3
WDSC 341	3 FOR 326	3	

WDSC 413	3 WDSC 340	3
WDSC 422	3 WMAN 234	3
WDSC 444	3 Approved Restricted Elective	3
15		16
Fourth Year		
Fall	Hours Spring	Hours
FMAN 311	4 WDSC 465	3
FOR 438	3 FMAN 330	4
WDSC 362	4 FHYD 444	3
WDSC 480	2 WDSC 481	2
Approved Restricted Electives	2	
15		12

Total credit hours: 120

Major Learning Goals

WOOD SCIENCE AND TECHNOLOGY

The Wood Science and Technology program established specific expected learning goals as part of the program's assessment plan. The plan was approved by the West Virginia University administration and the West Virginia Higher Education Board of Governors in 2007. The Society of Wood Science and Technology (SWST) Accreditation Standards were adopted as the stated expected learning goals of the plan, and include the following:

- Graduates will demonstrate a fundamental background in preparatory and general education courses in compliance with the requirements established by West Virginia University, the West Virginia Board of Governors, and the Accreditation standards of the Society of Wood Science and Technology.
- Graduates will demonstrate a firm understanding of basic wood sciences, including anatomy and biology of wood formation; wood identification; physical properties; mechanical properties; chemical characteristics and properties; wood degradation and deterioration; and composite materials.
- Graduates will demonstrate knowledgeable related to wood processing and manufacturing, including mechanical reduction of the raw material, drying processes, manufacture of solid wood products, manufacture of composite materials, chemical wood processing, and wood protection and enhancement.
- Graduates will be able to compare and contrast a variety of complex contemporary issues of wood use, including demand, use, and impact of use on society and the environment; applications of wood and wood-based materials; choosing and specifying appropriate wood-based products; policy, regulation, environmental and other societal issues; professional ethics; and health, safety, and security issues.
- Graduates will demonstrate competence in an area of professional emphasis that compliments their wood science and technology education.

Bachelor of Multidisciplinary Studies

Bachelor of Multidisciplinary Studies

The Multidisciplinary Studies (MDS) major in the College of Agriculture, Natural Resources, and Design is a flexible degree program which allows students and their advisors to tailor a set of courses which meets the student's interests and career plans. The major was developed in response to increasing demands from employers and students for broad-based educational programs which prepare students for our rapidly changing society and economies. There are an increasing number of students who wish to tailor their education to their career interests without being constrained by traditional academic majors. The Davis College MDS program is distinct from others at WVU and is oriented toward students who want to focus their studies on the academic areas of the College.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	

or ENGL 103	Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

GEF Requirements		34
WVUE 191	First Year Seminar	1
Davis College Minor 1		15
Davis College Minor 2		15
1 additional Minor		15
Capstone *		1
Electives to reach 120 minimum credits **		39
Total Hours		120

* The student is required to complete a capstone course under the direction of his or her advisor.

** The student, along with their faculty advisor from the Davis College, chooses three minors and a program of elective courses, which fits the student's focus and career objectives. Students are not limited to courses in a particular area, but will have the opportunity to develop expertise in several areas with a multidisciplinary focus.

First Year

Fall	Hours Spring	Hours
WVUE 191 (1)	1 GEF 3	3
ENGL 101 (GEF 1)	3 GEF 5	3
GEF 2B	4 GEF 6	3
GEF 4	3 Minor 1 Course	3
Elective	3 Minor 3 Course	3
Elective	1	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 Minor 1 Course	3
GEF 7	3 Minor 2 Course	3
Minor 1 Course	3 Minor 3 Course	3
Minor 2 Course	3 Elective	3
Minor 3 Course	3 Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8	3 GEF 8	3
Minor 1 Course	3 Minor 1 Course	3
Minor 2 Course	3 Minor 2 Course	3
Minor 3 Courses	3 Minor 3 Course	3
Elective	3 Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Capstone Course	1 Elective	3
GEF 8	3 Elective	3
Minor 2 Course	3 Elective	3
Elective	3 Elective	3
Elective	3 Elective	3
Elective	2	
15		15

Total credit hours: 120

Major Learning Goals

MULTIDISCIPLINARY STUDIES

Upon graduation, students will have attained the following knowledge bases and career competency skills:

- Knowledge of and aptitude with principles, practices, facts, concepts, theories and tools in three minor areas
- The ability to write and present information
- The ability to analyze problems from different perspectives, recognize uncertainties, propose options, construct predictions, and make sound decisions using appropriate information resources and analytical tools

Eberly College of Arts and Sciences

History of the College

Starting with the initial charter of WVU by the Legislature in 1867, the liberal arts and the sciences were important and central elements of the University. The College of Arts and Sciences was formally created in 1895, and eleven students received degrees from the college in 1896. In the 1911–12 academic years, the West Virginia Chapter of Phi Beta Kappa was established within the College of Arts and Sciences.

On July 1, 1993, the name of the college was changed to the Eberly College of Arts and Sciences to recognize and commemorate the generosity of the Eberly family, the Eberly Foundation, and the Eberly Family Charitable Trust.

Today, the Eberly College of Arts and Sciences awards degrees to around 2,000 students every year. It remains the heart of West Virginia University, providing students with a liberal education in the areas of literature and the humanities, mathematics and natural sciences, and social and behavioral sciences. In addition to teaching, the College's 420 faculty members are actively engaged in research and scholarship, publishing approximately 600 articles and five or more books each year.

Mission

The primary mission of the Eberly College of Arts and Sciences is to promote the full development of the student as an individual and as a member of society. Students earning degrees in the College fulfill certain broad basic-education requirements and study at least one subject in some depth. The degree requirements are intended to carry forward what is usually termed "a general education," thus providing a foundation for continued growth and development after graduation.

Clearly, one purpose of a college education is to help students acquire knowledge and skills both for self-fulfillment and in preparation for the roles they will subsequently play in society. A less obvious but equally important purpose is to impart certain attitudes to students. In the interest of fulfilling both purposes, the Eberly College of Arts and Sciences strives to help students acquire the specific attributes listed below.

ADMINISTRATION

DEAN

- R. Gregory Dunaway - Ph.D. (University of Cincinnati)
Dean

ASSOCIATE DEANS

- Joan S. Gorham - Ed.D. (Northern Illinois University)
Academic Affairs
- Valérie Lastinger - Ph. D. (University of Georgia)
Undergraduate Studies
- Asuntina S. Levelle - J.D. (West Virginia University)
Financial Planning and Management
- Tracy Morris - Ph.D. (University of Mississippi)
Research, Graduate Studies, and Outreach
- Michael Perone - Ph.D. (University of Wisconsin-Milwaukee)
Faculty

ASSISTANT DEANS

- Anna Justice - C.F.R.E.
Development
- Katie Stores - Ph.D. (West Virginia University)
Research

Degree Designation Learning Goals

BACHELOR OF ARTS (BA)

A primary mission of the Eberly College of Arts and Sciences is to promote full development of each student as an individual and as a member of society. Students completing a Bachelor of Arts degree in the Eberly College fulfill broad general education foundation requirements, Bachelor of Arts degree requirements, study of at least one discipline in depth, and complimentary coursework that spans disciplinary boundaries. The hallmark of an Arts and Sciences education is opportunity for students to craft programs of study that integrate interests and address aspirations through a combination of major and minor, or dual major, areas of study.

Bachelor of Arts degree programs in the Eberly College integrate

- Knowledge of central principles, practices, facts, concepts, theories, and disciplinary tools in a major area of concentration
- Skills in communication using a variety of channels including writing, speaking, reading, listening, and viewing
- Practice in analyzing and solving problems, recognizing ambiguities, proposing alternatives, drawing inferences, developing imaginative approaches, constructing predictions, and making reasoned decisions using appropriate information resources and analytical tools
- Study of a foreign language to attain an intermediate level of proficiency for interacting in a non-native language and culture
- Opportunities for defining relationships between the student's degree program and post-baccalaureate goals

BACHELOR OF MULTIDISCIPLINARY STUDIES (BMDS)

A primary mission of the Eberly College of Arts and Sciences is to promote full development of each student as an individual and as a member of society. Students completing a Bachelor of Multidisciplinary Studies degree in the Eberly College complete broad general education foundation requirements, MDS core requirements, and three academic minors that work together to achieve individual educational and/or career goals. The BMDS degree program does not limit students to courses of study in a particular college or school, but rather stresses the importance of breadth of knowledge and cross-disciplinary communication.

The Bachelor of Multidisciplinary Studies degree program in the Eberly College integrates

- Knowledge of and aptitude with principles, practices, facts, concepts, theories and tools in three minor areas of concentration
- Communication skills using a variety of channels including writing, speaking, reading, listening, and viewing
- Practices derived from specialized knowledge in individual disciplines to analyze problems from divergent perspectives, recognize ambiguities, propose alternatives, draw inferences, develop imaginative approaches, construct predictions, and make reasoned decisions using appropriate information resources and analytical tools
- Multidisciplinary techniques fostering students' ability to communicate strengths of their self-chosen course of study
- Opportunities for defining relationships between the student's degree program and post-baccalaureate goals

BACHELOR OF SCIENCE (BS)

A primary mission of the Eberly College of Arts and Sciences is to promote full development of each student as an individual and as a member of society. Students completing a Bachelor of Science degree in the Eberly College fulfill broad general education foundation requirements, Bachelor of Science degree requirements, and study of at least one discipline in depth. The hallmark of an Arts and Sciences education is opportunity for students to craft programs of study that integrate interests and address aspirations through a combination of major and minor, or dual major, areas of study.

Bachelor of Science degree programs in the Eberly College integrate

- Knowledge and skills of central principles, practices, facts, concepts, theories, and disciplinary tools in a major area of concentration
- Skills in communication using a variety of channels including writing, speaking, reading, listening, and viewing
- Practice in analyzing and solving problems, recognizing ambiguities, proposing alternatives, drawing inferences, developing imaginative approaches, constructing predictions, and making reasoned decisions using appropriate information resources and analytical tools
- Application of scientific principles and methods across three natural and/or computational science disciplines
- Opportunities for defining relationships between the student's degree program and post-baccalaureate goals

BACHELOR OF SOCIAL WORK (BSW)

The mission of the School of Social Work's BSW program is to prepare social work practitioners who are dedicated to upholding the ethical standards of the social work profession. An important focus of the West Virginia University School of Social Work is our focus on practice in small towns and rural communities, including the well-being of older adults. Our mission emphasizes the importance of preparing social workers with the necessary knowledge, values, and skills to practice effectively at the micro, mezzo, and macro levels of intervention in settings consistent with our rural context. Students completing a Bachelor of Social Work degree complete broad general education foundation requirements and work within the School of Social Work that is designed:

- To prepare undergraduate students for professional, competent, entry-level generalist practice, with an emphasis on rural and small town settings, through a curriculum including liberal arts and social work foundations; human behavior in the social environment; practice, policy, and assessment/research with individuals, families, groups, communities, and society
- To prepare students for practice with diverse, vulnerable, and oppressed populations and to further social and economic justice
- To prepare students to engage in effective practice that is responsive to changing the social context with an existing value base and ethical standards of the social work profession
- To provide a foundation to develop an identity as a professional social worker and conduct oneself accordingly

Degree Options

The Eberly College of Arts and Sciences offers the following degrees:

- Bachelor of Art (B.A.). See B.A. tab above.
- Bachelor of Science (B.S.). See B.S. tab above.
- Bachelor of Multidisciplinary Studies (B.M.D.S.). See Multidisciplinary Studies Program link.
- Bachelor of Social Work (B.S.W.). See School of Social Work link.

Minors

Most major programs in the Eberly College of Arts and Sciences also offer formal academic minors. In addition, minors are available in Africana studies, leadership studies, Native American studies, and statistics. If a student successfully completes the requirements for a formal minor, this will be recorded on the student's official record and will appear on transcripts.

Requirements for academic minors are set by the department offering the minor. A formal minor must include at least fifteen hours of coursework with a minimum of nine hours at the upper-division level (course number of 300 or above). Specific courses may be required as well as a minimum grade or grade point average for courses in the minor. Courses in the minor may not be taken pass/fail. The minor field may not be the same as the student's major field.

Certificate Programs

GLOBAL ENGAGEMENT

CERTIFICATE CODE - CU08

Students in the Eberly College, may earn this Certificate, regardless of their major. Completion of the Global Engagement Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural background. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. Students must complete fifteen hours of approved courses and have the option to earn part of the certificate on campus, or to earn all of their credits abroad by completing one of the two options described below.

OPTION 1: LANGUAGE-INTENSIVE OPTION (15 CREDITS MINIMUM)

Language Component

6-9 credit hours of academic coursework in one language other than English, beyond the core language requirement (typically 204 or the equivalent, as determined by the Department of World Languages, Literature, and Linguistics), completed at either WVU or a foreign academic institution; **and**

International Coursework Component

6-9 credit hours, beyond the language component (above) requirement, of coursework bearing the "G" designator.*

OPTION 2: TRAVEL-INTENSIVE OPTION (15 CREDITS MINIMUM):

15 credit hours of coursework bearing the "G" designator.* It is recommended that at least part of this coursework be earned during an extended, semester-long experience.

* Courses carrying the "G" designation are approved for the designation by the Office of International Programs and include courses taken abroad either with WVU, at an exchange university, or through another higher education school or organization. WVU offers approximately 60 WVU faculty-led programs per year, with one to three academic courses typically offered in each faculty-led program. There are over 50 exchange linkages with universities abroad, many of them comprehensive and some specialized in areas such as health sciences, engineering, business, language, etc. WVU also has agreements with approximately one dozen affiliate programs (ISEP, for example), each with a wide selection of programs and courses. An Eberly College student may take advantage of any WVU "G" courses for which he/she meets the pre-requisites or restrictions. Courses to be counted toward academic major requirements must be approved by the designated authority in the student's major program.

- Bachelor of Arts Majors (p. 168)
- University Requirements / General Education Curriculum (p. 168)
- College Requirements (p. 169)
- Credit Limitations (p. 170)
- 42-Hour Rule (p. 170)

Bachelor of Arts

- Anthropology
- Biochemistry
- Biology
- Chemistry
- Communication Studies
- Criminology
- Economics
- English
- English Secondary Education*
- Environmental Geoscience
- Geography
- History
- Individualized Major
- Interdisciplinary Studies
- International Studies
- Latin American Studies
- Mathematics
- Mathematics Secondary Education*
- Multidisciplinary Studies
- Philosophy
- Physics
- Political Science
- Psychology
- Religious Studies
- Slavic and East European Studies
- Social Studies Secondary Education*
- Sociology
- Women's and Gender Studies
- World Languages
- World Languages Secondary Education*

* Please refer to the College of Education and Human Services section of the catalog for program details. The teacher education program is a five-year program culminating in two degrees which are awarded simultaneously: an Eberly baccalaureate degree and a College of Education and Human Services master's degree.

Bachelor of Arts Requirements

Students must complete WVU General Education Curriculum requirements, College B.A. requirements, major requirements, and electives to total 120 hours. For programs that offer both the B.A. and the B.S. (biology, chemistry, mathematics, physics, psychology), students may earn either the B.A. or the B.S. degree, but not both.

University Requirements / General Education Curriculum

Students who would like for transfer credits to be applied to University requirements, (GEF and Capstone) or to College requirements, need to seek approval from the Associate Dean of Undergraduate Studies (see ECAS Undergraduate webpages).

Every student at West Virginia University has to fulfill the requirements for the General Education Foundations. The main purpose of this curriculum is to insure that all of graduates are exposed to a variety of fields, as described in the 8 GEF Areas. Please read the full description of the GEF (<http://registrar.wvu.edu/gef>) and of the policies that govern it; a list of all the courses (<http://registrar.wvu.edu/gef>) that meet all the various GEF Areas can be found on the Office of the University Registrar. Students are strongly encouraged to work with their advisers to select GEF courses that may broaden and strengthen their interest in their major field. GEF courses can also be used to explore new areas to which students have not yet been exposed.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CAPSTONE EXPERIENCE

The capstone experience is defined as an academic experience in which students demonstrate, in a significant project that has both an oral and a written component, their abilities to gather information, to think critically and to integrate the theoretical and/or practical knowledge that they acquired throughout their undergraduate careers, and to reflect on the ethical issues that are implicit in their projects.

Students completing several majors need to complete one Capstone course per major. Because of their unique concept, Capstone courses can never be transferred from another institution, including study abroad. List of current capstone courses (http://registrar.wvu.edu/current_students/capstone_courses).

Individual department requirements may be more directive than the College's core B.A. requirements, so long as those requirements are met. Students who would like for transfer credits to be applied to the College B.A. requirements need to seek approval from the Associate Dean of Undergraduate Studies. Except with the approval of the department chair or degree program coordinator, no upper-division course (300 or 400 level) in the major taken at another institution will be counted toward meeting the requirements of the major. To qualify for graduation, the student must have accumulated a minimum of thirty semester hours at WVU and have completed all university, college, and major requirements in a degree program.

College Requirements

FOREIGN LANGUAGE.

Completion of level 204 (fourth semester). Students with no prior instruction in a language will satisfy this requirement by successful completion of courses 101, 102, 203, and 204 (or other approved courses) in that language. Students with prior instruction in a language must take the placement test in that language and begin at the level they are placed and complete 204. Students who place beyond the 204 level will satisfy the requirement by successful completion of one appropriate 300-level course in that language. (For information about placement and explanation of various options and other approved courses, see listings under World Languages, Literatures, and Linguistics in the WVU Undergraduate Catalog, go to: <http://worldlang.wvu.edu>, or contact the department.) Courses used to fulfill this requirement are in addition to those used to fulfill any GEF requirement.

FINE ARTS.

Students must satisfactorily complete a minimum of three semester hours focused on the fine arts. Completion of a course that meets GEF Area 6 (The Arts and Creativity) will fulfill this requirement.

GLOBAL CULTURES AND DIVERSITY

Students must satisfactorily complete three semester hours of study of global issues and/or the role of diverse perspectives within contemporary society. Completion of a course that meets GEF Area 7 (Global Studies & Diversity) will fulfill this requirement.

GRADE POINT AVERAGE

A cumulative GPA of 2.0 is required for graduation. All departments and degree programs in the College require a minimum cumulative grade point average of 2.0 (C) for admission and graduation; some departments or programs require a higher grade point average (overall or in the discipline). See specific departments for requirements.

WRITING AND COMMUNICATION SKILLS

The Eberly College of Arts and Sciences is committed to fostering students' abilities in writing, speaking, visual presentations, and multimedia communication. The College's SpeakWrite initiative helps students approach writing and speaking situations they encounter in their classes, in their work, and in their community by assessing:

1. **Purpose:** What exactly do I want to happen?
2. **Audience:** Who is reading, listening, or viewing?
3. **Conventions:** What is expected in this context?
4. **Trouble spots:** What could get in the way of my goals?

SpeakWrite Principles:

- **Engagement.** When students speak and write purposefully and thoughtfully in their classes, they're engaged. They are ready to enter conversations in their fields and in their communities. They are developing a critical skill, valued by employers and society, that is a hallmark of an Arts and Sciences education.
- **Practice.** Effective communication is a complex activity that cannot be mastered in a single course. It is the responsibility of the entire academic community. Students need practice conveying the knowledge they gain as they complete their majors.
- **Discipline-Specific Knowledge and Abilities.** People write and speak with a particular *purpose*, to a particular *audience*, in a particular context defined by particular *conventions*. Speaking and writing in the majors is most effectively guided by those with discipline-specific expertise. The Eberly Writing Studio is available as a resource, consultant, and partner for faculty teaching SpeakWrite courses--and their students.

Several Eberly College undergraduate programs are **SpeakWrite Certified™**. SpeakWrite Certified Programs incorporate and develop students' written, verbal, visual, and mediated communication skills in coursework across the curriculum. Students completing majors in SpeakWrite Certified Programs automatically fulfill the WVU General Education Foundations (GEF) writing and communication skills requirement.

Students completing Eberly College programs that do not carry SpeakWrite Certification fulfill the writing and communication skills requirement by completing ENGL 101 and 102 (or 103), and a minimum of two additional program-designated SpeakWrite Certified courses.

Credit Limitations

THE FOLLOWING DO NOT COUNT TOWARD THE HOURS REQUIRED FOR GRADUATION:

1. Courses in which the grade received is other than A, B, C, D, P, or S. Credit by examination, however, is counted toward hours required for graduation unless it was granted for courses otherwise excluded in this list
2. Any course passed more than once, unless a course is designated as repeatable in the catalog
3. More than 72 hours of transfer credit from accredited junior or community colleges
4. More than 18 semester hours of credit for which only a grade of P is recorded (See Pass/Fail Grading)
5. Any course in which the final grade is F. The student must take the course again in residence at WVU or a branch campus if the student wishes to replace the F through the D/F repeat option, available up to the semester when a student attempts the 60th hour of credit.

42-Hour Rule

There is no limit to the number of credits students can earn in a subject. However, in Bachelor of Arts (B.A.) programs in the Eberly College, a maximum of forty-two hours in one subject (e.g., BIOL, FRCH, POLS) may be counted toward the minimum hours for graduation. If a B.A. student exceeds forty-two credits in one subject, then the excess must be matched by an equal number of credits in any other subject. For example, if the minimum hours for graduation is 120, and a student earns forty-six hours in COMM (42 + 4), that student will require 124 128 hours to graduate (120 + 4). 4 COMM overage + 4 non-COMM). If the minimum hours for graduation is 120, and a student earns forty-three hours in PSYC (42 + 1), that student will require 121 122 hours to graduate (120 + 1). 1 PSYC overage + 1 non-PSYC).

Please note that some courses are excluded from the 42-Hour Rule count:

1. 199 (orientation) and 491 (professional field experience) courses in any subject are excluded from the 42-Hour count.
2. For English (ENGL), the 42-Hour count excludes ENGL 101 and ENGL 102 or ENGL 103; for English majors who obtain a concentration in creative writing or professional writing and editing (PWE), a maximum of 60 hours in English (in addition to ENGL 101 and ENGL 102 or ENGL 103), may be included within the 120 hours required for graduation.
3. For foreign languages, the 42-Hour count excludes the three to twelve hours used to fulfill the B.A. foreign language requirement of the Eberly College of Arts and Sciences.
4. For Sociology and Anthropology (SOCA), the count is done separately for anthropology, criminology, and sociology (42 hours in sociology courses and 42 hours in anthropology courses). Normally anthropology courses are the SOCA courses with a "5" as the middle number: 252, 254, 355, 358, 450, etc.

5. For Environmental Geoscience, students may not earn more than 50 credits of GEOLG and GEOL combined. If they have earned over 50 credits in the two subject, they will need a proportional number of hours in non-GEOG and non-GEOL courses.

- Bachelor of Science Majors (p. 171)
- University Requirements / General Education Curriculum (p. 171)
- College Requirements (p. 172)
- Credit Limitations (p. 172)

Bachelor of Science

- Biology
- Chemistry
- Forensic and Investigative Science
- Geology
- Industrial Mathematics and Statistics
- Mathematics
- Physics
- Psychology

Bachelor of Science Requirements

Students must complete WVU General Education Foundation requirements, College B.S. requirements, major requirements, and electives to total 120 hours. For programs that offer both the B.A. and the B.S. (biology, chemistry, mathematics, physics, psychology), students may earn either the B.A. or the B.S. degree, but not both.

University Requirements / General Education Curriculum

Students who would like for transfer credits to be applied to University requirements, (GEF and Capstone), need to seek approval from the Associate Dean of Undergraduate Studies (see ECAS Undergraduate webpages).

Every student at West Virginia University has to fulfill the requirements for the General Education Foundations. The main purpose of this curriculum is to insure that all of graduates are exposed to a variety of fields, as described in the 8 GEF Areas. Please read the full description of the GEF (<http://registrar.wvu.edu/gef>) and of the policies that govern it; a list of all the courses (http://registrar.wvu.edu/current_students/general_education_curriculum) that meet all the various GEF Areas can be found on the Office of the University Registrar. Students are strongly encouraged to work with their advisers to select GEF courses that may broaden and strengthen their interest in their major field. GEF courses can also be used to explore new areas to which students have not yet been exposed.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CAPSTONE EXPERIENCE

The capstone experience is defined as an academic experience in which students demonstrate, in a significant project that has both an oral and a written component, their abilities to gather information, to think critically and to integrate the theoretical and/or practical knowledge that they acquired throughout their undergraduate careers, and to reflect on the ethical issues that are implicit in their projects.

Students completing several majors need to complete one Capstone course per major. Because of their unique concept, Capstone courses can never be transferred from another institution, including study abroad. List of current capstone courses (http://registrar.wvu.edu/current_students/capstone_courses).

Individual department requirements may be more directive than the College's core B.A. requirements, so long as those requirements are met. Students who would like for transfer credits to be applied to the College B.A. requirements need to seek approval from the Associate Dean of Undergraduate Studies. Except with the approval of the department chair or degree program coordinator, no upper-division course (300 or 400 level) in the major taken at another institution will be counted toward meeting the requirements of the major. To qualify for graduation, the student must have accumulated a minimum of thirty semester hours at WVU and have completed all university, college, and major requirements in a degree program.

College Requirements

1. Foreign Language. Students completing an Eberly College bachelor of science program are encouraged (but not required) to complete two semesters of one foreign language beyond language taken at the high school level. Individual B.S. programs may require foreign language.
2. Global Cultures and Diversity. Students must satisfactorily complete three semester hours of study of global issues and/or the role of diverse perspectives within contemporary society. Completion of a course that meets GEF Area 7 (Global Studies & Diversity) will fulfill this requirement.
3. Mathematics. Satisfactory completion of MATH 155 or (MATH 153 and MATH 154) is required for students earning an Eberly College B.S. degree.
4. Science. Students must complete a minimum of twenty-one hours of science coursework in each of three disciplines. There are six disciplines: biology, chemistry, computer science, geology/geography, math/statistics, and physics. See list below for applicable courses in these disciplines. Courses used to fulfill this requirement may be used simultaneously to satisfy GEF and or major requirements. See table below for courses applicable to satisfy the B.S. "Science" requirements.
5. Courses used to fulfill the Eberly B.S. requirements may be used simultaneously to satisfy GEF and or major requirements.
6. Grade Point Average. A cumulative GPA of 2.0 is required for graduation. All departments and degree programs in the College require at least a 2.0 (C) cumulative grade point average overall and in the major for admission and graduation; some departments or programs require a higher grade point average (overall or in the discipline) for admission or graduation. See specific departments for requirements.
7. Individual department requirements may be more directive than the College's core B.S. requirements, so long as those requirements are met.

Students who would like for transfer credits to be applied to the College B.S. requirements need to seek approval from the Associate Dean of Undergraduate Studies.

Major Subject Requirements are listed separately in the catalog by department or degree program. To qualify for graduation, the student must have spent at least two semesters and have accumulated a minimum of thirty semester hours and completed major requirements in a degree program. To qualify for graduation, the student must have accumulated a minimum of thirty semester hours at WVU and have completed all university, college, and major requirements in a degree program.

Transfer Credit. Except with the approval of the department chair or degree program coordinator, no upper-division course (300 or 400 level) in the major taken at another institution will be counted toward meeting the requirements of the major.

Credit Limitations

THE FOLLOWING DO NOT COUNT TOWARD THE HOURS REQUIRED FOR GRADUATION:

1. Courses in which the grade received is other than A, B, C, D, P, or S. Credit by examination, however, is counted toward hours required for graduation unless it was granted for courses otherwise excluded in this list.
2. Any course passed more than once, unless a course is designated as repeatable in the catalog.
3. More than 72 hours of transfer credit from accredited junior or community colleges.
4. More than eighteen semester hours of credit for which only a grade of P is recorded. (See Pass/Fail Grading.)
5. Any course in which the final grade is F. The student must take the course again in residence at WVU if the student wishes to replace the F through the D/F repeat option.

B.S. SCIENCE REQUIREMENT

Students must complete 6-8 credits in the three areas of their choice for a minimum of 21 credits

Area I- Biology *		21
BIOL 115	Principles of Biology	8
& BIOL 117	and Introductory Physiology	
Area II-Chemistry		8/10

Select one of the following pairs:

CHEM 111 & CHEM 112	Survey of Chemistry and Survey of Chemistry
CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry
CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry

Area III- Computer Science 8

CS 110 & CS 111	Introduction to Computer Science and Introduction to Data Structures
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Area IV- Geology/Geography 6/7

Select one of the following pairs:

GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory
GEOL 110 & GEOL 111	Environmental Geoscience and Environmental Geoscience Laboratory
GEOG 110 & GEOL 111	Environmental Geoscience and Environmental Geoscience Laboratory

AND select one of the following:

GEOL 103 & GEOL 104	Earth Through Time and Earth Through Time Laboratory
GEOL 203 GEOL 230	Physical Oceanography Fossils and Evolution

Area V- Math/Statistics 6/8

Math/Statistics Option 1:

MATH 156 & MATH 251	Calculus 2 and Multivariable Calculus
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Math/Statistics Option 2:

STAT 211 or STAT 215	Elementary Statistical Inference Introduction to Probability and Statistics
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AND select one of the following:

STAT 312 or STAT 331 or STAT 421 or MATH 156	Intermediate Statistical Methods Sampling Methods Statistical Analysis System (SAS) Calculus 2
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Area VI- Physics 8

Select one of the following pairs:

PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics
PHYS 111 & PHYS 112	General Physics and General Physics

* Students who complete BIOL 101/103 and BIOL 102/104 may substitute BIOL 101, 102, 103 and 104 for BIOL 115. Under this option, students must satisfactorily complete five courses to meet the Area I-Biology requirement for the Bachelor of Science degree: BIOL 101 & BIOL 102 & BIOL 103 & BIOL 104 & BIOL 117.

- Admission to Arts and Sciences Degree Programs (p. 174)
- Minimum and Maximum Loads (p. 174)
- Credit by Examination Rules for Eberly College (p. 174)
- Probation and Suspension (p. 174)
- Graduation (p. 175)

Admission to Arts and Sciences Degree Programs

High school students and transfer students are admitted to majors, while some programs require completion of a few basic courses; specific requirements are described in departmental sections that follow. For current students who wish to move to an Eberly degree program, the minimal College requirement for admission is a 2.0 overall average.

Students planning to qualify for teacher certification and earn a degree from the Eberly College of Arts and Sciences should check with their advisers and the College of Education and Human Services to determine the requirements for such certification.

Minimum and Maximum Load

Students should earn 15 credits a semester (or 30 credits a year) in order to stay on track in their 4-year graduation plan. A minimum of twelve hours in a semester is required for full-time status in the Eberly College of Arts and Sciences. No student enrolled in the College may enroll for more than twenty hours in a semester without permission from the Associate Dean for Undergraduate Studies.

Credit by Examination Rules for Eberly College

Credit by examination provides students the opportunity to receive credit in courses by demonstrating that they have acquired sufficient knowledge of a subject without formal enrollment in a course or study in the classroom. This opportunity is offered only to students enrolled full- or part-time at the University. The initiation of a credit-by-examination request does not entitle a student to special in-class instruction or tutoring by an instructor.

Students may petition to receive credit by examination for any course listed by a department in the College as a course for which credit by examination is appropriately awarded. Applications, course lists, and examination schedules are available each semester.

A student may apply to challenge a course for credit by examination if

- The student is at the time of examination registered in the University
- The student's official record does not show credit for the course (i.e., any grade of S, P, A, B, C, D, or I)
- The student is not officially enrolled in the course at the time of examination (a student who withdraws from a course after the end of the official registration period is officially enrolled in that course until the end of the semester, and not eligible to take the course by examination during that semester); and
- A grade of F has not been recorded on the student's record for the course within two calendar years of the date of the examination. A student may challenge the same course by examination only two times

Credit only (not a grade) will be awarded for the successful completion of the examination with a grade of C or higher. Because a comprehensive examination is used to establish credit, it is the policy of the College that a student should demonstrate at least an average (C) knowledge of course content to receive any credit. The criteria for earning a C are made known in advance to students who request the information from the department offering the course examination.

A non-refundable fee is charged for credit by examination and must be paid within the prescribed period prior to each examination period.

Probation and Suspension

ACADEMIC PROBATION

After final grades are complete for the fall semester, the Registrar notifies students who have a GPA of less than a 2.00 and places them on Academic Probation until their GPA reaches the minimum 2.00. Probationary students must remedy their deficiency during the spring semester. Failure to do so will result in Academic Suspension. A student whose GPA is below a 2.0 but is not low enough to qualify for suspension will remain on academic probation.

Eberly students who are placed on Academic Probation sign a contract which outlines schedule, meeting, and GPA requirements. Please see the Eberly website for details.

NOTE: The plan of study and the probation contract will be used at the end of the semester if the student has to file an Academic Suspension and/or a Financial Aid appeal.

DISMISSAL FROM MAJOR

All Eberly majors require that students have a 2.00 overall. At the discretion of the department and the Dean, students with a GPA of 1.9 may be retained within their major. Students who have a GPA below a 1.9 are placed in the General Arts and Sciences major until they bring their GPA to the desired 2.00. At that point, they can either go back to their original major, or switch to another major, either within or outside of the college. Students in the General Arts and Sciences major are advised in the Undergraduate Office, where they can explore their major and career choices. This is a temporary placement, usually for one semester. While students are listed in the General Arts and Sciences program, they must remain in contact with their desired program adviser, who will place a note in DW to attest the student's visit. The Associate Dean will remove the advising hold after students have also met with their desired program adviser.

ACADEMIC SUSPENSION

After final grades are complete for the spring semester, based on their number of attempted hours, the Registrar notifies students who have a deficient GPA (please check the Catalog (http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification/#Suspension_Guid)).

ACADEMIC SUSPENSION APPEALS

Students can file an Academic Suspension appeal by submitting a Suspension Appeal form, along with supporting documentation, to the Associate Dean for Undergraduate Studies. Please refer to College website (<http://eberly.wvu.edu/students/current-students/probation-and-suspension-policy>) for important deadline information. The appeals are heard by a committee of faculty.

READMISSION AFTER SUSPENSION

Students who have been suspended need to reapply to the university. When they come back to WVU, they are placed on Academic Probation until their GPA reaches a 2.00. Students seeking readmission should consult the Undergraduate Studies Office website, under "Student seeking Readmission."

Graduation

There are two different processes that students must complete to graduate.

DIPLOMA REVIEW

The semester before graduation, all candidates for undergraduate degrees in the Eberly College of Arts and Sciences must register (<https://forms.as.wvu.edu/ugrad/view.php?id=16274>) online for graduation review, to allow their records to be evaluated for accuracy of curriculum and for completion of College and University requirements. This process will allow degree candidates to be notified in a timely manner of deficiencies they might be able to address by registering for certain courses during their last semester.

GRADUATION AND DIPLOMA APPLICATION

The semester of graduation, seniors will receive emails from the Registrar's Office and the Undergraduate Studies Office to remind them to fill out a graduation application online through their MIX account. The application is usually available the second week of any given semester for graduation at the end of that term, and remains open for about 6 weeks.

IMPORTANT NOTES:

- No candidate can graduate without completing an application for graduation and diploma.
- Students should not submit their application for graduation if their curriculum is displayed incorrectly in Degree Works; they should contact their adviser immediately to fill out the proper curriculum change forms.
- After submitting their application online, students will receive an email confirmation. Subsequently, they will receive a conditional approval email, or a denial notification. The conditional approval does not guarantee graduation.
- If students do not graduate on the date for which they initially applied, they must re-apply at the beginning of the semester when they will be completing their requirements.

COMMENCEMENT CEREMONY

In addition, students who wish to participate in the Commencement Ceremony (May or December) should register on line through the University Graduation (<http://graduation.wvu.edu>) website the semester of graduation. Participation in the Commencement Ceremony does not mean that a student will graduate and be eligible to receive a diploma.

Africana Studies Program

The Africana Studies Program offers a multidisciplinary minor, which seeks to analyze the African world experience from the point of view of African people and those of African descent. The broad educational purpose of the program is to engender among all students an intellectual appreciation and understanding of the history and cultures of people of African descent throughout the world.

FACULTY

COORDINATOR

- Krystal Frazier - Ph.D. (Rutgers University)
African American History

GRADUATE TEACHING INSTRUCTORS

- Paul Chiudza Banda, History - M.A. (University of Malawi)
- Kombe Kapatomoyo, Political Science - M.A. (Ohio University)

- Kennedy Kasait, History - M.A. (Moi University)

AFFILIATED FACULTY

- Adam Dasari, Sociology - Ph.D. (Oklahoma State University)
- Sandra Dixon, World Languages - Ph.D. (Brown University)
Spanish, Portuguese, Brazilian Literature
- Krystal D. Frazier, History - Ph.D. (Rutgers)
African America
- Cheryl Johnson-Lyons, Sociology - J.D. (West Virginia University)
Race, Racism and Law
- Melissa Latimer, Sociology - Ph.D. (University of Kentucky)
Race Relations
- Cyanne Loyle, Political Science - Ph.D. (University of Maryland)
East Africa
- Robert M. Maxon, History - Ph.D. (Syracuse)
East Africa
- Brent McCusker, Geography - Ph.D. (Michigan State University)
Land use change in Africa
- Jeremia Njeru, Geography - Ph.D.
Development in the Urban Sub-Sahara
- Ann Oberhauser, Geography - Ph.D. (Clark University)
Gender and Livelihoods in Sub-Saharan Africa
- Paul Scea, Music - M.A. (University of Iowa)
Jazz Studies
- Beverly Smith, Anthropology - M.D. (Albany Medical College; Ph.D., Southern Methodist University)
- Ethel Morgan Smith, English - M.A. (Hollins Smith)
African American Literature
- Janice S. Spleth, World Languages - Ph.D. (Rice University)
Francophone African Literature
- Michael Vercelli, Music - Ph.D. (University of Arizona)
World Music
- Rachel Woldoff, Sociology - Ph.D. (Ohio State University)
Race Relations in Cities and Urban Life

AFRICANA STUDIES MINOR

MINOR CODE - U055

Students must earn a minimum grade of C in all the courses applied to the minor.

Core Courses:

6

ASP 220	Introduction to Africana Studies
ASP 420	Seminar Africana Studies

Electives:

9

Select three of the following in two different areas (two 300-Level or above):

ENGL 139	Contemporary African Literature
ENGL 154	African American Literature
ENGL 254	African American Literature
FLIT 238	African Women Writers
FLIT 239	Francophone Literature in Translation
FLIT 266	Latin American Literature
GEOG 243	Geography of Africa
GEOG 293	Special Topics
GEOG 443	African Environment and Development
HIST 427	East Africa to 1895
HIST 428	East Africa Since 1895
HIST 320	Pre-Colonial Africa

HIST 321	Colonial Africa and Independence
HIST 433	West Africa to 1885
HIST 434	West Africa from 1885
MUSC 475	History of Jazz
MUSC 477	Music of Africa
MUSC 492	Directed Study
POLS 335	Civil Rights, Policy, and Politics
POLS 358	Politics of Africa
SOCA 235	Race and Ethnic Relations
SOCA 351	Traditional and Changing Africa
SOCA 405	Class, Status, and Power
SOCA 444	Neighborhoods and Crime
SOCA 470	Cities and Urban Life

Total Hours

15

Anthropology

Degree Offered

- Bachelor of Arts

Nature of Program

Anthropology is a deeply comparative and participatory discipline that prepares students for meaningful life and work in our diverse and ever more interconnected world. The curriculum fosters an awareness of the structure and diversity of human societies, past and present, and offers a broad range of perspectives on the experiences and meanings of being human. Students are exposed to the methods of inquiry and to the special knowledge and insights of anthropology. Courses in the department also are intended to facilitate the application of anthropological principles to a wide range of contemporary social problems.

Anthropology graduates may pursue careers in nonprofit, public, or private sector fields. Majors are well-equipped for graduate training in the social sciences in pursuit of academic or applied research careers. For more information about this program, please visit the departmental website (<http://soca.wvu.edu/students/undergraduate-students>).

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Jeralynn S. Cossman - Ph.D. (Florida State University) Sociology
Demography, Health, Inequalities

PROFESSORS

- Walter S. DeKeseredy - Ph.D. (York University) Sociology
Anna Deane Carlson Endowed Chair of Social Sciences. Violence against women, Critical criminology, Masculinities and crime, Criminology theory
- R. Gregory Dunaway - Ph.D. (University of Cincinnati) Sociology
Dean of the Eberly College of Arts and Sciences
- S. Melissa Latimer - Ph.D. (University of Kentucky) Sociology
Gender/race/ethnicity, Inequality/labor markets/welfare systems

- Lawrence T. Nichols - Ph.D. (Boston College) Sociology
Criminology, Theory, Business
- James Nolan, III - Ph.D. (Temple University) Sociology
Criminal justice, Group and social processes
- Rachael A. Woldoff - Ph.D. (Ohio State University) Sociology
Community, Crime, Inequality/race/class

ASSOCIATE PROFESSORS

- Corey Colyer - Ph.D. (Syracuse University) Sociology
People processing systems, Agencies of social control
- Amy Hirshman - Ph.D. (Michigan State University) Anthropology
Mesoamerican archaeology, Social complexity, Ceramics
- Daniel Renfrew - Ph.D. (Binghamton University) Anthropology
Environmental and political anthropology, Social movements, Latin American cultures
- Rachel Stein - Ph.D. (University of Akron) Sociology
Criminology, Victimization, Media and crime
- Karen Weiss - Ph.D. (SUNY-Stony Brook) Sociology
Criminology, Victimization, Gender/sexuality/culture
- Joshua Woods - Ph.D. (Michigan State University) Sociology
Social psychology, Media, Complex organizations, Sociology of risk

CLINICAL ASSOCIATE PROFESSOR

- Jennifer Steele - Ph.D. (Pennsylvania State University) Rural Sociology
Natural resource sociology, Rural and community development

TEACHING ASSOCIATE PROFESSOR

- Adam Dasari - Ph.D. (Oklahoma State University) Sociology
Social stratification, Globalization, Environmental sociology, Theory

ASSISTANT PROFESSORS

- Katie E. Corcoran - Ph.D. (University of Washington) Sociology
Theory, Organizations, Culture, Criminology, Religion, Social networks
- Lisa M. Dilks - Ph.D. (University of South Carolina) Sociology
Social psychology, Group processes, Law and society, Quantitative methods
- Jason Manning - Ph.D. (University of Virginia) Sociology
Conflict and social control, Violence, Sociology of knowledge
- Christopher P. Scheitle - Ph.D. (Pennsylvania State University) Sociology
Religion, Science in society, Crime, Organizations
- Heather M. Washington - Ph.D. (Ohio State University) Sociology
Community, Crime, Family, Inequality
- Jesse Wozniak - Ph.D. (University of Minnesota) Sociology
Policing, Criminology, Deviance, State power

TEACHING ASSISTANT PROFESSORS

- Susanna Donaldson - Ph.D. (University of Iowa) Anthropology
Anthropology of work, Identity, Appalachian cultures
- Amanda Hall-Sanchez - Ph.D. (University of Hawaii at Manoa) Sociology
Violences against women, Incarcerated individuals, Victimology, Deviance, Feminist theory & methodologies
- Cheryl Johnson-Lyons - J.D. (West Virginia University)
Law and society, Inequalities, Political sociology

TEACHING INSTRUCTORS

- Daniel Brewster - M.A. (West Virginia University) Communication Studies
- Nancy Feather - M.S.W. (West Virginia University)
- Douglas Sahady - M.A. (California University of Pennsylvania) Social Science
- Genesis Snyder - M.A. (Western Michigan University) Anthropology

PROFESSOR EMERITUS

- Ronald C. Althouse - Ph.D. (University of Minnesota) Sociology
Theory, Work, Occupational safety and health

ASSOCIATE PROFESSORS EMERITI

- Ann L. Paterson - Ph.D. (Michigan State University) Sociology
- Patricia C. Rice - M.A. (Ohio State University) Anthropology
- Joseph J. Simoni - Ph.D. (University of Notre Dame) Sociology
- William I. Torry - Ph.D. (Columbia University) Anthropology

Admission Requirements

Some entering freshmen can be admitted directly into the major, based on their high school GPA and results of standardized tests. Others will be advised in the Center for Learning, Advising, and Student Success until they complete SOCA 105 with a grade of C- or higher and an overall GPA of 2.0.

Benchmark Expectations

Students who start as freshmen are expected to complete SOCA 101 and SOCA 105 with grades of C- or higher by the end of their freshman year; SOCA 259 and two additional 200-level anthropology courses by the end of their sophomore year; and SOCA 359, one 300 or 400-level anthropology course and either STAT 111, STAT 211, ENGL 221, LING 101, or LING 311 by the end of their junior year. Students must maintain a GPA of 2.0 overall and a minimum GPA of 2.0 in all SOCA courses counting toward major requirements. All majors must meet with their adviser every semester. Students who do not meet these benchmarks may be removed from their major

Click here to view the Suggested Plan of Study (p. 181)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Departmental Requirements for the B.A. in Anthropology

All Anthropology majors must complete a common set of required courses and choose major electives based on their scholarly and career interests.

- **Capstone Requirement:** The General Education Foundation requires the successful completion of a Capstone course. Anthropology majors must complete SOCA 488 for 3 credits.
- **Writing Requirement:** Anthropology Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two SpeakWrite Certified Courses TM: SOCA 488, and either SOCA 259 or SOCA 359.
- **Calculation of GPA:** A minimum GPA of 2.0 is required across all SOCA courses counted toward meeting major requirements. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.

- **Experiential Learning:** Students interested in archaeological careers or graduate studies are encouraged to take Archaeological Field School (SOCA 357) through WVU or a transfer equivalent. Students interested in applied cultural anthropology careers or graduate studies are encouraged to consult with faculty about transient opportunities for Ethnographic Research Methods (SOCA 356). In addition, students are encouraged to do Independent Study (SOCA 495), additional fieldwork, or an internship (SOCA 491) in their junior or senior year, combining experiential work with previously acquired skills in a project appropriate to their career goals. SOCA 490, SOCA 491, and SOCA 495 can be taken for variable credit and will count as general elective credits towards graduation, but they cannot be applied to major requirements.
- **Benchmark Expectations:** For details, go to the Anthropology admissions tab (p. 398).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	31
WVUE 191 First Year Seminar	
GEF Requirements: may vary depending on overlap	
COLLEGE REQUIREMENTS	12
Fine Arts Requirement	
Foreign Language	
Global Studies and Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
Common Core Requirements	12
SOCA 101 Introduction to Sociology (Min Grade of C-)	
SOCA 105 Introduction to Anthropology (Min Grade of C-)	
SOCA 259 The Craft of Anthropology (Min Grade of C-)	
SOCA 359 Anthropological Thought (Min Grade of C-)	
Subfield Requirements	6
Select two of the following:	
SOCA 252 Physical Anthropology	
SOCA 254 Cultural Anthropology	
SOCA 258 Introduction to Archaeology	
Subfield Enrichment Requirement	3
Select one of the following:	
STAT 111 Understanding Statistics	
STAT 201 Applied Statistical Modeling	
STAT 211 Elementary Statistical Inference	
ENGL 221 The English Language	
LING 101 Introduction to Language	
LING 311 Introduction to Structural Linguistics	
Upper-level Anthropology Requirements	9
Select three of the following:	
SOCA 350 Latin American Culture	
SOCA 351 Traditional and Changing Africa	
SOCA 352 Historical Archaeology	
SOCA 353 Anthropology of Religion	
SOCA 354 Mesoamerican Archaeology	
SOCA 355 Cultural Resource Management	
SOCA 356 Ethnographic Field Methods	
SOCA 357 Archaeological Field School	
SOCA 358 Anthropology of Health and Illness	
SOCA 450 Archaeology of Ancient States	
SOCA 457 Social Movements	
SOCA 458 Environmental Anthropology	
Anthropology Elective	3
One additional anthropology course, 200-level or above, selected from the Subfield Requirement or Upper-level Anthropology Requirements.	
Capstone Experience	3
SOCA 488 The Capstone Experience	

General Electives	41
Number of electives may vary depending on overlap and AP credits	
Total Hours	120

* Excluding SOCA 490, 491, 495.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 5	3 GEF 2	3
Foreign Language 101	3 ECAS Fine Arts Requirement (GEF 6)	3
SOCA 105 (ECAS Glob. Stu. & Div. Req.; GEF 7)	3 Foreign Language 102	3
STAT Requirement (GEF 3)	3 SOCA 101 (GEF 4)	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 8*	3
GEF 2	3 Foreign Language 204	3
GEF 8*	3 SOCA 259	3
Foreign Language 203	3 Subfield Requirement Course 2	3
Subfield Requirement Course 1	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 SOCA 359	3
Subfield Enrichment Course	3 Upper-level Anthropology Course 2	3
Upper-level Anthropology Course 1	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Upper-level Anthropology Course 3	3 SOCA 488	3
General Elective	3 Anthropology Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a double major or a dual degree already fulfill F 8.

Major Learning Goals

ANTHROPOLOGY

Students graduating with a BA in Anthropology will be able to:

1. Describe anthropology's core theoretical perspectives, its distinctive history, and its unique breadth and range as a discipline.
2. Interpret past and present human life-ways holistically and comparatively.
3. Discuss the importance of knowledge and understanding of a culturally and biologically diverse world.
4. Differentiate between the multiple methods employed by anthropologists across its subfields.

5. Apply ethical principles to the conduct of anthropological research and the applications of its findings.
6. Critically analyze anthropological questions and issues by retrieving and synthesizing appropriate information and evidence and identifying implications for research and practice/policy.
7. Demonstrate effective, clear and persuasive communication skills according to disciplinary conventions.

Biochemistry

Degree Offered

Bachelor of Science

Nature of Program

The biochemistry curriculum prepares students for careers requiring a strong background in basic principles of the physical and life sciences. The program is a collaborative effort between the Division of Animal and Nutritional Sciences in the Davis College of Agriculture, Natural Resources and Design, and the Departments of Biology and Chemistry in the Eberly College of Arts and Sciences.

Students completing a biochemistry major are prepared for professional employment in the expanding fields of agricultural and environmental sciences, chemical industry, health-related industries and biotechnology-based industries. The curriculum provides students with the interdisciplinary background in biochemistry, biology, chemistry, mathematics, physics and molecular biology necessary as preparation for professional schools of human and veterinary medicine, dentistry, optometry, and pharmacy. It also provides strong preparation for graduate study in fields such as animal and plant agriculture, biochemistry, biology, molecular biology, genetics, biotechnology, chemistry, food science, nutrition and physiology. The curriculum is modeled after the American Society of Biochemistry and Molecular Biologists guidelines. The degree requirements for a American Chemical Society certified degree can be met within the framework of the program.

Performance Requirements

To maintain biochemistry major status and to graduate, students must maintain at least a 2.0 overall GPA and a 2.0 cumulative GPA in coursework in biology, chemistry, and biochemistry.

Minors

All students have the possibility of earning one or more minors; list of all available minors and their requirements (p. 44). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

ANIMAL & NUTRITIONAL SCIENCES DIVISION DIRECTOR

- Robert L. Taylor - Ph.D. (Mississippi State University)
Professor - Immunology and Disease Resistance

BIOLOGY CHAIR

- Richard B. Thomas - Ph.D. (Clemson University)
Professor of Physiological plant ecology, Forest ecology, Global climate change

CHEMISTRY CHAIR

- Gregory Dudley - PhD (Massachusetts Institute of Technology)
Professor and Department Chair

PROFESSORS

- Ashok P. Bidwai - Ph.D. (University of Utah)
Molecular genetic analysis of protein kinase, CK2 in *Drosophila*
- Jonathan R. Cumming - Ph.D. (Cornell University)
Environmental plant physiology, Ecophysiology of root-mycorrhizal-soil interactions, Urban ecology
- Kenneth P. Blemings - Ph.D. (University of Wisconsin)
Nutritional Biochemistry, Protein and Amino Acid Metabolism

- Robert A. Dailey - Ph.D. (University of Wisconsin)
Reproductive Physiology
- Harry O. Finklea - Ph.D. (California Institute of Technology)
Analytical/physical chemistry, Electron transfer kinetics, Solid oxide fuel cells, Gas phase sensors
- Terry Gullion - Ph.D. (William and Mary)
Physical chemistry, Solid State NMR, Biological Materials, Polymers
- Lisa Holland - Ph.D. (University North Carolina-Chapel Hill)
Micro-separations, High-throughput drug screening
- Glen Jackson - Ph.D. (West Virginia University)
Mass spectrometry, Forensic Science
- Jacek Jaczynski - Ph.D. (Oregon State University)
Food Science and Technology
- Charles Jaffe - Ph.D. (University of Colorado)
Theoretical chemistry, Molecular dynamics, Chaotic systems
- P. Brett Kenney - Ph.D. (Kansas State University)
Animal Science and Meat Science
- Fred L. King - Ph.D. (University of Virginia)
Analytical chemistry, Mass spectrometry, Trace elements, Gas-phase chemistry
- Hillar Klandorf - Ph.D. (British Council for National Academic Awards)
Physiology
- Kristen E. Matak - Ph.D. (Virginia Polytechnic Institute and State University)
Human Nutrition and Foods
- James B. McGraw - Ph.D. (Duke University)
Plant ecology: Evolutionary ecology of perennial plants, Conservation biology, Demography, Forest remote sensing
- Joseph S. Moritz - Ph.D. (Kansas State University)
Effect of feed form on animal performance
- John H. Penn - Ph.D. (University of Wisconsin-Madison)
Chemical education, On-line instruction methods in organic chemistry
- Jeffrey L. Petersen - Ph.D. (University of Wisconsin-Madison)
Associate Chairperson, Physical inorganic chemistry, Electrophilic transition metal complexes, X-ray crystallography
- Jennifer Robertson-Honecker - Ph.D.
Adjunct Professor in Chemistry and STEM Specialist, WVU Extension
- Kenneth Showalter - Ph.D. (University of Colorado)
Bennett Distinguished Professor, physical chemistry, Chemical kinetics, Multi-stability and oscillating chemical systems
- Bjorn Soderberg - Ph.D. (Royal Institute of Technology, Sweden)
Organic synthesis using transition metals
- Janet C. L. Tou - Ph.D. (University of Toronto)
Human nutrition and foods
- Kung Wang - Ph.D. (Purdue University)
Eberly Distinguished Professor of Chemistry
- Matthew E. Wilson - Ph.D. (Iowa State University)
Reproductive Physiology
- Jianbo Yao - Ph.D. (McGill University)
Molecular Biology - Genetics

ASSOCIATE PROFESSORS

- Kimberly M. Barnes - Ph.D. (University of Nebraska)
Coordinator of the Intercollegiate Biochemistry Program
- Suzanne Bell - Ph.D. (University of New Mexico)
Analytical chemistry, Forensic science
- Clifton P. Bishop - Ph.D. (University of Virginia)
Molecular genetics, Developmental biology, Forensic biology
- Jonathan Boyd
- Kevin C. Daly - Ph.D. (University of Arizona)
Sensory neurobiology, Neural coding, Brain-behavior interactions, Comparative psycho-biology
- Stephen DiFazio - Ph.D. (Oregon State University)
Plant genomics, Molecular ecology, Plant population genetics, Biotechnology risk assessment

- Sarah M. Farris - Ph.D. (University of Illinois at Urbana-Champaign)
Evolution and development of the insect brain, Neuroanatomy
- Eugene E. Felton - Ph.D. (University of Missouri)
Ruminant nutrition
- Marlon Knights - Ph.D. (West Virginia University)
Reproductive Physiology and Animal Production
- K. Marie Krause - Ph.D. (University of Wisconsin)
Dairy Science Nutrition
- Justin Legleiter - Ph.D. (Carnegie-Mellon University)
Biophysical Chemistry, Atomic Force Microscopy
- Melissa Olfert - Ph.D., R.D. (Loma Linda University)
Health and wellness
- William T. Peterjohn
Ecosystem ecology: Effects of global change on ecosystem dynamics, Nitrogen cycling in natural ecosystems.
- Michelle Richards-Babb - Ph.D. (Lehigh University)
Chemical education
- Rita V.M. Rio - Ph.D. (Yale University)
Symbioses
- Alan M. Stolzenberg - Ph.D. (Stanford University)
Inorganic chemistry, Bio-inorganic chemistry, Organometallic chemistry
- Michelle D. Withers - Ph.D. (University of Arizona)
Biology education, Neurobiology

ASSISTANT PROFESSORS

- Craig Barrett - Ph.D.
Plant Evolutionary Biology
- Sadie Bergeron - Ph.D.
Developmental Neuroscience
- Scott A. Bowdridge - Ph.D. (Virginia Tech)
Food Animal Production, Parasite Immunology
- Edward Brzostek - Ph.D.
Forest Ecology and Ecosystem Modeling
- Andrew Dacks - Ph.D. (University of Arizona)
Neurobiology
- Tim Driscoll - Ph.D.
- Jennifer Gallagher - Ph.D.
- Fabien Goulay - Ph.D. (University of Rennes, France)
Physical chemistry, Laser spectroscopy
- Jennifer Hawkins - Ph.D. (University of Iowa)
Plant comparative genomics, Molecular evolution
- Jessica Hoover - Ph.D. (University of Washington)
Organometallics chemistry, Catalysis
- Peng Li
- Melissa Marra - Ph.D., R.D. (Florida International University)
Healthy aging and nutritional prevention of chronic disease
- Gary Marsat - Ph.D.
Neuroscience
- Blake Mertz - Ph.D. (Iowa State University)
Computational biophysics and chemistry
- Carsten Milsmann - Ph.D. (Max-Planck Institute for Bioinorganic Chemistry)
Bioinorganic organometallic chemistry
- Brian Popp - Ph.D. (University of Wisconsin-Madison)
Organic and organometallic chemistry, Catalysis
- Kevin Shaffer - Ph.D.
Extension Livestock Production Specialist
- Cangliang Shen - Ph.D. (Colorado State University)

Food Systems and Human Health

- Stephen Valentine - Ph.D. (Indiana University)
Mass spectrometric analysis of biomolecules

CLINICAL ASSOCIATE PROFESSOR

- Donna Ford-Werntz - Ph.D. (Washington University/Missouri Botanical Garden)
Plant systematics: Portulacaceae, West Virginia flora

TEACHING ASSOCIATE PROFESSORS

- Megan Govindan - M.P.H., M.S., R.D. (West Virginia University)
Human nutrition and foods
- Margaret A. Minch - D.V.M. (The Ohio State University)
Veterinary medicine
- Betsy B. Ratcliff - Ph.D. (Binghamton University)
Innovative Teaching Methods
- Tabitha Razunguzwa - Ph.D. (West Virginia University)
Physical Chemistry
- Mingming Xu - Ph.D. (Ohio University)
General Chemistry

TEACHING ASSISTANT PROFESSORS

- Kevin Barry - Ph.D. (University of Maryland)
Conservation Ecology
- Erin Battin - Ph.D. (Clemson University)
Bio-inorganic chemistry
- Adam Burda - R.D.
- Melissa Ely - Ph.D. (West Virginia University)
General Chemistry
- Amaris Guardiola - Ph.D. (Duke University)
- Dana Huebert-Lima - Ph.D. (University of Wisconsin-Madison)
Epigenetics
- Kevin Lee Kevin Lee - Ph.D. (Temple University)
Virology, Cell and molecular biology methods
- John Navaratnam - Ph.D. (West Virginia University)
Wetland ecology
- Joshua Osbourn - Ph.D. (University of Pittsburgh)
Organic chemistry
- Crystal Smith - Ed.D. (West Virginia University)
- Jennifer Stueckle - Ph.D. (West Virginia University)
Aquatic toxicology
- Mark R. Tinsley - Ph.D. (Leeds University, England)
Nonlinear dynamics, chemical oscillators, moving precipitation patterns
- Stephanie T. Young - Ph.D. (West Virginia University)
Molecular and Forensic Biology

SENIOR LECTURERS

- Sue Raylman - Ph.D.
Animal behavior
- Sydha Salihu
Instructor
- Mark Schraf - M.S. (West Virginia University)
Analytical chemistry
- Susan Studlar - Ph.D. (University of Tennessee, Knoxville)
Bryology and botany
- Elizabeth Thomas - M.S. (Clemson University)
Invertebrate zoology

PROFESSORS EMERITI

- E. Keith Inskip - Ph.D. (University of Wisconsin)
Reproductive physiology
- Paul Lewis - Ph.D.
Assistant Director of Outreach and Community Affairs for Davis College
- Robert S. Nakon - Ph.D. (Texas A&M University)
Inorganic chemistry
- Ronald B. Smart - Ph.D.
- Anthony Winston - Ph.D. (Duke U.)
Polymer chemistry

Click the appropriate link below to view the corresponding Biochemistry Track Requirements and Suggested Plans of Study.

- American Chemical Society (ACS) (p. 189)
- American Society of Biochemistry and Molecular Biology (ASBMB) (p. 190)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

CURRICULUM REQUIREMENTS

- **Writing Requirement;** Biochemistry Bachelor of Science students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and at least two additional **SpeakWrite Certified Courses™** from: BIOL 115, BIOL 117, BIOL 219, BIOL 411, CHEM 403.

University Requirements		19
WVUE 191	First Year Seminar	
GEF Requirements: number of credits will vary depending on overlap		
Program Core Requirements		5
AGBI 199	Orientation to Biochemistry	
AGBI 410	Introductory Biochemistry (Minimum grade of C-)	
AGBI 412	Introduction to Biochemistry Wet Laboratory (Minimum grade of C-)	
Biology Requirement		15
BIOL 115	Principles of Biology (Minimum grade of C-. May substitute BIOL 101-104)	
BIOL 117	Introductory Physiology (Minimum grade of C-)	
BIOL 219	The Living Cell (Minimum grade of C-)	
BIOL 310	Advanced Cellular/Molecular Biology	
Chemistry Requirement		28

Select one set (Minimum grade of C-):

CHEM 115
& CHEM 116
& CHEM 215 Fundamentals of Chemistry
and Fundamentals of Chemistry
and Introductory Analytical Chemistry

or:

CHEM 117
& CHEM 118 Principles of Chemistry
and Principles of Chemistry

and all of the following:

CHEM 233 Organic Chemistry (Minimum grade of C-)

CHEM 234 Organic Chemistry (Minimum grade of C-)

CHEM 235 Organic Chemistry Laboratory (Minimum grade of C-)

CHEM 236 Organic Chemistry Laboratory (Minimum grade of C-)

CHEM 341 Physical Chemistry: Brief Course

CHEM 342 Experimental Physical Chemistry

CHEM 462 Biochemistry 2

CHEM 464 Biochemistry 2 Laboratory

Mathematics and Statistics Requirement

8

Minimum grade of C-

MATH 155 Calculus 1
or MATH 153 Calculus 1a with Precalculus
& MATH 154 and Calculus 1b with Precalculus

MATH 156 Calculus 2

STAT 211 Elementary Statistical Inference

3

A track is required.

31

Number of credits may vary depending on courses selected

Biochemistry Electives

AEM 341 General Microbiology

AEM 401 Environmental Microbiology

AEM 408 Applied Water Microbiology

AEM 420 Soil Microbiology

AEM 445 Food Microbiology

AGBI 386 Undergraduate Research Experience 1

AGBI 486 Undergraduate Research Experience 2

AGBI 496 Senior Thesis

AGBI 497 Research

AGBI 498 Honors

AGBI 512 Nutritional Biochemistry

AGBI 513 Nutritional Biochemistry Laboratory

AGBI 514 Animal Biotechnology

ANPH 301 Introduction to Animal Physiology

ANPH 400 Growth and Lactation Physiology

ANPH 405 Animal Physiology Laboratory

ANPH 424 Physiology of Reproduction

A&VS 402 Values and Ethics

A&VS 451 Current Literature in Animal Science

A&VS 496 Senior Thesis

A&VS 497 Research

BIOL 302 Biometry

BIOL 312 Introduction to Virology

BIOL 313 Molecular Basis of Cellular Growth

BIOL 324
& BIOL 325 Molecular Genetics
and Molecular Genetics Laboratory

BIOL 335 Cell Physiology

BIOL 348	Neuroscience 1
BIOL 350	Plant Physiology
BIOL 386	Undergraduate Research
BIOL 410	Cell and Molecular Biology Methods
BIOL 411	Introduction to Recombinant DNA
BIOL 413	Molecular Endocrinology
BIOL 414	Molecular Endocrinology-Laboratory
BIOL 415	Epigenetics
BIOL 420	Genomics
BIOL 423	Biochemistry of Nucleic Acids and Proteins
BIOL 424	Protein Structure and Function
BIOL 425	Developmental Genetics
BIOL 426	Molecular Biology of Cancer
BIOL 432	Forensic Biology
BIOL 436	General Animal Physiology
BIOL 440	Comparative Anatomy
BIOL 441	Vertebrate Microanatomy
BIOL 453	Molecular Basis of Disease
BIOL 454	Immunology
BIOL 496	Senior Thesis
BIOL 497	Research
CHEM 310	Instrumental Analysis
CHEM 312	Environmental Chemistry
CHEM 339	Organic Syntheses
CHEM 422	Intermediate Inorganic Chemistry
CHEM 460	Forensic Chemistry
CHEM 496	Senior Thesis
CHEM 497	Research
CHEM 514	Mass Spectrometry Principles and Practices
CHEM 516	Bioanalytical Chemistry
CHEM 552	Biochemical Toxicology
ENTO 404	Principles of Entomology
ENTO 412	Pest Management
FDST 445	Food Microbiology
FDST 449	Food Microbiology Lab
GEN 371	Principles of Genetics
HN&F 460	Advanced Nutrition
HN&F 473	Medical Nutrition Therapy 1
HN&F 474	Medical Nutrition Therapy 2
HORT 330	Plant Propagation
PPTH 401	General Plant Pathology
VETS 302	Animal Pathology
VETS 401	Veterinary Anatomy
VETS 405	Parasitology

Capstone Requirement

ASBMB Track, select one of the following options:

AGBI 386 & AGBI 486	Undergraduate Research Experience 1 and Undergraduate Research Experience 2
A&VS 402	Values and Ethics

ACS Track, complete both of the following:

CHEM 401 & CHEM 403	Chemical Literature and Undergraduate Seminar
------------------------	--

General Electives	11
Number of electives may vary depending on course options selected	
Total Hours	120

AMERICAN CHEMICAL SOCIETY (ACS) TRACK

CHEM 310	Instrumental Analysis	3
CHEM 401	Chemical Literature (Minimum grade of C-)	1
CHEM 403	Undergraduate Seminar	1
CHEM 422	Intermediate Inorganic Chemistry	3
CHEM 497	Research	3
PHYS 111	General Physics (Minimum grade of C-)	4
PHYS 112	General Physics (Minimum grade of C-)	4
Biochemistry Electives (See list above)		12
Total Hours		31

SUGGESTED PLAN OF STUDY FOR THE AMERICAN CHEMICAL SOCIETY (ACS) TRACK

First Year

Fall	Hours Spring	Hours
WVUE 191	1 GEF 4	3
ENGL 101 (GEF 1)	3 BIOL 117 (GEF 8)	4
AGBI 199	1 CHEM 116 (GEF 8) [†]	4
BIOL 115 (GEF 2)	4 MATH 156	4
CHEM 115 (GEF 8) [†]	4	
MATH 155 (GEF 3)	4	
	17	15

Second Year

Fall	Hours Spring	Hours
BIOL 219	4 ENGL 102 (GEF 1)	3
CHEM 233 & CHEM 235	4 GEF 5	3
PHYS 111	4 BIOL 310	3
STAT 211	3 CHEM 234 & CHEM 236 PHYS 112	4
	15	17

Third Year

Fall	Hours Spring	Hours
GEF 6	3 F 7	3
AGBI 410 & AGBI 412	4 CHEM 341 & CHEM 342	4
CHEM 215	4 CHEM 462 & CHEM 464	4
Biochemistry Elective 1	3 General Elective	3
	14	14

Fourth Year

Fall	Hours Spring	Hours
CHEM 401 (Capstone)	1 CHEM 310	3
CHEM 422	3 CHEM 403 (Capstone)	1
CHEM 497	3 Biochemistry Elective 3	3
Biochemistry Elective 2	3 Biochemistry Elective 4	3
General Elective	3 General Elective	3

General Elective	2	
	15	13

Total credit hours: 120

* Students may substitute CHEM 117 and 118 for CHEM 115, 116, and 215.

AMERICAN SOCIETY OF BIOCHEMISTRY AND MOLECULAR BIOLOGY (ASBMB) TRACK

AGBI 401	Senior Seminar in Biochemistry	1
BIOL 313 or BIOL 410	Molecular Basis of Cellular Growth Cell and Molecular Biology Methods	3
Choose one of the following:		3
AGBI 386 & AGBI 486	Undergraduate Research Experience 1 and Undergraduate Research Experience 2	
A&VS 402	Values and Ethics	
BIOL 423	Biochemistry of Nucleic Acids and Proteins	3
Choose one of the following:		8
PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics	
PHYS 101 & PHYS 112	Introductory Physics and General Physics	
PHYS 111 & PHYS 112	General Physics and General Physics	
Biochemistry Electives (see list above)		13
Total Hours		31

SUGGESTED PLAN OF STUDY FOR THE AMERICAN SOCIETY OF BIOCHEMISTRY AND MOLECULAR BIOLOGY (ASBMB) TRACK**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 GEF 4	3
ENGL 101 (GEF 1)	3 BIOL 117 (GEF 8)	4
AGBI 199	1 CHEM 116 (GEF 8)*	4
BIOL 115 (GEF 2)	4 MATH 156	4
CHEM 115 (GEF 8)*	4	
MATH 155 (GEF 3)	4	
	17	15

Second Year

Fall	Hours Spring	Hours
BIOL 219	4 ENGL 102 (GEF 1)	3
CHEM 233 & CHEM 235	4 GEF 5	3
PHYS 101	4 BIOL 310	3
STAT 211	3 CHEM 234 & CHEM 236 PHYS 102	4
	15	17

Third Year

Fall	Hours Spring	Hours
GEF 6	3 GEF 7	3
AGBI 410 & AGBI 412	4 BIOL 313 or 410	3
CHEM 215 [†]	4 CHEM 341 & CHEM 342	4

Biochemistry Elective 1	3 CHEM 462 & CHEM 464	4
		14
		14

Fourth Year

Fall	Hours Spring	Hours
BIOL 423	3 AGBI 401	1
Biochemistry Elective 2	4 Biochemistry Elective 4	3
Biochemistry Elective 3	3 Capstone	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
		15
		13

Total credit hours: 120

* Chem 117 and 118 may be substituted for Chem 115, 116, and 215.

Major Learning Goals

BIOCHEMISTRY

- Graduates will demonstrate a working knowledge in the following core concepts:
 - Energy is required by and transformed in biological systems.
 - Macromolecular structure determines function and regulation.
 - Information storage and flow are dynamic and interactive.
 - Discovery requires objective measurement, quantitative analysis, and clear communication.
- Graduates will demonstrate a working knowledge of the pervasive role evolution and homeostasis play in shaping the form and function of all biological molecules and organisms.
- Graduates will demonstrate the ability to communicate scientific information using written, electronic, and oral communication practices and skills.
- Graduates will demonstrate the ability to integrate knowledge and possess problem solving/critical thinking skills necessary for professional and social development and life-long learning and civic engagement.

Biology

Degrees Offered

- Bachelor of Arts
- Bachelor of Science

Areas of Emphasis Offered

- Cellular and Molecular Biology
- Neuroscience
- Genomics
- Ecology and Environmental Biology

Nature of Program

The Department of Biology offers two degree programs: the bachelor of science and the bachelor of arts in biology. These two programs are structured to meet the foundational needs of all students who are interested in a career in the broad area of the life sciences. The two programs are similar during the first two years. They differ primarily in their mathematics and language requirements and in their Biology requirements. A pre-medical track is available in either degree program. Please consult with your academic advisor about these and possibly other track options.

The undergraduate programs in biology provide excellent preparation for students planning to apply to graduate programs in the biological sciences or to professional schools and programs including medical, osteopathic, dental, physical or occupational therapy, optometry, pharmacy, veterinary medicine, physician assistant, and chiropractic. A degree in biology prepares students for a wide range of careers in the biological sciences including medicine, biotechnology, genetics, forensics, ecology, environmental biology, and other biologically-related technical fields in government and private industry.

With appropriate electives, a student with a degree in biology may also choose to enter the fields of law, journalism, education, business, health care administration, pharmaceutical sales, or work for a variety of federal agencies.

After completing an initial four-semester core sequence in the biological sciences, students in the biology B.A. program may choose to specialize in courses from four major areas of biology: cellular and molecular biology, organismal biology, ecology and evolution, or integrative biology. Those

students pursuing the B.S. degree in biology are required to take at least one course from each of the major areas of biology to ensure an advanced, broad-based knowledge of biology.

Regardless of the degree program chosen, students will experience a wide variety of classroom environments from large lecture sections to small group discussions and intensive laboratory-oriented courses. Laboratory courses include topics such as comparative anatomy, molecular genetics, recombinant DNA technology, plant ecology, and plant physiology as well as many other laboratory experiences across the biological disciplines.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; follow link for a list of all available minors and their requirements. (p. 44) Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Richard B. Thomas - Ph.D. (Clemson University)

ASSOCIATE CHAIR

- Kevin Daly - Ph.D. (University of Arizona)
Associate Chair for Graduate Studies
- Dana Huebert Lima - Ph.D. (University of Wisconsin)
Associate Chair for Undergraduate Studies

PROFESSORS

- Ashok P. Bidwai - Ph.D. (University of Utah)
Molecular genetic analysis of protein kinase, CK2 in *Drosophila*
- Jonathan R. Cumming - Ph.D. (Cornell University)
Environmental plant physiology, Ecophysiology of root-mycorrhizal-soil interactions, Urban ecology
- Steven DiFazio - Ph.D. (Oregon State University)
Plant genomics, Molecular ecology, Plant population genetics, Biotechnology risk assessment
- James B. McGraw - Ph.D. (Duke University)
Plant ecology: Evolutionary ecology of perennial plants, Conservation biology, Demography, Forest remote sensing
- Richard B. Thomas - Ph.D. (Clemson University)
Chair. Physiological plant ecology, Forest ecology, Global climate change

ASSOCIATE PROFESSORS

- Clifton P. Bishop - Ph.D. (University of Virginia)
Molecular genetics, Developmental biology, Forensic biology
- Kevin C. Daly - Ph.D. (University of Arizona)
Sensory neurobiology, Neural coding, Brain-behavior interactions, Comparative psycho-biology
- Sarah M. Farris - Ph.D. (University of Illinois at Urbana-Champaign)
Evolution and development of the insect brain, Neuroanatomy
- Donna Ford-Werntz - Ph.D. (Washington University/Missouri Botanical Garden)
Plant systematics: Portulacaceae, West Virginia flora.
- William T. Peterjohn - Ph.D. (Duke University)
Ecosystem ecology: Effects of global change on ecosystem dynamics, Nitrogen cycling in natural ecosystems.
- Rita V.M. Rio - Ph.D. (Yale University)
Symbioses
- Jennifer Stueckle - Ph.D. (West Virginia University)
Aquatic toxicology

- Michelle D. Withers - Ph.D. (University of Arizona)
Biology education, Neurobiology

ASSISTANT PROFESSORS

- Craig Barrett - Ph.D. (Ohio State University)
Plant evolutionary biology
- Kevin Barry - Ph.D. (University of Maryland)
Conservation ecology
- Sadie Bergeron - Ph.D. (University of Massachusetts - Amherst)
Developmental Neurobiology
- Edward Brzostek - Ph.D. (Boston University)
Forest ecology, ecosystem modeling
- Andrew Dacks - Ph.D. (University of Arizona)
Neurobiology
- Timothy Driscoll - Ph.D. (Virginia Tech)
Bioinformatics, microbial metagenomics
- Zachariah Fowler - Ph.D. (West Virginia University)
Forest ecology
- Jennifer Gallagher - Ph.D. (Yale University)
Functional genomics of yeast
- Amaris Guardiola - Ph.D. (Duke University)
- Jennifer Hawkins - Ph.D. (University of Iowa)
Plant comparative genomics, Molecular evolution.
- Dana Huebert Lima - Ph.D. (University of Wisconsin)
Cellular and Molecular Biology, Epigenetics, Science communication
- Kevin Lee - Ph.D. (Temple University)
Virology, Cell and molecular biology methods
- Gary Marsat - Ph.D. (McGill University)
Neurobiology
- John Navaratnam - Ph.D. (West Virginia University)
Wetland ecology
- Stephanie T. Young - Ph.D. (West Virginia University)
Molecular and Forensic biology

SENIOR LECTURERS

- Susan Raylman - Ph.D. (North Carolina State University)
Animal behavior
- Beth Thomas - M.S. (Clemson University)
Invertebrate zoology

LECTURER

- Sydha Salihu - Ph.D. (Virginia Tech)

PROFESSORS EMERITI

- David F. Blaydes
- Roy B. Clarkson
- William E. Collins
- Dorothy C. Dunning
- Jorge Flores
- Philip E. Keeting
- Joseph A. Marshall
- Richard P. Sutter
- Leah A. Williams

All students who place in MATH 122 are admitted directly into the Biology major. Students remain in the major provided they meet the benchmark expectations listed below.

Benchmark Expectations

- **B.A. Biology:** By the end of their third semester into the major, students intending to graduate with a B.A. in Biology are expected to have completed BIOL 115, BIOL 117, and CHEM 115 with a minimum grade of C- in each course and a 2.0 GPA overall. In addition, students must meet with their Biology adviser every semester. Students who do not meet their benchmarks may be removed from their major.
- **B.S. Biology:** By the end of their third semester into the major, students intending to graduate with a B.S. in Biology are expected to have completed BIOL 115, BIOL 117, and CHEM 115 with a minimum grade of C- in each course and a 2.0 GPA overall. In addition, students must meet with their Biology adviser every semester. Students who do not meet their benchmarks may be removed from their major.

Major Learning Goals

BIOLOGY

Upon successful completion of the B.A. or B.S. degree, **Biology** majors will demonstrate competency in these areas:

1. Students will demonstrate competency in five content areas (listed below) at three biological levels - cellular/molecular, organismal/physiological, ecological and populations)
 - Information flow
 - Transformations of energy and matter
 - Structure-function relationships
 - Evolution
 - Systems and interactions
2. Students will be able to apply science process skills, including: reading the primary literature, developing a testable hypothesis, designing and experiment, collecting and analyzing data statistically.
3. Students will be able to communicate effectively with both fellow scientists and non-scientists in both written and oral forms.
4. Students will be able to synthesize knowledge and skills from across the curriculum and apply them to societal issues and problems.

BIOLOGY MINOR

MINOR CODE - U075

Grades of C or higher must be earned in all courses applied to the minor.

Core Courses:

BIOL 115	Principles of Biology	11
BIOL 117	Introductory Physiology	
BIOL 219 or BIOL 221	The Living Cell Ecology and Evolution	

Upper Division Electives:

Select any BIOL courses at the 300- or 400-level courses, except BIOL 327, 386, 486, 490, 491, 494 and above. 9

Total Hours 20

Biology B.A.

Click here to view the Suggested Plan of Study (p. 197)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	

F2A/F2B - Science & Technology	4-6
F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) pages.

Departmental Requirements for the B.A. in Biology

Students intending to graduate with a B.A. in Biology must earn a minimum of 32 hours in biology or approved courses in the biological sciences, with a minimum of 120 hours total required for graduation (see Eberly B.A. pages when reaching 42 credits in Biology). Students may not earn both a B.A. and a B.S. in Biology.

- **Capstone Requirement:** The university requires the successful completion of a Biology capstone course (BIOL 320 or BIOL 321). The three semester, BIOL 486, may be counted as the Biology Capstone Experience in place of BIOL 320 or BIOL 321. Two hours of BIOL 486 will be counted as part of the core requirements (replacing BIOL 320 or BIOL 321) and up to 4 hours may count toward upper-level electives.
- **Writing and Communication Skills Requirement:** The Biology Bachelor of Arts is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of the GPA in the Biology major:** A GPA of 2.0 in Biology course work is required for graduation. All attempts at the following courses will be used to calculate the GPA in the Biology major: BIOL 115, BIOL 117, BIOL 219, BIOL 221, BIOL 320, BIOL 321, BIOL 327, and all upper-division courses counted as BIOL electives. A minimum grade of C must be attained in BIOL 115 and BIOL 117. If BIOL 101-104 are substituted for BIOL 115, they will be excluded from the GPA calculation, and no other 100- or 200-level Biology courses will be used to satisfy elective requirements, nor will they be used in the calculation of the Biology GPA.
- **Area of Emphasis (AOE):** Students interested in completing an area of emphasis must complete the requirements as outlined on in the Area of Emphasis section. Courses used to complete an AoE may also be used to complete elective requirements, as described below.
- **Electives and Lab requirement:** Upper-division electives may include any 300- or 400-level BIOL courses (except: BIOL 318, BIOL 320, BIOL 321, BIOL 327, BIOL 490, BIOL 491, BIOL 494 and above). Lecture and lab courses can be found in the course catalog. Special topics courses, BIOL 493, can be used as electives. No more than one of the following non-BIOL courses may be counted as a BIOL elective: AEM 341, AGBI 410, BIOC 339, BIOC 531, GEOL 331, PHYS 225. Students must take a minimum of 14 credits of upper-division biology electives; at least one of the selected courses must have a laboratory.
- **Research option:** With permission of the department, students may enroll in BIOL 386 or BIOL 486. Four hours of BIOL 386 and BIOL 486 may be used towards the 14 hours of Biology upper-division electives. One semester of BIOL 386 or BIOL 486 may be used to satisfy the lab requirement.
- **Benchmark Expectations:** For details, go to the biology admissions tab (p. 193).

Curriculum Requirements

UNIVERSITY REQUIREMENTS

19

WVUE 191 First Year Seminar

GEF Requirements: credits may vary depending on overlap

ECAS B.A. Requirements

12

Fine Arts Requirement

Foreign Language

Global Studies and Diversity Requirement

DEPARTMENTAL REQUIREMENTS

Core Biology Courses (must be taken in the following sequence) 16

BIOL 115	Principles of Biology
BIOL 117	Introductory Physiology
BIOL 219	The Living Cell
BIOL 221	Ecology and Evolution
BIOL 327	Professional Development

Chemistry Requirement 16

Select one of the following:

CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry (CHEM 115 must be taken before BIOL 219.)
CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry

And take all the following:

CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory
CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory

Mathematics and Statistics Requirement 6

Select one of the following:

MATH 150	Applied Calculus
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or:

MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus
------------------------	--

or:

MATH 155	Calculus 1
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and:

STAT 211 or STAT 215	Elementary Statistical Inference Introduction to Probability and Statistics
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Physics Requirement 8

Select one of the following pairs:

PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics
PHYS 111 & PHYS 112	General Physics and General Physics
PHYS 111 & PHYS 102	General Physics and Introductory Physics

Biology Electives 14

The 14 hours of upper-division courses can include any 300- or 400-level BIOL course except: BIOL 318, BIOL 327, BIOL 490, BIOL 491, BIOL 494, and above; they must include one class with a lab.**

Capstone Experience 2

Choose from one of the following:

BIOL 320	The Total Science Experience: Genomics
BIOL 321	Total Science Experience Lab

or three semesters of the following :

BIOL 486	Honors Investigation and Thesis (9 hours)
----------	---

GENERAL ELECTIVES 27

Number of electives may vary depending on GEF overlap and options chosen.

Total Hours 120

* No more than one of the following classes maybe counted as a BIOL elective: AEM 341, AEM 401, AGBI 410, BIOC 339, BIOC 531, GEOL 331, PHYS 225.

** Please see an adviser to identify lab classes.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
BIOL 115 (GEF 2)	4 BIOL 117 (GEF 8)	4
CHEM 115 (GEF 8)	4 CHEM 116 (GEF 8)	4
MATH 150 (GEF 3)	3 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 4	3
Foreign Language 203	3 Foreign Language 204	3
BIOL 219	4 BIOL 221	3
CHEM 233 & CHEM 235	4 BIOL 327	1
General Elective	1 CHEM 234 & CHEM 236 General Elective	4
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 ECAS Fine Arts Requirement (GEF 6)	3
BIOL Elective	4 Biology Capstone	2
PHYS 101	4 PHYS 102	4
Statistics Requirement	3 General Elective	3
General Elective	1 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL Elective*	3
BIOL Elective*	4 BIOL Elective*	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

* At least one upper division lab course must be taken (386 or 486 can substitute)

B.A. Biology: Pre-Medical Track

The following information is included for advising purposes only and is not an approved curriculum. Completing the stipulations suggested below will not result in an additional designation on any official record.

- **Independent Research:** Students with aspirations to attend top-rank medical schools should include at least three hours of independent research (BIOL 386 or BIOL 486) in their program of study if they are to be competitive. The three semester, BIOL 486, may be counted as the Biology Capstone in place of BIOL 321. Four hours of BIOL 386 and BIOL 486 may be used to satisfy upper division electives. One semester of BIOL 386 or BIOL 486 will satisfy the lab course.
- **MCAT:** Students who will take the MCAT in 2015 or later should take PSYC 101, SOCA 101, SOCA 105 and one further course in Psychology and Sociology in order to be prepared for the new social sciences section of the MCAT - consult with your adviser for more detailed information.

Note: The list of electives and recommendations outlined below are recommended for students interested in attending medical school. However, admission requirements will vary from one medical school to another, so a review of specific requirements for each school of interest is recommended.

B.A. Biology students should select their biology electives from the list below. "Foundation electives" and "Biochemistry Elective" are strongly recommended for a competitive medical school application.

Foundation Electives		10
BIOL 310	Advanced Cellular/Molecular Biology	
BIOL 436	General Animal Physiology	
BIOL 440	Comparative Anatomy	
Biochemistry Elective		3
Select one of the following:		
AGBI 410	Introductory Biochemistry	
BIOC 339	Introduction to Biochemistry	
Biology Electives		8
Select two of the following:		
BIOL 302	Biometry	
BIOL 312	Introduction to Virology	
BIOL 313	Molecular Basis of Cellular Growth	
BIOL 316	Developmental Biology	
BIOL 324	Molecular Genetics	
BIOL 335	Cell Physiology	
BIOL 336	Vertebrate Embryology	
BIOL 337	Physiological Psychology	
BIOL 338	Behavioral Ecology	
BIOL 348	Neuroscience 1	
BIOL 386	Undergraduate Research	
BIOL 410	Cell and Molecular Biology Methods	
BIOL 411	Introduction to Recombinant DNA	
BIOL 413	Molecular Endocrinology	
BIOL 415	Epigenetics	
BIOL 425	Developmental Genetics	
BIOL 426	Molecular Biology of Cancer	
BIOL 438	Animal Behavior	
BIOL 441	Vertebrate Microanatomy	
BIOL 453	Molecular Basis of Disease	
BIOL 454	Immunology	
BIOL 455	Evolution of Infectious Diseases	
BIOL 456	Microbial Symbiosis	
BIOL 461	Principles of Evolution	
BIOL 464	Population and Quantitative Genetics	
BIOL 486	Honors Investigation and Thesis	
AEM 341	General Microbiology	
AEM 401	Environmental Microbiology	
Total Hours		21

Areas of Emphasis Offered:

- Cellular and Molecular Biology (p. 198)
- Genomics (p. 201)
- Neuroscience (p. 203)
- Ecology and Environmental Biology (p. 205)

Bachelor of Arts or Sciences in Biology: Cellular and Molecular Biology Area of Emphasis

A biology degree with an emphasis in cellular and molecular biology provides the student with all the preparation necessary for the health professions, pharmacy and pharmacology, and graduate school in cellular or molecular biology, virology, genetics, immunology and a variety of related fields.

Biology majors pursuing the area of emphasis in Cellular and Molecular Biology take two introductory courses to learn about the processes within cells and the mechanisms for communication between cells. They then take a further concentration of courses in Biology that are related to cellular and molecular biology.

Cellular and Molecular Biology Area of Emphasis Requirements:

Students wishing to complete a Cellular and Molecular Biology Area of Emphasis must take the following selection of courses as part of their required Biology electives, either for the B.A. or the B.S.

Curriculum Requirements

BIOL 310	Advanced Cellular/Molecular Biology	3
BIOL 324	Molecular Genetics	3
Select one of the following		2
BIOL 320	The Total Science Experience: Genomics	
BIOL 321	Total Science Experience Lab	
Select two of the following		6
BIOL 312	Introduction to Virology	
BIOL 313	Molecular Basis of Cellular Growth	
BIOL 316	Developmental Biology	
BIOL 335	Cell Physiology	
BIOL 348	Neuroscience 1	
BIOL 409	Biochemical Basis of Therapeutics	
BIOL 410	Cell and Molecular Biology Methods	
BIOL 411	Introduction to Recombinant DNA	
BIOL 413	Molecular Endocrinology	
BIOL 415	Epigenetics	
BIOL 418	Medical Genetics	
BIOL 420	Genomics	
BIOL 423	Biochemistry of Nucleic Acids and Proteins	
BIOL 424	Protein Structure and Function	
BIOL 425	Developmental Genetics	
BIOL 426	Molecular Biology of Cancer	
BIOL 430	Bioinformatics	
BIOL 432	Forensic Biology	
BIOL 436	General Animal Physiology	
BIOL 451	Plant Development	
BIOL 453	Molecular Basis of Disease	
BIOL 454	Immunology	
BIOL 455	Evolution of Infectious Diseases	
BIOL 456	Microbial Symbiosis	
BIOL 464	Population and Quantitative Genetics	
Total Hours		14

SUGGESTED PLAN OF STUDY FOR THE B.A. IN BIOLOGY WITH AN AREA OF EMPHASIS IN CELLULAR AND MOLECULAR BIOLOGY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101	3
BIOL 115	4 BIOL 117	4
CHEM 115	4 CHEM 116	4
MATH 150	3 Language 102	3
Language 101	3 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
BIOL 219	4 GEF 4	3
CHEM 233	3 Language 204	3
CHEM 235	1 BIOL 221	3
ENGL 102	3 BIOL 327	1
Language 203	3 CHEM 234	3
General Elective	1 CHEM 236	1
	General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 GEF 6	3
BIOL 310	3 Biology Capstone	2
PHYS 101	4 PHYS 102	4
STAT 211	3 BIOL 324	3
General Elective	2 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
GEF 7	3 CMB AoE elective 2	3
CMB AoE Elective 1 (with lab)	4 Biology elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

SUGGESTED PLAN OF STUDY FOR THE B.S. IN BIOLOGY WITH AN AREA OF EMPHASIS IN CELLULAR AND MOLECULAR BIOLOGY**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101	3
GEF 4	3 BIOL 117	4
BIOL 115	4 CHEM 116	4
CHEM 115	4 General Elective	3
MATH 155	4	
	16	14

Second Year

Fall	Hours Spring	Hours
ENGL 102	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233	3 CHEM 234	3
CHEM 235	1 CHEM 236	1
PHYS 101	4 PHYS 102	4
	STAT 211	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 BIOL 324 (Group II)	3
GEF 6	3 General elective	3
GEF 7	3 General elective	3

BIOL 310 (Group I elective)	3 Biology elective, Lab 1	4
Biology elective, Group III, AoE elective 1	3 Biology capstone	2
	15	15

Fourth Year

Fall	Hours Spring	Hours
Biology elective, Lab 2	4 Biology elective, group IV, AoE elective 2	3
General elective	3 General elective	3
General elective	2 General elective	3
General elective	3 General elective	3
General elective	3 General elective	3
	15	15

Total credit hours: 120

Bachelor of Arts or Science in Biology: Genomics Area of Emphasis

A biology degree with an emphasis in Genomics provides the student with all the preparation necessary for graduate school in genomics or bioinformatics, or medical school and careers in the health fields. Biology majors pursuing the area of emphasis in Genomics take two introductory courses to learn about basic concepts and tools in genomics and the practice and application of bioinformatics and then take a further concentration of courses in Biology that are related to Genomics.

Genomics Area of Emphasis Requirements:

Students wishing to complete a Genomics Area of Emphasis must take the following selection of courses as part of their required Biology electives, either for the B.A. or the B.S.

CURRICULUM REQUIREMENTS

BIOL 320	The Total Science Experience: Genomics	2
BIOL 420	Genomics (Fulfills group I or III)	3
BIOL 430	Bioinformatics (Fulfills group IV)	3
Select 2 of the following		6
BIOL 324 & BIOL 325	Molecular Genetics and Molecular Genetics Laboratory	
BIOL 415	Epigenetics	
BIOL 418	Medical Genetics	
BIOL 423	Biochemistry of Nucleic Acids and Proteins	
BIOL 455	Evolution of Infectious Diseases	
BIOL 456	Microbial Symbiosis	
BIOL 461	Principles of Evolution	
BIOL 464	Population and Quantitative Genetics	

Total Hours 14

SUGGESTED PLAN OF STUDY FOR THE B.A. IN BIOLOGY WITH AN AREA OF EMPHASIS IN GENOMICS**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
BIOL 115 (GEF 2)	4 BIOL 117 (GEF 8)	4
MATH 150 (GEF 3)	3 CHEM 116 (GEF 8)	4
CHEM 115 (GEF 8)	4 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 4	3

BIOL 219	4 Foreign Language 204	3
CHEM 233 & CHEM 235	4 BIOL 221	3
Foreign Language 203	3 BIOL 327	1
General Elective	1 CHEM 234 & CHEM 236 General Elective	4 1
<hr/>		
	15	15
Third Year		
Fall	Hours Spring	Hours
GEF 5	3 GEF 6 (ECAS Fine Arts Requirement)	3
BIOL 420	3 PHYS 102	4
PHYS 101	4 BIOL 320 (Capstone)	2
Statistics Requirement	3 BIOL 430	3
General Elective	2 General Elective	3
<hr/>		
	15	15
Fourth Year		
Fall	Hours Spring	Hours
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL Elective Genomics	3
BIOL Elective Genomics	4 BIOL Elective	1
General Elective	3 General Elective	2
General Elective	3 General Elective	3
General Elective	2 General Elective General Elective	3 3
<hr/>		
	15	15

Total credit hours: 120

SUGGESTED PLAN OF STUDY FOR THE B.S. IN BIOLOGY WITH AN AREA OF EMPHASIS IN GENOMICS

First Year		
Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 BIOL 117 (GEF 8; B.S. First Area 2)	4
BIOL 115 (GEF 2; B.S. First Area 1)	4 CHEM 116 (GEF 8; B.S. Second Area 2)	4
CHEM 115 (GEF 8; B.S. Second Area 1)	4 STAT 211	3
MATH 155 (GEF 3)	4	
<hr/>		
	16	14
Second Year		
Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
PHYS 101 (B.S. Third Area 1)	4 PHYS 102 (B.S. Third Area 2) General Elective	4 3
<hr/>		
	15	15
Third Year		
Fall	Hours Spring	Hours
GEF 5	3 BIOL Elective Lab 1	4
GEF 6	3 BIOL 430 (Elective Group IV)	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL 320 (Capstone)	2
BIOL 420 (Elective Group I or II)	3 General Elective	3

BIOL Elective Group II	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
BIOL Elective Lab 2 (Genomics)	4 BIOL Elective Group (Remaining Group; Genomics)	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

Bachelor of Arts or Science in Biology: Neuroscience Area of Emphasis

A biology degree with an emphasis in Neuroscience provides the student with all the preparation necessary for graduate school in Neuroscience or medical school and the medical school entrance exam - the MCAT. Biology majors pursuing the area of emphasis in Neuroscience take two introductory courses to learn about basic features of neurons and the organization of the brain and then take a further concentration of courses in biology that are related to Neuroscience.

Neuroscience Area of Emphasis Requirements:

Students wishing to complete a Neuroscience Area of Emphasis must take the following selection of courses as part of their required Biology electives, either for the B.A. or the B.S.

CURRICULUM REQUIREMENTS

BIOL 348	Neuroscience 1 (Fulfills group I elective.)	3
BIOL 349	Neuroscience 2 (Fulfills group II elective.)	3
Select 2 of the following:		6
BIOL 339	Animal Communication	
BIOL 439	Neuroethology	
BIOL 475	Neurobiological Diseases	
BIOL 476	Computational Neuroscience	
BIOL 477	Central Nervous System Evolution and Development	
BIOL 478	Sensory Neural Systems and Behavior	
BIOL 479	Current Topics in Neuroscience	
Total Hours		12

SUGGESTED PLAN OF STUDY THE BIOLOGY B.A. WITH THE NEUROSCIENCE AREA OF EMPHASIS**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
BIOL 115 (GEF 2)	4 BIOL 117 (GEF 8)	4
MATH 150 (GEF 3)	3 CHEM 116 (GEF 8)	4
CHEM 115 (GEF 8)	4 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 4	3
Foreign Language 203	3 Foreign Language 204	3
BIOL 219	4 BIOL 221	3
CHEM 233 & CHEM 235	4 BIOL 327	1

General Elective	1 CHEM 234 & CHEM 236 General Elective	4 1
	15	15
Third Year		
Fall	Hours Spring	Hours
GEF 5	3 GEF 6 (ECAS Fine Arts Requirement)	3
BIOL 348	3 BIOL Capstone	2
PHYS 101	4 BIOL 349	3
Statistics Requirement	3 PHYS 102	4
General Elective	2 General Elective	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL Elective Neuroscience	3
BIOL Elective Neuroscience	4 BIOL Elective	1
General Elective	3 General Elective	2
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	General Elective	3
	15	15

Total credit hours: 120

SUGGESTED PLAN OF STUDY THE BIOLOGY B.S. WITH THE NEUROSCIENCE AREA OF EMPHASIS

First Year		
Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 BIOL 117 (GEF 8; B.S. First Area 2)	4
BIOL 115 (GEF 2; B.S. First Area 1)	4 CHEM 116 (GEF 8; B.S. Second Area 2)	4
CHEM 115 (GEF 8; B.S. Second Area 1)	4 STAT 211	3
MATH 155 (GEF 3)	4	
	16	14
Second Year		
Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
PHYS 101 (B.S. Third Area 1)	4 PHYS 102 (B.S. Third Area 2)	4
	General Elective	3
	15	15
Third Year		
Fall	Hours Spring	Hours
GEF 5	3 BIOL Capstone	2
GEF 6	3 BIOL Elective Lab 1	4
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL 349 (Elective Group II)	3
BIOL 348 (Elective Group I)	3 General Elective	3
BIOL Elective Group III (Neuroscience)	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
BIOL Elective Lab 2	4 BIOL Elective Group IV (Neuroscience)	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

Bachelor of Arts or Science in Biology: Ecology and Environmental Biology Area of Emphasis

Ecology and Environmental Biology Area of Emphasis

CURRICULUM REQUIREMENTS

Core Courses	Hours
BIOL 302 Biometry (fulfills the group IV elective)	8
BIOL 321 Total Science Experience Lab	
BIOL 461 Principles of Evolution (fulfills the group III elective)	
Ecology Electives	6
Select 2 of the following:	
BIOL 338 Behavioral Ecology	
BIOL 361 Plant Ecology (fulfills the laboratory requirement)	
BIOL 363 Plant Geography (fulfills the group II elective)	
BIOL 446 Freshwater Ecology (fulfills the laboratory requirement)	
BIOL 456 Microbial Symbiosis (fulfills the group I elective)	
BIOL 463 Global Ecology	
Total Hours	14

SUGGESTED PLAN OF STUDY FOR THE B.A. IN BIOLOGY WITH AN AREA OF EMPHASIS IN ECOLOGY/ENVIRONMENTAL BIOLOGY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
BIOL 115 (GEF 2)	4 BIOL 117 (GEF 8)	4
CHEM 115 (GEF 8)	4 CHEM 116 (GEF 8)	4
MATH 150 (GEF 3)	3 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 Foreign Language 204	3
Foreign Language 203	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233	3 CHEM 234	3
CHEM 235	1 CHEM 236	1
General Elective	1 STAT 211	3
	General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 4	3 ECAS Fine Arts Requirement (GEF 6)	3
GEF 5	3 BIOL 321	2
BIOL 302	3 BIOL 461	3
PHYS 101	4 PHYS 102	4
General Elective	2 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL elective with Laboratory	4
Ecology AoE Elective 1	3 Ecology AoE Elective 2	3
General Elective	3 General elective	2
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

SUGGESTED PLAN OF STUDY FOR THE B.S. IN BIOLOGY WITH AN AREA OF EMPHASIS IN ECOLOGY/ENVIRONMENTAL BIOLOGY**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 BIOL 117 (B.S. First Area Course 2; GEF 8)	4
BIOL 115 (B.S. First Area Course 1; GEF 2)	4 CHEM 116 (B.S. Second Area Course 2; GEF 8)	4
CHEM 115 (B.S. Second Area Course 1; GEF 8)	4 STAT 211	3
MATH 155 (GEF 3)	4	
	16	14

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233	3 CHEM 234	3
CHEM 235	1 CHEM 236	1
PHYS 101 (BS Third Area Course 1)	4 PHYS 102 (BS Third Area Course 1)	4
	General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 BIOL 321	2
GEF 6	3 BIOL 461 (Group III elective)	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 General Elective	4
BIOL 302 (Group IV elective)	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Ecology AoE Elective Course 1	3 Ecology AoE Elective Course 2	3
Biology Elective with lab (Group I)*	4 BIOL Elective with Lab (Group II)*	4
General Elective	2 General Elective	3
General Elective	3 General Elective	3

General Elective	3 General Elective	2
	15	15

Total credit hours: 120

* Maybe fulfilled by a course selected in Area of Emphasis.

Biology B.S.

Click here to view the Suggested Plan of Study (p. 211)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.S. requirements, major requirements, and electives with a minimum of 120 hours. For complete details on these requirements, visit the B.S. Degrees tab on the Eberly College of Arts and Sciences (p. 171) page.

Departmental Requirements for the B.S. in Biology

Students intending to graduate with a B.S. in Biology must earn a minimum of 38 hours of coursework in biology or approved courses in the biological sciences, with a minimum of 120 hours total required for graduation. Students may not earn both a B.A. and a B.S. in Biology.

- Capstone Requirement:** The university requires the successful completion of a Biology capstone course (BIOL 320 or BIOL 321). The three semester, BIOL 486, may be counted as the Biology Capstone Experience in place of BIOL 320 or BIOL 321. Two hours of BIOL 486 will be counted as part of the core requirements (replacing BIOL 320 or BIOL 321) and up to 6 hours may count as upper-level electives.
- Writing and Communication Skills Requirement:** The Biology Bachelor of Science is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- Calculation of the Grade Point Average (GPA) in the Biology major:** A GPA of 2.0 in Biology course work is required for graduation. All attempts at the following courses will be used to calculate the GPA in the Biology major: BIOL 115, BIOL 117, BIOL 219, BIOL 221, BIOL 320 or BIOL 321, BIOL 327 and all upper-division courses counted as BIOL electives. A minimum grade of C- must be attained in BIOL 115 and 117. If BIOL 101-104 are substituted for BIOL 115, they will be excluded from the GPA calculation, and no other 100- or 200-level Biology courses will be used to satisfy elective requirements, nor will they be used in the calculation of the Biology GPA.
- Area of Emphasis (AOE):** Students interested in completing an area of emphasis must complete the requirements as outlined in the Area of Emphasis section. Courses used to complete an AoE may also be used to satisfy elective requirements, as described below.

- **Electives and Lab Requirement:** Students must complete 20 hours of upper-division biology elective credits, with a least one course in each biology sub-discipline (1- Cell and Molecular, 2-Organismal, 3- Evolution and Ecology, 4- Integrative). Courses listed in more than one group may only be used to satisfy one group requirement. At least two of the selected classes must have a laboratory (lab courses are indicated with an asterisk in the curriculum table below). A maximum of two of the non-biology courses (AEM 341, AEM 401, AGBI 410, BIOC 339, BIOC 531, GEOL 331, PHYS 225) may be used to fulfill the twenty-hour elective requirement. Special topics courses (BIOL 493) can be used to satisfy electives and may satisfy group-electives if appropriate. Additional elective courses may include any 300- or 400-level BIOL courses (except: BIOL 318, BIOL 320, BIOL 321, BIOL 327, BIOL 490, BIOL 491, BIOL 494 and above).
- **Research Option:** With permission of the department, students may enroll in BIOL 386 or BIOL 486. Six hours of BIOL 386 and BIOL 486 may be used towards the 20 hours of Biology upper division electives. One semester of BIOL 386 or BIOL 486 may be used to satisfy one of the lab requirements.
- **Benchmark Expectations:** For details, go to the biology admissions tab (p. 193).

Curriculum Requirements

UNIVERSITY REQUIREMENTS

19

WVUE 191 First Year Seminar

GEF Requirements: credits may vary depending on overlap

ECAS B.S. Requirements

4

Global Studies and Diversity Requirement

Math Requirement:

MATH 153 Calculus 1a with Precalculus
& MATH 154 and Calculus 1b with Precalculus

OR

MATH 155 Calculus 1

Science Requirement

See above (may overlap with GEF and major requirements)

DEPARTMENTAL REQUIREMENTS

Biology Requirements:

16

These courses must be taken in sequence:

BIOL 115 Principles of Biology

BIOL 117 Introductory Physiology

BIOL 219 The Living Cell

BIOL 221 Ecology and Evolution

BIOL 327 Professional Development

Chemistry Requirement:

16

Select one of the following:

CHEM 115 Fundamentals of Chemistry
& CHEM 116 and Fundamentals of Chemistry (CHEM 115 must be taken before BIOL 219.)

CHEM 117 Principles of Chemistry
& CHEM 118 and Principles of Chemistry

And take all of the following:

CHEM 233 Organic Chemistry
& CHEM 235 and Organic Chemistry Laboratory

CHEM 234 Organic Chemistry
& CHEM 236 and Organic Chemistry Laboratory

Statistics Requirement:

3

STAT 211 Elementary Statistical Inference
or STAT 215 Introduction to Probability and Statistics

Physics Requirement

8

Select one of the following pairs:

PHYS 101 Introductory Physics
& PHYS 102 and Introductory Physics

PHYS 111 General Physics
& PHYS 112 and General Physics

Biology Electives: **

20

Select at least one from each of the following four groups,
and please select two lab courses (marked with a single asterisk):

1- Cell and Molecular Biology

BIOL 310	Advanced Cellular/Molecular Biology
BIOL 311	Advanced Cellular/Molecular Biology-Laboratory (*)
BIOL 312	Introduction to Virology
BIOL 313	Molecular Basis of Cellular Growth
BIOL 316	Developmental Biology
BIOL 317	Developmental Biology Laboratory (*)
BIOL 324	Molecular Genetics
BIOL 325	Molecular Genetics Laboratory (*)
BIOL 335	Cell Physiology
BIOL 348	Neuroscience 1
BIOL 409	Biochemical Basis of Therapeutics
BIOL 410	Cell and Molecular Biology Methods
BIOL 411	Introduction to Recombinant DNA (*)
BIOL 413	Molecular Endocrinology
BIOL 414	Molecular Endocrinology-Laboratory (*)
BIOL 415	Epigenetics
BIOL 418	Medical Genetics
BIOL 420	Genomics
BIOL 421	Experimental Biochemistry (*)
BIOL 423	Biochemistry of Nucleic Acids and Proteins
BIOL 424	Protein Structure and Function
BIOL 425	Developmental Genetics
BIOL 426	Molecular Biology of Cancer
BIOL 432	Forensic Biology
BIOL 434	Forensic Biology Laboratory (*)
BIOL 441	Vertebrate Microanatomy (*)
BIOL 451	Plant Development
BIOL 453	Molecular Basis of Disease
BIOL 454	Immunology
BIOL 455	Evolution of Infectious Diseases
BIOL 456	Microbial Symbiosis
BIOL 475	Neurobiological Diseases

2- Organismal Biology

BIOL 316	Developmental Biology
BIOL 317	Developmental Biology Laboratory (*)
BIOL 324	Molecular Genetics
BIOL 325	Molecular Genetics Laboratory (*)
BIOL 336	Vertebrate Embryology (*)
BIOL 337	Physiological Psychology
or PSYC 426	Physiological Psychology
BIOL 340	Invertebrate Zoology
BIOL 341	Ichthyology (*)
BIOL 349	Neuroscience 2
BIOL 350	Plant Physiology (*)
BIOL 351	Plant Diversity (*)
BIOL 352	Plant Anatomy and Development (*)
BIOL 353	Flora of West Virginia (*)
BIOL 363	Plant Geography
BIOL 413	Molecular Endocrinology

BIOL 414	Molecular Endocrinology-Laboratory (*)
BIOL 418	Medical Genetics
BIOL 425	Developmental Genetics
BIOL 433	Herpetology
BIOL 436	General Animal Physiology
BIOL 438	Animal Behavior
BIOL 439	Neuroethology
BIOL 440	Comparative Anatomy (*)
BIOL 441	Vertebrate Microanatomy (*)
BIOL 450	Plant Systematics (*)
BIOL 451	Plant Development
BIOL 456	Microbial Symbiosis
BIOL 475	Neurobiological Diseases
BIOL 478	Sensory Neural Systems and Behavior
AEM 341	General Microbiology (*)
3- Evolution and Ecology	
BIOL 301	History of Biology
BIOL 338	Behavioral Ecology
BIOL 351	Plant Diversity (*)
BIOL 361	Plant Ecology (*)
BIOL 363	Plant Geography
BIOL 420	Genomics
BIOL 446	Freshwater Ecology (*)
BIOL 455	Evolution of Infectious Diseases
BIOL 461	Principles of Evolution
BIOL 463	Global Ecology
BIOL 464	Population and Quantitative Genetics
BIOL 477	Central Nervous System Evolution and Development
AEM 401	Environmental Microbiology (*)
GEOL 331	Paleontology (*)
4- Integrative Biology	
BIOL 302	Biometry
BIOL 315	Communicating Natural Science
BIOL 430	Bioinformatics
BIOL 464	Population and Quantitative Genetics
BIOL 476	Computational Neuroscience
PHYS 225	Medical Imaging Physics
Select one of the following:	
AGBI 410	Introductory Biochemistry
BIOC 339	Introduction to Biochemistry
BIOC 531	General Biochemistry
Capstone Requirement 2	
Select one of the following options:	
BIOL 320	The Total Science Experience: Genomics
BIOL 321	Total Science Experience Lab
or 2 semesters of the following:	
BIOL 486	Honors Investigation and Thesis (9 hours) ***
AND 1 semester of the following:	
BIOL 386	Undergraduate Research
Or 3 semesters of the following:	
BIOL 486	Honors Investigation and Thesis

Number of electives will vary based on GEF and B.S. Requirements.

Total Hours 120

* Indicates a lab course

** BIOL 493: Special Topics may also be used to satisfy Biology electives. Please see Biology adviser to determine elective group designation. Permission of the department must be obtained to enroll in BIOL 386, 486, 490, and 491. Only four credit hours of 386/486 may be used towards the fourteen hour elective requirement. BIOL 490 and BIOL 491 do not satisfy the required fourteen hours of electives in biology. These can serve as general electives.

Seniors with a minimum of a 3.00 GPA may take 500-level courses in biology with departmental and college approval.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 BIOL 117 (GEF 8; B.S. First Area 2)	4
BIOL 115 (GEF 2; B.S. First Area 1)	4 CHEM 116 (GEF 8; B.S. Second Area 2)	4
CHEM 115 (GEF 8; B.S. Second Area 1)	4 General Elective	3
MATH 155 (GEF 3)	4	
	16	14

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
PHYS 101 (B.S. Third Area 1)	4 PHYS 102 (B.S. Third Area 2)	4
	STAT Requirement	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 BIOL Capstone	2
GEF 6	3 BIOL Elective Lab 1**	4
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL Elective Group III	3
BIOL Elective Group I***	3 General Elective	3
BIOL Elective Group II	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
BIOL Elective Lab 2**	4 BIOL Elective Group IV***	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

* BIOL 321 / BIOL 320 (capstone) may be replaced with three semesters of BIOL 486 (research).

** At least two upper division lab courses must be taken, one of which can be 386 or 486.

*** At least one 300-level or above course must be taken in each biology sub-discipline (1-4).

B.S. Biology: Pre-Medical track

The following information is included for advising purposes only and is not an approved curriculum. Completing the stipulations suggested below will not result in an additional designation on any official record.

- **Independent Research:** Students with aspirations to attend top-rank medical schools should include at least three hours of independent research (BIOL 386 or BIOL 486) in their program of study if they are to be competitive. The three semester, BIOL 486, may be counted as the Biology Capstone in place of BIOL 321. Six hours of BIOL 386 and BIOL 486 may be used to satisfy upper division electives. One semester of BIOL 386 or will satisfy one lab course.
- **MCAT and Medical School admission requirements:** Students who will take the MCAT in 2015 or later should take PSYC 101, SOCA 101, SOCA 105 and one further course in Psychology and Sociology in order to be prepared for the new social sciences section of the MCAT - consult with your adviser for more detailed information. The course of study outlined below is recommended for students interested in attending medical school. However, admission requirements will vary from one medical school to another, so a review of specific requirements for each school of interest is recommended.

Note: The list of electives and recommendations outlined below are recommended for students interested in attending medical school. However, admission requirements will vary from one medical school to another, so a review of specific requirements for each school of interest is recommended. B.S. Biology students should select their biology electives from the list below. "General Requirements" and "Biochemistry Requirements" are strongly recommended for a competitive medical school application. Students interested in Graduate School and Research are strongly encouraged to take MATH 156. Please consult your adviser.

General Requirements		10
BIOL 310	Advanced Cellular/Molecular Biology	
BIOL 436	General Animal Physiology	
BIOL 440	Comparative Anatomy	
Biochemistry Requirement		3
Select one of the following:		
AGBI 410	Introductory Biochemistry	
BIOC 339	Introduction to Biochemistry	
Ecology and Evolution Requirement		3
Select one of the following:		
BIOL 338	Behavioral Ecology	
BIOL 461	Principles of Evolution	
BIOL 464	Population and Quantitative Genetics	
Laboratory Requirement		4
Select one of the following:		
BIOL 336	Vertebrate Embryology	
BIOL 441	Vertebrate Microanatomy	
AEM 341	General Microbiology	
AEM 401	Environmental Microbiology	
Electives		3
Select remaining hours from the following:		
BIOL 302	Biometry	
BIOL 312	Introduction to Virology	
BIOL 313	Molecular Basis of Cellular Growth	
BIOL 316	Developmental Biology	
BIOL 324	Molecular Genetics	
BIOL 325	Molecular Genetics Laboratory	
BIOL 335	Cell Physiology	
BIOL 337	Physiological Psychology	
BIOL 348	Neuroscience 1	
BIOL 386	Undergraduate Research	
BIOL 410	Cell and Molecular Biology Methods	
BIOL 411	Introduction to Recombinant DNA	
BIOL 413	Molecular Endocrinology	

BIOL 415	Epigenetics	
BIOL 425	Developmental Genetics	
BIOL 426	Molecular Biology of Cancer	
BIOL 438	Animal Behavior	
BIOL 453	Molecular Basis of Disease	
BIOL 454	Immunology	
BIOL 455	Evolution of Infectious Diseases	
BIOL 456	Microbial Symbiosis	
PHYS 225	Medical Imaging Physics	
Total Hours		23

Areas of Emphasis Offered:

- Cellular and Molecular Biology (p. 213)
- Genomics (p. 215)
- Neuroscience (p. 217)
- Ecology and Environmental Biology (p. 219)

Bachelor of Arts or Sciences in Biology: Cellular and Molecular Biology Area of Emphasis

A biology degree with an emphasis in cellular and molecular biology provides the student with all the preparation necessary for the health professions, pharmacy and pharmacology, and graduate school in cellular or molecular biology, virology, genetics, immunology and a variety of related fields. Biology majors pursuing the area of emphasis in Cellular and Molecular Biology take two introductory courses to learn about the processes within cells and the mechanisms for communication between cells. They then take a further concentration of courses in Biology that are related to cellular and molecular biology.

Cellular and Molecular Biology Area of Emphasis Requirements:

Students wishing to complete a Cellular and Molecular Biology Area of Emphasis must take the following selection of courses as part of their required Biology electives, either for the B.A. or the B.S.

Curriculum Requirements

BIOL 310	Advanced Cellular/Molecular Biology	3
BIOL 324	Molecular Genetics	3
Select one of the following		2
BIOL 320	The Total Science Experience: Genomics	
BIOL 321	Total Science Experience Lab	
Select two of the following		6
BIOL 312	Introduction to Virology	
BIOL 313	Molecular Basis of Cellular Growth	
BIOL 316	Developmental Biology	
BIOL 335	Cell Physiology	
BIOL 348	Neuroscience 1	
BIOL 409	Biochemical Basis of Therapeutics	
BIOL 410	Cell and Molecular Biology Methods	
BIOL 411	Introduction to Recombinant DNA	
BIOL 413	Molecular Endocrinology	
BIOL 415	Epigenetics	
BIOL 418	Medical Genetics	
BIOL 420	Genomics	
BIOL 423	Biochemistry of Nucleic Acids and Proteins	
BIOL 424	Protein Structure and Function	
BIOL 425	Developmental Genetics	
BIOL 426	Molecular Biology of Cancer	
BIOL 430	Bioinformatics	

BIOL 432	Forensic Biology
BIOL 436	General Animal Physiology
BIOL 451	Plant Development
BIOL 453	Molecular Basis of Disease
BIOL 454	Immunology
BIOL 455	Evolution of Infectious Diseases
BIOL 456	Microbial Symbiosis
BIOL 464	Population and Quantitative Genetics

Total Hours

14

SUGGESTED PLAN OF STUDY FOR THE B.A. IN BIOLOGY WITH AN AREA OF EMPHASIS IN CELLULAR AND MOLECULAR BIOLOGY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101	3
BIOL 115	4 BIOL 117	4
CHEM 115	4 CHEM 116	4
MATH 150	3 Language 102	3
Language 101	3 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
BIOL 219	4 GEF 4	3
CHEM 233	3 Language 204	3
CHEM 235	1 BIOL 221	3
ENGL 102	3 BIOL 327	1
Language 203	3 CHEM 234	3
General Elective	1 CHEM 236	1
	General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 GEF 6	3
BIOL 310	3 Biology Capstone	2
PHYS 101	4 PHYS 102	4
STAT 211	3 BIOL 324	3
General Elective	2 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
GEF 7	3 CMB AoE elective 2	3
CMB AoE Elective 1 (with lab)	4 Biology elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

SUGGESTED PLAN OF STUDY FOR THE B.S. IN BIOLOGY WITH AN AREA OF EMPHASIS IN CELLULAR AND MOLECULAR BIOLOGY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101	3
GEF 4	3 BIOL 117	4
BIOL 115	4 CHEM 116	4
CHEM 115	4 General Elective	3
MATH 155	4	
	16	14

Second Year

Fall	Hours Spring	Hours
ENGL 102	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233	3 CHEM 234	3
CHEM 235	1 CHEM 236	1
PHYS 101	4 PHYS 102	4
	STAT 211	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 BIOL 324 (Group II)	3
GEF 6	3 General elective	3
GEF 7	3 General elective	3
BIOL 310 (Group I elective)	3 Biology elective, Lab 1	4
Biology elective, Group III, AoE elective 1	3 Biology capstone	2
	15	15

Fourth Year

Fall	Hours Spring	Hours
Biology elective, Lab 2	4 Biology elective, group IV, AoE elective 2	3
General elective	3 General elective	3
General elective	2 General elective	3
General elective	3 General elective	3
General elective	3 General elective	3
	15	15

Total credit hours: 120

Bachelor of Arts or Science in Biology: Genomics Area of Emphasis

A biology degree with an emphasis in Genomics provides the student with all the preparation necessary for graduate school in genomics or bioinformatics, or medical school and careers in the health fields. Biology majors pursuing the area of emphasis in Genomics take two introductory courses to learn about basic concepts and tools in genomics and the practice and application of bioinformatics and then take a further concentration of courses in Biology that are related to Genomics.

Genomics Area of Emphasis Requirements:

Students wishing to complete a Genomics Area of Emphasis must take the following selection of courses as part of their required Biology electives, either for the B.A. or the B.S.

CURRICULUM REQUIREMENTS

BIOL 320	The Total Science Experience: Genomics	2
BIOL 420	Genomics (Fulfills group I or III)	3
BIOL 430	Bioinformatics (Fulfills group IV)	3
Select 2 of the following		6

BIOL 324 & BIOL 325	Molecular Genetics and Molecular Genetics Laboratory
BIOL 415	Epigenetics
BIOL 418	Medical Genetics
BIOL 423	Biochemistry of Nucleic Acids and Proteins
BIOL 455	Evolution of Infectious Diseases
BIOL 456	Microbial Symbiosis
BIOL 461	Principles of Evolution
BIOL 464	Population and Quantitative Genetics

Total Hours 14

SUGGESTED PLAN OF STUDY FOR THE B.A. IN BIOLOGY WITH AN AREA OF EMPHASIS IN GENOMICS

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
BIOL 115 (GEF 2)	4 BIOL 117 (GEF 8)	4
MATH 150 (GEF 3)	3 CHEM 116 (GEF 8)	4
CHEM 115 (GEF 8)	4 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 4	3
BIOL 219	4 Foreign Language 204	3
CHEM 233 & CHEM 235	4 BIOL 221	3
Foreign Language 203	3 BIOL 327	1
General Elective	1 CHEM 234 & CHEM 236 General Elective	4
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 GEF 6 (ECAS Fine Arts Requirement)	3
BIOL 420	3 PHYS 102	4
PHYS 101	4 BIOL 320 (Capstone)	2
Statistics Requirement	3 BIOL 430	3
General Elective	2 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL Elective Genomics	3
BIOL Elective Genomics	4 BIOL Elective	1
General Elective	3 General Elective	2
General Elective	3 General Elective	3
General Elective	2 General Elective General Elective	3
	15	15

Total credit hours: 120

SUGGESTED PLAN OF STUDY FOR THE B.S. IN BIOLOGY WITH AN AREA OF EMPHASIS IN GENOMICS

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 BIOL 117 (GEF 8; B.S. First Area 2)	4
BIOL 115 (GEF 2; B.S. First Area 1)	4 CHEM 116 (GEF 8; B.S. Second Area 2)	4
CHEM 115 (GEF 8; B.S. Second Area 1)	4 STAT 211	3
MATH 155 (GEF 3)	4	
	16	14

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
PHYS 101 (B.S. Third Area 1)	4 PHYS 102 (B.S. Third Area 2)	4
	General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 BIOL Elective Lab 1	4
GEF 6	3 BIOL 430 (Elective Group IV)	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL 320 (Capstone)	2
BIOL 420 (Elective Group I or II)	3 General Elective	3
BIOL Elective Group II	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
BIOL Elective Lab 2 (Genomics)	4 BIOL Elective Group (Remaining Group; Genomics)	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

Bachelor of Arts or Science in Biology: Neuroscience Area of Emphasis

A biology degree with an emphasis in Neuroscience provides the student with all the preparation necessary for graduate school in Neuroscience or medical school and the medical school entrance exam - the MCAT. Biology majors pursuing the area of emphasis in Neuroscience take two introductory courses to learn about basic features of neurons and the organization of the brain and then take a further concentration of courses in biology that are related to Neuroscience.

Neuroscience Area of Emphasis Requirements:

Students wishing to complete a Neuroscience Area of Emphasis must take the following selection of courses as part of their required Biology electives, either for the B.A. or the B.S.

CURRICULUM REQUIREMENTS

BIOL 348	Neuroscience 1 (Fulfills group I elective.)	3
BIOL 349	Neuroscience 2 (Fulfills group II elective.)	3
Select 2 of the following:		6
BIOL 339	Animal Communication	

BIOL 439	Neuroethology
BIOL 475	Neurobiological Diseases
BIOL 476	Computational Neuroscience
BIOL 477	Central Nervous System Evolution and Development
BIOL 478	Sensory Neural Systems and Behavior
BIOL 479	Current Topics in Neuroscience

Total Hours 12

SUGGESTED PLAN OF STUDY THE BIOLOGY B.A. WITH THE NEUROSCIENCE AREA OF EMPHASIS

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
BIOL 115 (GEF 2)	4 BIOL 117 (GEF 8)	4
MATH 150 (GEF 3)	3 CHEM 116 (GEF 8)	4
CHEM 115 (GEF 8)	4 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 4	3
Foreign Language 203	3 Foreign Language 204	3
BIOL 219	4 BIOL 221	3
CHEM 233 & CHEM 235	4 BIOL 327	1
General Elective	1 CHEM 234 & CHEM 236 General Elective	4
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 GEF 6 (ECAS Fine Arts Requirement)	3
BIOL 348	3 BIOL Capstone	2
PHYS 101	4 BIOL 349	3
Statistics Requirement	3 PHYS 102	4
General Elective	2 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL Elective Neuroscience	3
BIOL Elective Neuroscience	4 BIOL Elective	1
General Elective	3 General Elective	2
General Elective	3 General Elective	3
General Elective	2 General Elective General Elective	3
	15	15

Total credit hours: 120

SUGGESTED PLAN OF STUDY THE BIOLOGY B.S. WITH THE NEUROSCIENCE AREA OF EMPHASIS

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 BIOL 117 (GEF 8; B.S. First Area 2)	4
BIOL 115 (GEF 2; B.S. First Area 1)	4 CHEM 116 (GEF 8; B.S. Second Area 2)	4
CHEM 115 (GEF 8; B.S. Second Area 1)	4 STAT 211	3
MATH 155 (GEF 3)	4	
	16	14

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
PHYS 101 (B.S. Third Area 1)	4 PHYS 102 (B.S. Third Area 2)	4
	General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 BIOL Capstone	2
GEF 6	3 BIOL Elective Lab 1	4
ECAS Global Studies and Diversity Requirement(GEF 7)	3 BIOL 349 (Elective Group II)	3
BIOL 348 (Elective Group I)	3 General Elective	3
BIOL Elective Group III (Neuroscience)	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
BIOL Elective Lab 2	4 BIOL Elective Group IV (Neuroscience)	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

Bachelor of Arts or Science in Biology: Ecology and Environmental Biology Area of Emphasis

Ecology and Environmental Biology Area of Emphasis

CURRICULUM REQUIREMENTS

Core Courses		8
BIOL 302	Biometry (fulfills the group IV elective)	
BIOL 321	Total Science Experience Lab	
BIOL 461	Principles of Evolution (fulfills the group III elective)	
Ecology Electives		6
Select 2 of the following:		
BIOL 338	Behavioral Ecology	
BIOL 361	Plant Ecology (fulfills the laboratory requirement)	
BIOL 363	Plant Geography (fulfills the group II elective)	

BIOL 446	Freshwater Ecology (fulfills the laboratory requirement)	
BIOL 456	Microbial Symbiosis (fulfills the group I elective)	
BIOL 463	Global Ecology	
Total Hours		14

SUGGESTED PLAN OF STUDY FOR THE B.A. IN BIOLOGY WITH AN AREA OF EMPHASIS IN ECOLOGY/ENVIRONMENTAL BIOLOGY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
BIOL 115 (GEF 2)	4 BIOL 117 (GEF 8)	4
CHEM 115 (GEF 8)	4 CHEM 116 (GEF 8)	4
MATH 150 (GEF 3)	3 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 Foreign Language 204	3
Foreign Language 203	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233	3 CHEM 234	3
CHEM 235	1 CHEM 236	1
General Elective	1 STAT 211	3
	General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 4	3 ECAS Fine Arts Requirement (GEF 6)	3
GEF 5	3 BIOL 321	2
BIOL 302	3 BIOL 461	3
PHYS 101	4 PHYS 102	4
General Elective	2 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ECAS Global Studies and Diversity Requirement (GEF 7)	3 BIOL elective with Laboratory	4
Ecology AoE Elective 1	3 Ecology AoE Elective 2	3
General Elective	3 General elective	2
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

SUGGESTED PLAN OF STUDY FOR THE B.S. IN BIOLOGY WITH AN AREA OF EMPHASIS IN ECOLOGY/ENVIRONMENTAL BIOLOGY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 BIOL 117 (B.S. First Area Course 2; GEF 8)	4
BIOL 115 (B.S. First Area Course 1; GEF 2)	4 CHEM 116 (B.S. Second Area Course 2; GEF 8)	4
CHEM 115 (B.S. Second Area Course 1; GEF 8)	4 STAT 211	3

MATH 155 (GEF 3)	4	
	16	14
Second Year		
Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 BIOL 221	3
BIOL 219	4 BIOL 327	1
CHEM 233	3 CHEM 234	3
CHEM 235	1 CHEM 236	1
PHYS 101 (BS Third Area Course 1)	4 PHYS 102 (BS Third Area Course 1)	4
	General Elective	3
	15	15
Third Year		
Fall	Hours Spring	Hours
GEF 5	3 BIOL 321	2
GEF 6	3 BIOL 461 (Group III elective)	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 General Elective	4
BIOL 302 (Group IV elective)	3 General Elective	3
General Elective	3 General Elective	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
Ecology AoE Elective Course 1	3 Ecology AoE Elective Course 2	3
Biology Elective with lab (Group I)*	4 BIOL Elective with Lab (Group II)*	4
General Elective	2 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	2
	15	15

Total credit hours: 120

* Maybe fulfilled by a course selected in Area of Emphasis.

WVUteach

BIOLOGY 9-ADULT

Teaching changes lives. It is a rewarding profession that makes a difference. If you've ever considered teaching, WVUteach is an innovative program uniting in-depth science and mathematics education with teacher preparation. Science and Mathematics teachers are some of the most sought after high school teachers.

WVUteach is designed to give undergraduate students the opportunity to explore the profession of teaching in STEM fields (science, technology, engineering, and math) in a hands-on way. In your very first semester in the program, you will have the opportunity to develop and teach a lesson in a local classroom. WVUteach allows you to complete a rigorous degree in any STEM field and earn your secondary teaching certification in tandem with your 4-year degree in mathematics or science, one degree, with an additional career option. WVUteach is designed to give you the essential tools to forge change in the next generation.

In WVUteach, you take the same courses as students in non-teaching options, with slight variations. You will be able to compete with students in the non-teaching option for the same jobs and graduate programs in your field. Graduate program prerequisites vary. Students thinking about graduate school should always speak to the Graduate Advisor for the program to determine the coursework expected for applicants.

For more information on licensure requirements please visit our webpage (<http://WVUteach.wvu.edu>) and schedule an appointment with a WVUteach advisor.

Students seeking Biology 9-Adult teaching certification complete the Biology B.A. or B.S. major requirements and the following (27 hours). The WVUteach curriculum can be completed within the 120 hours required for graduation with a B.A. or B.S. in Biology:

WVUTEACH: BIOLOGY 9-ADULT

ARSC 120

Inquiry Approaches to Teaching

1

ARSC 220	Inquiry-Based Lesson Design	1
UTCH 221	Knowing and Learning in Mathematics and Science (GEF 4)	3
UTCH 222	Classroom Interactions in Math and Science	3
UTCH 420	Project-Based Instruction in Mathematics and Science	3
UTCH 430	Apprentice Teaching in Math and Science	10
MATH 318	Perspectives on Mathematics and Science (GEF 5)	3
BIOL 376	Research Methods	3
Total Hours		27

ADDITIONAL COURSEWORK FOR NON-BIOLOGY MAJORS

Select one of the following:

4-8

BIOL 101 & BIOL 103 & BIOL 102 & BIOL 104 or BIOL 115	General Biology and General Biology Laboratory and General Biology and General Biology Laboratory Principles of Biology
BIOL 117	Introductory Physiology
BIOL 219	The Living Cell
BIOL 221	Ecology and Evolution

Biology B.S. Electives

9-12

Select 3 hours from Cell and Molecular Biology *

Select 3 hours from Organismal Biology **

Select 3 hours from Evolution and Ecology ***

Additional Coursework

24

Geology

Select one of the following sequences:

GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory
GEOL 103 & GEOL 104	Earth Through Time and Earth Through Time Laboratory

Physics

Select one of the following sequences:

PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics
PHYS 111 & PHYS 112	General Physics and General Physics
PHYS 112 or PHYS 105	General Physics Conceptual Physics

Mathematics

MATH 150 or MATH 155	Applied Calculus Calculus 1
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* Please see Biology B.S. (http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/biology/biology_bs) page for more information regarding these requirements.

** The following courses may fulfill this requirement: EXPH 386, EXPH 387, NBAN 301, ANPH 301, ANPH 424, WMAN 330, or WMAN 426. These are not included in the **Organismal Biology** requirement in the Biology B.S. (http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/biology/biology_bs) program.

*** The following courses may fulfill this requirement: BIOL 301, BIOL 338, BIOL 351, BIOL 361, BIOL 363, BIOL 420, BIOL 446, BIOL 455, BIOL 461, BIOL 463, BIOL 464, BIOL 477, AEM 401, GEOL 331, WMAN 313, WMAN 314, WMAN 425, WMAN 446, OR WMAN 449. These are not included in the **Evolution and Ecology Biology** requirement in the Biology B.S. (http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/biology/biology_bs) program.

Bennett Department of Chemistry

Degrees Offered

- Bachelor of Arts
- Bachelor of Science

Nature of Program

The Bennett Department of Chemistry offers the bachelor of science with a major in chemistry and the bachelor of arts with a major in chemistry. These programs are configured to meet the needs of all students who have an interest in the broad field of chemistry.

The Department of Chemistry is located in Clark Hall, a state-of-the-art teaching facility for chemistry. Clark Hall offers many new instruments, numerous safety features, excellent ventilation and ample hoods, and complete accessibility for the physically handicapped. The department also has modern research facilities in the adjacent Chemistry Research Laboratory building where advanced undergraduates may participate in research projects.

The bachelor of science with a major in chemistry is approved by the American Chemical Society. This program is for students who desire to qualify for professional positions in industrial and governmental laboratories as well as those who plan to do graduate work in chemistry or allied areas in preparation for research careers in industry or academia.

The bachelor of arts with a major in chemistry is for students who pursue careers requiring a good background in the basic principles of chemistry. Areas such as medicine, dentistry, or other health-related sciences; secondary school teaching; chemical laboratory technical work; law; or business may be pursued with a proper choice of electives.

The two programs are similar during the first two years. Students in the B.S. program should complete the calculus requirement as soon as possible as a prerequisite for both the physics and physical chemistry sequences. The two degree programs differ primarily in the chemistry requirements. The B.S. program requires more upper-level chemistry courses than the B.A. program.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; follow the link for a list of all available minors and their requirements (p. 44). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Gregory Dudley - Ph.D. (MIT)
Synthetic organic chemistry

ASSOCIATE CHAIR

- Jeff Petersen - Ph.D. (U. Wisconsin-Madison)
Physical inorganic chemistry, Electrophilic transition metal complexes, X-ray crystallography

PROFESSORS

- Suzanne Bell - Ph.D. (New Mexico State University)
Analytical chemistry, Forensic science
- Harry Finklea - Ph.D. (California Institute of Technology)
Analytical/Physical Chemistry, Electron transfer kinetics, Solid oxide fuel cells, Gas phase sensors
- Terry Gullion - Ph.D. (William and Mary)
Physical chemistry, Solid State NMR, Biological Materials, Polymers
- Lisa Holland - Ph.D. (U. North Carolina-Chapel Hill)
Micro-separations, High throughput drug screening

- Glen Jackson - Ph.D. (West Virginia University)
Mass spectrometry, Forensic science
- Charles Jaffe - Ph.D. (University of Colorado)
Theoretical chemistry, Molecular dynamics, Chaotic systems
- Fred L. King - Ph.D. (University of Virginia)
Analytical chemistry, Mass spectrometry, Trace elements, Gas-phase chemistry
- John H. Penn - Ph.D. (U. Wisconsin-Madison)
Chemical education, On-line instruction methods in organic chemistry
- Kenneth Showalter - Ph.D. (University of Colorado)
Bennett Distinguished Professor, Physical chemistry, Chemical kinetics, Multi-stability and oscillating systems
- Bjorn Soderberg - Ph.D. (Royal Inst. of Tech., Sweden)
Organic synthesis using transition metals
- Kung Wang - Ph.D. (Purdue University)
Organic chemistry, stereoselective synthesis

ASSOCIATE PROFESSORS

- Erin Battin - Ph.D. (Clemson University)
Bioinorganic Chemistry
- Jonathan Boyd - Ph.D. (Texas Tech University)
Analytical biochemistry and toxicology
- Justin Legleiter - Ph.D. (Carnegie Mellon University)
Biophysical chemistry, Atomic force microscopy
- Betsy Ratcliff - Ph. D. (U. Binghamton - SUNY)
Physical chemistry
- Tabitha Razunguzwa - Ph.D. (West Virginia University)
Physical chemistry
- Michelle Richards-Babb - Ph.D. (Lehigh University)
Chemical education
- Alan M. Stolzenberg - Ph.D. (Stanford University)
Inorganic chemistry, Bioinorganic chemistry, Organometallic chemistry
- Mingming Xu - Ph.D. (Ohio University)
Analytical chemistry

ASSISTANT PROFESSORS

- Melissa Gayton Ely - Ph.D. (West Virginia University)
Analytical chemistry
- Fabien Goulay - Ph.D. (U. Rennes)
Physical chemistry, Laser spectroscopy
- Jessica Hoover - Ph.D. (University of Washington)
Organometallic chemistry, Catalysis
- Peng Li - Ph.D.
Analytical chemistry, microfluidic devices
- Blake Mertz - Ph.D. (Iowa State University)
Computational biophysics and chemistry
- Carsten Milsmann - Ph.D. (University of Bochum)
Transition metal catalysis, organometallic chemistry
- Joshua Osbourn - Ph.D. (University of Pittsburgh)
Organic chemistry
- Brian Popp - Ph.D. (U. Wisconsin-Madison)
Organic and organometallic chemistry, Catalysis
- Mark Tinsley - Ph.D., Leeds University, England
Nonlinear dynamics, chemical oscillators, moving precipitation patterns.
- Stephen Valentine - Ph.D. (Indiana University)
Mass spectrometric analysis of biomolecules

PART-TIME INSTRUCTOR

- Jennifer Robertson-Honecker - Ph.D. (West Virginia University)

Analytical chemistry, Science education

PROFESSORS EMERITI

- Robert S. Nakon - Ph.D. (Texas A&M University)
Inorganic chemistry
- Anthony Winston - Ph.D. (Duke University)
Polymer chemistry

LECTURER

- Mark Schraf - M.S. (West Virginia University)
Analytical chemistry

Admission Requirements

Honors students and all students who qualify for College Algebra (MATH 126) are admitted directly into the Chemistry program; other students are admitted through the STEM Pathway until they have met benchmarks set by the department. Students coming from another major must meet milestones set by the department: completion of CHEM 115/116 or 117/118 with C or better in each and a minimum overall GPA of 2.0.

Benchmark Expectations

- By the end of the second semester in the major, completion of CHEM 115/116 or 117/118 with C or better in each.
- By the end of the second year in the major, completion of Organic Chem with C or better and a 2.0 in the major.
- All majors must meet with a Chemistry adviser each semester.
- Students who do not meet their benchmark expectations could be removed from their major.

Chemistry Scholarships

In addition to financial aid offered by the University, the department maintains seven scholarships specifically for chemistry majors. The John A. Moore Trust Scholarships, the Charles L. Lazzell Scholarship, the Carpenter Family Scholarship, the Robert L. and Patricia Miller Stultz Chemistry Scholarship, the Herbert and Hannah Seigel Chemistry Scholarship, the Willard W. Hodge Scholarship, and the Morrissey-Ropp Chemistry Scholarships are awarded to students in either the B.S. or B.A. programs with records of outstanding achievement and demonstrated financial need. Several of these scholarships are restricted to West Virginia residents. Scholarship recipients are expected to remain as chemistry majors and to maintain a 3.0 average in their degree programs in order to be eligible for continued support.

Major Learning Goals

CHEMISTRY

1. Will have sufficient knowledge of the fundamental chemical principles and an understanding of the methods of chemistry to be able to formulate solutions to problems of chemical relevance.
2. Will have acquired sufficient training to perform accurate and precise quantitative analyses, to utilize modern instrumental methods of analysis, to analyze and report the results of chemical experimentation, to work safely with chemicals, and to work effectively both as an individual and in a small group.
3. Will understand how to retrieve information from the chemical literature and be able to organize and communicate chemical information effectively in written reports and oral presentations.
4. Will possess the basic laboratory skills and chemical knowledge to qualify for entry level industrial or government laboratory positions or to be able to apply and gain admission to competitive graduate and professional schools.

Chemistry B.A.

Click here to view the Suggested Plan of Study (p. 228)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

ENGL 101
& ENGL 102

Introduction to Composition and Rhetoric
and Composition, Rhetoric, and Research

3-6

or ENGL 103	Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page. Students may not earn both a B.A. and a B.S. in Chemistry.

Departmental Requirements for the B.A. in Chemistry

- **Capstone Requirement:** The university requires the successful completion of a Capstone. Chemistry majors must take CHEM 401 and CHEM 403.
- **Writing and Communication Skills:** Chemistry Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses™**: CHEM 401 or CHEM 403, and a 2nd course selected from ENGL 304 or ENGL 305.
- **Calculation of GPA in the major:** A grade of C- or better in all chemistry courses below 300-level is required. In addition, a grade of C- or better is required in the following courses: PHYS 101 and PHYS 102 (or PHYS 111 and PHYS 112); MATH 155 (or MATH 153 and MATH 154) and MATH 156; a 2.0 grade point average must be maintained in all Chemistry 300-level and above courses, excluding Chemistry 490-497 courses.
- **Course Requirement:** Students in the B.A. program may use AGBI 410 to meet part of the seven-hour chemistry elective requirement; however, at least three hours must be selected from chemistry courses numbered 310 or higher. Students in the B.A. program may take CHEM 346, CHEM 347, and CHEM 348 in lieu of CHEM 341 and CHEM 342 and three hours of chemistry electives. CHEM 349 may be taken as two hours of chemistry elective.
- **Benchmarks expectations:** For details, go to the chemistry admissions tab (p. 225).

Curriculum Requirements

A minimum GPA of 2.0 is required in all CHEM courses

UNIVERSITY REQUIREMENTS		19
WVUE 191	First Year Seminar	
GEF: number of credits may vary based on overlap		
ECAS B.A. Requirements		12
Foreign Languages		
Fine Arts Requirement		
Global Studies and Diversity Requirement		
DEPARTMENTAL REQUIREMENTS		
Math Requirement		8
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
or:		
MATH 155	Calculus 1	
and:		
MATH 156	Calculus 2	
Physics requirement		8
Select one pair:		

PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics
PHYS 111 & PHYS 112	General Physics and General Physics

Core Chemistry Courses 24

Select one of the following options

CHEM 115 & CHEM 116 & CHEM 215	Fundamentals of Chemistry and Fundamentals of Chemistry and Introductory Analytical Chemistry
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OR:

CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry
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Take all courses:

CHEM 233	Organic Chemistry
CHEM 234	Organic Chemistry
CHEM 235	Organic Chemistry Laboratory
CHEM 236	Organic Chemistry Laboratory
CHEM 341	Physical Chemistry: Brief Course
CHEM 342	Experimental Physical Chemistry

Chemistry Electives: 7

Select from the following:

CHEM 310	Instrumental Analysis
CHEM 312	Environmental Chemistry
CHEM 313	Instrumental Analysis Laboratory
CHEM 335	Methods of Structure Determination
CHEM 339	Organic Syntheses
CHEM 422	Intermediate Inorganic Chemistry
CHEM 423	Inorganic Synthesis Laboratory
CHEM 460	Forensic Chemistry
CHEM 463	Forensic Chemistry Lab
CHEM 490	Teaching Practicum: Peer-Led Team Learning
CHEM 490A	Teaching Practicum-CLC
CHEM 490B	Teaching Practicum - TA
CHEM 496	Senior Thesis
CHEM 497	Research
CHEM 498	Honors
CHEM 514	Mass Spectrometry Principles and Practices
CHEM 521	Organometallic Chemistry
CHEM 531	Advanced Organic Chemistry 1
CHEM 532	Advanced Organic Chemistry 2
CHEM 547	Chemical Crystallography
AGBI 410	Introductory Biochemistry

Capstone Experience 2

CHEM 401	Chemical Literature
CHEM 403	Undergraduate Seminar

GENERAL ELECTIVES: 40

Number of elective courses may vary depending on overlap.

Total Hours 120

FOOTNOTES

* Only three hours of CHEM 490, CHEM 493, CHEM 496, or CHEM 497, separately or combined, may be counted toward the seven-hour elective requirement.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 CHEM 116 (GEF 8)*	4
CHEM 115 (GEF 2)*	4 MATH 156 (GEF 8)	4
MATH 155 (GEF 3)	4 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 4	3
Foreign Language 203	3 Foreign Language 204	3
CHEM 233 & CHEM 235	4 CHEM 234 & CHEM 236	4
PHYS 101 (GEF 8)	4 PHYS 102	4
General Elective	1 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 ECAS Fine Arts Requirement (GEF 6)	3
CHEM 215*	4 CHEM 341 & CHEM 342	4
General Elective	3 Chemistry Elective 1	3
General Elective	3 General Elective	3
General Elective	2 General Elective	2
	15	15

Fourth Year

Fall	Hours Spring	Hours
CHEM 401 (Capstone)	1 CHEM 403 (Capstone)	1
Chemistry Elective 2	4 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	4 General Elective	3
	General Elective	2
	15	15

Total credit hours: 120

* If a student qualifies to take CHEM 117 and CHEM 118, these courses can be used in lieu of CHEM 115, CHEM 116, and CHEM 215. The student will need to take an additional 2 credit hours of Electives to reach the required minimum of 120 credit hours for graduation.

Chemistry B.S.

Click here to view the Suggested Plan of Study (p. 231)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.S. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.S. Degrees tab on the Eberly College of Arts and Sciences (p. 171) page. Students may not earn both a B.A. and a B.S. in Chemistry.

Departmental Requirements for the B.S. in Chemistry

- **Capstone Requirement:** The university requires the successful completion of a Capstone course, which for the B.S. Chemistry degree involves CHEM 401 and CHEM 403.
- **Writing Requirement:** Chemistry Bachelor of Science fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional SpeakWrite Certified CoursesTM: CHEM 349, and either CHEM 401 or CHEM 403.
- **Calculation of GPA in the major:** A grade of C- or better in all chemistry courses below 300-level is required. In addition, a grade of C- or better is required in the following courses: PHYS 111 and PHYS 112; MATH 155 (or MATH 153 and MATH 154), MATH 156, and MATH 251; a 2.0 average must be maintained in all Chemistry 300-level or above courses, excluding 490–497 courses.
- **Benchmarks expectations:** For details, go to the chemistry admissions tab (p. 225).

Curriculum Requirements

UNIVERSITY REQUIREMENTS		19
WVUE 191	First Year Seminar	
GEF: Number of courses may vary depending on overlap		
COLLEGE REQUIREMENT		4
Global Studies and Diversity Requirement		
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
OR		
MATH 155	Calculus 1	
Science Requirements - see Eberly page (may overlap with GEF and major)		
DEPARTMENTAL REQUIREMENTS		
Core Chemistry courses:		45
Select one of the following options:		
CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry	
CHEM 215	Introductory Analytical Chemistry	
OR		
CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry	
Take all courses:		
CHEM 233	Organic Chemistry	

CHEM 234	Organic Chemistry	
CHEM 235	Organic Chemistry Laboratory	
CHEM 236	Organic Chemistry Laboratory	
CHEM 310	Instrumental Analysis	
CHEM 313	Instrumental Analysis Laboratory	
CHEM 335	Methods of Structure Determination	
CHEM 346	Physical Chemistry	
CHEM 347	Physical Chemistry Laboratory	
CHEM 348	Physical Chemistry	
CHEM 349	Physical Chemistry Laboratory	
CHEM 422	Intermediate Inorganic Chemistry	
CHEM 423	Inorganic Synthesis Laboratory	
AGBI 410	Introductory Biochemistry	
Non-Chemistry Science Requirement		16
MATH 156	Calculus 2	
MATH 251	Multivariable Calculus	
PHYS 111 & PHYS 112	General Physics and General Physics	
Chemistry Electives*		6
Select 2 classes:		
CHEM 312	Environmental Chemistry	
CHEM 339	Organic Syntheses	
CHEM 440	Quantum Chemistry	
CHEM 460	Forensic Chemistry	
CHEM 462	Biochemistry 2	
CHEM 463	Forensic Chemistry Lab	
CHEM 464	Biochemistry 2 Laboratory	
CHEM 490	Teaching Practicum: Peer-Led Team Learning	
CHEM 490A	Teaching Practicum-CLC	
CHEM 490B	Teaching Practicum - TA	
CHEM 496	Senior Thesis	
CHEM 497	Research	
CHEM 498	Honors	
CHEM 514	Mass Spectrometry Principles and Practices	
CHEM 516	Bioanalytical Chemistry	
CHEM 521	Organometallic Chemistry	
CHEM 531	Advanced Organic Chemistry 1	
CHEM 532	Advanced Organic Chemistry 2	
CHEM 540	Bonding and Molecular Structure	
CHEM 547	Chemical Crystallography	
CHEM 552	Biochemical Toxicology	
Capstone Experience		2
CHEM 401	Chemical Literature	
CHEM 403	Undergraduate Seminar	
General Electives		28
Number of Electives may vary depending on overlap		
Total Hours		120

FOOTNOTES

* Only three hours of CHEM 490, CHEM 493, CHEM 496 or CHEM 497, separately or combined, may be counted toward the six-hour requirement.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 CHEM 116 (GEF 8; B.S. First Area 2) [*]	4
ECAS Global Studies and Diversity Requirement (GEF 7)	3 MATH 156 (GEF 8; B.S. Second Area 1)	4
CHEM 115 (GEF 2; B.S. First Area 1) [*]	4 General Elective	3
MATH 155 (GEF 3)	4 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
CHEM 215 [*]	4 ENGL 102 (GEF 1)	3
CHEM 233 & CHEM 235	4 GEF 5	3
MATH 251 (B.S. Second Area 2)	4 CHEM 234 & CHEM 236	4
PHYS 111 (GEF 8; B.S. Third Area 1)	4 PHYS 112 (B.S. Third Area 2)	4
	16	14

Third Year

Fall	Hours Spring	Hours
GEF 6	3 CHEM 310	3
AGBI 410	3 CHEM 348 & CHEM 347	4
CHEM 335	4 General Elective	3
CHEM 346	3 General Elective	4
General Elective	3	
	16	14

Fourth Year

Fall	Hours Spring	Hours
CHEM 349	2 CHEM 403 (Capstone)	1
CHEM 313	1 CHEM 423	2
CHEM 401 (Capstone)	1 Chemistry Elective 2	3
CHEM 422	3 General Elective	3
Chemistry Elective 1	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2	
	15	15

Total credit hours: 120

* If a student qualifies to take CHEM 117 and CHEM 118, these courses can be used in lieu of CHEM 115, CHEM 116, and CHEM 215. The student will need to take an additional 2 credit hours of Electives to reach the required minimum of 120 credit hours for graduation.

WVUteach

CHEMISTRY 9-ADULT

Teaching changes lives. It is a rewarding profession that makes a difference. If you've ever considered teaching, WVUteach is an innovative program uniting in-depth science and mathematics education with teacher preparation. Science and Mathematics teachers are some of the most sought after high school teachers.

WVUteach is designed to give undergraduate students the opportunity to explore the profession of teaching in STEM fields (science, technology, engineering, and math) in a hands-on way. In your very first semester in the program, you will have the opportunity to develop and teach a lesson in a local classroom. WVUteach allows you to complete a rigorous degree in any STEM field and earn your secondary teaching certification in tandem with

your 4-year degree in mathematics or science, one degree, with an additional career option. WVUteach is designed to give you the essential tools to forge change in the next generation.

In WVUteach, you take the same courses as students in non-teaching options, with slight variations. You will be able to compete with students in the non-teaching option for the same jobs and graduate programs in your field. Graduate program prerequisites vary. Students thinking about graduate school should always speak to the Graduate Advisor for the program to determine the coursework expected for applicants.

For more information on licensure requirements please visit our webpage (<http://WVUteach.wvu.edu>) and schedule an appointment with a WVUteach advisor.

Students seeking Chemistry 9-Adult teaching certification complete the Chemistry B.A. or B.S. major requirements and the following courses (27 hours). The WVUteach curriculum can be completed within the 120 hours required for graduation with a B.A. or B.S. in Chemistry:

WVUTEACH: CHEMISTRY 9-ADULT

ARSC 120	Inquiry Approaches to Teaching	1
ARSC 220	Inquiry-Based Lesson Design	1
UTCH 221	Knowing and Learning in Mathematics and Science (GEF 4)	3
UTCH 222	Classroom Interactions in Math and Science	3
UTCH 420	Project-Based Instruction in Mathematics and Science	3
UTCH 430	Apprentice Teaching in Math and Science	10
MATH 318	Perspectives on Mathematics and Science (GEF 5)	3
CHEM 376	Research Methods	3
Total Hours		27

ADDITIONAL COURSEWORK FOR NON-CHEMISTRY MAJORS

Select one of the following sequences: 4-5

CHEM 115 & CHEM 116 & CHEM 215	Fundamentals of Chemistry and Fundamentals of Chemistry and Introductory Analytical Chemistry
CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry

Select one of the following: 3-4

CHEM 231	Organic Chemistry: Brief Course
Or	
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory

Select one of the following sequences:

CHEM 341 & CHEM 342	Physical Chemistry: Brief Course and Experimental Physical Chemistry
CHEM 346 & CHEM 347	Physical Chemistry and Physical Chemistry Laboratory
CHE 320 & CHE 450	Chemical Engineering Thermodynamics and Unit Operations Laboratory 1
MAE 320 & MAE 322	Thermodynamics and Thermal and Fluids Laboratory
PHYS 461 & PHYS 341	Thermodynamics and Statistical Mechanics and Advanced Laboratory

Additional Coursework 24

Physics

Select one of the following sequences:

PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics
PHYS 111 & PHYS 112	General Physics and General Physics
PHYS 112 & PHYS 105	General Physics and Conceptual Physics

Biology

BIOL 101 & BIOL 103 or BIOL 115	General Biology and General Biology Laboratory Principles of Biology
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Geology**Select one of the following sequences:**

GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory
GEOL 103 & GEOL 104	Earth Through Time and Earth Through Time Laboratory

Mathematics

MATH 155 & MATH 156	Calculus 1 and Calculus 2
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Communication Studies

Degree Offered

- Bachelor of Arts

Nature of Program

The Department of Communication Studies offers a curriculum to meet the needs of liberal arts and pre-professional students oriented toward communication-related careers such as marketing, sales, recruiting, public relations, strategic communication, and market research among many others. The undergraduate curriculum focuses upon the application of theory and research in human communication to a variety of personal, social, and organizational settings. Majors may elect to follow one of five areas of emphasis (health, integrated, interpersonal, social media and communication technology, or strategic and organizational communication). All majors complete a capstone sequence that consists of two courses intended to integrate academic coursework and apply course material to real-world experience. For more information about this program, please go to <http://communicationstudies.wvu.edu>.

HEALTH COMMUNICATION

Facilitate your preparation for health-related careers by focusing on communication over the lifespan, health campaigns, mediated communication, and persuasion. Learn how to design and evaluate effectively health messages to be communicated interpersonally, organizationally, and within the community at large.

INTEGRATED COMMUNICATION

Gain exposure to a generalist communication education. Tailor your degree program to enhance communication skills with your own goals and passions in mind with assistance from your advisor.

INTERPERSONAL COMMUNICATION

Develop your ability to investigate, identify, and enact effective behaviors in personal relationships such as family, coworkers, small group, friends, and romantic partnerships. This knowledge complements fields that involve or focus on the betterment of these relationships.

SOCIAL MEDIA & COMMUNICATION TECHNOLOGY

Gain expertise in the emerging role of social networking and social media in human communication for interpersonal, instructional, organizational, and strategic contexts. Be prepared to apply the theory of social media technology to meet personal and professional goals.

STRATEGIC AND ORGANIZATIONAL COMMUNICATION

Develop your ability to successfully navigate any organization by improving your understanding of organizational communication, social media, small group dynamics, persuasion, and communication campaigns.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; follow the link for a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Matthew M. Martin - Ph.D. (Kent State University)

PROFESSORS

- Melanie Booth-Butterfield - Ph.D. (University of Missouri-Columbia)
Interpersonal, nonverbal, health, and instructional communication
- Joan S. Gorham - Ed.D. (Northern Illinois University)
Instructional, nonverbal, and mass media communication
- Matthew M. Martin - Ph.D. (Kent State University)
Chair. Instructional communication, Interpersonal and family communication, Personality
- Scott A. Myers - Ph.D. (Kent State University)
Instructional, small group, interpersonal, and family communication

ASSOCIATE PROFESSORS

- Megan Dillow - Ph.D. (Pennsylvania State University)
Interpersonal communication, Communication theory, Darkside
- Alan Goodboy - Ph.D. (West Virginia University)
Instructional Communication, Interpersonal Communication
- Brian R. Patterson - Ph.D. (University of Oklahoma)
Interpersonal communication, Communication theory, Communication and development
- John D. Shibley - Ph.D. (Ohio State University)
Film appreciation, Communication and nonviolence

ASSISTANT PROFESSORS

- Jamie Banks - Ph.D. (Colorado State University)
Identity, Social Media, Human Communication
- Nick Bowman - Ph.D. (Michigan State University)
Entertainment Media, Social Media, Media Effects, Experimental Methods
- Elizabeth Cohen - Ph.D. (Georgia State University)
Social Media, Game Studies, Prosocial Media Effects
- John Cole - M.A. (West Virginia University)
Political communication, Organizational communication. Computer mediated communication.
- Ji Young Lee - M.A. (Pennsylvania State University)
- Christine Rittenour - Ph.D. (University of Nebraska at Lincoln)
Family communication, Communication and aging, Social identity and intergroup communication.
- Michael Rold - Ph.D. (Louisiana State University)
Business Communication, Presentational Speaking, Interpersonal

PROFESSOR EMERITA

- Virginia P. Richmond

ASSOCIATE PROFESSOR EMERITA

- Enid J. Portnoy

LECTURER

- Nikki Loy - M.S.J. (West Virginia University)
Public Communication, Small Group Communication

Admission Requirements

Some entering freshmen can be admitted directly into the major, based on high school GPA and results of standardized tests. Others will be advised in the Center for Learning, Advising, and Student Success until they meet milestones set by the department: a 2.25 GPA in all Communication Studies courses. Satisfactory completion of one course is sufficient to be accepted into the major.

Benchmark Expectations

In order to declare an Area of Emphasis, students must have a 2.5 GPA in COMM 201 and 203. All students must declare an AoE after completion of COMM 201 and 203. If a student has not declared an AoE in one year's time, they will be removed from the major. All students must have an AoE to continue in upper division major courses and must have an AoE to graduate with a degree in Communication Studies. All majors must meet with a COMM adviser each semester. Students who do not meet these expectations may be removed from their major.

Click here to view the Suggested Plan of Study (p. 236)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in Communication Studies

Completion of the major requires students to earn a minimum of 36 credit hours in Communication Studies courses. All students wishing to obtain a degree in Communication Studies must comply with the following:

- **Capstone Requirement:** The university requires the successful completion of a Capstone course: COMM 403.
- **Writing and Communication Requirement:** The Communication Studies Bachelor of Arts is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of the GPA in the Major:** Obtain a minimum GPA of 2.5 for all required COMM courses used to meet major requirements. Courses in Communication Studies that a student wishes to count toward the major must be completed with a grade of C- or better. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Area of Emphasis:** Students must complete COMM 201 and COMM 203 and select one of five areas of emphasis in Communication Studies in consultation with their adviser (i.e., Health, Integrated, Interpersonal, Social Media and Communication Technology, or Strategic and Organizational Communication).

- **Benchmark Expectations:** For details, go to the Communications Studies admissions tab (p. 234).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	31
WVUE 191 First Year Seminar	
GEF: number of courses may vary depending on overlap	
ECAS B.A. Requirements	12
Foreign Language	
Fine Arts Requirement	
Global Studies and Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
Core Courses	16
COMM 201 Communication Research Methods	
COMM 203 Communication Cornerstones	
COMM 491 Professional Field Experience	
CS 101 Intro to Computer Applications	
Select one of the following:	
STAT 111 Understanding Statistics	
STAT 201 Applied Statistical Modeling	
STAT 211 Elementary Statistical Inference	
ECON 225 Elementary Business and Economics Statistics	
Area of Emphasis	18
Communication Studies Electives	6
Select two classes in Communication Studies. At least one must be at the 300 or 400 level excluding COMM 490	
Capstone experience	3
COMM 403 Capstone Seminar	
General Electives	34
Number of electives will vary depending on overlap and AP credit	
Total Hours	120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 GEF 5	3
CS 101 (GEF 2)	4 ECAS Fine Arts Requirement (GEF 6)	3
Foreign Language 101	3 Stat Requirement (GEF 3)	3
General Elective	4 Foreign Language 102	3
	15	15

Second Year

Fall	Hours Spring	Hours
GEF 2	3 ENGL 102 (GEF 1)	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 GEF 8*	3
Foreign Language 203	3 Foreign Language 204	3
COMM 203	3 COMM 201	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 COMM Elective 1	3
GEF 8*	3 COMM 491	3
Area of Emphasis Course 1	3 Area of Emphasis Course 3	3

Area of Emphasis Course 2	3 Area of Emphasis Course 4	3
General Elective	3 General Elective	3
		15

Fourth Year

Fall	Hours Spring	Hours
COMM Elective 2 (@300-level or above)	3 COMM 403 (Capstone)	3
Area of Emphasis Course 5	3 Area of Emphasis Course 6	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
		15

Total credit hours: 120

* Courses taken to satisfy the F8 requirement may overlap with major courses. Students who complete a minor, a second major or a dual degree already meet F8.

HEALTH COMMUNICATION AREA OF EMPHASIS REQUIREMENTS**Core courses in Health Communication** 12

COMM 307	Life-Span Communication
COMM 309	Health Communication
COMM 404	Persuasion
COMM 409	Advanced Health Communication

Health Communication Electives 6

Select two of the following:

COMM 300	Interpersonal Communication Theory
COMM 303	Business and Professional Communication
COMM 317	Communication and Aging
COMM 335	Social Media in the Workplace
COMM 401	Advanced Communication Research Methods
COMM 405	Effects of Mediated Communication
COMM 408	Advanced Nonverbal Communication

Total Hours 18

INTEGRATED COMMUNICATION AREA OF EMPHASIS REQUIREMENTS

Select 6 classes from the following: 18

COMM 300	Interpersonal Communication Theory
COMM 303	Business and Professional Communication
COMM 304	Human Communication and Rational Decisions
COMM 305	Appreciation of the Motion Picture
COMM 307	Life-Span Communication
COMM 309	Health Communication
COMM 314	Nonviolence in Communication Behavior
COMM 315	American Diversity in Film
COMM 317	Communication and Aging
COMM 322	Dark Side of Communication
COMM 335	Social Media in the Workplace
COMM 401	Advanced Communication Research Methods
COMM 404	Persuasion
COMM 405	Effects of Mediated Communication
COMM 406	Advanced Organizational Communication
COMM 408	Advanced Nonverbal Communication
COMM 409	Advanced Health Communication

COMM 410	Family Communication	
COMM 424	Communication Ethics	
COMM 425	Computer Mediated Communications	
COMM 426	Organizational Culture	
COMM 435	Advanced Social Media	
Total Hours		18

INTERPERSONAL COMMUNICATION AREA OF EMPHASIS REQUIREMENTS

Core Courses		12
COMM 202	Interpersonal Communication	
COMM 300	Interpersonal Communication Theory	
COMM 322	Dark Side of Communication	
COMM 410	Family Communication	
Electives		6
Select two of the following classes:		
COMM 212	Gender Communication	
COMM 307	Life-Span Communication	
COMM 317	Communication and Aging	
COMM 404	Persuasion	
COMM 406	Advanced Organizational Communication	
COMM 408	Advanced Nonverbal Communication	
COMM 424	Communication Ethics	
COMM 426	Organizational Culture	
Total Hours		18

SOCIAL MEDIA AND COMMUNICATION TECHNOLOGY AREA OF EMPHASIS REQUIREMENTS

Core Courses		12
COMM 335	Social Media in the Workplace	
COMM 405	Effects of Mediated Communication	
COMM 425	Computer Mediated Communications	
COMM 435	Advanced Social Media	
Electives		6
Select two of the following:		
COMM 300	Interpersonal Communication Theory	
COMM 304	Human Communication and Rational Decisions	
COMM 305	Appreciation of the Motion Picture	
COMM 315	American Diversity in Film	
COMM 401	Advanced Communication Research Methods	
COMM 404	Persuasion	
COMM 406	Advanced Organizational Communication	
Total Hours		18

STRATEGIC AND ORGANIZATIONAL COMMUNICATION AREA OF EMPHASIS REQUIREMENTS

Core Courses		12
COMM 306	Organizational Communication	
COMM 404	Persuasion	
COMM 406	Advanced Organizational Communication	
COMM 426	Organizational Culture	
Electives		6
Select two of the following classes:		
COMM 300	Interpersonal Communication Theory	

COMM 303	Business and Professional Communication
COMM 304	Human Communication and Rational Decisions
COMM 335	Social Media in the Workplace
COMM 401	Advanced Communication Research Methods
COMM 424	Communication Ethics
COMM 435	Advanced Social Media

Total Hours

18

Major Learning Goals

COMMUNICATION STUDIES

Upon successful completion of the B.A. degree, **Communication Studies** majors will be able to:

1. Describe the major theories of human communication and apply them to various contexts.
2. Critique communication messages from a social science perspective.
3. Cite evidence of the impact of communication on human behavior in interpersonal and/or organizational contexts.
4. Identify and describe the functions of media in a democratic society.
5. Investigate the role of verbal and nonverbal messages in the human communication process.
6. Examine the intersection of communication and culture.
7. Design and evaluate effective strategies for social influence.
8. Critically examine ethical issues involved in various communication contexts.
9. Evaluate social science criteria to evaluate communication research.
10. Analyze the role of communication in conflict and conflict management.

COMMUNICATION STUDIES MINOR

MINOR CODE - U001

A cumulative GPA of 2.0 across courses counted toward the minor is required.

Group A *

Select six hours of the following: 6

COMM 100 & COMM 102	Principles of Human Communication and Human Communication in the Interpersonal Context
COMM 103	Presentational Speaking
COMM 104	Public Communication
COMM 105	Introduction to the Mass Media
COMM 112	Small Group Communication
COMM 122	Human Communication in Contemporary Society

Group B

Select 6 hours from the following: 6

COMM 306	Organizational Communication
COMM 308	Nonverbal Communication
COMM 316	Intercultural Communication

Group C

One additional 3-credit 300 or 400 level course (excluding Comm 490) 3

Total Hours

15

* A 300- or 400-level COMM course may be substituted for one 100 level course in Group A.

Criminology

Degree Offered

- Bachelor of Arts

Nature of Program

The criminology major focuses on the social roots and implications of criminal behavior and the operation of the criminal justice system. Students learn to apply the theoretical and methodological tools of sociology to make sense of crime and social control in modern society, while selecting from a variety of substantive course topics. These include but are not limited to: juvenile delinquency, street crime and gangs, corporate and white collar crime, hate crime, terrorism, drug use and abuse, media and crime, the culture of police work, and punishment and social control.

The sociological approach to crime distinguishes criminology from the related field of criminal justice, which emphasizes the procedural activities of criminal justice agencies. Criminology treats crime as the product of complex social forces, seeking to understand why laws are made in the first place, how and why these laws are violated, and how society responds when laws are broken. This holistic societal perspective prepares graduates to pursue a broad range of careers such as policing, security, corrections, law, social services, and business. The major also prepares students for graduate studies in the social sciences in pursuit of academic or applied research careers or for professional training in law, public administration, social work, and related fields. For more information about this program, please visit the departmental website (<http://soca.wvu.edu/students/undergraduate-students>).

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; please consult the list of all available minors and their requirements (p. 44). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Jeralynn S. Cossman - Ph.D. (Florida State University) Sociology
Demography, Health, Inequalities

PROFESSORS

- Walter S. DeKeseredy - Ph.D. (York University) Sociology
Anna Deane Carlson Endowed Chair of Social Sciences. Violence against women, Critical criminology, Masculinities and crime, Criminology theory
- R. Gregory Dunaway - Ph.D. (University of Cincinnati) Sociology
Dean of the Eberly College of Arts and Sciences
- S. Melissa Latimer - Ph.D. (University of Kentucky) Sociology
Gender/race/ethnicity, Inequality/labor markets/welfare systems
- Lawrence T. Nichols - Ph.D. (Boston College) Sociology
Criminology, Theory, Business
- James Nolan, III - Ph.D. (Temple University) Sociology
Criminal justice, Group and social processes
- Rachael A. Woldoff - Ph.D. (Ohio State University) Sociology
Community, Crime, Inequality/race/class

ASSOCIATE PROFESSORS

- Corey Colyer - Ph.D. (Syracuse University) Sociology
People processing systems, Agencies of social control
- Amy Hirshman - Ph.D. (Michigan State University) Anthropology
Mesoamerican archaeology, Social complexity, Ceramics
- Daniel Renfrew - Ph.D. (Binghamton University) Anthropology
Environmental and political anthropology, Social movements, Latin American cultures
- Rachel Stein - Ph.D. (University of Akron) Sociology
Criminology, Victimization, Media and crime
- Karen Weiss - Ph.D. (SUNY-Stony Brook) Sociology
Criminology, Victimization, Gender/sexuality/culture
- Joshua Woods - Ph.D. (Michigan State University) Sociology

Social psychology, Media, Complex organizations, Sociology of risk

CLINICAL ASSOCIATE PROFESSOR

- Jennifer Steele - Ph.D. (Pennsylvania State University) Rural Sociology
Natural resource sociology, Rural and community development

TEACHING ASSOCIATE PROFESSOR

- Adam Dasari - Ph.D. (Oklahoma State University) Sociology
Social stratification, Globalization, Environmental sociology, Theory

ASSISTANT PROFESSORS

- Katie E. Corcoran - Ph.D. (University of Washington) Sociology
Theory, Organizations, Culture, Criminology, Religion, Social networks
- Lisa M. Dilks - Ph.D. (University of South Carolina) Sociology
Social psychology, Group processes, Law and society, Quantitative methods
- Jason Manning - Ph.D. (University of Virginia) Sociology
Conflict and social control, Violence, Sociology of knowledge
- Christopher P. Scheitle - Ph.D. (Pennsylvania State University) Sociology
Religion, Science in society, Crime, Organizations
- Heather M. Washington - Ph.D. (Ohio State University) Sociology
Community, Crime, Family, Inequality
- Jesse Wozniak - Ph.D. (University of Minnesota) Sociology
Policing, Criminology, Deviance, State power

TEACHING ASSISTANT PROFESSORS

- Susanna Donaldson - Ph.D. (University of Iowa) Anthropology
Anthropology of work, Identity, Appalachian cultures
- Amanda Hall-Sanchez - Ph.D. (University of Hawaii at Manoa) Sociology
Violences against women, Incarcerated individuals, Victimology, Deviance, Feminist theory & methodologies
- Cheryl Johnson-Lyons - J.D. (West Virginia University)
Law and society, Inequalities, Political sociology

TEACHING INSTRUCTORS

- Daniel Brewster - M.A. (West Virginia University) Communication Studies
- Nancy Feather - M.S.W. (West Virginia University)
- Douglas Sahady - M.A. (California University of Pennsylvania) Social Science
- Genesis Snyder - M.A. (Western Michigan University) Anthropology

PROFESSOR EMERITUS

- Ronald C. Althouse - Ph.D. (University of Minnesota) Sociology
Theory, Work, Occupational safety and health

ASSOCIATE PROFESSORS EMERITI

- Ann L. Paterson - Ph.D. (Michigan State University) Sociology
- Patricia C. Rice - M.A. (Ohio State University) Anthropology
- Joseph J. Simoni - Ph.D. (University of Notre Dame) Sociology
- William I. Torry - Ph.D. (Columbia University) Anthropology

Admission Requirements

Some entering freshmen can be admitted directly into the major, based on their high school GPA and results of standardized tests. Others will be advised in the Center for Learning, Advising, and Student Success until they meet milestones set by the department. These include: SOCA 101 and SOCA 105 with grades of C- or higher and an overall GPA of 2.0. It is recommended that students also take MATH 122 or higher (pre-requisite for STAT 211) at the same time SOCA 101 and SOCA 105 are being completed.

Benchmark Expectations

Students who start as freshmen are expected to complete SOCA 101 and SOCA 105 with grades of C- or higher by the end of freshman year; 200-level coursework (including STAT 211) by the end of sophomore year; and four 300-level courses (including SOCA 301 and SOCA 311) by the end of junior

year. Students must maintain a GPA of 2.0 overall and a minimum GPA of 2.0 in all SOCA courses counting toward major requirements. All majors must meet with their adviser every semester. Students who do not meet these benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 244)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in Criminology

All Criminology majors are required to take a common set of core courses and choose major electives based on their scholarly and career interests.

- **Capstone Requirement:** The university requires completion of a Capstone course. Criminology majors must complete of SOCA 488 successfully.
- **Writing and Communication Requirement:** Criminology Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two **SpeakWrite Certified Courses™**: SOCA 488, and a 2nd course selected from HIST 203, HIST 207, HIST 221, HIST 241, HIST 242, HIST 259, HIST 264, PSYC 241, SOCA 318, WGST 150, WGST 225.
- **Calculation of the GPA in the major:** A minimum GPA of 2.0 is required across all SOCA courses counted toward meeting major requirements. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for the D/F repeat.
- **Experiential Learning:** Students are encouraged to pursue a Professional Field Experience (SOCA 491) or independent Study (SOCA 495) in their junior or senior year, combining experiential work with previously acquired skills in a project appropriate to their career goals. These courses may be taken for variable credit and will count towards graduation credits, but not major requirements.
- **Benchmark Expectations:** For details, go to the Criminology admissions tab (p. 241).

Curriculum Requirements

UNIVERSITY REQUIREMENTS		31
WVUE 191	First Year Seminar	
GEF Requirements: credits may vary depending on overlap with major		
ECAS B.A. Requirements		12
Foreign Language		
Fine Arts Requirement		

Global Studies and Diversity Requirement

DEPARTMENTAL REQUIREMENTS**Common Core Requirements**

19

SOCA 101	Introduction to Sociology (MinGrade of C-)
SOCA 105	Introduction to Anthropology (MinGrade of C-)
SOCA 199	Orientation to Sociology and Anthropology (MinGrade of C-)
SOCA 232	Criminology
SOCA 234	The Criminal Justice System
SOCA 301	Sociological Theory
SOCA 311	Social Research Methods

Statistics Requirement

3

Select one of the following:

STAT 201	Applied Statistical Modeling
STAT 211	Elementary Statistical Inference

Upper-level Criminology Requirements

9

Select three of the following:

SOCA 302	Deviant Behavior
SOCA 303	Juvenile Delinquency
SOCA 318	Hate Crime
SOCA 319	Police Culture and Socialization
SOCA 321	Punishment and Social Control
SOCA 324	Gender and Crime
SOCA 331	Sociology of Law
SOCA 334	Corporate and White Collar Crime
SOCA 339	Organized Crime
SOCA 345	Terrorism
SOCA 346	Victimology
SOCA 402	The Investigating Professions
SOCA 407	Constructing Social Problems
SOCA 415	Mass Media, Crime and Deviance
SOCA 431	Cybercrime
SOCA 432	Drugs, Crime, and Society
SOCA 433	Inside Out Prison Exchange
SOCA 435	Criminal Justice Process
SOCA 444	Neighborhoods and Crime
SOCA 461	Issues in Crime and Justice
SOCA 470	Cities and Urban Life
SOCA 494	Seminar

Sociology or Anthropology Elective Courses

6

Select two of the following:

SOCA 207	Social Problems in Contemporary America
SOCA 221	Families and Society
SOCA 223	Death and Dying
SOCA 225	Inequality and the Media
SOCA 235	Race and Ethnic Relations
SOCA 252	Physical Anthropology
SOCA 254	Cultural Anthropology
SOCA 258	Introduction to Archaeology
SOCA 302	Deviant Behavior
SOCA 304	Complex Organizations
SOCA 318	Hate Crime
SOCA 320	Social Psychology

SOCA 323	Sociology of Rural Life	
SOCA 331	Sociology of Law	
SOCA 333	Sociology of Work and Work Places	
SOCA 337	Sociology of American Business	
SOCA 350	Latin American Culture	
SOCA 351	Traditional and Changing Africa	
SOCA 352	Historical Archaeology	
SOCA 353	Anthropology of Religion	
SOCA 354	Mesoamerican Archaeology	
SOCA 355	Cultural Resource Management	
SOCA 357	Archaeological Field School	
SOCA 358	Anthropology of Health and Illness	
SOCA 360	Women and Men in Society	
SOCA 405	Class, Status, and Power	
SOCA 450	Archaeology of Ancient States	
SOCA 457	Social Movements	
SOCA 458	Environmental Anthropology	
SOCA 463	Economy and Society	
Capstone Experience		3
SOCA 488	The Capstone Experience	
General Electives		37
Number of electives may vary depending on overlap		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 3	3 GEF 2	3
ECAS Fine Arts Requirement (GEF 6)	3 GEF 5	3
Foreign Language 101	3 Foreign Language 102	3
SOCA 101 (GEF 4)	3 SOCA 105 (ECAS Global Studies and Diversity Requirement; GEF 7)	3
SOCA 199	1 General Elective	1
	14	16

Second Year

Fall	Hours Spring	Hours
GEF 2	3 ENGL 102 (GEF 1)	3
GEF 8*	3 GEF 8*	3
Foreign Language 203	3 Foreign Language 204	3
SOCA 232	3 SOCA 234	3
Statistics Requirement	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 SOCA 311	3
SOCA 301	3 Upper-level Criminology Course	3
Upper-level Criminology Course	3 Sociology or Anthropology Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Upper-level Criminology Course	3 SOCA 488 (Capstone)	3
Sociology or Anthropology Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
15		15

Total credit hours: 120

* Students who complete a minor, a double major or a dual degree already fulfill F 8.

Major Learning Goals

CRIMINOLOGY

Students graduating with a BA in **Criminology** will have the ability to:

1. Describe the sociological approach to crime and social control and how it is similar to and different from other approaches.
2. Describe the history and core components of the American criminal justice system (police, corrections, and courts), and provide examples of ways that society shapes and is shaped by these institutions.
3. Discuss how criminological theories and research contribute to our understanding of crime, victimization, and the criminal justice system and to contemporary public policy.
4. Apply ethical principles to the conduct of criminological research and the applications of its findings.
5. Critically analyze contemporary issues in crime and justice by retrieving and synthesizing appropriate information and evidence and identifying implications for research and practice/policy.
6. Demonstrate effective, clear and persuasive communication skills according to disciplinary conventions

Economics

Degree Offered

- Bachelor of Arts

Nature of Program

The Department of Economics offers two majors in economics: one through the College of Business and Economics and the other through the Eberly College of Arts and Sciences. The College of Business and Economics grants a bachelor of science in economics and the Eberly College of Arts and Sciences grants a bachelor of arts with a major in economics.

The program leading to the B.A. degree is designed for students who wish to combine fundamental training in economics with a liberal arts education. In addition to the general education and related requirements, students have in excess of forty credit hours of unrestricted electives.

Economics students are taught to identify the costs and the benefits of a decision, which are sometimes not obvious. The economist has the skill to identify the real consequences of a decision. That skill is valued highly. Economics is a useful major for anyone interested in a career in politics, business, law, Foreign Service, government, banking, or any other field in which the ability to make or analyze policy decisions is important. The demand for people with degrees in economics, both at the graduate and undergraduate levels, is high.

Economics deals with some of today's most pressing issues: global warming, poverty, international trade, unemployment, the income distribution, education, the deficit, the emerging economies, and national defense.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; for more information, please consult the list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds.

Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Clifford B. Hawley - Ph.D. (Duke University)

PROFESSORS

- Roger Congleton - Ph.D. (Virginia Polytechnic Institute and State University)
- Clifford B. Hawley - Ph.D. (Duke University)
- Brad Humphreys - Ph.D. (Johns Hopkins University)
Sports Economics, Economics of Gambling

ASSOCIATE PROFESSORS

- Arabinda Basistha - Ph.D. (University of Washington)
Empirical Macroeconomics
- Brian J. Cushing - Ph.D. (University of Maryland)
Population Migration & Poverty
- John Deskins - Ph.D. (University of Tennessee)
Director Bureau of Business & Economic Research
- Stratford M. Douglas - Ph.D. (University of North Carolina)
Energy Economics & Applied Econometrics
- Joshua Hall - Ph.D. (West Virginia University)
Applied Microeconomics
- Shuichiro Nishioka - Ph.D. (University of Colorado at Boulder)
International Trade & Economic Development
- Jane Ruseski - Ph.D. (Johns Hopkins University)
Associate Director Bureau of Business & Economic Research
- Feng Yao - Ph.D. (Oregon State Univ)
Theoretical and Applied Econometrics

ASSISTANT PROFESSORS

- Gregory DeAngelo - Ph.D. (University of California at Santa Barbara)
Applied Microeconomics
- Daniel Grossman - Ph.D. (Cornell University)
Health Economics & Public Economics
- Bryan McCannon - Ph.D.
- Adam Nowak - Ph.D. (Arizona State University)
Econometrics, Financial Economics
- Eric Olson - Ph.D. (University of Alabama)
Macroeconomics, Monetary Policy & Financial Economics

PROFESSORS EMERITI

- Robert D. Britt
Emeritus
- Ming-jeng Hwang - Ph.D. (Texas A&M University)
Emeritus
- Kern Kymn
Emeritus
- Patrick C. Mann - Ph.D. (Indiana University)
Emeritus
- Tom S. Witt - Ph.D. (Washington University)
Econometrics, Energy Economics, Regional Economics
- William Reece - Ph.D. (Washington University)

ADJUNCT PROFESSORS

- Victor Chow - Ph.D. (University of Alabama)
Business Finance, Security Analysis & Portfolio Management
- Randall Jackson - Ph.D. (University of Illinois at Urbana-Champaign)
Regional Economic Development
- David Martinelli - Ph.D. (University of Maryland)
- Timothy Phipps - Ph.D. (University of California)
Applied Econometrics
- Peter Schaeffer - Ph.D. (University of Southern California)
Economic Policy & Regional & Rural Economics & Development

ADJUNCT ASSOCIATE PROFESSORS

- Ashok Abbott - Ph.D. (Virginia Tech)
- Paul Speaker - Ph.D. (Purdue University)
Economic Modeling

VISITING ASSISTANT PROFESSOR

- Judge (Earl) Glock - Ph.D. (Rutgers University)
American Economic History, History of Central Banking and Money
- Umair Khalil - Ph.D. (University of Rochester)
Applied Microeconomics
- Michael Sacks - Ph.D. (University of California, Irvine)
Economics of Innovation, Industrial Organization, Public/Club Theory, Game Theory

Admission Requirements

All students are admitted directly to the Economics major.

Benchmarks Expectations

- By the end of the 3rd semester in the major, students should have successfully completed ECON 201 and 202 with a minimum 2.5 GPA across those two courses, and MATH 126 with a C or higher.
- By the end of the 4th semester in the major, students should have completed calculus with a C or higher and have completed ENGL 101 and 102.
- All majors must meet with ECON department adviser each semester. Students who do not meet their benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 249)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in Economics

Students must earn a minimum of 24 semester hours of upper-division coursework in economics. Additional recommended courses can be determined in consultation with an economics adviser. More calculus and linear algebra are typically recommended for students.

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Economics majors are required to take ECON 481 in order to satisfy the Capstone requirement.
- **Writing and Communication Skills requirement:** Economics Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103) and two **SpeakWrite Certified Courses™**: BCOR 299, and a 2nd course selected from: ASP 420, COMM 202, COMM 303, COMM 335, COMM 404, COMM 435, ENGL 214, ENGL 304, ENGL 305, GEOG 300, HIST 250, HIST 259, HIST 325, HIST 439, HIST 451, HIST 454, HIST 467, HIST 473, PHIL 321, PHIL 323, PHIL 346, POLS 230, POLS 240, POLS 250, PSYC 241.
- **Calculation of the GPA in the Major:** Economics majors must maintain a grade point average of 2.0 for all economics courses and earn a grade of C- or better in ECON 301 and ECON 302. If a course is repeated, all attempts are included in the calculation of the GPA, unless the course is eligible for the D/F repeat policy.
- **Residence Requirement:** Economics majors may take a maximum of nine of their thirty-three credit hours of economics courses out of residence. Transfer students must take a minimum of fifteen credit hours of upper-division economics courses in residence.

General Education Foundations Requirements

UNIVERSITY REQUIREMENTS	25
WVUE 191 First Year Seminar	
GEF: number may vary depending on overlap	
COLLEGE REQUIREMENT	12
Foreign Language	
Fine Arts Requirement	
Global Studies & Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
Mathematics Requirement:	3
Select one:	
MATH 150 Applied Calculus	
MATH 153 & MATH 154 Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155 Calculus 1	
Core Economics Courses	15
ECON 201 Principles of Microeconomics	
ECON 202 Principles of Macroeconomics	
ECON 225 Elementary Business and Economics Statistics	
ECON 301 Intermediate Micro-Economic Theory	
ECON 302 Intermediate Macro-Economic Theory	
Economics Electives	15
Select 15 hours of Economics at the 300 or 400 level	
Capstone Requirement	3
ECON 481 American Economic History	
GENERAL ELECTIVES	47
Number of electives may vary depending on overlap	
Total Hours	120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 GEF 2	3
GEF 2	3 Foreign Language 102	3
MATH 150 (GEF 3)	3 ECON 225 (GEF 8)	3
General Elective	2 General Elective	3
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 ECAS Fine Arts Requirement (GEF 6)	3
GEF 5	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3
Foreign Language 203	3 Foreign Language 204	3
ECON 201 (GEF 8)	3 ECON 202 (GEF 8)	3
GEF 4	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
ECON 301	3 ECON 302	3
ECON Elective 1	3 ECON Elective 2	3
General Elective	3 ECON Elective 3	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ECON Elective 4	3 ECON 481 (Capstone)	3
ECON Elective 5	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

Major Learning Goals

ECONOMICS

Upon successful completion of the B.A. degree, **Economics** majors will demonstrate:

1. Ability to use supply and demand to analyze how world events affect market equilibrium prices and quantities.
2. Understanding of the theory of the firm and its implications for prices and production under different market structures.
3. Understanding of the role of prices and profits and losses in coordinating economic activity.
4. Ability to evaluate the efficiency of competitive market outcomes relative to alternative arrangements.
5. Ability to explain how GDP, the unemployment rate, inflation, interest rates, and economic growth are measured, to distinguish between real and nominal variables, and to explain the significance of these measures.
6. Understanding of and ability to analyze the determinants of long-run variations in national economic growth rates, wealth, and income.
7. Understanding of and ability to analyze the determinants of short-run fluctuations of economic variables over the business cycle.
8. Understanding of the goals and tools of monetary and fiscal policy.

ECONOMICS MINOR

MINOR CODE - U003

To earn a minor in economics, a student must complete the following courses with a grade point average of 2.0 or better:

Core Economics Courses:		12
ECON 201	Principles of Microeconomics	
ECON 202	Principles of Macroeconomics	
ECON 301	Intermediate Micro-Economic Theory	
ECON 302	Intermediate Macro-Economic Theory	
Economics Electives:		6
Select any two economics courses at the 300-level or above.		
<hr/> Total Hours		18

English

Degree Offered

- Bachelor of Arts

Nature of Program

The department offers programs for students who want to develop skills in writing, analytical reading, and critical thinking in order to prepare for any number of career paths. Specific coursework is also available for those who intend to pursue a graduate degree in English, attain secondary certification to teach English or language arts, concentrate in literature and language as preparation for entrance into professional schools, or concentrate in creative writing or professional writing and editing. Students interested in undergraduate creative writing should speak with the coordinator of creative writing to be sure an appropriate plan of study is developed. Because English majors have varying interests in literature, language, and writing, they are strongly urged to consult the department's undergraduate advisers to plan their coursework.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; follow the link for a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

Publications

Calliope, a publication of WVU student writing, is sponsored by the Department of English and the English Honorary and Club.

Cheat River Review (<http://cheatriverreview.com>), is a literary magazine edited by MFA students and the Council of Writers of the West Virginia University MFA program.

Kairos (<http://kairos.technorhetoric.net>), is a referred, open-access online journal exploring the intersections of rhetoric, technology, and pedagogy. The journal reaches a wide audience—currently 45,000 readers per month—hailing from Ascension Island to Zimbabwe.

Victorian Poetry, a critical journal of Victorian literature, is edited by the Department of English. The journal was established at WVU in 1963 and has become internationally known, with subscribers in 27 countries.

FACULTY

CHAIR

- James Harms - M.F.A. (Indiana University)

ASSOCIATE CHAIR

- Brian Ballentine - Ph.D. (Case Western Reserve University)

PROFESSORS

- Laura Brady - Ph.D. (University of Minnesota)
Eberly Family Distinguished Professor of Outstanding Teaching. Composition and rhetorical theory, Writing program administration
- Mark Brazaitis - M.F.A. (Bowling Green University)
Creative writing: Fiction
- Ryan Claycomb - Ph.D. (University of Maryland)
20th-century British literature, Drama, Gender studies
- Stephanie Foote - Ph.D. (University of Buffalo)
Jackson and Nichols Professor of English, Gender and women's studies, Critical theory
- Marilyn Francus - Ph.D. (Columbia)
Restoration and eighteenth century literature
- James Harms - M.F.A. (Indiana University)
Creative writing: Poetry
- Kirk Hazen - Ph.D. (University of North Carolina)
Linguistics
- Mary Ann Samyn - M.F.A. (University of Virginia)
Creative writing: Poetry
- Timothy Sweet - Ph.D. (University of Minnesota)
Eberly Family Distinguished Professor of American Literature. American studies, Literature and environment, Native American literature

ASSOCIATE PROFESSORS

- Cheryl Ball - Ph.D. (Michigan Technological University)
Digital editing and publishing
- Brian Ballentine - Ph.D. (Case Western Reserve University)
Technical and professional communication, Digital rhetoric
- Gwen Bergner - Ph.D. (Princeton University)
African-American and postcolonial literatures, race, and gender theories
- Cari Carpenter - Ph.D. (University of Michigan)
19th-century American literature, Native American literature
- Anna Shannon Elfenbein - Ph.D. (University of Nebraska)
American literature, Women's studies, Southern literature, African-American fiction, Popular culture
- Lara Farina - Ph.D. (Fordham University)
Medieval literature and culture, History of sexuality and reading
- Michael Germana - Ph.D. (University of Iowa)
American studies, 19th- and 20th-century American literature, Popular culture
- Catherine Gouge - Ph.D. (West Virginia University)
Professional writing, Distance learning, Media studies
- Rosemary Hathaway - Ph.D. (Ohio State University)
Folklore, 20th-century American literature, English education
- Adam Komisaruk - Ph.D. (University of California Los Angeles)
British Romanticism, 18th-century British literature
- John Lamb - Ph.D. (New York University)
Victorian literature, 19th-century historiography
- Kathleen O'Hearn Ryan - Ph.D. (University of Massachusetts)
20th century American literature
- Natalie Singh-Corcoran - Ph.D. (University of Arizona)
Writing Center theory and practice, Writing program administration, Writing assessment
- David Stewart - Ph.D. (Oxford)
Associate Vice President for International Outreach. British romanticism, Literary theory
- Lisa Weihman - Ph.D. (New York University)
Modern British and Irish literature and culture

ASSISTANT PROFESSORS

- Rose Casey - Ph.D. (Cornell University)

Modern British Literature

- Lowell Duckert - Ph.D. (George Washington University)
Early Modern British studies, Literature and environment.
- John Jones - Ph.D. (University of Texas)
Composition and Rhetoric, Digital literacy
- Tom Sura - Ph.D. (Purdue)
Composition and Rhetoric, Writing pedagogy
- Glenn Taylor - M.F.A. (Texas State University)
Fiction, Appalachian literature
- Johanna Winant - Ph.D. (University of Chicago)
Modern American poetry and poetics

TEACHING ASSISTANT PROFESSORS

- Nancy Caronia - Ph.D. (University of Rhode Island)
Contemporary British and American literature
- Sarah Morris - Ph.D. (University of Maryland)
human science phenomenology, embodiment, writing process, and student-centered teaching
- Douglas Phillips - Ph.D. (Carnegie Mellon University)
Professional and technical writing

INSTRUCTORS

- Jill Woods - M.A. (Eastern Michigan University)
Business and technical writing

PROFESSORS EMERITI

- Gail Galloway Adams
- Dennis Allen
- Rudolph Almasy
- Patrick Conner
- Ellesa High
- Elizabeth Juckett
- Byron Nelson
- Carolyn Nelson
- Kevin Oderman
- Ethel Morgan Smith

ADMISSION REQUIREMENTS

Entering freshmen are admitted directly into the major. Students coming from the Center for Learning, Advising, and Student Success or another unit must have a 2.0 GPA in all ENGL classes taken, and a 2.0 overall GPA. The department will accept students with an overall GPA below a 2.00, if it is the result of low grades outside of the Humanities.

BENCHMARK EXPECTATIONS

Students in the English major must maintain a 2.0 GPA overall and a 2.0 in the major. Students must earn a C- or better in all required English courses for graduation. All majors must meet with an English department adviser each semester. Students who do not meet these benchmarks may be removed from their major.

Benchmarks for students in the English pre-secondary education program are set by the College of Education & Human Services. All majors should meet with an English department adviser each semester.

Click here to view the Suggested Plan of Study (p. 254)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in English

An English major requires a minimum of thirty-six hours in literature, language, and writing, with a minimum of 12 credits at the 300 level or above. English majors with an area of emphasis may find some courses overlap with major requirements.

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. English majors choose, depending on focus, ENGL 418, ENGL 491A or ENGL 496 to meet this requirement. Students should consult with an adviser regarding the Capstone course.
- **Writing and Communication Requirement:** The English Bachelor of Arts is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of GPA in the major:** A minimum GPA of 2.0 is required in all English courses. Students must earn a grade of C- or better in all courses that are counted toward the major plus ENGL 101 and ENGL 102, or ENGL 103. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Area of Emphasis:** in addition to the major requirements, students may select a concentration in Creative Writing (15 credits) or Professional Writing and Editing (15 credits). Please see below for course and grade requirements for each emphasis. For English majors who obtain a concentration a maximum of sixty hours in English, exclusive of ENGL 199, ENGL 101 and ENGL 102, or ENGL 103 ENGL 103 ENGL 103 ENGL 103, ENGL 491 ENGL 491 ENGL 491 ENGL 491 may be included within the 120 hours (minimum) required for graduation.
- **Benchmark Expectations:** For details, go to the English admissions tab (p. 252).

Curriculum Requirements

UNIVERSITY REQUIREMENTS		34
WVUE 191	First Year Seminar	
GEF Requirements: credits may vary because of overlap		
ECAS B.A. Requirements		12
Foreign Language		
Fine Arts Requirement		
Global Studies & Diversity Requirement		
DEPARTMENTAL REQUIREMENTS		
Foundation Course		3
ENGL 200	Foundations of Literary Study	
Historical Breadth Courses		9
Select three of the following:		
ENGL 241	American Literature 1	
ENGL 242	American Literature 2	
ENGL 261	British Literature 1	

ENGL 262	British Literature 2	
English Language courses		3
Select one of the following:		
ENGL 221	The English Language	
ENGL 321	History of the English Language	
ENGL 423	Introduction to Old English	
Gender/Multicultural/Transnational courses		3
Select one of the following:		
ENGL 226	Non-Western World Literature	
ENGL 254	African American Literature	
ENGL 255	Multiethnic Literature	
ENGL 285	Images of Women in Literature	
ENGL 354	Topics in African American Literature	
ENGL 355	Topics in Multiethnic Literature	
ENGL 356	Topics in Native American Literature	
ENGL 374	Postcolonial Literature	
ENGL 385	American Women Writers	
ENGL 386	British Women Writers	
ENGL 387	Topics in Women's Literature	
Study of Major Author courses		3
Select one of the following:		
ENGL 263	Shakespeare 1	
ENGL 337	Study of a Major Author	
ENGL 361	Chaucer	
ENGL 363	Shakespeare 2	
ENGL 365	Milton	
Methods courses		3
Select one of the following:		
ENGL 301	Writing Theory and Practice	
ENGL 309	Approaches to Teaching Composition	
ENGL 318	Topics in Creative Writing	
ENGL 338	Environmental Criticism	
ENGL 381	Literary Criticism	
ENGL 382	Contemporary Literary Theory	
ENGL 383	Introduction to Cultural Studies	
ENGL 384	Introduction to American Studies	
English Electives		9
English Electives 100-Level or Above, Excluding ENGL 101, 102, 103, and 199 (3 Credits)		
Upper-Division English Electives 300 -or- 400 Level (6 Credits)		
Capstone Experience		3
Select one of the following		
ENGL 418	Creative Writing Seminar	
ENGL 491A	Professional Field Experience	
ENGL 496	Senior Thesis	
GENERAL ELECTIVES		38
(Number of electives may vary depending on overlap.)		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 102 (GEF 1)	3

ENGL 101 (GEF 1)	3 GEF 2	3
GEF 2	3 GEF 4	3
Foreign Language 101	3 Foreign Language 102	3
ENGL 200	3 ENGL Historical Breath 1 (GEF 6; ECAS Fine Arts Requirement)	3
General Elective	2	
		<hr/>
		15 15
Second Year		
Fall	Hours Spring	Hours
GEF 3	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3
GEF 5	3 GEF 8*	3
Foreign Language 203	3 Foreign Language 204	3
ENGL Historical Breath 2	3 ENGL Historical Breath 3	3
General Elective	3 General Elective	3
		<hr/>
		15 15
Third Year		
Fall	Hours Spring	Hours
GEF 8*	3 GEF 8*	3
ENGL Language Course	3 ENGL Major Author	3
ENGL Gender/Mlt Cult./Transnat.	3 ENGL Elective 2	3
ENGL Elective 1	3 ENGL Elective 3	3
General Elective	3 General Elective	3
		<hr/>
		15 15
Fourth Year		
Fall	Hours Spring	Hours
ENGL Methods Course	3 ENGL Capstone	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
		<hr/>
		15 15

Total credit hours: 120

* Students completing a minor, a double major or a dual degree fulfill the GEF 8 requirement.

CREATIVE WRITING AREA OF EMPHASIS REQUIREMENTS

Minimum grade of C- or higher is required.

Select one course in each group:

Group 1:		3
ENGL 212	Creative Writing: Fiction	
ENGL 213	Creative Writing: Poetry	
ENGL 214	Creative Writing: Non-Fiction	
Group 2:		3
ENGL 312	Creative Writing Workshop: Fiction	
ENGL 313	Creative Writing Workshop: Poetry	
ENGL 314	Creative Writing Workshop: Non-Fiction	
Group 3:		3
ENGL 318	Topics in Creative Writing	
Group 4:		3
ENGL 418	Creative Writing Seminar †	
Group 5:		3
ENGL 212	Creative Writing: Fiction	

ENGL 213	Creative Writing: Poetry	
ENGL 214	Creative Writing: Non-Fiction	
ENGL 312	Creative Writing Workshop: Fiction	
ENGL 313	Creative Writing Workshop: Poetry	
ENGL 314	Creative Writing Workshop: Non-Fiction	
Total Hours		15

PROFESSIONAL WRITING AND EDITING (PWE) AREA OF EMPHASIS REQUIREMENTS

English majors may obtain a concentration in PWE by completing fifteen hours of coursework, with grade point average of 3.0 or higher, as follows:

ENGL 301	Writing Theory and Practice	3
ENGL 302	Editing	3
ENGL 303	Multimedia Writing	3
or ENGL 306	Topics in Humanities Computing	
ENGL 304	Business and Professional Writing	3
or ENGL 305	Technical Writing	
ENGL 491A	Professional Field Experience *	3
Total Hours		15

Major Learning Goals

ENGLISH

Upon successful completion of the B.A. degree, **English** majors will be able to:

1. Locate and interpret texts within diverse literary, cultural, and historical contexts.

- Identify genre conventions and analyze their effects;
- Identify and analyze effects of complexity or ambiguity in texts, culture, and discourse;
- Situate texts in social, economic, political, and literary histories;
- Connect texts to other literary or cultural texts.

2. Demonstrate a general knowledge of the social and structural aspects of the English language.

- Analyze diachronic and synchronic language variation;
- Articulate the role of social forces on language variation;
- Apply linguistic concepts to solve language problems;
- Analyze natural language, predominantly English.

3. Demonstrate a range of contextually effective writing and communication strategies.

Literature and Cultural Studies:

- Demonstrate awareness of academic discourse and research on a literary topic;
- Apply research, analysis, argumentative development, and critical thinking skills;
- Create and revise communications with the appropriate tone, style, and sentence structure found in academic writing, including incorporation of research;
- Demonstrate command of academic written English and conventions of documenting research.

Creative Writing concentration:

- Situate work within the historical and literary development of the appropriate genre;
- Create and revise a thoughtful, sophisticated work of art that is the product of a careful process of invention and revision;
- Demonstrate a personal and coherent artistic style;
- Demonstrate a sophisticated awareness of and engagement with (or clear challenge of) conventions of the genre.

Professional Writing and Editing concentration:

- Demonstrate an awareness of, and response to, the particular rhetorical needs of audience and purpose;

- Demonstrate an awareness of genre and argument, including appropriate information and persuasive techniques. In addition, the portfolio demonstrates a critical engagement with the process of writing and with the intern's learning process;
- Demonstrate an awareness of professional tone, style, and sentence structure;
- Understand and apply layout, visual design, audience cues, and information structure; adheres to the written conventions of professional writing.

ENGLISH MINOR

MINOR CODE - U004

Students must earn a minimum grade of C or better in all required courses. Courses applied toward a Creative Writing minor or a Professional Writing and Editing minor may not also be applied toward an English minor.

Course Requirement: The English minor consists of fifteen hours of coursework in English (any ENGL courses) beyond ENGL 101, ENGL 102 and ENGL 103, with a minimum of nine hours at the upper-division level (300-level or above). Students are advised to design their own English minor to complement the work in their major.

CREATIVE WRITING MINOR

MINOR CODE - U005

Students must earn a minimum overall G.P.A. of 2.0.

Genre Pairings		12
Select 2 genres.		
Fiction		
ENGL 212	Creative Writing: Fiction	
ENGL 312	Creative Writing Workshop: Fiction	
Poetry		
ENGL 213	Creative Writing: Poetry	
ENGL 313	Creative Writing Workshop: Poetry	
Nonfiction		
ENGL 214	Creative Writing: Non-Fiction	
ENGL 314	Creative Writing Workshop: Non-Fiction	
Required Course:		3
ENGL 318	Topics in Creative Writing	
Total Hours		15

PROFESSIONAL WRITING

MINOR CODE - U051

To earn this minor, students must earn a GPA of 3.0 or higher in all courses applied to the minor.

Core Courses		6
ENGL 301	Writing Theory and Practice	
ENGL 302	Editing	
Upper-Division electives		9
Select three of the following:		
ENGL 221	The English Language	
or ENGL 321	History of the English Language	
ENGL 303	Multimedia Writing	
or ENGL 306	Topics in Humanities Computing	
ENGL 304	Business and Professional Writing	
ENGL 305	Technical Writing	
Total Hours		15

Environmental Geoscience

Degrees Offered

- Bachelor of Arts

Nature of Program

The B.A. in environmental geoscience is a joint program in the Department of Geology and Geography for students interested in geological and geographical approaches to environmental issues. Emphasis is placed on the physical, human, and spatial aspects of Earth and its environment. The broad and interdisciplinary nature of the degree program is designed to produce geoscientists who can identify environmental problems, apply a variety of approaches to their remediation, and be conversant among the wide range of disciplines for which the environment is of special concern.

The course requirements for the degree reflect the diversity of environmental problems that we face today from the atmosphere (air pollution), to the hydrosphere (water pollution), to the lithosphere (ground pollution), and how these problems affect our quality of life. The courses required for the degree also reflect the increased demands placed upon modern environmental scientists that include being able to recognize and understand the sources and impacts of various pollutants within the physical environment, being able to compile and analyze environmental data, understanding the regulatory aspects of environmental protection, and being able to effectively communicate issues of importance with other environmental scientists and with the general public.

Graduates of this program will find employment in a wide array of fields including the assessment and remediation of environmental problems, land-use planning, geographic information systems, involvement in the legislative process by which laws are formulated to protect the environment, the application of such laws as part of a federal or state regulatory agency, or as a member of the journalistic community using the various methods of mass communication to increase the public awareness of situations that adversely affect the environment.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; please check the list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- J. Steven Kite - Ph.D. (University of Wisconsin)

PROFESSORS

- Robert E. Behling - Ph.D. (Ohio State University)
Geomorphology
- Timothy Carr - Ph.D.
Sedimentary & Petroleum Geology
- Joseph J. Donovan - Ph.D.
Hydrogeology
- Gregory Elmes - Ph.D. (Pennsylvania State University)
GIScience
- Trevor M. Harris - Ph.D. (University of Hull)
Eberly Professor, Geographic Information science
- Amy E. Hessler - Ph.D. (University of Arizona)
Biogeography, Forest ecosystems
- Thomas W. Kammer - Ph.D. (Indiana University)
Centennial Professor of Paleontology
- Henry W. Rauch - Ph.D. (Pennsylvania State University)
Hydrogeology, geochemistry

- John J. Renton - Ph.D.
Geochemistry
- Timothy A. Warner - Ph.D. (Purdue University)
Remote Sensing
- Thomas H. Wilson - Ph.D. (West Virginia University)
Geophysics

ASSOCIATE PROFESSORS

- Kathy Benison - Ph.D. (University of Kansas)
Sedimentology and low-temperature geochemistry
- Dengliang Gao - Ph.D. (Duke University)
Geophysics
- Helen M. Lang - Ph.D.
Mineralogy and Metamorphic Petrology
- Jaime Toro - Ph.D.
Structural Geology, Tectonics
- Dorothy J. Vesper - Ph.D. (Pennsylvania State University)
Aqueous geochemistry, Hydrogeology

ASSISTANT PROFESSORS

- Jonathan Hall - Ph.D. (Ohio State)
Conservation Ecology, Biogeography
- Joseph Lebold - Ph.D.
Geology education
- Eungul Lee - Ph.D. (University of Colorado)
Climate, Physical Geography
- Brenden McNeil - Ph.D. (Syracuse University)
GIScience, Environmental Modeling
- Shikha Sharma - Ph.D.
Isotope Geochemistry
- Amy Weislogel - Ph.D. (Stanford University)
Sedimentary geology

PROFESSORS EMERITI

- Kenneth C. Martis - Ph.D. (University of Michigan)
Electoral Geography
- Richard Smosna - Ph.D. (University of Illinois)
Oceanography & Carbonate Rocks

CLINICAL ASSISTANT PROFESSOR

- Rick Landenberger - Ph.D.
Remote Sensing the Environment

PROF-DOC

- Jonathan Hall - Ph.D.
Ecology, Arid systems
- Maria Perez - Ph.D. (University of Michigan)
Human Geography, Science & Society, Speleology, Latin America

Admission

Incoming Freshmen are admitted directly into the Environmental Geoscience major. Students coming from the Center for Learning, Advising, and Student Success or another unit must be in good standing (2.00 overall GPA).

Benchmark Expectations

By end of their 4th semester in the major, students should have successfully completed 8 hours of introductory GEOL sequences; GEOL 200; GEOG 106-107; MATH 128; and one of the following: CHEM 111 or CHEM 115. All majors must meet with a G&G department adviser each semester. Students who do not meet these benchmarks may be removed from their major.

[Click here to view the Suggested Plan of Study \(p. 263\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in Environmental Geoscience

All students wishing to obtain a degree in Environmental Geoscience must comply with the following:

- **Capstone Requirement:** The General Education Foundations requires the successful completion of a Capstone course. For Environmental Geosciences majors, GEOL 400 completes the requirement.
- **Writing and Communication Requirement:** Environmental Geoscience Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and at least one additional **SpeakWrite Certified Course™**: GEOG 205, and a 2nd course selected from GEOG 243, GEOG 300, GEOG 307, GEOG 317, GEOG 393B, GEOG 412, GEOG 415, GEOG 443, GEOG 452, GEOG 454, GEOG 455, GEOG 462, GEOG 496.
- **Calculation of the GPA in the Major:** Students must have a 2.0 overall GPA in all GEOG and in all GEOL courses applied to major requirements. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Credit Limit:** No more than 50 credits of geology/geography can be used for the B.A. if the student has earned 120 credits overall. If a student has more than 50 credits, then those extra credits must be matched by an equal amount of non-GEOG or GEOL courses, and more than 120 credits will be required for graduation. For example, if a student has 51 credits in GEOG and GEOG, the student will need 122 credits to graduate (51 G&G, 71 non-G&G). 199 and 491 courses are excluded from the 50-credit count.
- **Benchmarks Expectations:** For details, go to the Environmental Geoscience admissions tab (p. 259).

Curriculum Requirements

UNIVERSITY REQUIREMENTS		16
WVUE 191	First Year Seminar	
GEF: Number of courses may vary depending on overlap		
ECAS B.A. Requirements		12
Foreign Language		

Global Studies & Diversity Requirement

Fine Arts Requirement

DEPARTMENTAL REQUIREMENTS**Math and Science Requirement:**

15

Biology Requirement:

BIOL 105 & BIOL 106	Environmental Biology and Environmental Biology Laboratory
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Chemistry Requirement:

CHEM 111 or CHEM 115	Survey of Chemistry Fundamentals of Chemistry
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Math Requirement:

MATH 128	Plane Trigonometry
MATH 129	Pre-Calculus Mathematics
MATH 150	Applied Calculus
MATH 153	Calculus 1a with Precalculus
MATH 154	Calculus 1b with Precalculus
MATH 155	Calculus 1
MATH 156	Calculus 2

Physics Requirement:

PHYS 101 or PHYS 105	Introductory Physics Conceptual Physics
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Core Courses:

29

Complete all of the following:

GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory
GEOL 103 & GEOL 104	Earth Through Time and Earth Through Time Laboratory
GEOG 149 & GEOG 150	Digital Earth Lab and Digital Earth
GEOG 106 & GEOG 107	Physical Geography Laboratory and Physical Geography
GEOL 200	Geology for Environmental Scientists
GEOG 205	Natural Resources
GEOG 207	Climate and Environment
GEOG 307	Biogeography: Theory and Method

Elective Geology and Geography Courses

9

Select three (3) courses from the following list:

GEOG 300	Geographical Data Analysis
GEOG 310	Global Issues
GEOG 317	Climatological Analysis
GEOG 321	Geomorphology
GEOG 350	Geographic Information Systems and Science
GEOG 415	Global Environmental Change
GEOG 452	Geographic Information Science: Applications
GEOG 453	Geographic Information Science: Design and Implementation
GEOG 454	Environmental Geographic Information Systems
GEOG 455	Introduction to Remote Sensing
GEOG 462	Digital Cartography
GEOL 203	Physical Oceanography
GEOL 300	Geology of West Virginia
GEOL 302	Geology of the National Parks
GEOL 365	Environmental Geology
GEOL 463	Physical Hydrogeology

GEOL 466	Cave and Karst Geology
GEOL 484	Minerals and the Environment
GEOL 486	Environmental Isotopes
GEOL 488	Environmental Geochemistry

Electives Non-Geology/Geography 12

Select four (4) courses from the following list:

AGRN 202 & AGRN 203	Principles of Soil Science and Principles of Soil Science Laboratory
AGRN 455	Reclamation of Disturbed Soils
ARE 187	Energy Resource Economics
ARE 220	Introductory Environmental and Resource Economics
ARE 382	Agricultural and Natural Resources Law
ART 380	Art and Environment
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory
BIOL 115	Principles of Biology
BIOL 117	Introductory Physiology
BIOL 221	Ecology and Evolution
BIOL 302	Biometry
BIOL 353	Flora of West Virginia
BIOL 361	Plant Ecology
BIOL 363	Plant Geography
BIOL 463	Global Ecology
CHEM 231	Organic Chemistry: Brief Course
CS 101	Intro to Computer Applications
CS 110	Introduction to Computer Science
FMAN 212	Forest Ecology
FMAN 222	Forest Mensuration
FMAN 433	Forest Management
ENVP 119	Soil in the City
ENVP 155	Elements of Environmental Protection
ENVP 355	Environmental Sampling and Analysis
ENVP 401	Environmental Microbiology
ENVP 412	Pest Management
ENVP 415	Hazardous Waste Training
ENVP 420	Soil Microbiology
ENVP 425	Environmental Soil Management
ENVP 451	Principles of Weed Science
ENVP 455	Reclamation of Disturbed Soils
ENVP 460	Environmental Impact Assessment
FHYD 444	Watershed Management
FHYD 454	Field Watershed Hydrology
LARC 105	Introduction to Landscape Architecture
PHIL 310	Philosophy of Science
POLS 338	Environmental Policy
RPTR 142	Introduction to Recreation, Parks and Tourism
RPTR 239	Sustainable Tourism Development
RESM 140	Sustainable Living
RESM 480	Environmental Regulation
STAT 211	Elementary Statistical Inference
STAT 312	Intermediate Statistical Methods

WMAN 150	Principles of Conservation Ecology	
WMAN 160	Ecology of Invading Species	
WMAN 313	Wildlife Ecosystem Ecology	
WMAN 314	Marine Ecology	
WMAN 421	Renewable Resources Policy and Governance	
WDSC 100	Forest Resources in United States History	
WDSC 223	Wood Anatomy and Structure	
Capstone		4
GEOL 400	Environmental Practicum	
GENERAL ELECTIVES		23
Number of electives may vary depending on overlap		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
Foreign Language 101	3 Foreign Language 102	3
GEOL 101 & GEOL 102 (GEF 2)	4 GEOL 103 & GEOL 104 (GEF 8)	4
GEOG 150 & GEOG 149 (GEF 8)	4 MATH Requirement (GEF 3)	3
General Elective	3 General Elective	2
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 5	3
Foreign Language 203	3 Foreign Language 204	3
GEOL 200	4 Non-GEOL / GEOG Elective 1	3
GEOG 107 & GEOG 106	4 CHEM Requirement (GEF 8)	4
General Elective	1 General Elective	2
	15	15

Third Year

Fall	Hours Spring	Hours
BIOL 105 & BIOL 106	4 ECAS Fine Arts Requirement (GEF 6)	3
GEOG 205 (GEF 4)	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3
GEOG 207	3 GEOG 307	3
GEOG/ GEOL Elective 1	3 GEOG/ GEOL Elective 2	3
General Elective	2 GEOG/ GEOL Elective 3	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
GEOL 400 (Capstone)	4 Non-GEOL / GEOG Elective 3	3
PHYS Requirement	4 Non-GEOL / GEOG Elective 4	3
Non-GEOL / GEOG Elective 2	3 General Elective	3
General Elective	3 General Elective	3
General Elective	1 General Elective	3
	15	15

Total credit hours: 120

Major Learning Goals

ENVIRONMENTAL GEOSCIENCE

Upon successful completion of the B.A. degree, **Environmental Geoscience** majors will be able to:

1. Identify the presence of conditions that create natural environmental problems/hazards.
2. Identify the activities of humans that create environmental problems/hazards.
3. Understand the potential economic and social costs of remediation of natural and man-made environmental problems.
4. Critically access reports, news articles, news reports, and debates and analyze the arguments so they can come to form an opinion on what is being debated.
5. Recognize that sources of information on environmental issues may be biased and that additional opinions must be sought in order to set forth conclusions which have merit.
6. Communicate clearly and effectively in writing and the spoken word about environmental issues to audiences of diverse backgrounds and formal education levels.
7. Demonstrate an understanding of content terminology required to communicate information regarding natural and manmade environmental problems/hazards.

Forensic and Investigative Science

Degree Offered

- Bachelor of Science

Areas of Emphasis

- Forensic Biology
- Forensic Chemistry
- Forensic Examiner

Nature of Program

The Department of Forensic and Investigative Science (FIS) offers a bachelor of Science degree with three areas of emphasis (forensic biology, forensic chemistry, and forensic examiner). Each emphasis provides the student with a strong background in the physical and biological sciences associated with forensic science. The program is fully accredited by the Forensic Education Programs Accreditation Commission (<http://fepac-edu.org>) (FEPAC).

Because of the unique nature of the program and forensic science employment, students are forewarned about issues that could affect their ability to obtain a background check, and complete the degree. Department guidelines are available from the department adviser.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; click the following for a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Gerald E. Lang - Ph.D. (Rutgers University)

PROFESSORS

- Suzanne Bell - Ph.D. (New Mexico State University)
Forensic Chemistry

- Glen Jackson - Ph.D. (West Virginia University)
Ming Hsieh Distinguished Professor, Forensic Chemistry

ASSOCIATE PROFESSORS

- Keith Morris - Ph.D. (University of Port Elizabeth)
Ming Hsieh Distinguished Professor, Impression Evidence, Evidence Interpretation

ASSISTANT PROFESSORS

- Luis Arroyo - Ph.D. (Florida International University)
Toxicology, Environmental Forensics
- Tina Moroosse - M.S. (Marshall University)
Graduate Studies Coordinator, Forensic Biology
- Robert O'Brien - M.S. (St. Joseph College)
Ballistics, Trace Evidence
- Jacqueline Speir - Ph.D. (Rochester Institute of Technology)
Forensic Informatics
- Tatiana Trejos - Ph.D. (Florida International University)
Trace Evidence, Elemental Analysis
- Casper Venter - M.S. (North West University)
Facilities Coordinator, Forensic Drug Chemistry

INSTRUCTORS

- Kelly Ayers - M.S. (West Virginia University)
Continuing Forensic Education
- Robin Bowen - M.A. (West Virginia University)
Ethics, Evidence Interpretation, Continuing Education and Training
- Rachel Mohr - Ph.D. (Texas A&M University)
Forensic Entomology

Admission Requirements

- First time students who qualify for placement in CHEM 110A or higher will be admitted directly into the major. Directly admitted students will be advised by FIS advisors and are eligible to participate in the Living Learning Community and other departmentally-sponsored first-year programs.
- Students who wish to transfer from another WVU major must be enrolled in CHEM 115 or higher and must have an overall GPA of at least 2.5.
- Students wishing to transfer from outside of WVU must qualify for placement in CHEM 115 or higher, and have an incoming overall GPA of at least 2.5

Benchmark Expectations

During their first four semesters, students are expected to complete their math and basic science courses. These fundamentals must be completed prior to taking upper level FIS courses. Many of these courses will satisfy the GEF 1, 2, 3, 4, and 8 requirements, as well as the College B.S. requirements. Students interested in the forensic chemistry area of emphasis must take the MATH 156/STAT 215 progression, and are strongly encouraged to take the CHEM 117 /CHEM 118 and PHYS 111/PHYS 112 series if they qualify.

Students must make acceptable progress to remain in the FIS major. Acceptable progress for the Forensic and Investigative Science major is defined as the following:

- By the third regular semester (fall or spring) in the major students must be enrolled in CHEM 116 and maintain an overall GPA of 2.25.
- By the fifth regular semester, typically the fall of their junior year, students must have fulfilled the following requirements with a C or better, maintain an overall GPA of 2.5, and declare an area of emphasis.

These courses must be completed with a C or better

BIOL 117	Introductory Physiology	4
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	4
PHYS 102 or PHYS 112	Introductory Physics General Physics	4
MATH 155 or MATH 154	Calculus 1 Calculus 1b with Precalculus	4

These courses must be either in progress or complete with a C or better

CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory	4
STAT 215 or STAT 312	Introduction to Probability and Statistics Intermediate Statistical Methods	3

- Beyond the fifth semester, students must have completed all the courses listed above, maintain an overall GPA of 2.5 and declare an area of emphasis.

All majors must meet with a FIS advisor each semester. Students who do not meet their benchmarks may be removed from the major, but may be readmitted once they complete the fifth semester requirements.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.S. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.S. Degrees tab on the Eberly College of Arts and Sciences (p. 171) pages.

Departmental Requirements for the B.S. in Forensic and Investigative Science

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. FIS major must complete FIS 406.
- **Writing and Communication Skills Requirement:** The Forensic and Investigative Science Bachelor of Science is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of the GPA in the Major:** To graduate with the Forensic and Investigative Science major, students must achieve a minimum overall GPA of 2.5 in all FIS courses with no grade lower than a C- in any FIS course. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Area of Emphasis:** Students must earn a grade of C- or better in each course applied to their area of emphasis. The three areas of emphasis are: Forensic Biology (p. 268), Forensic Chemistry (p. 270), and Forensic Examiner (p. 272).
- **Internship Requirement:** All students are required to successfully complete an internship for 6 hours of credit.
- **Benchmark Expectations:** For details, go to the Forensic and Investigative Science (p. 265) admissions tab.

Curriculum Requirements

WVUE 191	First Year Seminar	
GEF: Number of credits will vary depending on overlap		
COLLEGE REQUIREMENTS *		4
Global Studies & Diversity Requirement		
Mathematics Requirements		
Select 1 of the following:		
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
Science Requirement		
Please see the Eberly College of Arts and Sciences' Bachelor of Science (B.S.) tab.		
DEPARTMENTAL REQUIREMENTS		
General Requirement		3
CSAD 270	Effective Public Speaking	
Biology Requirement		8
BIOL 115	Principles of Biology	
BIOL 117	Introductory Physiology	
Chemistry Requirement		16
CHEM 115 & CHEM 116 or CHEM 117 & CHEM 118	Fundamentals of Chemistry and Fundamentals of Chemistry Principles of Chemistry and Principles of Chemistry	
CHEM 233	Organic Chemistry	
CHEM 234	Organic Chemistry	
CHEM 235	Organic Chemistry Laboratory	
CHEM 236	Organic Chemistry Laboratory	
Mathematics and Statistics Requirement		6
Select one of the following pairs:		
MATH 156 & STAT 215	Calculus 2 and Introduction to Probability and Statistics	
STAT 211 & STAT 312	Elementary Statistical Inference and Intermediate Statistical Methods	
Physics Requirement		8
Select one of the following pairs:		
PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics	
PHYS 111 & PHYS 112	General Physics and General Physics	
Forensic Investigation Science Requirement		21
FIS 201	Introduction to Forensic Identification	
FIS 302	Crime Scene Investigation 1	
FIS 303	Crime Scene Investigation 1 Laboratory (Crime Scene Investigation Laboratory)	
FIS 314	Introduction to Microscopy	
FIS 386	Forensic Identification Internship	
FIS 404	Law and Evidence	
FIS 480	Forensic Quality Assurance	
Area of Emphasis		35
Number of credits depends on area of emphasis, please see below		
Capstone Experience		3
FIS 406	Court Testimony	
General Electives		

Number of elective may vary depending on overlap and area of emphasis

Total Hours

120

AREAS OF EMPHASIS

All students must complete an area of emphasis in order to graduate from the Forensic and Investigative Science Major.

- Forensic Biology (p. 268): The forensic biology area of emphasis is intended for students interested in DNA analysis or serology, or as a preparation for professional training in pathology.
- Forensic Chemistry: (p. 270) The forensic chemistry area of emphasis is intended for students interested in analytical identification of evidence, including seized drugs, fire and arson residues, toxicology, and trace evidence analysis.
- Forensic Examiner: (p. 272) The forensic examiner area of emphasis is intended for students interested in crime scene investigation and analysis, latent fingerprint examination, forensic photography, physical evidence analysis, and law enforcement agency work.

FORENSIC BIOLOGY AREA OF EMPHASIS REQUIREMENTS

Biology/Biochemistry Requirement

18

AGBI 410	Introductory Biochemistry
BIOL 219	The Living Cell
BIOL 310	Advanced Cellular/Molecular Biology
BIOL 324 & BIOL 325	Molecular Genetics and Molecular Genetics Laboratory
BIOL 432 & BIOL 434	Forensic Biology and Forensic Biology Laboratory

Area of Emphasis Electives

17

Select 17 credits in the following list; 6 credits must be in FIS. Only 3 combined credits of FIS 491, 492, 495, and 497 may count toward this requirement.

BIOL 410	Cell and Molecular Biology Methods
BIOL 411	Introduction to Recombinant DNA
BIOL 415	Epigenetics
BIOL 420	Genomics
BIOL 430	Bioinformatics
BIOL 440	Comparative Anatomy
BIOL 441	Vertebrate Microanatomy
BIOL 464	Population and Quantitative Genetics
CHEM 215	Introductory Analytical Chemistry
CHEM 310	Instrumental Analysis
CHEM 313	Instrumental Analysis Laboratory
CHEM 335	Methods of Structure Determination
CHEM 341	Physical Chemistry: Brief Course
CHEM 342	Experimental Physical Chemistry
CHEM 346	Physical Chemistry
CHEM 347	Physical Chemistry Laboratory
CHEM 348	Physical Chemistry
CHEM 349	Physical Chemistry Laboratory
CHEM 460	Forensic Chemistry
CHEM 462	Biochemistry 2
CHEM 463	Forensic Chemistry Lab
CHEM 464	Biochemistry 2 Laboratory
FIS 301	Science/Technology of Fingerprint Identification
FIS 305	Biological Evidence for Forensic Examiners
FIS 335	Forensic Photography
FIS 393	Special Topics

FIS 401	Professional Forensic Communication
FIS 402	Crime Scene Investigation 2
FIS 405	Latent Fingerprint
FIS 409	Blood Stain Pattern Analysis
FIS 435	Advanced Forensic Photography
FIS 450	Computational Forensics
FIS 485	Professional Ethics in Forensic Science
FIS 491	Professional Field Experience
FIS 492	Directed Study
FIS 493	Special Topics
FIS 495	Independent Study
FIS 497	Research
PATH 200	Medical Terminology
PATH 201	Basic Medical Laboratory Science
PATH 300	Introduction to Pathology
PSYC 234	Drugs and Behavior
PSYC 365	Forensic Psychology
STAT 316	Forensic Statistics

Total Hours

35

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
BIOL 115 (B.S. First Area 1; GEF 2)	4 BIOL 117 (GEF 8; B.S. First Area 2)	4
CHEM 115 (GEF 8; B.S. Second Area 1)	4 CHEM 116 (GEF 8; B.S. Second Area 2)	4
FIS 201	3 Math and Stat Requirement Course 1	3
MATH 155 (B.S. Math Requirement, GEF 3)	4	
	16	14

Second Year

Fall	Hours Spring	Hours
CHEM 233 & CHEM 235	4 ENGL 102 (GEF 1)	3
CSAD 270 (GEF 4)	3 CHEM 234 & CHEM 236	4
PHYS 101 (B.S. Third Area 1)	4 FIS 302 & FIS 303	4
Math and Stat Requirement Course 2	3 PHYS 102 (B.S. Third Area 2)	4
	14	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
BIOL 219	4 GEF 5	3 FIS 386	6
FIS 404	3 BIOL 324 & BIOL 325	4	
FIS 480	2 BIOL 432 & BIOL 434	4	
Area of Emphasis FIS Upper-Div. Course 1	3 Area of Emphasis FIS Upper-Div. Course 2	3	
	12	14	6

Fourth Year

Fall	Hours Spring	Hours
GEF 6	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3
BIOL 310	3 AGBI 410	3
FIS 314	3 Area of Emphasis Elective 2	4
FIS 406 (Capstone)	3 Area of Emphasis Elective 3	4
Area of Emphasis Elective 1	3	
	15	14

Total credit hours: 120

FORENSIC CHEMISTRY AREA OF EMPHASIS REQUIREMENTS**Chemistry Requirement**

20

CHEM 215	Introductory Analytical Chemistry
CHEM 310	Instrumental Analysis
CHEM 313	Instrumental Analysis Laboratory
CHEM 335	Methods of Structure Determination
CHEM 341 & CHEM 342 or CHEM 348 & CHEM 349	Physical Chemistry: Brief Course and Experimental Physical Chemistry Physical Chemistry and Physical Chemistry Laboratory
CHEM 460	Forensic Chemistry
CHEM 463	Forensic Chemistry Lab

Area of Emphasis Electives:

15

Select 15 credits from the list; a minimum of 6 credits must be from FIS 300 or 400 level courses. No more than 3 combined hours of FIS 491, 492, 495, or 497 may count towards this requirement.

AGBI 410	Introductory Biochemistry
AGBI 411	Introductory Biochemistry Laboratory
AGBI 412	Introduction to Biochemistry Wet Laboratory
BIOL 219	The Living Cell
BIOL 410	Cell and Molecular Biology Methods
BIOL 411	Introduction to Recombinant DNA
BIOL 415	Epigenetics
BIOL 420	Genomics
BIOL 430	Bioinformatics
BIOL 432	Forensic Biology
BIOL 434	Forensic Biology Laboratory (Forensic Biology Lab)
BIOL 436	General Animal Physiology
BIOL 441	Vertebrate Microanatomy
BIOL 464	Population and Quantitative Genetics
CHEM 411	Intermediate Analytical Chemistry
CHEM 422	Intermediate Inorganic Chemistry
CHEM 423	Inorganic Synthesis Laboratory
CHEM 462	Biochemistry 2
CHEM 464	Biochemistry 2 Laboratory
FIS 301	Science/Technology of Fingerprint Identification
FIS 305	Biological Evidence for Forensic Examiners
FIS 335	Forensic Photography

FIS 393	Special Topics
FIS 401	Professional Forensic Communication
FIS 402	Crime Scene Investigation 2
FIS 405	Latent Fingerprint (Latent Fingerprint Development)
FIS 409	Blood Stain Pattern Analysis
FIS 435	Advanced Forensic Photography
FIS 450	Computational Forensics (Computational Forensics)
FIS 485	Professional Ethics in Forensic Science
FIS 491	Professional Field Experience <small>No more than 3 combined hours will count toward Area of Emphasis requirement</small>
FIS 492	Directed Study
FIS 493	Special Topics
FIS 495	Independent Study
FIS 497	Research
PATH 200	Medical Terminology
PATH 201	Basic Medical Laboratory Science
PATH 301	Basic Pathology
PSYC 234	Drugs and Behavior
PSYC 365	Forensic Psychology
STAT 316	Forensic Statistics

Total Hours

35

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
BIOL 115 (GEF 2; B.S. First Area 1)	4 BIOL 117 (B.S. First Area 2; GEF 8)	4
CHEM 115 (B.S. Second Area 1; GEF 8)	4 CHEM 116 (B.S. Second Area 2; GEF 8)	4
FIS 201	3 Math and Stat Requirement Course 1	3
MATH 155 (B.S. Math Requirement; GEF 3)	4	
	16	14

Second Year

Fall	Hours Spring	Hours
CHEM 233 & CHEM 235	4 ENGL 102 (GEF 1)	3
CSAD 270 (GEF 4)	3 CHEM 234 & CHEM 236	4
Math and Stat Requirement Course 2	3 FIS 302 & FIS 303	4
PHYS 101 (B.S. Third Area 1)	4 PHYS 102 (B.S. Third Area 2)	4
	14	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
CHEM 215	4 GEF 5	3 FIS 386	6
FIS 404	3 CHEM 310	3	
FIS 480	2 CHEM 341 & CHEM 342	4	
Area of Emphasis FIS Upper-Div. Elective 1	3 CHEM 460 & CHEM 463	4	

Area of Emphasis FIS	3		
Upper-Div. Elective 2			
	15	14	6
Fourth Year			
Fall	Hours	Spring	Hours
GEF 6		3 ECAS Global Studies & Diversity Requirement (GEF 7)	
CHEM 313		1 FIS 314	3
CHEM 335		4 Area of Emphasis Elective 2	3
FIS 406 (Capstone)		3 Area of Emphasis Elective 3	3
Area of Emphasis Elective 1		3 General Elective	3
	14		12
Total credit hours: 120			

FORENSIC EXAMINER AREA OF EMPHASIS REQUIREMENTS

Forensic Investigative Science Requirement 9

FIS 301	Science/Technology of Fingerprint Identification
FIS 335	Forensic Photography
FIS 402	Crime Scene Investigation 2

Advanced Science Requirement 8

Complete 8 credits, with at least one credit of laboratory.

AGBI 410	Introductory Biochemistry
AGBI 411	Introductory Biochemistry Laboratory
AGBI 412	Introduction to Biochemistry Wet Laboratory
BIOL 219	The Living Cell
BIOL 310	Advanced Cellular/Molecular Biology
BIOL 311	Advanced Cellular/Molecular Biology-Laboratory
BIOL 324	Molecular Genetics
BIOL 325	Molecular Genetics Laboratory
CHEM 215	Introductory Analytical Chemistry
CHEM 341	Physical Chemistry: Brief Course
CHEM 342	Experimental Physical Chemistry
CHEM 346	Physical Chemistry
CHEM 347	Physical Chemistry Laboratory
CHEM 348	Physical Chemistry
CHEM 349	Physical Chemistry Laboratory

Area of Emphasis Elective: 18

Select 18 credits from the following list; a minimum of 12 credits must be from FIS 300 or 400-level courses. No more than 3 combined credits of FIS 491, 492, 495, or 497 can count towards this requirement.

BIOL 410	Cell and Molecular Biology Methods
BIOL 411	Introduction to Recombinant DNA
BIOL 415	Epigenetics
BIOL 420	Genomics
BIOL 430	Bioinformatics
BIOL 432	Forensic Biology
BIOL 434	Forensic Biology Laboratory
BIOL 436	General Animal Physiology
BIOL 440	Comparative Anatomy
BIOL 441	Vertebrate Microanatomy

BIOL 464	Population and Quantitative Genetics
CHEM 310	Instrumental Analysis
CHEM 313	Instrumental Analysis Laboratory
CHEM 335	Methods of Structure Determination
CHEM 339	Organic Syntheses
CHEM 422	Intermediate Inorganic Chemistry
CHEM 423	Inorganic Synthesis Laboratory
CHEM 460	Forensic Chemistry
CHEM 462	Biochemistry 2
CHEM 463	Forensic Chemistry Lab
CHEM 464	Biochemistry 2 Laboratory
FIS 305	Biological Evidence for Forensic Examiners
FIS 393	Special Topics
FIS 401	Professional Forensic Communication
FIS 405	Latent Fingerprint
FIS 409	Blood Stain Pattern Analysis
FIS 435	Advanced Forensic Photography
FIS 450	Computational Forensics
FIS 485	Professional Ethics in Forensic Science
FIS 491	Professional Field Experience
FIS 492	Directed Study
FIS 493	Special Topics (Each course A-Z counted independently)
FIS 495	Independent Study
FIS 497	Research
PATH 200	Medical Terminology
PATH 201	Basic Medical Laboratory Science
PATH 300	Introduction to Pathology
PSYC 234	Drugs and Behavior
PSYC 365	Forensic Psychology

Total Hours

35

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
BIOL 115 (GEF 2; B.S. First Area 1)	4 BIOL 117 (GEF 8; B.S. First Area 2)	4
CHEM 115 (GEF 8; B.S. Second Area 1)	4 CHEM 116 (GEF 8, B.S. Second Area 2)	4
FIS 201	3 MATH and STAT Requirement Course 1	3
MATH 155 (GEF 3, B.S. Math Requirement)	4	
	16	14

Second Year

Fall	Hours Spring	Hours
CHEM 233 & CHEM 235	4 ENGL 102 (GEF 1)	3
CSAD 270 (GEF 4)	3 CHEM 234 & CHEM 236	4
MATH and STAT Requirement Course 2	3 PHYS 102 (B.S. Third Area 2)	4

PHYS 101 (B.S. Third Area 1)	4 Adv Science Elective 1	4	
	14	15	
Third Year			
Fall	Hours Spring	Hours Summer	Hours
GEF 5	3 FIS 302 & FIS 303	4 FIS 386	6
FIS 301	3 FIS 314	3	
FIS 335	3 Area of Emphasis FIS Upper-Div. Course 2	3	
Advanced Science Elective 2	4 Area of Emphasis FIS Upper-Div. Course 3	3	
Area of Emphasis FIS Upper-Div. Course 1	3		
	16	13	6
Fourth Year			
Fall	Hours Spring	Hours	
GEF 6	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3	
FIS 402	3 FIS 406 (Capstone)	3	
FIS 404	3 Area of Emphasis Elective 1	3	
FIS 480	2 Area of Emphasis Elective 2	3	
Area of Emphasis FIS Upper-Div. Course 4	3		
	14	12	

Total credit hours: 120

Major Learning Goals

FORENSIC AND INVESTIGATIVE SCIENCE

Upon successful completion of the B.S. degree, **Forensic and Investigative Science** majors will be able to:

1. Take data generated during a forensic investigation and prepare for trial.
2. Demonstrate competency in the collection, processing, analyses, and evaluation of evidence.
3. Demonstrate knowledge, skills and abilities to be competitive in the forensic job market, through the visual display of a portfolio of evidence on activities and accomplishments such as certification forms, research and other relevant learning experiences.
4. Demonstrate application of skills and knowledge in a professional environment, acquired through an internship experience.

MINOR CODE - U123

Any student admitted to a degree program at West Virginia University may complete a minor in Forensic & Investigative Science.

COURSE REQUIREMENTS:

A student must earn a C- or better in each course counted toward the minor.

Core Courses:		9
FIS 201	Introduction to Forensic Identification	
FIS 202	Crime Scene Investigation Overview	
FIS 485	Professional Ethics in Forensic Science	
Upper-Division Electives:		6
Select two courses:		
FIS 305	Biological Evidence for Forensic Examiners	
FIS 306	Expert Testimony Perspectives	
FIS 330	Principles of Forensic Photography	

FIS 380	Social Relations of Forensic and Law Professionals
FIS 404	Law and Evidence
FIS 480	Forensic Quality Assurance
<hr/>	
Total Hours	15

Geography

Degrees Offered

- Bachelor of Arts

Nature of Program

Geography is the science that studies the people, lands, and phenomena of Earth in a spatial context. The undergraduate major in geography provides students with the knowledge and skills needed to explore and analyze the variation in human activities, physical and biological processes and landforms that exist among places, regions, and countries. This knowledge allows geographers, for example, to explain why some places are more or less developed than others, to suggest ways in which development can be planned, and to examine the relationship between the natural environment and human activities.

Geography students receive specialized training in one of the program's four areas of emphasis:

- geographic information science (GISc)
- globalization and development
- global environmental change
- urban and regional planning

An individualized program of study is also available combining elements of the four options. Geography graduates are qualified for many careers in both the private and public sectors. In industry, geographers are hired as geographic information system analysts, business location researchers, environmental impact consultants, market analysts, and cartographers. In government, geographers work as local urban planners, regional and state economic development specialists, environmental and resource development analysts, land-use planners, international development agency advisors, teachers and trainers, researchers, cartographers, as well as geographic information system analysts. Some graduates may also use their training to pursue careers as environmental or community activists in non-profit organizations. Finally, many geography students go on to graduate school to obtain further training, most commonly in geography or planning but also in fields as diverse as law, information science, and environmental studies.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; follow the link for a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

Internship

An internship is a field-based academic option that uses the workplace as an extended classroom/laboratory. As part of the internship, students usually spend summer months or a semester working at a public agency, private business, or non-profit organization where they are supervised by experts in such areas as GIS, planning, the physical environment, international affairs, or economic development. The professional learning experience is recommended for majors in geography with at least forty-five total credit hours and twelve credit hours in geography. See the geography internship advisor for additional information.

Honors Program

Qualified students in geography are encouraged to participate in the University's honors program. Geography honors students in their senior year are encouraged to take Honors Thesis.

FACULTY

CHAIR

- Timothy Carr - Ph.D. (University of Wisconsin-Madison)

ASSOCIATE CHAIR FOR GEOGRAPHY

- Brent McCusker - Ph.D. (Michigan State)

PROFESSORS

- Trevor Harris - Ph.D. (Hull)
Geographic Information Science
- Amy Hessler - Ph.D. (Arizona)
Biogeography, Forest Ecosystems
- Randy Jackson - Ph.D. (Illinois)
Director Regional Research Institute, Economic geography
- Tim Warner - Ph.D. (Purdue)
Remote sensing

ASSOCIATE PROFESSORS

- Jamison Conley - Ph.D. (Penn State)
Spatial Analysis, Geocomputation
- Karen Culcasi - Ph.D. (Syracuse)
Political Cartography, Middle East
- J. Steven Kite - Ph.D. (Wisconsin-Madison)
Geomorphology, Quaternary Studies, Geoarchaeology
- Brent McCusker - Ph.D. (Michigan State)
Land Use Change, Africa
- Brenden McNeil - Ph.D. (Syracuse)
GIScience, Environmental modeling
- Bradley Wilson - Ph.D. (Rutgers)
Social Movements, Globalization, Environmental Justice, Latin America

ASSISTANT PROFESSORS

- Martina Angela Caretta - Ph.D. (Stockholm University)
feminist geography, human dimensions of water, neoliberal university, participatory methodologies
- Cynthia Gorman - Ph.D. (Rutgers)
Gender, Migration, Human Rights
- Jonathan Hall - Ph.D. (Ohio State)
Desert Ecology, Biogeography
- Insu Hong - (Arizona State University)
Geographic Information Science, Spatial Optimization, Virtual Reality
- Rick Landenberger - Ph.D. (WVU)
Remote Sensing, Geosciences Education
- Eungul Lee - Ph.D. (Colorado)
Climatology, Land-Atmosphere Interactions
- Aaron Maxwell - Ph.D. (West Virginia University)
geospatial instruction, remote sensing, image analysis
- Maria Alejandra Perez - Ph.D. (Michigan)
Human Geography, Science & Society, Speleology, Latin America
- Jamie Shinn - Ph.D. (Pennsylvania State University)
Political ecology, social vulnerability, climate change adaptation, sub-Saharan Africa

PROFESSORS EMERITI

- Greg Elmes - Ph.D. (Penn State)
Geographic Information Science
- Ken Martis - Ph.D. (Michigan)
Political, Electoral and Historical Geography

ASSOCIATE PROFESSORS EMERITI

- Robert Hanham - Ph.D. (Ohio State)
Regional Development

Admission

Incoming Freshmen are admitted directly into the Geography major. Students coming from the Center for Learning, Advising, and Student Success or another unit must be in good standing (2.00 GPA).

Benchmark Expectations

Geography majors are expected to maintain 2.0 GPA overall and in geography courses. 2.0 GPA in the discipline is required for graduation. All majors must meet with Geography adviser each semester. Students who do not meet these benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 278)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in Geography

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. For Geography majors, GEOG 496 completes this requirement.
- **Writing and Communication Requirement:** Geography Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses™**: GEOG 496 and a 2nd course selected from GEOG 243, GEOG 300, GEOG 307, GEOG 317, GEOG 393B, GEOG 412, GEOG 415, GEOG 443, GEOG 452, GEOG 454, GEOG 455, GEOG 462.
- **Calculation of Major GPA:** Students must have a 2.0 in all GEOG courses.
- **Concentration:** In addition to the basic Geography major, students need to select one of two options:
 1. Individualized major: please select nine hours of Geography electives, with the approval of their adviser.
 2. Area of Emphasis (12 credits): Geography Information Science; Global Environmental Change; Globalization and Development.
- **Benchmark expectations:** For details, go to the Geography admissions tab (p. 277).

Curriculum Requirements

University Requirements	22
WVUE 191 First Year Seminar	
GEF requirements: number of credits may vary upon overlap with major	
Writing Course	
ECAS B.A. Requirements	12
Fine Arts Requirement	
Foreign Language	
Global Studies & Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
Foundation Courses	15
GEOG 199 Orientation to Geography	
GEOG 102 World Regions	
GEOG 107 Physical Geography	
& GEOG 106 and Physical Geography Laboratory	
GEOG 108 Human Geography	
GEOG 150 Digital Earth	
& GEOG 149 and Digital Earth Lab	
Thematic/Regional Requirement	3
Select one of the following:	
GEOG 205 Natural Resources	
GEOG 207 Climate and Environment	
GEOG 209 Economic Geography	
GEOG 210 Urban Geography	
GEOG 240 United States and Canada	
GEOG 241 Geography of Europe	
GEOG 243 Geography of Africa	
GEOG 244 Geography of the Middle East	
GEOG 302 Political Geography	
GEOG 307 Biogeography: Theory and Method	
Methods and Applications	3
Select one of the following:	
GEOG 300 Geographical Data Analysis	
GEOG 350 Geographic Information Systems and Science	
GEOG 452 Geographic Information Science: Applications	
GEOG 454 Environmental Geographic Information Systems	
GEOG 455 Introduction to Remote Sensing	
GEOG 462 Digital Cartography	
Concentration	9
Individualized major: choose any combination of three GEOG courses	
or:	
Select an Area of Emphasis	
Capstone Course	3
GEOG 496 Senior Thesis	
General electives	53
Number of electives may vary depending on GEF overlap and concentration	
Total Hours	120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3

GEF 3	3 Foreign Language 102	3
Foreign Language 101	3 GEOG 102 (ECAS Global Studies & Diversity Requirement; GEF 7)	3
GEOG 150 & GEOG 149 (GEF 2)	4 GEOG 108 (GEF 8)	3
GEOG 107 & GEOG 106 (GEF 8)	4 GEOG 199	1
	General Elective	2
		15
Second Year		
Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 ECAS Fine Arts Requirement (GEF 6)	3
GEF 4	3 GEF 8*	3
GEF 5	3 Foreign Language 204	3
Foreign Language 203	3 GEOG Concentration 1	3
GEOG Methods	3 General Elective	3
		15
Third Year		
Fall	Hours Spring	Hours
GEOG Thematic Course	3 GEOG Concentration 3	3
GEOG Concentration 2	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
		15
Fourth Year		
Fall	Hours Spring	Hours
GEOG 496 (Capstone)	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
		15

Total credit hours: 120

* Student completing a minor, a double major or a dual degree already meet F8.

Areas of Emphasis

GEOGRAPHIC INFORMATION SCIENCE (GIS) AREA OF EMPHASIS REQUIREMENTS

A minimum GPA of 2.0 is required in all emphasis courses

Required Courses:		7
GEOG 350	Geographic Information Systems and Science	
GEOG 455	Introduction to Remote Sensing	
Electives		6
Select two courses		
GEOG 300	Geographical Data Analysis	
GEOG 452	Geographic Information Science: Applications	
GEOG 453	Geographic Information Science: Design and Implementation	
GEOG 454	Environmental Geographic Information Systems	
GEOG 462	Digital Cartography	

GEOG 463	Crime Geography	
Total Hours		13

GLOBAL ENVIRONMENTAL CHANGE AREA OF EMPHASIS REQUIREMENTS

A minimum GPA of 2.0 is required in all emphasis courses

Required Course		3
GEOG 207	Climate and Environment	
Elective Courses :		9
GEOG 110 & GEOG 111	Environmental Geoscience and Environmental Geoscience Laboratory	
GEOG 205	Natural Resources	
GEOG 300	Geographical Data Analysis	
GEOG 307	Biogeography: Theory and Method	
GEOG 321	Geomorphology	
GEOG 407	Environmental Field Geography	
GEOG 411	Rural and Regional Development	
GEOG 415	Global Environmental Change	
GEOG 454	Environmental Geographic Information Systems	
GEOG 455	Introduction to Remote Sensing	
GEOG 491	Professional Field Experience	
Total Hours		12

GLOBALIZATION AND DEVELOPMENT AREA OF EMPHASIS REQUIREMENTS

A minimum GPA of 2.0 is required in all emphasis courses

200-Level Coursework:		6
GEOG 209	Economic Geography	
GEOG 210	Urban Geography	
GEOG 241	Geography of Europe	
GEOG 243	Geography of Africa	
GEOG 244	Geography of the Middle East	
Upper-Division Electives:		6
GEOG 302	Political Geography	
GEOG 411	Rural and Regional Development	
GEOG 412	Geography of Gender	
GEOG 425	Urban and Regional Planning	
GEOG 443	African Environment and Development	
Total Hours		12

URBAN AND REGIONAL PLANNING AREA OF EMPHASIS REQUIREMENTS

A minimum GPA of 2.0 is required in all emphasis courses

Required Courses:		6
GEOG 210	Urban Geography	
GEOG 425	Urban and Regional Planning	
Elective courses :		6
GEOG 209	Economic Geography	
GEOG 240	United States and Canada	
GEOG 241	Geography of Europe	
GEOG 243	Geography of Africa	
GEOG 244	Geography of the Middle East	
GEOG 350	Geographic Information Systems and Science	
GEOG 411	Rural and Regional Development	
GEOG 412	Geography of Gender	

GEOG 443	African Environment and Development	
GEOG 491	Professional Field Experience	
Total Hours		12

Major Learning Goals

GEOGRAPHY

Upon successful completion of the B.A. degree, **Geography** majors will be able to use key geographic concepts to critically analyze diverse topics and processes. Specifically, geography graduates will be able to:

1. Define the range of issues and topics relevant to geographic inquiry and analysis.
2. Apply qualitative and quantitative geographic analytical methods.
3. Collect, organize, summarize, and synthesize geographic information.
4. Demonstrate an understanding of the geographic nature and complexity of human environment relationships, environmental systems, and the patterns of human activities.
5. Apply geospatial technologies, and critically explain their role in modern society.
6. Connect everyday issues to geographic concepts, and situate these issues within the local to global continuum of scales.
7. Present geographic ideas and concepts effectively in oral, written, cartographic and other visual forms.

GEOGRAPHY

MINOR CODE - U012

Students must achieve a a GPA of at least 2.0 in courses taken for the geography minor.

CORE COURSES: 6

Choose two from the following

GEOG 102	World Regions
GEOG 107 & GEOG 106	Physical Geography and Physical Geography Laboratory

and:

GEOG 108	Human Geography
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GEOGRAPHY ELECTIVES: 9

Select 9 additional hours at 300- or 400-level with no more than 3 hours of GEOG 491 or GEOG 492

Total Hours 15

GEOGRAPHY: ENVIRONMENTAL CHANGE

MINOR CODE - U122

Students must achieve a a GPA of at least 2.0 in courses taken for the geography minor.

CORE COURSES: 7

GEOG 107 & GEOG 106	Physical Geography and Physical Geography Laboratory
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Select one of the following:

GEOG 102	World Regions
GEOG 108	Human Geography
GEOG 205	Natural Resources
GEOG 207	Climate and Environment

GEOGRAPHY ELECTIVES: 9

Select three courses:

GEOG 307	Biogeography: Theory and Method
GEOG 310	Global Issues
GEOG/GEOL 321	Geomorphology
GEOG 407	Environmental Field Geography
GEOG 415	Global Environmental Change
GEOG 454	Environmental Geographic Information Systems

GEOG/GEOL 455	Introduction to Remote Sensing	
Total Hours		16

GEOGRAPHY: GEOGRAPHIC INFORMATION SCIENCE (GIS) MINOR CODE - U120

Students must achieve a a GPA of at least 2.0 in courses taken for the geography minor.

CORE COURSES: 7

GEOG 150 & GEOG 149	Digital Earth and Digital Earth Lab	
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Choose one of the following

GEOG 102	World Regions	
GEOG 107 & GEOG 106	Physical Geography and Physical Geography Laboratory	
GEOG 108	Human Geography	

GEOGRAPHY ELECTIVES: 9

Select three classes:

GEOG 300	Geographical Data Analysis	
GEOG 350	Geographic Information Systems and Science	
GEOG 452	Geographic Information Science: Applications	
GEOG 453	Geographic Information Science: Design and Implementation	
GEOG 454	Environmental Geographic Information Systems	
GEOG/GEOL 455	Introduction to Remote Sensing	
GEOG 462	Digital Cartography	
GEOG 463	Crime Geography	

Total Hours		16
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GEOGRAPHY: GLOBALIZATION MINOR CODE - U121

Students must achieve a a GPA of at least 2.0 in courses taken for the geography minor.

Core Courses: 6

Choose two from the following

GEOG 102	World Regions	
GEOG 107	Physical Geography	
GEOG 108	Human Geography	
GEOG 209	Economic Geography	
GEOG 210	Urban Geography	
GEOG 241	Geography of Europe	
GEOG 243	Geography of Africa	
GEOG 244	Geography of the Middle East	

Geography Electives: 9

Choose three from the following:

GEOG 302	Political Geography	
GEOG 310	Global Issues	
GEOG 411	Rural and Regional Development	
GEOG 412	Geography of Gender	
GEOG 425	Urban and Regional Planning	
GEOG 443	African Environment and Development	

Total Hours		15
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Geology

Degrees Offered

- Bachelor of Science

Nature of Program

The bachelor of science degree in geology is designed for students interested in geology positions within either the private or public sector, as well as for students who will pursue graduate work. Qualified students are encouraged to seek a graduate degree; however B.S. geologists who have developed solid technical and communication skills have excellent employment prospects in the energy industry and environmental and geotechnical firms.

Instructional facilities and equipment include laboratories for mineralogy, petrology, geochemistry, sedimentology, paleontology, hydrogeology, geophysics, geomorphology, structural geology, and excellent computer facilities. Field studies are stressed in upper-level classes, capped by a six-credit field course examining folded and faulted sedimentary rocks as well as igneous and metamorphic rocks in South Dakota, Wyoming, and Montana. A wide variety of resources are available to augment classroom learning, including cooperative research programs with the West Virginia Geological and Economic Survey, the National Energy Technology Laboratories of the U.S. Department of Energy, the West Virginia Department of Natural Resources, Monongahela National Forest, and numerous private geoscience firms. Internships are encouraged to broaden the learning experience and to enhance employment prospects.

Minors

All students have the possibility of earning one or more minors; a list of all available minors and their requirements is available at <http://catalog.wvu.edu/undergraduate/minors/>. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- J. Steven Kite - Ph.D. (University of Wisconsin-Madison)

ASSOCIATE CHAIR IN GEOLOGY

- Joseph J. Donovan - Ph.D. (Pennsylvania State University)

PROFESSORS

- Robert E. Behling - Ph.D. (The Ohio State University)
Earth Science Education, Geomorphology
- Timothy Carr - Ph.D. (University of Wisconsin-Madison)
Sedimentary, Petroleum Geology
- Joseph J. Donovan - Ph.D. (Pennsylvania State University)
Quantitative Hydrogeology, Mining Hydrogeology, Groundwater-lake Interaction, Holocene Paleoclimate
- Dengliang Gao - Ph.D. (Duke University)
Exploration Geophysics, Petroleum and Structural Geology
- Thomas W. Kammer - Ph.D. (Indiana University)
Paleozoic Invertebrate Paleontology, Mississippian Stratigraphy
- Timothy A. Warner - Ph.D. (Purdue University)
Remote Sensing
- Thomas Wilson - Ph.D. (West Virginia University)
Geophysics

ASSOCIATE PROFESSORS

- Kathleen Benison - Ph.D. (The University of Kansas)
Sedimentary Geology, Low-temperature Geochemistry
- J. Steven Kite - Ph.D. (University of Wisconsin-Madison)
Surficial Geology, Geomorphology
- Helen M. Lang - Ph.D. (University of Oregon)

Mineralogy, Petrology.

- Jaime Toro - Ph.D. (Stanford University)
Structural Geology, Tectonics, Petroleum Geology
- Dorothy J. Vesper - Ph.D. (Pennsylvania State University)
Aqueous Geochemistry, Hydrogeology

ASSISTANT PROFESSORS

- Rick Landenberger - Ph.D. (West Virginia University)
Remote Sensing, Geosciences Education
- Joseph Lebold - Ph.D. (West Virginia University)
Paleoecology, Paleontology, Regional Geology
- Ryan Shackleton - Ph.D. (University of Massachusetts)
Structural Geology
- Shikha Sharma - Ph.D. (Lucknow University)
Isotope Geochemistry
- Amy Weislogel - Ph.D. (Stanford University)
Sedimentary Geology

PROFESSORS EMERITI

- Alan C. Donaldson - Ph.D. (Pennsylvania State University)
Stratigraphy, Sedimentology
- Robert C. Shumaker - Ph.D. (Cornell University)
Structural Geology, Petroleum Geology
- Richard Smosna - Ph.D. (University of Illinois)
Stratigraphy, Sedimentology

Entering freshmen are admitted directly into the Geology major. Students coming from the Center for Learning, Advising, and Student Success or another unit must meet minimum requirements set by the department: have a 2.00 overall GPA. Please see an adviser in the Geology and Geography Department for details.

Benchmark Expectations

By the 4th semester in the major students will have a mid-semester review and should be progressing through calculus, chemistry, physics, and GEOL 284-285 with an adviser-approved plan. All majors must meet with a G&G department adviser each semester. Students who do not meet these benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 286)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.S. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.S. Degrees tab on the Eberly College of Arts and Sciences (p. 171) page.

Departmental Requirements for the B.S. in Geology

Students who wish to graduate with a degree in Geology must successfully complete a total of forty-two hours of geology courses (excluding GEOL 203 and GEOL 351).

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Geology majors must complete GEOL 404 to fulfill this requirement.
- **Writing and Communication Requirement:** Geology Bachelor of Science students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses™**: GEOL 404, and a 2nd course selected from GEOL 311, GEOL 341, GEOL 411 ENGL 305.
- **Calculation of the GPA in the Major:** An average of at least 2.0 must be attained in all GEOL courses, excluding GEOL 351. A minimum GPA of 2.0 is required for all 300 and 400 level GEOL courses. If a course is repeated, all attempts will be included in calculation of the GPA unless the course is eligible for D/F repeat.
- **Benchmark Expectations:** For details, go the Geology admissions tab (p. 284).

We also offer the opportunity to pursue a dual degree in Geology and Mining Engineering.

Curriculum Requirements

UNIVERSITY REQUIREMENTS	19
WVUE 191	First Year Seminar
GEF Requirements	
ECAS B.S. Requirements	4
Global Studies & Diversity Requirement	
Math Requirement	
Select one of the following:	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus
OR	
MATH 155	Calculus 1
Science Requirement: Please see the Eberly College of Arts and Sciences' Bachelor of Science (B.S.) tab.	
DEPARTMENTAL REQUIREMENTS	22
Geology Math & Science Requirements:	
CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry
Select one of the following:	
PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics
OR	
PHYS 111 & PHYS 112	General Physics and General Physics
Select one of the following:	
STAT 211	Elementary Statistical Inference
OR	
CS 101	Intro to Computer Applications
Select one of the following:	
MATH 156	Calculus 2
OR	

GEOL 351	Geomathematics	
Geology Core Requirements:		21
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory	
GEOL 103 & GEOL 104	Earth Through Time and Earth Through Time Laboratory	
GEOL 286	Introduction to Minerals & Rocks	
GEOL 311	Stratigraphy and Sedimentation	
GEOL 341	Structural Geology	
GEOL 489	Junior-Senior Seminar	
Geology Advanced Requirements		18
Select 6 courses from the following two lists. At least 3 courses must be from the Rocks and Energy list, and 3 courses from the Surficial Processes and Water list.		
Rocks and Energy:		
GEOL 300	Geology of West Virginia	
GEOL 302	Geology of the National Parks	
GEOL 331	Paleontology	
GEOL 411	Deep Time Earth Systems	
GEOL 419	Advanced Petroleum Geology	
GEOL 454	Environmental and Exploration of Geophysics 1	
GEOL 479	Log Analysis-Reading the Rocks	
GEOG 350	Geographic Information Systems and Science	
Surficial Processes and Water:		
GEOL 321 or GEOG 321	Geomorphology Geomorphology	
GEOL 365	Environmental Geology	
GEOL 388	Introduction to Geochemistry	
GEOL 455	Introduction to Remote Sensing	
GEOL 462	Introductory Hydrogeology	
GEOL 463	Physical Hydrogeology	
GEOL 466	Cave and Karst Geology	
GEOL 484	Minerals and the Environment	
GEOL 486	Environmental Isotopes	
GEOL 488	Environmental Geochemistry	
Geology Capstone Requirement		6
GEOL 404	Geology Field Camp	
GENERAL ELECTIVES		30
Number of general electives varies depending on overlap between GEF, College and Geology major requirements		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (F1)	3
CHEM 115 (F8 Course 1; B.S. Second Area 1)	4 CHEM 116 (F8 Course 2; B.S. Second Area 2)	4
GEOL 101 & GEOL 102 (F2 B; B.S. First Area 1)	4 GEOL 103 & GEOL 104 (F8 Course 3; B.S. First Area 2)	4
MATH 155 (F3)	4 General Elective	3
General Elective	2 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (F1)	3 F 4	3
GEOL Physics Requirement 1 (B.S. Third Area 1)	4 F 5	3
GEOL 286	4 GEOL Physics Requirement 2 (B.S. Third Area 2)	4
STAT 211 or CS 101	3 GEOL Rocks and Energy Requirement 1	3
General Elective	2 General Elective	2
	16	15

Third Year

Fall	Hours Spring	Hours Summer	Hours
F 6	3 GEOL 311	4 GEOL 404	6
ECAS Global Studies & Diversity Requirement (F 7)	3 GEOL 489	1	
GEOL Rocks & Energy Requirement 2	3 GEOL Surficial Processes & Water Req. 1	3	
GEOL 341	4 GEOL 351 or MATH 156	3	
	General Elective	3	
	13	14	6

Fourth Year

Fall	Hours Spring	Hours
GEOL Rocks & Energy Requirement 3	3 GEOL Surficial Processes & Water Requirement 3	3
GEOL Surficial Processes & Water Requirement 2	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
General Elective	3	
	14	12

Total credit hours: 120

Dual Degree Curriculum for Mining Engineering and Geology

This curriculum allows students to simultaneously pursue a BS.Min.E. degree in mining engineering and a B.S. in geology. The dual degree program requires satisfactory completion of 154 credits and fulfilling all the requirements for both degrees.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.Min.E. and B.S.Geology program that completes both degree requirements in five years is as follows.

Students must complete a minimum of 154 credit hours to graduate - the total at the bottom reflects all possible course combinations.

Required Courses

CHEM 115	Fundamentals of Chemistry (GEF 2)	4
CHEM 116	Fundamentals of Chemistry (GEF 8)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
GEOL 101	Planet Earth	3

GEOL 102	Planet Earth Laboratory	1
GEOL 103	Earth Through Time	3
GEOL 104	Earth Through Time Laboratory	1
GEOL 284	Mineralogy	3
GEOL 285	Introductory Petrology	3
GEOL 311	Stratigraphy and Sedimentation	4
GEOL 321	Geomorphology	3
GEOL 331	Paleontology	3
or GEOL 454	Environmental and Exploration of Geophysics 1	
GEOL 341	Structural Geology	4
GEOL 404	Geology Field Camp	6
GEOL 495	Independent Study	1
or MINE 495	Independent Study	
Geology Elective (upper level GEOL course, excluding GEOL 351)		3
MAE 241	Statics	3
MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3
MAE 320	Thermodynamics	3
MAE 331	Fluid Mechanics	3
Select one of the following (GEF 3):		4
MATH 155	Calculus 1	
or MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
MINE 201	Mine Surveying	3
MINE 205	Underground Mining Systems	3
MINE 206	Surface Mining Systems	4
MINE 261	Engineering Computer Aided Design	2
MINE 306	Mineral Property Evaluation	3
MINE 331	Mine Ventilation	3
MINE 382	Mine Power Systems	3
MINE 411	Rock Mechanics/Ground Control	4
MINE 427	Coal Preparation	4
MINE 461	Applied Mineral Computer Methods	3
MINE 471	Mine and Safety Management	3
MINE 480	Multidisciplinary Team Project	1
MINE 483	Mine Design-Exploration Mapping	2
MINE 484	Mine Design-Report Capstone (Fulfills Writing and Communications Skills Requirement)	4
PHYS 111	General Physics (GEF 8)	4
PHYS 112	General Physics	4
STAT 215	Introduction to Probability and Statistics	3
GEF Electives 1, 5, 6, 7		15
Total Hours		154

DUAL MINE AND GEOL SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 PHYS 111 (GEF 8)	4

CHEM 115 (GEF 2)	4 ENGL 102 (GEF 1)	3	
ENGL 101 (GEF 1)	3 GEOL 103 & GEOL 104	4	
GEOL 101 & GEOL 102	4		
	18	18	
Second Year			
Fall	Hours Spring	Hours	
GEOL 284	3 CHEM 116 (GEF 8)	4	
MAE 241	3 GEOL 285	3	
MATH 251	4 MAE 331	3	
MINE 201	3 MINE 206	4	
MINE 205	3 PHYS 112	4	
MINE 261	2		
	18	18	
Third Year			
Fall	Hours Spring	Hours Summer	Hours
GEOL 341	4 GEOL 311	4 GEOL 404 ^{***}	6
MAE 320	3 MAE 243	3	
MATH 261	4 MINE 331	3	
MINE 461	3 MINE 427	4	
STAT 215	3 MINE 480	1	
	17	15	6
Fourth Year			
Fall	Hours Spring	Hours	
GEF 5	3 GEF 6	3	
ECON 201 (GEF 4)	3 GEF 7	3	
GEOL 331 or 454	3 GEOL 321	3	
MINE 382	3 GEOL Elective [*]	3	
MINE 306	3 MAE 242	3	
	MINE 483	2	
	15	17	
Fifth Year			
Fall	Hours		
GEOL 495 or MINE 495 ^{**}	1		
MINE 411	4		
MINE 471	3		
MINE 484	4		
	12		

Total credit hours: 154

* GEOL technical elective may be any GEOL upper-division elective courses, including GEOL 493, but not GEOL 351.

** One credit hour from GEOL 495, MINE 495, or eng/sci technical electives or others approved by GEOL or MINE department can be used to satisfy 159 total credit hours requirement.

*** GEOL 404 Geology Field Camp is GEOL capstone course.

Notes: Discipline substitutions:

- GEOL 311 and other GEOL upper-division elective courses fulfill the requirements for MinE technical elective and eng/sci technical elective.
- GEOL requirement for GEOL 341 is substituted for MINE requirement for GEOL 342.
- MINE requirement of AGRN 455 is fulfilled through GEOL 321.
- MINE 205 and MINE 206 fulfill the requirement of GEOL upper-division technical electives.
- MINE 484 and GEOL 311 fulfill the requirement of writing course.

- ECON 201 and GEOL 101 fulfill two of the GEF requirements in the mining curriculum.

Major Learning Goals

GEOLOGY

Upon successful completion of the B.S. degree, **Geology** majors will be able to:

1. Show competence in the identification of minerals, rocks, and fossils using various field and lab techniques.
2. Demonstrate geological reasoning in the solving of problems.
3. Demonstrate competence in the use of computers for geological problem solving.
4. Describe the connections among energy, mineral, and hydrological resource exploitation and their impacts on Earth environments.
5. Describe an exposure of rocks in the field including rock type, sedimentary structures, and fossils; illustrate these data in a graphic column.
6. Create geologic maps and cross sections based on data collected by the student in the field.
7. Interpret the geologic history of a given field area based on appropriate geological maps and cross-sections.
8. Communicate effectively through well-developed writing skills.
9. Demonstrate mastery of the scientific knowledge needed for entry-level employment in geology related professions or for admission to graduate school.
10. Describe the basic geological history of Earth.

GEOLOGY MINOR

MINOR CODE - U017

Students must achieve a grade point average of at least 2.0 in all geology courses.

Core Courses

4

Select one of the following pairs:

GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory
GEOL 110 & GEOL 111	Environmental Geoscience and Environmental Geoscience Laboratory

Advanced Electives:

9

Choose from any Geology Course at the 300- or 400-level.

General Elective

3

Choose from any Geology course

Total Hours

16

History

Degree Offered

- Bachelor of Arts

Program Objectives and Goals

The Department of History offers courses focusing on a variety of world regions and time periods. Degree requirements insure that majors obtain an acquaintance with the history of several such regions and periods and develop skills in research and writing. Majors and non-majors may qualify for membership in Phi Alpha Theta, the national history honorary.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; follow the link for a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>). Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds.

Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

Career Prospects

The bachelor of arts with a major in history is designed to prepare students for careers in teaching, business, and government, and for graduate work in history, law, and related social sciences and humanities.

FACULTY

CHAIR

- Joseph Hodge - Ph.D. (Queen's University at Kingston)
Modern Britain, British empire, decolonization, international development, Africa

ASSOCIATE CHAIR

- Kate Staples - Ph.D. (University of Minnesota)
Medieval, gender, England, material culture

PROFESSORS

- Katherine Aaslestad - Ph.D. (University of Illinois)
Modern Europe, Germany, cultural
- Robert E. Blobaum - Ph.D. (University of Nebraska)
Eberly Family Distinguished Professor, modern Central and Eastern Europe
- William I. Brustein - Ph.D. (University of Washington)
European fascism, European political and religious extremism, comparative anti-Semitism
- Elizabeth Fones-Wolf - Ph.D. (University of Massachusetts)
20th-century U.S., social and economic
- Kenneth Fones-Wolf - Ph.D. (Temple University): Stuart and Joyce Robbins Distinguished Chair in History
U.S. labor, Appalachia, immigration, religion
- Robert M. Maxon - Ph.D. (Syracuse University)
East Africa, colonial Kenya
- Matthew A. Vester - Ph.D. (University of California)
Early modern Europe, Italy

ASSOCIATE PROFESSORS

- Joshua Arthurs - Ph.D.(University of Chicago)
Modern Europe, Italy, cultural
- Melissa Bingmann - Ph.D. (Arizona State University)
Public history, 20th-century U.S.
- Tyler Boulware - Ph.D. (University of South Carolina)
Early American, frontier, Native America
- Joseph Hodge - Ph.D. (Queen's University at Kingston)
Modern Britian, British Empire, decolonization, international development, Africa
- Brian Luskey - Ph.D. (Emory University)
19th-century U.S., social and cultural
- James Siekmeier - Ph.D. (Cornell University)
U.S. diplomatic, modern Latin America
- Jason Phillips - Ph.D. (Rice University)
Civil war and reconstruction, southern history, 19th-century U.S.
- Kate Staples - Ph.D. (University of Minnesota)
Medieval, gender, England, material culture
- Mark Tauger - Ph.D. (UCLA)
20th-century Russia/USSR, historiography, world/comparative

ASSISTANT PROFESSORS

- Krystal Frazier - Ph.D. (Rutgers University)
African American, oral history
- William Gorby - Ph.D. (WVU)
West Virginia, Appalachia

- Macabe Keliher - Ph.D. (Harvard)
Premodern and modern China, East Asia, legal, Chinese intellectual
- Tamba E. M'bayo - Ph.D.(Michigan State University)
West Africa, colonial and postcolonial, African diaspora and Pan-Africanism
- Michele Stephens - Ph.D. (University of Oklahoma)
Latin America, indigenous peoples, race and gender

INSTRUCTORS

- Jenny Boulware - M.A. (University of South Carolina)
Public history
- Carletta Bush - Ph.D. (WVU)
Modern U.S.

EMERITUS FACULTY

- William S. Arnett
Associate Professor
- Jack Hammersmith
Professor
- Barbara J. Howe
Associate Professor
- Elizabeth K. Hudson
Associate Professor
- Emory L. Kemp
Professor
- Ronald L. Lewis
Professor, Stuart and Joyce Robbins Chair
- Mary Lou Lustig
Professor
- Stephen C. McCluskey
Professor
- A. Michal McMahon
Associate Professor
- John C. Super
Professor

Admission Requirements

Students who meet University admission requirements and are in good standing may be directly admitted to the history major.

Benchmark Expectations

Students must maintain a 2.0 GPA overall and a minimum of a 2.00 GPA in History every semester (with a 2.2 in HIST required for graduation). All majors must meet with their History adviser every semester. Students who do not meet these benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 296)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4

F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in History

Students wishing to graduate with a degree in History must complete a total of thirty-three to thirty-six hours of history courses (for the B.A. 42 credit rule, please see B.A. link above). Students must abide by the following rules:

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Students majoring in History will complete HIST 484 to satisfy this requirement.
- **Writing and Communication Skills Requirement:** The Department of History is a **SpeakWrite Affiliated Program**, committed to fostering and assessing students' written, verbal, visual, and mediated communication skills. The History major requires its Bachelor of Arts program graduates to complete ENGL 101 and ENGL 102 (or ENGL 103), and a minimum of four additional **SpeakWrite Certified Courses**™ as a part of their programs of study.
- **SpeakWrite Certified Courses are:**
 - **United States:** HIST 250, HIST 257, HIST 259, HIST 264, HIST 358, HIST 365, HIST 375, HIST 412, HIST 451, HIST 452, HIST 453, HIST 454, HIST 456, HIST 457, HIST 459, HIST 460, HIST 463, HIST 464, HIST 467, HIST 470, HIST 473, HIST 489.
 - **Europe:** HIST 203, HIST 204, HIST 207, HIST 209, HIST 220, HIST 221, HIST 313, HIST 317, HIST 318, HIST 331, HIST 346, HIST 416, HIST 417, HIST 418, HIST 421, HIST 423, HIST 424.
 - **Africa, Asia, Latin America:** HIST 241, HIST 242, HIST 325, HIST 350, HIST 365, HIST 439.
- **Calculation of the GPA in the Major:** Students must earn a minimum GPA of 2.2 with no grade lower than a C- in all courses applied to major requirements. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Minor Concentration outside of History:** Students must either complete a formal minor; complete a second major; or complete an informal minor: 15 credits in the same subject or across departments, but outside of History, with at least 9 credits at the 300-level or above. Students must earn at least a C- in all courses in the minor area.
- **Benchmark Expectations:** For details, go to the History admissions tab (p. 292).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	26
WVUE 191 First Year Seminar	
GEF Requirements: hours may vary	
ECAS B.A. Requirements	12
Fine Arts Requirement	
Foreign Language	
Global Studies & Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
Introductory History Courses	12
HIST 200 Practicing History (Practicing History)	
Select three courses:	
HIST 101 Western Civilization: Antiquity to 1600	
HIST 102 Western Civilization: 1600 to Present	

HIST 104	Latin America: Past and Present
HIST 105	The Middle East
HIST 106	East Asia: An Introduction
HIST 152	Growth of the American Nation to 1865
HIST 153	Making of Modern America: 1865 to the Present
HIST 179	World History to 1500
HIST 180	World History Since 1500
History Concentration	
18	
Select two of the following regions and then select nine hours from each of the chosen categories, with at least nine hours at the 300 or 400 level	
United States	
HIST 210	Modern Military History
HIST 250	West Virginia
HIST 256	History of the American Revolution: 1763-1790
HIST 257	Antebellum America: 1781-1861
HIST 259	The United States: 1865-1918
HIST 261	Recent America: The United States since 1918
HIST 264	American Indian History
HIST 353	1920s America
HIST 358	United States Cultural History: 1819-1893
HIST 360	America in the 1960's
HIST 365	The Vietnam War
HIST 375	Hollywood and History
HIST 412	Introduction to Public History
HIST 441	Seventeenth Century Colonial America
HIST 442	Eighteenth Century America
HIST 445	History of American Women
HIST 451	African-American History-1900
HIST 452	African-American Since 1900
HIST 453	Civil War and Reconstruction
HIST 454	The Coming of the United States Civil War
HIST 456	The Gilded Age in US History
HIST 457	The United States from McKinley to the New Deal, 1896 to 1933
HIST 459	United States History: New Deal to Great Society
HIST 460	World War II in America
HIST 463	American Foreign Relations to 1941
HIST 464	American Foreign Relations 1941 to Present
HIST 466	American Economic History to 1865
HIST 467	American Economic History Since 1865
HIST 468	The Old South
HIST 469	The New South
HIST 470	United States Civil Rights Movement
HIST 473	Appalachian Regional History
HIST 474	The City in American History
HIST 477	Working Class America
HIST 489	Introduction to Historic Preservation
Europe	
HIST 201	History of Ancient Times: Stone Age to the Fall of Rome
HIST 203	Introduction to Medieval Europe
HIST 204	Renaissance and Reformation
HIST 205	Absolutism & Enlightenment
HIST 207	Revolutionary Europe

HIST 209	Twentieth Century Europe
HIST 210	Modern Military History
HIST 211	The Mediterranean 1200-1800
HIST 217	History of Russia to 1917
HIST 218	History of Russia: 1900-Present
HIST 221	History of Modern Germany
HIST 220	The Holocaust (The Holocaust)
HIST 300	Greece and Rome
HIST 304	History of Sacred Places
HIST 313	France from 1450 to 1750
HIST 314	France Since 1815
HIST 317	German Central Europe, 1648-1900
HIST 318	Twentieth Century German Central Europe
HIST 330	History of Italy, 1200-1800
HIST 331	History of Italy since 1800
HIST 346	Women, Gender, and Kinship in Premodern Europe
HIST 402	Greece: From Troy to Alexander
HIST 416	The French Wars of Religion
HIST 417	World War II in Europe
HIST 403	Rome: From Romulus to Zenobia
HIST 418	Eastern Europe Since 1945
HIST 419	Revolutionary Russia: 1900-1953
HIST 420	USSR and After: 1953 to Present
HIST 421	Hitler and the Third Reich
HIST 422	Twentieth-Century Germany from Weimar to Bonn
HIST 423	History of Fascism
HIST 424	Britain 1455-1603
HIST 432	Eighteenth Century Britain: 1715-1832
HIST 480	History of the Alps
Africa, Asia, and Latin America	
HIST 201	History of Ancient Times: Stone Age to the Fall of Rome
HIST 225	Modern South Asia
HIST 241	Latin America: Culture, Conquest, Colonization
HIST 242	Latin America: Reform and Revolution
HIST 281	The Agrarian Transformation
HIST 304	History of Sacred Places
HIST 300	Greece and Rome
HIST 320	Pre-Colonial Africa
HIST 321	Colonial Africa and Independence
HIST 325	Modern China
HIST 326	Modern Japan
HIST 350	The Aztec, Maya, and Inca
HIST 365	The Vietnam War
HIST 402	Greece: From Troy to Alexander
HIST 403	Rome: From Romulus to Zenobia
HIST 427	East Africa to 1895
HIST 428	East Africa Since 1895
HIST 433	West Africa to 1885
HIST 434	West Africa from 1885
HIST 438	Women in Colonial Latin America

Non-Western History Requirement

3

Select one of the following, may overlap with another course taken

At least one course in the African/ Asian/ Latin American list above

or:			
HIST 179	World History to 1500		
or:			
HIST 180	World History Since 1500		
Capstone Experience			3
HIST 484	Historical Research-Capstone		
Minor Concentration (fulfills the F8 requirement)			15
Select one:			
Minor			
Departmental Concentration: please select fifteen hours of the same subject outside of the History Department; at least nine hours must be at the 300 or 400 level.			
General Electives			31
Number of electives may vary depending on overlap			
Total Hours			120

Suggested Plan of Study

The plan below illustrates a plan of study with a formal minor.

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	4 GEF 3	3
HIST 200	3 GEF 4	3
HIST Intro Course 1	3 HIST Intro Course 2	3
Foreign Language 101	3 Foreign Language 102	3
General Elective	1	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 ECAS Fine Arts Requirement (GEF 6)	3
GEF 5	3 Foreign Language 204	3
Foreign Language 203	3 HIST Concentration Area 1	3
ECAS Goba Studies & Diversity Requirement (GEF 7)	3 Minor Course 1	3
HIST Intro Course 3	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
HIST Concentration Area 1	3 HIST Concentration Area 2	3
HIST Concentration Area 1	3 HIST Concentration Area 2	3
Minor Course 2	3 Minor Course 3	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
HIST Concentration Area 2	3 HIST 484 (Capstone and Writing)	3
HIST Non-Western	3 Minor Course 5	3
Minor Course 4	3 General Elective	3
General Elective	3 General Elective	3

General Elective	3 General Elective	3
	15	15

Total credit hours: 120

Major Learning Goals

HISTORY

Upon successful completion of the B.A. degree, **History** majors will be able to:

1. Demonstrate general knowledge of the facts, concepts, and approaches of history.
2. Critically analyze and assess primary sources.
3. Critically analyze and assess secondary sources.
4. Conduct original historical research and report results in writing.
5. Produce historical essays that are coherent, grammatically correct, and use proper historical documentation.
6. Demonstrate ability to successfully present work in an oral presentation.

HISTORY MINOR

MINOR CODE - U018

A grade of C or higher must be earned in all minor courses

CORE COURSES 6

Select two of the following:

HIST 101	Western Civilization: Antiquity to 1600
HIST 102	Western Civilization: 1600 to Present
HIST 104	Latin America: Past and Present
HIST 105	The Middle East
HIST 106	East Asia: An Introduction
HIST 108	North America: Past and Present
HIST 152	Growth of the American Nation to 1865
HIST 153	Making of Modern America: 1865 to the Present
HIST 179	World History to 1500
HIST 180	World History Since 1500

UPPER-DIVISION ELECTIVES 9

Select nine additional hours from courses at the 300- or 400-level

Total Hours	15
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Individualized Studies

Degree Offered

- Bachelor of Arts

Overview of the Individualized Studies Major program

The Individualized Studies Major program provides highly motivated undergraduate students with an opportunity to complete an individually tailored program when their educational aims fall between established department or program boundaries. Students interested in this program should first explore the possibility that their academic goals can be met through a combination of established majors and minors, or through the Multidisciplinary Studies Program (<http://mds.wvu.edu/>). The Multidisciplinary Studies Program allows a student to combine three minors to create an interdisciplinary major.

The Individualized Studies Major involves two or more academic areas, at least one of which must be in the Eberly College. The major program should be planned so that the academic depth and rigor meets or exceeds that of a traditional major. Since its approval in 1972, the individualized major program has attracted a number of interesting and challenging student proposals. Representative examples include a program in religious studies including courses in both religious studies and communication studies, a psycho-biology program focused on the integration of knowledge about the physiological and psychological mechanisms involved in learning, and a European culture program which combined elements from the Departments of History, World Languages, and Political Science.

The Individualized Studies Major program is administered by the Associate Dean for undergraduate studies of the Eberly College of Arts and Sciences. Students interested in considering an Individualized Studies major should carefully read the catalog information <http://eberly.wvu.edu/>

students/current-students/individualized-major and then make an appointment to meet with the Associate Dean for undergraduate studies of the Eberly College of Arts and Sciences by calling (304) 293-7476 to discuss their goals and the procedures they will need to follow to develop and complete an Individualized Studies major program of study. Students should normally obtain approval for their program of study and be admitted to the Individualized Major by the Eberly College Associate Dean for Undergraduate Studies no later than the end of their sophomore year.

FACULTY

COORDINATOR

- Valérie Lastinger - Ph.D. (University of Georgia)
Associate Dean for Undergraduate Studies

Click here to view the Suggested Plan of Study (p. 299)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (<http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/#bachelorofartstext>) page.

Departmental Requirements for the Individualized Studies Major B.A.

The Individualized Studies Major requires a minimum of thirty hours in two different areas in a minimum of two semesters under the direction of the advisory committee as a declared Individualized Studies Major. A maximum of forty-two hours in the same discipline, as designated by course prefix, may be included within the 120 hours required for graduation.

The program of study developed in consultation with, and approved by, the Eberly College Associate Dean for Undergraduate Studies becomes the student's formal agreement with the College for degree completion.

- **Capstone Requirement:** The university require students to take a capstone course. Capstone may be an approved capstone courses selected from the disciplines included in the Individualized Studies major, or may be an independent study course developed with the student's advisory committee and approved by the Associate Dean.
- **Writing and Communication Skills Requirement:** Individualized Studies Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses™** that are selected in consultation with the advisory committee and identified in the student's formal Individualized Studies program proposal approved by the Associate Dean for Undergraduate Studies.

- **Calculation of the GPA in the major:** A cumulative grade point average of at least 2.00 is required across all courses counted toward the major. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Residence Requirement:** Courses in the individualized major program may not be taken at another institution, unless approval has been given by the advisory committee and the Associate Dean.
- **Course Substitution:** One course may be substituted for another with advance approval of the advisory committee and the Associate Dean. A change in program emphasis or substitution of multiple courses requires approval of both the advisory committee and the Associate Dean. The student must formally request and justify such a change.

Curriculum Requirements

University Requirements	37
WVUE 191 First Year Seminar	
GEF Requirements (credits may vary due to overlap)	
ECAS B.A. Requirements	12
Foreign Language	
Fine Arts Requirement	
Global Studies & Diversity Requirement	
Program Requirements	
Area I	12
Area II	15
Capstone Experience	3
General Electives (credits may vary depending on overlap)	41
Total Hours	120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (F 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 GEF 5	3
GEF 4	3 GEF 6 (ECAS Fine Arts Requirement)	3
Foreign Language 101	3 Foreign Language 102	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 8*	3
GEF 8*	3 Foreign Language 204	3
GEF 8*	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3
Foreign Language 203	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
Area I	3 Area I	3
Area I	3 Area II	3
Area II	3 General Elective	3
Area II	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Area I Capstone	3 Area I	3
Area II	3 General Elective	3
Area II	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
15		15

Total credit hours: 120

* Students completing a minor, a double major or a dual degree already meet F8.

Major Learning Goals

INDIVIDUALIZED STUDIES

Individualized Studies

Students proposing an Individualized Studies major articulate individualized goals in a formal program proposal. The proposal is developed in consultation with the student's advisory committee and approved by the Associate Dean for Undergraduate Studies. The Individualized Studies program proposal requires the student to operationalize expected outcomes of her/his program. The statement of objectives includes the competencies or skills to be developed in the program, the scope and flexibility of outcomes desired, and the academic goals of the program. The statement includes discussion of potential career goals that may be facilitated by the program of study. At the end of each semester, the student submits a self-evaluation of progress toward meeting the program objectives.

Upon successful completion of the B.A. degree, **Individualized Studies** majors will be able to:

1. Formulate and defend ideas using effective written, verbal, and mediated communication skills.
2. Analyze problems and make judgements based on criteria and standards.
3. Articulate their program of study's area of concentration as a coherent, functional whole, with pattern and structure among its elements.
4. Apply central theories, principles, and skill sets of two or more disciplines to the program of study's individualized goals:
 - a. From the individualized studies program proposal
 - b. From the individualized studies program proposal
 - c. From the individualized studies program proposal
 - d. From the individualized studies program proposal
 - e. From the individualized studies program proposal
5. Successfully apply for graduate study or post baccalaureate degree job placement.

Industrial Mathematics and Statistics

Degree Offered

- Bachelor of Science

Nature of the Program

The curriculum in industrial mathematics and statistics (IMS) provides students with the critical skills and knowledge needed to apply both statistics and mathematics to industrial and scientific problems. IMS is concerned with the mathematical, statistical, and computer modeling of various physical, biological, and social processes. Graduates will be trained to work in business, industry, and government, or they will be able to pursue a graduate degree in any of the mathematical sciences. Industrial mathematics and statistics is vital to our economic competitiveness and is critical to the development of our increasingly scientific/technological society.

Industrial mathematics and statistics is built on a foundation of differential/integral calculus, differential equations, applied probability, and statistics.

The mathematical tools encompass linear algebra, numerical analysis, continuous models rooted in differential equations, and discrete models linked to finite mathematical structures and Markov processes. Scientific computing extends the rudiments of programming into data visualization, the development of algorithms, and selected topics using high-level languages. Statistical topics especially relevant to industrial and scientific applications include design and analysis of experiments, statistical models, sequential analysis, reliability models, and time series analysis. These statistical

methodologies are grounded in fundamental concepts of statistics and probability such as discrete and continuous probability distributions, stochastic processes, estimation and hypothesis testing, and exponential family models.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

MATHEMATICS CHAIR

- Edgar Fuller - Ph.D. (University of Georgia)
Knot theory, Machine learning, Mathematics education

STATISTICS CHAIR

- Michael Mayes - Ph.D. (Penn State University)
Number Theory

Admission into the Program

Entering freshmen are admitted directly into the major. Students coming from the Center for Learning, Advising, and Student Success or another unit must have a 2.0 overall GPA.

Benchmark Expectations

By the end of 4th semester in the major, students should have successfully completed Math through 261 and STAT 215. Math 441 and STAT 312 are recommended in the 3rd year. Students must retain a 2.0 GPA in Math/STAT courses applied to the major. All majors must meet with the IMS adviser each semester. Students who fail to meet these expectations might be removed from the major.

[Click here to view the Suggested Plan of Study \(p. 303\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.S. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.S. Degrees tab on the Eberly College of Arts and Sciences (p. 171) page.

Departmental Requirements for the B.S. in Industrial Mathematics and Statistics

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. IMS majors must successfully complete: one hour of STAT 482 or MATH 491 or STAT 491 or MATH 495 or STAT 495, one hour of MATH 494 or STAT 494, and one hour of MATH 496 or STAT 496. These courses should be taken during the student's senior year.
- **Writing and Communication Requirement:** Industrial Mathematics and Statistics Bachelor of Science students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses**™ selected from the following: COMM 202, ENGL 304, ENGL 305, HIST 203, HIST 204, HIST 207, HIST 221, HIST 241, HIST 242, HIST 250, HIST 264, HIST 259, PHIL 301, PHIL 302, PHIL 306, PHIL 310, PSYC 202, RELG 219, RELG 223, RELG 230, RELG 231.
- **Calculation of the GPA in the Major:** A minimum GPA of 2.00 across all classes applied to the major is required. If a class is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Benchmarks Expectations:** For details, go to the Industrial Mathematics admissions tab.

Curriculum Requirements

UNIVERSITY REQUIREMENTS 19

WVUE 191 First Year Seminar

GEF Requirements (will vary with overlap)

ECAS B.S. Requirements 16

Global Studies & Diversity Requirement

Mathematics Requirement 4

Select one:

MATH 153 Calculus 1a with Precalculus
& MATH 154 and Calculus 1b with Precalculus

or:

MATH 155 Calculus 1

Science Requirement: please visit the Eberly B.S. requirements page

DEPARTMENTAL REQUIREMENTS

Foundation Courses: 15

MATH 156 Calculus 2

MATH 251 Multivariable Calculus

MATH 261 Elementary Differential Equations

STAT 215 Introduction to Probability and Statistics

Core Courses: 12

MATH 441 Applied Linear Algebra

STAT 312 Intermediate Statistical Methods

STAT 461 Theory of Probability

MATH 464 Deterministic Mathematical Modeling

CONCENTRATION 9

Select one:

Concentration in Mathematics

MATH 420 Numerical Analysis 1

MATH Course from the Recommended Elective List (see below)

MATH or STAT Course from Recommended Elective list (see below)

Concentration in Statistics

STAT 313 Introductory Design and Analysis

STAT 445 Data Analysis

or STAT 462 Theory of Statistics

MATH or STAT Course from IMS Elective list (see below)

IMS Electives

MATH 222 Numerical and Symbolic Methods in Mathematics and Statistics

MATH 283 Introduction to the Concepts of Mathematics

MATH 364 Mathematics of Compound Interest

MATH 420 Numerical Analysis 1

MATH 456	Complex Variables	
MATH 465	Partial Differential Equations	
STAT 217	Industrial Statistics	
STAT 222	Numerical and Symbolic Methods in Mathematics and Statistics	
STAT 313	Introductory Design and Analysis	
STAT 316	Forensic Statistics	
STAT 331	Sampling Methods	
STAT 421	Statistical Analysis System (SAS)	
STAT 445	Data Analysis	
STAT 462	Theory of Statistics	
IMS Capstone Experience		3
Select one of the following, depending on concentration:		
MATH 491	Professional Field Experience	
MATH 494	Seminar	
MATH 495	Independent Study	
MATH 496	Senior Thesis	
STAT 482	Statistics Practicum	
STAT 491	Professional Field Experience: Capstone	
STAT 494	Seminar	
STAT 496	Senior Thesis	
GENERAL ELECTIVES *		42
Number may vary depending on overlap		
Total Hours		120

* IMS students interested in computer science have access to the following courses, normally restricted to Computer Science majors: CS 110, 111, 210, 220

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 4	3 GEF 8 (B.S. First Area 2)	4
GEF 5	3 MATH 156 (GEF 8 ; B.S. Second Area 1)	4
MATH 155 (GEF 3)	4 General Elective	4
GEF 2 (B.S. First Area 1)	4	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 6	3
MATH 251	4 B.S. Third Area 1	4
STAT 215 (GEF 8; B.S. Second Area 2)	3 MATH 261	4
General Elective	2 MATH 441	3
General Elective	3 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
ECAS Global Studies & Diversity Requirement (GEF 7)	3 Concentration Course 2	3
Concentration Course 1	3 B.S. Third Area 2	4
STAT 461	3 STAT 312	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	14	16

Fourth Year

Fall	Hours Spring	Hours
MATH 464	3 IMS Capstone	3
Concentration Course 3	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
15		15

Total credit hours: 120

Major Learning Goals**INDUSTRIAL MATHEMATICS AND STATISTICS**

Upon successful completion of the B.S. degree, **Industrial Mathematics and Statistics** majors will be able to:

1. Demonstrate competence in one-variable calculus before proceeding to upper-level courses.
2. Read and interpret mathematical/statistical industrial and scientific word problems.
3. Demonstrate the ability to construct and understand mathematical/statistical models in science and engineering.
4. Research an industrial or scientific problem by reading mathematical/statistical articles and texts.
5. Develop a solution to the aforementioned industrial or scientific problem.
6. Write and present an applied research report on the industrial or scientific problem.

Interdisciplinary Studies**Degree Offered**

- Bachelor of Arts (B.A.)

The Eberly College Multidisciplinary Studies program (MDS) offers two degree options, the Bachelor of Multidisciplinary Studies degree (B.MdS.) and the Bachelor of Arts in Interdisciplinary Studies (B.A.). Both the Multidisciplinary Studies and Interdisciplinary Studies degree programs are comprised of three related minors. The program does not limit students to courses of study in a particular college or school, but rather stresses the importance of breadth of knowledge and cross-disciplinary communication. The MDS and IDS degrees emphasize flexibility and problem solving. Students will learn to use specialized knowledge from individual disciplines to analyze problems from divergent perspectives. Students will also apply multidisciplinary and interdisciplinary techniques to communicate the strengths of their self-chosen course of study.

MDS and IDS students choose three minor areas and must demonstrate how these fields of study work together toward his/her educational and/or career goals. For example, a student may choose the areas of business administration, sport and exercise psychology, and professional writing and editing, with the goal of a career in sports and special events or marketing/coordinating. MDS and IDS students participate in a capstone during their final semester, incorporating their three disciplines into a senior project, presentation, and paper.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (p. 44) here. Please note that students may not earn a minor in their major field. MDS students may add a fourth minor to complement their three core minors.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

MDS Graduates

The breadth of study available to Multi- and Interdisciplinary students empowers them to be successful in any field they choose. MDS and IDS degree holders are flourishing in business, teaching, entrepreneurial endeavors, health professions, and public and health administration. They are earning advanced degrees in social work, business administration, and law. The flexibility of the IDS and MDS degrees ensure that students are prepared for success in today's rapidly changing workforce.

Click here to view the Suggested Plan of Study (p. 306)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete the WVU General Education Foundations requirements, College B.A. requirements, programmatic requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (<http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/#bachelorofartstext>) page.

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Students in the MDS program must complete MDS 489 (<http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/multidisciplinarystudiesdegreeprogram>) with a grade of C- or better during their final year.
- **Writing and Communication Skills Requirement:** The Interdisciplinary Studies Program is a **SpeakWrite Affiliated Program**, committed to fostering and assessing students' written, verbal, visual, and mediated communication skills. The Interdisciplinary Studies major requires its Bachelor of Arts program graduates to complete ENGL 101 and ENGL 102 (or ENGL 103), and a minimum of four additional **SpeakWrite Certified Courses**™ as a part of their programs of study. *All Interdisciplinary Studies majors are required to take MDS 199, MDS 289, MDS 389, and MDS 489. These are each SpeakWrite Certified courses.*
- **Calculation of the GPA in the Major:** Students must obtain a cumulative grade point average of at least 2.0, with grade of C- or better in all courses counted toward the minors.
- **Course Requirements:** Minor courses may not be used to satisfy the General Education Foundations requirements. Each minor must consist of at least fifteen unique credits. Students must complete at least sixty credit hours of coursework at the 200 level or above. Students are required to complete MDS 199, MDS 289, MDS 389, and MDS 489 with a minimum grade of C-. At the latest, MDS 199 must be completed the semester before taking MDS 489.
- **Benchmark Expectations:** For details, go to the Multidisciplinary Studies admission tab (p. 338).

Curriculum Requirements

University Requirements		37
WVUE 191	First Year Seminar	
GEF (credit hours may vary based on selected options)		
ECAS B.A. Requirements		12
Foreign Language		
Fine Arts Requirement		
Global Studies & Diversity Requirement		
Program Requirements		
MDS Requirements		11

MDS 199	Orientation to MDS	
MDS 289	Foundations of Interdisciplinary Studies	
MDS 389	Interdisciplinary Research Methods	
Minor One		15
Minor Two		15
Minor Three		15
Capstone Requirement		
MDS 489	Capstone	
General Electives		15
Number of electives may vary depending on options selected and AP credits		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 GEF 5	3
GEF 4	3 GEF 6 (ECAS Fine Arts Requirement)	3
Foreign Language 101	3 Foreign Language 102	3
MDS 199	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 8*	3
Foreign Language 203	3 GEF 8*	3
MDS 289	3 Foreign Language 204	3
Minor I-1	3 Minor II-1	3
General Elective	3 Minor III-1	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 Minor I-3	3
ECAS Global Studies & Diversity Requirement (GEF 7)	3 Minor II-3	3
Minor I-2	3 Minor III-2	3
Minor II-2	3 Minor III-3	3
MDS 389	3 General Elective @ 200-level	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Minor I-4	3 MDS 489	3
Minor I-5	3 Minor II-5	3
Minor II-4	3 Minor III-5	3
Minor III-4	3 General Elective @ 200-level	3
General Elective @ 200-level	3 General Elective @ 200-level	3
	15	15

Total credit hours: 120

* Students earning a fourth minor, a second major or a dual degree already fulfill F 8.

Major Learning Goals

INTERDISCIPLINARY STUDIES

1. Integrate disciplinary perspectives and apply interdisciplinary research methods to contemporary political, social, scientific, and humanitarian questions.
2. Apply core theories of the three primary component disciplines of their degree to construct informed analyses and frame creative propositions.
3. Analyze sources from an interdisciplinary perspective.
4. Use critical thinking skills to formulate and defend positions by developing, supporting and presenting information clearly in written, verbal, visual, and mediated forms.
5. Communicate clearly in written and oral form the value of an interdisciplinary approach to problem solving as an alternative or supplement to discipline-based academic research.
6. Successfully apply for graduate school or post baccalaureate degree job placement.

International Studies

Degree Offered

- Bachelor of Arts

Nature of the Program

The international studies major is composed of internationally oriented courses drawn from several disciplinary and interdisciplinary study areas. Students take courses from departments such as economics, geography, history, political science, sociology/anthropology, and world languages.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; a list of all available minors and their requirements is available at <http://catalog.wvu.edu/undergraduate/minors/>. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

Study Abroad and Internships

Students are strongly encouraged to take advantage of opportunities for professional internships and study abroad, which may be undertaken for academic credit (often fulfilling specific course requirements for the major) with the approval of students' designated international studies advisers. Through internships, students gain first-hand knowledge of private and business organizations engaged in international social, economic, and governmental affairs. To experience another society and in many cases to improve their foreign language capabilities, students may also study abroad for a summer, one semester, or an entire academic year. Interested students should consult their international studies adviser.

FACULTY

DIRECTOR

- Clarissa Estep - Ph.D. (West Virginia University)
Department of Political Science

PROFESSORS

- Joe D. Hagan - Ph.D (University of Kentucky)
Barnette Professor in Political Science
- Clifford Hawley - Ph.D. (Duke University)
Chair, Department of Economics

ASSOCIATE PROFESSORS

- R. Scott Crichlow - Ph.D. (Louisiana State University)
Chair, Department of Political Science

- Karen Culcasi - Ph.D. (University of Florida)
Department of Geology and Geography
- Christina Fattore - Ph.D. (Florida State University)
Department of Political Science
- David M. Hauser - Ph.D. (University of Pittsburgh)
Department of Political Science
- Daniel Renfrew - Ph.D. (Binghamton University, State University of New York)
Department of Sociology and Anthropology
- Ángel T. Tuninetti - Ph.D. (Washington University)
Chair, Department of World Languages, Literatures, & Linguistics

ASSISTANT PROFESSORS

- Boris Barkanov - Ph.D. (University of California, Berkley)
Department of Political Science
- William Hal Gorby - Ph.D. (West Virginia University)
Department of History
- Mason W. Mosley - Ph.D. (Vanderbilt University)
Department of Political Science

Admission Requirements

Freshmen are admitted directly into the major. Students admitted from Center for Learning, Advising, and Student Success or another major must have a 2.00 GPA. Please see an International Studies adviser.

Benchmark Expectations

For their third semester in the program, students should have completed or be registered for: POLS 260, BUSA 201 or ECON 201, one additional course from the core list, and made progress toward the world language requirement. All majors must meet with an INTS adviser each semester (double majors should meet with both advisers). Students who do not meet these requirements may be removed from their major.

Click here to view the Suggested Plan of Study (p. 312)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in International Studies

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. For International Studies majors, INTS 488 will fulfill this requirement.
- **Writing and Communication Requirement:** International Studies Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and any two additional **SpeakWrite Certified Courses™** selected from: CHIN 301, CHIN 303, COMM 309, FCLT 206, FLIT 217, FLIT 238, FLIT 239, FLIT 257, FLIT 266, FRCH 301, FRCH 302, FRCH 303, FRCH 304, GEOG 243, GEOG 415, GEOG 443, GER 301, GER 302, GER 303, GER 304, HIST 209, HIST 221, HIST 242, HIST 318, HIST 325, HIST 418, HIST 439, HIST 464, INTS 488 (3 credit hour), ITAL 301, ITAL 303, ITAL 304, JAPN 301, POLS 230, POLS 240, POLS 250, POLS 300, POLS 355, POLS 491A, RELG 230, RELG 231, RELG 301, RUSS 301, RUSS 303, RUSS 342, RUSS 451, SOCA 350, SOCA 358, SOCA 458, SPAN 311, SPAN 312.
- **Calculation of the GPA in the Major:** Students must obtain a cumulative grade point average of 2.0, with a grade of C- or better in all courses counted toward the major.
- **Area of Emphasis:** Students must declare an area of emphasis.
- **Regional Focus:** Students must select a regional focus.
- **Benchmark Expectations:** For details, go to the International Studies admissions tab (p. 308).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	31
WVUE 191 First Year Seminar	
GEF: number of classes will vary depending on overlap	
ECAS B.A. Requirements	12
Foreign Language	
Fine Arts Requirement	
Global Studies & Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
Core Courses	13
INTS 199 Orientation to International Studies	
POLS 260 Introduction to International Relations	
BUSA 201 Survey of Economics	
or ECON 201 Principles of Microeconomics	
POLS 300 Empirical Political Analysis	
or SOCA 311 Social Research Methods	
Select one of the following courses:	
GEOG 102 World Regions	
GEOG 107 Physical Geography	
HN&F 126 Society and Food	
POLS 103 Global Political Issues	
POLS 250 Introduction to Comparative Politics	
POLS 261 Introduction to National Security	
RELG 102 Introduction to World Religions	
SOCA 105 Introduction to Anthropology	
Area of Emphasis	18
Select an area of emphasis (18 credits)	
Regional Focus	9

Select a regional focus (9 hours) from Africa/Middle East, Asia, Europe, or The Americas

AFRICA/MIDDLE EAST (Select one class from 3 of the 4 following categories)

Language

ARBC 303	Arabic Conversation 1
or ARBC 304	Arabic Conversation 2
or FRCH 303	Structure and Communication
or FRCH 304	Advanced Readings

History

HIST 105	The Middle East
or HIST 428	East Africa Since 1895
or HIST 434	West Africa from 1885

Politics

POLS 356	Politics of the Middle East
or POLS 358	Politics of Africa

Culture

FLIT 238	African Women Writers
or FLIT 239	Francophone Literature in Translation
or FLIT 315	Modern Arabic Literature
or FLIT 316	Arab Women Writers
or FRCH 301	Language Through Civilization
or FRCH 302	Language Through Culture
or GEOG 243	Geography of Africa
or GEOG 244	Geography of the Middle East
or GEOG 443	African Environment and Development
or RELG 232	History and Practice of Islam
or RELG 302	Studies in Islamic Scriptures

ASIA (Select one class from 3 of the 4 following categories)

Language

CHIN 301	Third Year Chinese 1
or JAPN 301	Conversation and Composition 1

History

HIST 106	East Asia: An Introduction
or HIST 225	Modern South Asia
or HIST 325	Modern China
or HIST 326	Modern Japan

Politics

POLS 350	Government of Japan
or POLS 354	Government of China
or POLS 369	Far East International Affairs

Culture

CHIN 303	Readings in Modern Chinese 1
or FCLT 206	Introduction to Japanese Culture
or FCLT 210	Chinese Civilization and Culture
or FLIT 203	Japanese Literature Translation
or FLIT 217	Chinese Literature in Translation 2
or RELG 230	Religions of India
or RELG 231	Religions of China and Japan
or RELG 301	Studies in Asian Scriptures

EUROPE (Select one class from 3 of the 4 following categories)

Language

FRCH 303	Structure and Communication
or FRCH 304	Advanced Readings

or ITAL 303	Composition and Conversation
or ITAL 304	Advanced Conversation
or GER 301	Conversations in Context 1: Germany and its Past
or GER 302	Conversations in Context 2: Germany Today
or RUSS 301	Conversation and Composition 1
or RUSS 303	Advanced Structure and Reading 1
or SPAN 311	Readings in Spanish
or SPAN 312	Writing in the Hispanic World

History

HIST 209	Twentieth Century Europe
or HIST 218	History of Russia: 1900-Present
or HIST 221	History of Modern Germany
or HIST 314	France Since 1815
or HIST 318	Twentieth Century German Central Europe
or HIST 418	Eastern Europe Since 1945
or HIST 420	USSR and After: 1953 to Present
or HIST 422	Twentieth-Century Germany from Weimar to Bonn

Politics

POLS 351	Russian and Post-Soviet Politics
or POLS 352	Politics of the European Union
or POLS 353	Western Democratic Governments
or POLS 452	European Union Law/Legal Systems
or POLS 453	European Union Law/Institutions

Culture

FLIT 228	German Literature in Translation 2
or FLIT 229	German Literature Since World War II
or FLIT 236	French Literature in Translation 2
or FLIT 237	French Women Writers
or FLIT 257	Russian Literature Translation 2
or FRCH 301	Language Through Civilization
or FRCH 302	Language Through Culture
or GEOG 241	Geography of Europe
or GER 303	Communication through Culture: Building the German Nation
or GER 304	Stories and Histories: Reading and Writing German- Speaking Culture
or ITAL 301	Language Through Culture
or RUSS 342	Survey of Russian Literature
or RUSS 451	Russian Culture

THE AMERICAS (Select one class from 3 of the 4 following categories)**Language**

SPAN 311	Readings in Spanish
or SPAN 312	Writing in the Hispanic World

History

HIST 104	Latin America: Past and Present
or HIST 108	North America: Past and Present
or HIST 242	Latin America: Reform and Revolution
or HIST 439	History of Modern Mexico

Politics

POLS 355	Governments of Latin America
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Culture

FCLT 260	Cultures of Mexico
or FLIT 201	Latin Literature Translation 2
or FLIT 264	Spanish Literature Translation 1

or FLIT 266	Latin American Literature	
or FLIT 285	Brazilian Literature Translation	
or FLIT 361	Latin American Literature and Violence	
or SOCA 350	Latin American Culture	
Capstone Experience		3
INTS 488	Capstone International Studies	
GENERAL ELECTIVES		34
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
Foreign Language 101	3 GEF 3	3
INTS 199	1 GEF 5	3
Core Elective 1	3 Foreign Language 102	3
General Elective	1	
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 AoE Course 1	3
ECAS Fine Arts Requirement (GEF 6)	3 Foreign Language 204	3
Foreign Language 203	3 BUSA 201 or ECON 201 (GEF 4)	3
POLS 260 (ECAS Global Studies and Diversity Requirement and GEC 7)	3 GEF 8*	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 GEF 8*	3
AoE Course 2	3 AoE Course 3	3
Regional Course 1	3 AoE Course 4	3
POLS 300 or SOCA 311	3 Regional Course 2	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
AoE Course 5	3 INTS 488	3
Regional Course 3	3 AoE Course 6	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or a dual degree already meet F 8.

Areas of Emphasis

Majors are required to select an area of emphasis for specialized advanced study.

GLOBAL AFFAIRS

- Global Connections (p. 313)
- Security and Diplomacy (p. 313)

GLOBAL CONNECTIONS AREA OF EMPHASIS**AREA OF EMPHASIS: GLOBAL CONNECTIONS**

18

Select six of the following courses from at least two disciplines:

BIOL 105	Environmental Biology
BUSA 202	Survey of Accounting
COMM 309	Health Communication
ECON 202	Principles of Macroeconomics
ECON 225	Elementary Business and Economics Statistics
ECON 451	International Economics
ECON 455	Economic Development
ENVP 155	Elements of Environmental Protection
GEOG 110	Environmental Geoscience
GEOG 207	Climate and Environment
GEOG 209	Economic Geography
GEOG 302	Political Geography
GEOG 411	Rural and Regional Development
GEOG 415	Global Environmental Change
HIST 276	Twentieth Century American Foreign Relations
HIST 464	American Foreign Relations 1941 to Present
POLS 230	Introduction to Policy Analysis
POLS 240	Introduction to Public Administration
POLS 338	Environmental Policy
POLS 360	International Political Economy
POLS 361	International Law and Institutions
POLS 362	Comparative Foreign Policy
POLS 363	International Law
POLS 364	American Foreign Relations
PUBH 101	Introduction to Public and Community Health
PUBH 201	Global Perspectives of Public Health
PUBH 222	Epidemiology for Public Health
SOCA 417	Sociology of Globalization
SOCA 458	Environmental Anthropology
SOCA 481	Society and Health
WGST 345	Women in International Development
WMAN 150	Principles of Conservation Ecology

Total Hours

18

SECURITY AND DIPLOMACY AREA OF EMPHASIS REQUIREMENTS**AREA OF EMPHASIS: SECURITY AND DIPLOMACY**

18

Select six of the following courses from at least two disciplines:

GEOG 302	Political Geography
HIST 463	American Foreign Relations to 1941
HIST 464	American Foreign Relations 1941 to Present
POLS 301	Introduction to Intelligence Analysis
POLS 302	Intelligence Analysis Methods
POLS 360	International Political Economy

POLS 361	International Law and Institutions
POLS 362	Comparative Foreign Policy
POLS 363	International Law
POLS 364	American Foreign Relations
POLS 365	Foreign Policy Decision-Making
POLS 368	Politics of War and Peace
POLS 461	Transformation of War
SOCA 345	Terrorism

Total Hours

18

Major Learning Goals

INTERNATIONAL STUDIES

Knowledge

- Students will apply theories and concepts drawn from appropriate disciplines such as political science, history, economics, geography, and sociology to international affairs.
- Students will display substantive knowledge of global and/or regional challenges through synthesis of the history, culture, society, geography, politics, and economy of a major world region.

Skills

- Students will demonstrate basic receptive and productive proficiency (four or more semesters) in a language appropriate for their chosen regional focus.
- Students will apply interdisciplinary social science research methods, including using library databases to find relevant literature, evaluating the strengths and weaknesses of academic arguments, and applying basic quantitative and qualitative methods to make solid, evidence-based decisions.

Attitudes

- Students will exhibit the intellectual and ethical responsibilities of active global citizenship.

AFRICA AND THE MIDDLE EAST

MINOR CODE - U019

Courses must be taken in at least three disciplines/departments, and all FLIT, FCLT, and foreign language courses are considered to be in one discipline/department.

A minimum overall GPA of 2.0 in the minor.

Foundation Course

Select one of the following:

3

ECON 451	International Economics
ECON 454	Comparative Economic Systems
GEOG 302	Political Geography
GEOG 310	Global Issues
HIST 463	American Foreign Relations to 1941
HIST 464	American Foreign Relations 1941 to Present
POLS 250	Introduction to Comparative Politics
POLS 260	Introduction to International Relations
POLS 364	American Foreign Relations
POLS 368	Politics of War and Peace

Specialized Courses:

Select four of the following from at least three disciplines:

12

Group I

ECON 455	Economic Development
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Group II

GEOG 243	Geography of Africa
----------	---------------------

GEOG 411	Rural and Regional Development
Group III	
HIST 427	East Africa to 1895
HIST 428	East Africa Since 1895
HIST 320	Pre-Colonial Africa
HIST 321	Colonial Africa and Independence
HIST 433	West Africa to 1885
HIST 434	West Africa from 1885
Group IV	
MUSC 477	Music of Africa
Group V	
POLS 356	Politics of the Middle East
POLS 358	Politics of Africa
Group VI	
RELG 232	History and Practice of Islam
Group VII	
SOCA 351	Traditional and Changing Africa
Group VIII	
WGST 345	Women in International Development
Total Hours	

15

THE AMERICAS MINOR CODE-U020

Courses must be taken in at least three disciplines/departments, all FLIT, FCLT, and foreign language courses are considered to be in one discipline/department.

A minimum GPA of 2.0 is required in all minor courses

Foundation Course

Select one of the following:

3

ECON 451	International Economics
ECON 454	Comparative Economic Systems
GEOG 302	Political Geography
GEOG 310	Global Issues
HIST 463	American Foreign Relations to 1941
HIST 464	American Foreign Relations 1941 to Present
POLS 250	Introduction to Comparative Politics
POLS 260	Introduction to International Relations
POLS 364	American Foreign Relations
POLS 368	Politics of War and Peace

Specialized Courses:

Select four of the following (at least three must be from different disciplines/departments)

12

Group I	
ECON 455	Economic Development
Group II	
FLIT 268	Spanish American Literature in Translation 1
FLIT 269	Spanish American Literature in Translation 2
FLIT 285	Brazilian Literature Translation
SPAN 330	Latin American Culture
SPAN 332	Modern Spanish American Literature
SPAN 361	Commercial Spanish
SPAN 431	Caribbean Literature
SPAN 494 - Seminar (subject matter changes)	

Group III

GEOG 240	United States and Canada
GEOG 411	Rural and Regional Development

Group IV

HIST 241	Latin America: Culture, Conquest, Colonization
HIST 242	Latin America: Reform and Revolution

Group V

POLS 355	Governments of Latin America
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Group VI

SOCA 350	Latin American Culture
----------	------------------------

Group VII

WGST 345	Women in International Development
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Total Hours

15

ASIA**MINOR CODE - U021**

Courses must be taken in at least three disciplines/departments, all FLIT, FCLT, and foreign language courses are considered to be in one discipline/department.

Students must earn an overall GPA of 2.0 in the minor, with a grade of C- or better in all required courses.

Foundation Course:

Select one of the following: 3

ECON 451	International Economics
ECON 454	Comparative Economic Systems
GEOG 302	Political Geography
GEOG 310	Global Issues
HIST 463	American Foreign Relations to 1941
HIST 464	American Foreign Relations 1941 to Present
POLS 250	Introduction to Comparative Politics
POLS 260	Introduction to International Relations
POLS 364	American Foreign Relations
POLS 368	Politics of War and Peace

Specialized Courses:

Select four of the following (at least three must be from different disciplines/departments) 12

Group I

ECON 455	Economic Development
----------	----------------------

Group II

FLIT 203	Japanese Literature Translation
FLIT 216	Chinese Literature Translation 1

Group III

GEOG 411	Rural and Regional Development
----------	--------------------------------

Group IV

HIST 325	Modern China
HIST 326	Modern Japan

Group V

POLS 350	Government of Japan
POLS 354	Government of China
POLS 369	Far East International Affairs

Group VI

RELG 230	Religions of India
RELG 231	Religions of China and Japan

Group VII

WGST 345	Women in International Development	
Total Hours		15

EUROPE

MINOR CODE - U022

Courses must be taken in at least three disciplines/departments, all FLIT, FCLT, and foreign language courses are considered to be in one discipline/department.

A minimum GPA of 2.0 is required in all minor courses

Foundation Course

Select one of the following:		3
ECON 451	International Economics	
ECON 454	Comparative Economic Systems	
GEOG 302	Political Geography	
GEOG 310	Global Issues	
HIST 463	American Foreign Relations to 1941	
HIST 464	American Foreign Relations 1941 to Present	
POLS 250	Introduction to Comparative Politics	
POLS 260	Introduction to International Relations	
POLS 364	American Foreign Relations	
POLS 368	Politics of War and Peace	

Specialized Courses

Select four of the following (at least three must be from different disciplines/departments)		12
Group I		
FLIT 227	German Literature in Translation 1	
FLIT 228	German Literature in Translation 2	
FLIT 235	French Literature in Translation 1	
FLIT 236	French Literature in Translation 2	
FLIT 245	Italian Literature Translation 1	
FLIT 246	Italian Literature Translation 2	
FLIT 256	Russian Literature Translation 1	
FLIT 257	Russian Literature Translation 2	
FLIT 264	Spanish Literature Translation 1	
FLIT 265	Spanish Literature Translation 2	
FLIT 267	Women Writers of Spain	
FRCH 421	Survey of Literature 1	
FRCH 422	Survey of Literature 2	
FRCH 432	Contemporary Culture	
FRCH 461	Commercial French 1	
GER 431	German Literature: Fables/Fairy Tales/Enlightenment -Romanticism	
GER 432	German Literature: Since Romanticism	
GER 361	German for Business	
GER 362	Professional Life in Germany	
GER 440	German Cultural History: 350-1700	
GER 441	German Cultural History Since 1945	
RUSS 341	Survey of Russian Literature	
RUSS 342	Survey of Russian Literature	
SPAN 340	Culture of Spain	
SPAN 342	Modern Literature of Spain	
SPAN 361	Commercial Spanish	
Group II		
HIST 205	Absolutism & Enlightenment	

HIST 207	Revolutionary Europe
HIST 209	Twentieth Century Europe
HIST 217	History of Russia to 1917
HIST 218	History of Russia: 1900-Present
HIST 221	History of Modern Germany
HIST 313	France from 1450 to 1750
HIST 314	France Since 1815
HIST 416	The French Wars of Religion
HIST 417	World War II in Europe
HIST 418	Eastern Europe Since 1945
HIST 419	Revolutionary Russia: 1900-1953
HIST 420	USSR and After: 1953 to Present
HIST 421	Hitler and the Third Reich
HIST 422	Twentieth-Century Germany from Weimar to Bonn
HIST 432	Eighteenth Century Britain: 1715-1832
Group III	
POLS 351	Russian and Post-Soviet Politics
POLS 352	Politics of the European Union
Group IV	
WGST 345	Women in International Development

Total Hours

15

DEVELOPMENT STUDIES

MINOR CODE - U023

Courses must be taken in at least three disciplines/departments, all FLIT, FCLT, and foreign language courses are considered to be in one discipline/department.

A minimum GPA of 2.0 is required in all minor courses

Foundation Course

Select one of the following:

3

ECON 451	International Economics
ECON 454	Comparative Economic Systems
GEOG 302	Political Geography
GEOG 310	Global Issues
HIST 463	American Foreign Relations to 1941
HIST 464	American Foreign Relations 1941 to Present
POLS 250	Introduction to Comparative Politics
POLS 260	Introduction to International Relations
POLS 364	American Foreign Relations
POLS 368	Politics of War and Peace

Specialized Courses:

Select four of the following (at least three must be from different disciplines/departments)

12

Group I

ECON 455	Economic Development
----------	----------------------

Group II

GEOG 243	Geography of Africa
GEOG 411	Rural and Regional Development
GEOG 412	Geography of Gender

Group III

HIST 242	Latin America: Reform and Revolution
HIST 321	Colonial Africa and Independence
HIST 325	Modern China

HIST 428	East Africa Since 1895
HIST 433	West Africa to 1885
HIST 434	West Africa from 1885
Group IV	
POLS 354	Government of China
POLS 355	Governments of Latin America
POLS 356	Politics of the Middle East
POLS 358	Politics of Africa
Group V	
SOCA 350	Latin American Culture
SOCA 351	Traditional and Changing Africa
Group VI	
WGST 345	Women in International Development
Total Hours	15

Latin American Studies

Latin American Studies (LAS) provides a broad-ranging course of scholarship. Students integrate the study of Latin American-predominant languages (Spanish and Portuguese) with the history, geography, cultures, politics, economies, religions, and societies of the region. Current global events—including significant regional trade agreements, questions about the United States' role in the region, and the increasing economic importance of Brazil and Venezuela—have sparked renewed interest in Latin America. With interdisciplinary courses spanning upper division Spanish to sociology, students gain a grasp of the region's past, present, and future. Undergraduates have the opportunity to incorporate study abroad programs in Buenos Aires and Guanajuato, Mexico, as well as Spring Break programs in other countries, to work toward completing the major. In an increasing global market, proficiency in a second language and a broad knowledge of a region's culture gives students skills that help set them apart in the workforce. Latin American Studies allows students to concentrate their coursework on a region of the world of unquestioned social and economic importance.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

Freshmen are admitted directly into the major. Students admitted from the Center for Learning, Advising, and Student Success or another major must have a 2.0 GPA overall, and a minimum of one SPAN or PORT language course with at least a C. Please see an adviser for details.

Benchmarks Expectations: By the end of the 2nd year in the major, students should have completed SPAN or PORT 204. Progress review in middle of 3rd semester. All majors must meet with an LAS adviser each semester. Students who do not meet their benchmarks could be removed from their major.

[Click here to view the Suggested Plan of Study \(p. 321\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	

or ENGL 103	Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Program Requirements for the B.A. in Latin American Studies

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Students in the LAS major must complete FCLT 488.
- **Writing and Communication Skills Requirement:** Latin American Studies Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses™**: FCLT 488 (capstone), and a 2nd course selected from FLIT 266, HIST 241, HIST 242, HIST 350, SPAN 330 or SPAN 334.
- **Calculation of the GPA in the Major:** Students must earn a C- or better in all classes applied to the LAS major. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Benchmark Expectations:** For details, go to the LAS admissions tab (p. 319).
- **Residency Requirements:** A student completing a major in LAS must complete a residency requirement of 15 hours in the major on campus.
- **Note:** Students majoring in International Studies or Spanish can apply only nine hours of credits used to fulfill requirements of those majors toward the LAS major.

Curriculum Requirements

UNIVERSITY REQUIREMENTS		34
WVUE 191	First Year Seminar	
GEF: credits may vary depending on overlap		
ECAS B.A. Requirements		12
Foreign Language		
Fine Arts Requirements		
Global Studies & Diversity Requirement		
PROGRAM REQUIREMENTS		
A minimum grade of C- is required in all courses applied to the major		
Foundation course		3
FCLT 161	The Many Latin Americas	
Language Requirement		6
Select 6 credits in the same language		
SPAN 310	Spanish for Heritage Speakers	
SPAN 311	Readings in Spanish	
SPAN 312	Writing in the Hispanic World	
SPAN 313	Spanish Through Media	
SPAN 314	Spanish Conversation	
PORT 203	Intermediate Portuguese 1	
PORT 204	Intermediate Portuguese 2	

Social Sciences		9
(no more than six credits from one discipline)		
HIST 104	Latin America: Past and Present	
HIST 241	Latin America: Culture, Conquest, Colonization	
HIST 242	Latin America: Reform and Revolution	
HIST 350	The Aztec, Maya, and Inca	
HIST 438	Women in Colonial Latin America	
HIST 439	History of Modern Mexico	
POLS 355	Governments of Latin America	
SOCA 350	Latin American Culture	
SOCA 354	Mesoamerican Archaeology	
Literature and Culture		6
Select two courses from the following:		
FCLT 260	Cultures of Mexico	
FLIT 266	Latin American Literature	
FLIT 285	Brazilian Literature Translation	
FCLT 360	Latin American Cinema	
FLIT 360	Discovering Mesoamerica	
FLIT 361	Latin American Literature and Violence	
SPAN 330	Latin American Culture	
SPAN 331	Early Spanish American Literature	
SPAN 332	Modern Spanish American Literature	
SPAN 333	Spanish American Literature	
SPAN 334	Seminar in Spanish American Literature	
SPAN 335	Seminar in Spanish-American Culture	
Electives		6
Select two alternate courses from the Social Science and Literature and Culture groups. Please note that no language courses can be used. Electives may include credits from Study Abroad.		
Capstone Experience		3
FCLT 488	Capstone Latin American Studies	
General Electives		41
Number of electives may vary depending on overlap		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
FCLT 161 (ECAS Global Studies & Diversity Req. (GEF 7)	3 GEF 3	3
SPAN 100	6 SPAN 200	6
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 5	3
GEF 4	3 ECAS Fine Arts Requirement (GEF 6)	3
LAS Lang Course 1	3 LAS Lang Course 2	3
LAS Social Science Course 1	3 LAS Social Science Course 2	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 GEF 8*	3
LAS Social Science Course 3	3 GEF 8*	3
General Elective	3 LAS Lit & Culture Course 1	3
General Elective	3 LAS Studies Elective 1	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
LAS Lit & Culture Course 2	3 FCLT 488 (Capstone)	3
LAS Studies Elective 2	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or a dual degree already meet F 8.

Degree Program Learning Goals

LATIN AMERICAN STUDIES

Upon successful completion of the B.A. degree, **Latin American Studies** majors will be able to:

1. Demonstrate a basic understanding of the political, historical, and cultural structures that define the region of Latin America through formal and informal writing assignments, oral presentations, and other assessment tools.
2. Explain, in written and spoken form, the challenges that globalization presents to the region from economic, political, and cultural perspectives.
3. Describe the historical and cultural contexts that led to the formation of contemporary Latin America as a region.
4. Identify and differentiate the characteristics of the languages and cultures of the region.
5. Analyze the similarities and differences between the cultures of the nations and sub-regions in Latin America and the historical origins that led to these similarities and differences.

LATIN AMERICAN STUDIES

MINOR CODE - U110

Students must earn a grade of C or better in each course applied to the minor. At least six hours must be taken in residence at WVU.

FOUNDATION COURSE:		3
FCLT 161	The Many Latin Americas	
LANGUAGE COURSES: *		6
Select 6 credits in the following sets:		
SPAN 310, 311, 312, 313, 314		
PORT 203 & PORT 204	Intermediate Portuguese 1 and Intermediate Portuguese 2	
LAS ELECTIVES:		6
Social Sciences		
Select one course from the following:		
HIST 104	Latin America: Past and Present	
HIST 241	Latin America: Culture, Conquest, Colonization	
HIST 242	Latin America: Reform and Revolution	
HIST 350	The Aztec, Maya, and Inca	
HIST 438	Women in Colonial Latin America	
HIST 439	History of Modern Mexico	
POLS 355	Governments of Latin America	

SOCA 350	Latin American Culture
SOCA 354	Mesoamerican Archaeology
Literature and Culture	
Select one course from the following:	
FCLT 260	Cultures of Mexico
FLIT 266	Latin American Literature
FLIT 285	Brazilian Literature Translation
FLIT 360	Discovering Mesoamerica
FLIT 361	Latin American Literature and Violence
SPAN 330	Latin American Culture
SPAN 331	Early Spanish American Literature
SPAN 332	Modern Spanish American Literature
SPAN 333	Spanish American Literature
SPAN 334	Seminar in Spanish American Literature
SPAN 335	Seminar in Spanish-American Culture

Total Hours

15

* If two Intermediate (200-level) Portuguese courses are selected, students must select 9 credit hours of electives at the 300-level and above to satisfy the upper-division requirement..

Leadership Studies

Nature of Program

The leadership studies minor complements a traditional academic major by exposing students to leadership history and theory as well as giving them practical experience through experiential learning.

Scholarships

The study of leadership is supported by several scholarships and awards. These funds support academic and extracurricular enrichment activities to enhance the student's study, practice, and understanding of "mobilizing others to bring about sustained positive change," the definition of leadership for this minor. The scholarships include:

- Milan Puskar Leadership Scholars Program
- Emma G. Noe Scholarship

For more information about the application process, please contact the Leadership Studies Office or check the website.

FACULTY

DIRECTOR

- Lisa DeFrank-Cole - Ed.D. (University of Pittsburgh)

ASSISTANT PROFESSORS

- Nathaniel Pearson, Ph.D. - (Gonzaga University)
- Cheyenne Luzynski - (Eastern Michigan University)

FACULTY AFFILIATES

- Amy Cyphert - J.D. (Harvard University)
- Christopher Plein - Ph.D. (University of Missouri)
- Lydotta Taylor - Ed.D. (West Virginia University)

LEADERSHIP STUDIES MINOR

MINOR CODE - U065

Students must earn a grade of C- or better in each of the three core courses and a minimum GPA of 2.0 across the nine elective hours.

Core Courses: (must be taken in sequence)

LDR 201	Principles of Leadership
LDR 301	Problems in Leadership
LDR 401	Leadership in Action
Upper Division Courses *	
Select 9 hours from the following:	
BCOR 350	Principles of Marketing
BCOR 370	Managing Individuals and Teams
BCOR 380	Business Ethics
BUSA 330	Survey of Marketing
BUSA 320	Survey of Management
COMM 303	Business and Professional Communication
COMM 306	Organizational Communication
COMM 308	Nonverbal Communication
COMM 316	Intercultural Communication
COMM 406	Advanced Organizational Communication
ENTR 340	Survey of Entrepreneurship
ENTR 410	Business Innovation
IENG 417	Total Quality Management
IENG 423	Designing Decision Support System
IENG 473	Team Facilitation
LDR 330	Leadership and Athletics
LDR 335	Women and Leadership
LDR 382	Readings in Leadership
LDR 393	Special Topics
LDR 495	Independent Study
MANG 330	Human Resource Management Fundamentals
MANG 480	Corporate Social Responsibility
MILS 301	Military Science
MILS 302	Military Science
MILS 401	Military Science
MILS 402	Military Science
PHIL 321	Ethical Theory
PHIL 325	Philosophy of Law
PHIL 346	History of Ethics
POLS 310	American Presidency
POLS 316	Public Opinion and Politics
POLS 321	West Virginia Government
POLS 337	Gender/Politics and Policy
POLS 365	Foreign Policy Decision-Making
SOCA 304	Complex Organizations
SOCA 337	Sociology of American Business
SOCA 457	Social Movements
USAF 371	Leadership Studies 1
USAF 372	Leadership Studies 2
USAF 481	National Security/Active Duty 1
USAF 482	National Security/Active Duty 2

9

Total Hours

18

* All three electives may be LDR courses, or MILS or USAF courses. Otherwise the electives must be from at least two different fields. No more than three elective credit hours may be counted toward both a student's major and the LDR minor requirements.

Mathematics

Degrees Offered

- Bachelor of Arts
- Bachelor of Science

Area of Emphasis

Students enrolled in the B.A. or the B.S. in Mathematics have the opportunity to earn an area of emphasis.

- Actuarial Science

Students may not earn both a Bachelor of Arts and a Bachelor of Science in Mathematics.

Nature of Program

The Department of Mathematics provides a curriculum with programs for:

- Students wishing to earn an undergraduate major or minor in mathematics
- Students enrolled in elementary and secondary teacher programs
- Students interested in the applications of mathematics to the fields of computer science, statistics, engineering, physical, natural and social science, and business and economics
- Non-science majors, to educate them in the ideals and objectives of mathematics

Placement into Mathematics Courses

To enroll in a freshman-level mathematics course, a student must demonstrate a satisfactory understanding of background material, either in the prerequisite courses specified in this catalog or by satisfactory performance on the SAT/ACT tests, or on the Quantitative Reasoning Assessment (QRA). The QRA is given during orientation for freshman and transfer students. It is also given before classes begin each semester. Students intending to take the QRA before classes begin must register for the exam prior to the day the test is given. Sign-up can be done by visiting the department website. There is no fee for the exam. The QRA may only be taken twice during a four-year period. Students who do not meet the prerequisites will be dropped from their math class during the first week of classes.

Math Learning Center

The Department of Mathematics offers help to students in mathematics courses through its Math Learning Center, located in room 301 Armstrong Hall. The Math Learning Center is a free, drop-in help center for students enrolled in undergraduate math classes through calculus. Hours are posted at the beginning of each semester and announced in mathematics classes. The phone number is (304) 293-7273.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Edgar Fuller - Ph.D. (University of Georgia)

PROFESSORS

- Ian Christie - Ph.D. (University of Dundee)
Numerical partial differential equations
- Krzysztof Ciesielski

Analysis, Topology, Set theory, MRI imaging

- Harvey Diamond - Ph.D. (MIT)
Graduate Program Director. Approximation theory, Applied mathematics
- Harry Gingold - D.Sc. (Israel Institute of Technology)
Differential equations, Asymptotic methods
- John Goldwasser
Combinatorics, Graph theory
- Jack T. Goodykoontz Jr. - Ph.D. (University of Kentucky)
Emeritus
- Henry W. Gould - M.A. (University of Virginia)
Emeritus
- Harumi Hattori - Ph.D. (Rensselaer Polytechnic Institute)
Differential equations, Continuum mechanics
- Caulton L. Irwin - Ph.D. (Emory University)
Associate director, N.R.C.C.E. Variational methods, Optimization, Applied mathematics
- Jin Bai Kim
Emeritus
- Hong-Jian Lai
Associate Chair. Graph theory, Matroid theory
- Dening Li
Partial differential equations
- Michael E. Mays - Ph.D. (Penn. State University)
Director of IML. Number theor.
- Sam B. Nadler Jr. - Ph.D.
Emeritus
- Laura Pyzdrowski - Ed.D. (West Virginia University)
Mathematics Education
- Sherman D. Riemenschneider - Ph.D. (Syracuse University)
Emeritus
- William H. Simons
Emeritus
- Jerzy Wojciechowski - Ph.D. (University of Cambridge)
Combinatorics, Graph theory
- Cun-Quan Zhang
Graph theory, Combinatorics

ADJUNCT PROFESSOR

- Yuesheng Xu
Integral equations, Wavelet theory

ASSOCIATE PROFESSORS

- Edgar Fuller - Ph.D. (University of Georgia)
Chair. Knot theory, Machine learning, Mathematics education
- Gary H. Ganser
Applied mathematics, Fluid mechanics
- Rong Luo
Graph Theory
- Betty L. Miller - M.S. (West Virginia University)
Emeritus
- James E. Miller - Ph.D. (University of Kentucky)
Emeritus
- David Miller - Ph.D. (Oklahoma State University)
Undergraduate Program Director. Mathematics Education
- James E. Moseley
Partial differential equations, Modeling

ASSISTANT PROFESSORS

- Jessica Deshler - Ph.D. (University of New Mexico)

Mathematics education

- Nicole Engelke-Infante
Mathematics Education
- Adam Halasz - Ph.D. (State University of New York at Stony Brook)
Molecular systems biology, Monte Carlo methods, Mathematical physics
- Vicki Sealey - Ph.D. (Arizona State University)
Mathematics education
- Charis Tsikkou
PDE's
- Adrian Tudorascu - Ph.D. (Carnegie Mellon University)
Analysis, PDE's, and fluid dynamics

Admission Requirements

Some entering freshmen can be admitted directly into the major based on high school GPA and results of standardized tests. Others will be advised in the Center for Learning, Advising, and Student Success until they meet milestones set by the department: completion of MATH 154 or MATH 155 with C- or higher and 2.0 overall GPA. Please contact an adviser in the department for details.

Benchmark Expectations

By the 5th semester, students should have completed calculus courses through MATH 261 and have completed or be enrolled in MATH 283. Normally, students must register for 9 hours of math each subsequent term. All majors must meet with a math department adviser each semester. Students who fail to meet these benchmarks may be removed from their major.

Major Learning Goals

MATHEMATICS

Upon successful completion of the B.A. or B.S. degree, **Mathematics** majors will demonstrate the following competencies:

1. Students will communicate mathematics in both written and oral forms.
 - Students will construct valid proofs.
 - Students will demonstrate their ability to comprehend and to synthesize professional mathematical discourse (such as upper level textbooks, monographs, journal articles, unpublished faculty research, technical reports, etc.).
 - Students will prepare a clear and concise written project and orally present advanced mathematical concepts effectively and professionally.
2. Students will have a clear understanding of fundamental concepts and general understanding in a breadth of advanced topics in mathematics.
 - Students will demonstrate basic skills in specific mathematics topics (Algebra, Trigonometry, Calculus, Differential Equations, and Linear Algebra).
 - Students will demonstrate a breadth of knowledge of upper level mathematics topics.
 - Students will be exposed to the use of mathematics in various applications and professions.
3. Students will apply mathematical knowledge.
 - Students will demonstrate their ability to understand and construct mathematical models to solve problems.
 - Students will apply mathematics they have learned to new and different areas.

MATHEMATICS MINOR

MINOR CODE - U024

There are two possible tracks for the Mathematics minor.

Successful completion of the minor requires that the student receive a grade of at least a C in each of the mathematics courses presented for the minor, or a cumulative grade point average of at least 2.25 in these courses.

TRACK ONE

Core Courses:

15-19

Select one of the following :

MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus
MATH 155	Calculus 1

and:

MATH 156	Calculus 2	
MATH 251	Multivariable Calculus	
MATH 283	Introduction to the Concepts of Mathematics	
Upper-Division Electives:		9
Select one of the following:		
MATH 341	Introduction to Algebraic Structures	
MATH 343	Introduction to Linear Algebra	
MATH 381	Introduction to Analysis and Topology	
MATH 451	Introduction to Real Analysis 1	
and:		
Two additional courses chosen from STAT 461, or any Math course numbered 300 or above *		
Total Hours		24-28

TRACK TWO

Core Courses		16-20
Select one of the following:		
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
and:		
MATH 156	Calculus 2	
MATH 251	Multivariable Calculus	
MATH 261	Elementary Differential Equations	
Upper-Division Electives:		9
Select one of the following:		
MATH 375	Applied Modern Algebra	
MATH 420	Numerical Analysis 1	
MATH 456	Complex Variables	
MATH 465	Partial Differential Equations	
Two additional courses chosen from STAT 461, or any Math course numbered 300 or above *		
Total Hours		25-29

* Except MATH 490 and MATH 493.

Mathematics B.A.

Click here to view the Suggested Plan of Study (p. 330)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3

F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) pages.

Departmental Requirements for the B.A. in Mathematics

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Mathematics majors must complete three or four hours of MATH 495.
- **Writing and Communication Skills Requirement:** Mathematics Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses**[™]: MATH 495, and one additional course from the following: CHIN 301, CHIN 303, COMM 202, ENGL 304, ENGL 305, FRCH 301, FRCH 303, FRCH 304, GER 222, GER 301, GER 302, GER 303, GER 304, HIST 203, HIST 204, HIST 207, HIST 221, HIST 241, HIST 242, HIST 250, HIST 264, HIST 259, ITAL 301, ITAL 302, ITAL 303, ITAL 304, JAPN 101, JAPN 301, PHIL 301, PHIL 302, PHIL 306, PHIL 310, PSYC 202, SPAN 312, RELG 219, RELG 223, RELG 230, RELG 231, RUSS 301, RUSS 303, SPAN 311, SPAN 312.
- **Calculation of the GPA in the Major:** A minimum GPA of 2.00 across all classes applied to the major is required. If a class is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Benchmark Expectations:** For details, go to the Mathematics admissions tab (p. 327).

Curriculum Requirements

University Requirements	26
WVUE 191	First Year Seminar
GEF Requirements: hours may vary depending on overlap with major	
ECAS B.A. Requirements	12
Fine Arts Requirement	
Foreign Language	
Global Studies & Diversity Requirement	
Departmental Requirements	
Basic Courses	4
Select one of the following:	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus
MATH 155	Calculus 1
Foundation Courses	21
MATH 156	Calculus 2
MATH 251	Multivariable Calculus
MATH 261 or MATH 378	Elementary Differential Equations Discrete Mathematics
MATH 283	Introduction to the Concepts of Mathematics
MATH 343 or MATH 441	Introduction to Linear Algebra Applied Linear Algebra
MATH 222 or MATH 420	Numerical and Symbolic Methods in Mathematics and Statistics Numerical Analysis 1
Statistics Requirement	3
STAT 215 or STAT 461	Introduction to Probability and Statistics Theory of Probability
Advanced Courses in Mathematics	

Select two from the following:	6
MATH 341 Introduction to Algebraic Structures	
MATH 381 Introduction to Analysis and Topology	
MATH 451 Introduction to Real Analysis 1	
MATH 456 Complex Variables	
Mathematics Electives *	6
Select one option:	
2 Mathematics courses at 200-level and above	
or:	
1 Math course at 200-level and above, and 1 appropriate course in another discipline, with departmental approval. *	
Capstone Experience	4
MATH 495 Independent Study	
General Electives **	38
Number of electives may vary based on GEF overlap	
Total Hours	120

* Except for MATH 231, MATH 490, and MATH 493.

** It is suggested that students select a computer science courses as part of their electives so that they can achieve programming proficiency. Programming skills are a prerequisite for MATH 420.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	4 Foreign Language 102	3
GEF 4	3 MATH 156 (GEF 8)	4
Foreign Language 101	3 General Elective	2
MATH 155 (GEF 3)	4 General Elective	3
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 Foreign Language 204	3
Foreign Language 203	3 MATH 261	4
MATH 251	4 STAT 215 (GEF 8)	3
General Elective	3 MATH 283	3
General Elective	2 General Elective	2
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 ECAS Fine Arts Requirement (GEF 6)	3
ECAS Global Studies & Diversity Requirement (GEF 7)	3 MATH 222	3
MATH 343	3 Advanced MATH Course 1	3
General Elective	3 MATH 495 (Capstone)	1
General Elective	3 General Elective	3
	General Elective	2
	15	15

Fourth Year

Fall	Hours Spring	Hours
GEF 8	3 MATH 495 (Capstone)	1
Advanced MATH Course 2	3 MATH Elective 2	3
MATH Elective 1	3 General Elective	3
MATH 495 (Capstone)	2 General Elective	3

General Elective	3 General Elective	3
General Elective	1 General Elective	2
	15	15

Total credit hours: 120

Bachelor of Arts or Bachelor of Science in Mathematics: Actuarial Science Area of Emphasis

A mathematics degree with an emphasis in Actuarial Science provides the student with preparation necessary for becoming an actuary and passing the first two actuary exams. Coursework includes the study of compound interest models, valuation of financial instruments, forecasting and population trend analysis.

Actuarial Science Emphasis Requirements:

- **Mathematics B.A. requirement:** Students intending to graduate with a B.A. in Mathematics with an Actuarial Science emphasis posted to the transcript must meet the requirements of the mathematics major B.A. degree, including a minimum of 20 hours of upper division courses.
- **Mathematics B.S. requirement:** Students intending to graduate with a B.S. in Mathematics with an Actuarial Science emphasis posted to the transcript must meet the requirements of the mathematics major B.S. degree, including a minimum of 20 hours of upper division courses.
- **Capstone Requirement:** Students completing an Actuarial Science Area of Emphasis will focus their capstone on pricing models, premium analysis, and other aspects of financial mathematics.

CURRICULUM REQUIREMENTS

MATH 363	Mathematical Foundations of Actuarial Science	3
MATH 364	Mathematics of Compound Interest	3
MATH 441	Applied Linear Algebra	3
STAT 461	Theory of Probability	3
Total Hours		12

Suggested Plan of Study for the Bachelor of Arts in Mathematics with an Area of Emphasis in Actuarial Science

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	4 Foreign Language 102	3
GEF 4	3 MATH 156 (GEF 8)	4
Foreign Language 101	3 General Elective	2
MATH 155 (GEF 3)	4 GEF 8	3
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 Foreign Language 204	3
Foreign Language 203	3 MATH 261	4
MATH 251	4 MATH 283	3
General Elective	3 STAT 461	3
General Elective	2 General Elective	2
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 ECAS Fine Arts Requirement (GEF 6)	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 MATH 363 (Mathematics of Actuarial Science)	3
General Elective	3 MATH 441	3
MATH 222	3 MATH 495 (Capstone)	1
Advanced Math Elective	3 General Elective	3

	General Elective	Hours
		2
	15	15
Fourth Year		
Fall	Hours Spring	Hours
GEF 8	3 MATH 495 (Capstone)	1
MATH 364	3 MATH Elective 2	3
MATH 495 (Capstone)	2 General Elective	3
MATH Elective 1	3 General Elective	3
Advanced Math Elective	3 General Elective	3
General Elective	1 General Elective	2
	15	15

Total credit hours: 120

Suggested Plan of Study for the Bachelor of Science in Mathematics with an Area of Emphasis in Actuarial Science

First Year		
Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2 (B.S. First Area 1)	4 GEF 6	3
GEF 4	3 B.S. First Area 2 (GEF 8)	4
GEF 5	3 MATH 156 (GEF 8; B.S. Second Area 1)	4
MATH 155 (GEF 3)	4 General Elective	1
	15	15
Second Year		
Fall	Hours Spring	Hours
B.S. Third Area 1 (GEF 8)	3 ENGL 102 (GEF 1)	3
ECAS International Requirement (GEF 7)	4 MATH 261	4
MATH 251	4 MATH 283	3
General Elective	3 STAT 461	3
General Elective	1 General Elective	2
	15	15
Third Year		
Fall	Hours Spring	Hours
B.S. Third Area 2	4 MATH 222	3
Advanced MATH Elective	3 MATH 363	3
General Elective	3 MATH 441	3
General Elective	3 MATH 495	1
General Elective	2 General Elective	2
	General Elective	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
MATH 364	3 MATH 495	1
MATH 451	3 General Elective	3
MATH 495	3 General Elective	3
General Elective	3 General Elective	4
General Elective	3 General Elective	4
	15	15

Total credit hours: 120

Mathematics B.S.

Click here to view the Suggested Plan of Study (p. 334)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.S. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.S. Degrees tab on the Eberly College of Arts and Sciences (p. 171).

Departmental Requirements for the B.S. in Mathematics

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Mathematics majors must complete MATH 495.
- **Writing and Communication Skills Requirement:** Mathematics Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses™**: MATH 495, and one additional course from the following: COMM 202, ENGL 304, ENGL 305, HIST 203, HIST 204, HIST 207, HIST 221, HIST 241, HIST 242, HIST 250, HIST 264, HIST 259, PHIL 301, PHIL 302, PHIL 306, PHIL 310, PSYC 202, RELG 219, RELG 223, RELG 230, RELG 231.
- **Calculation of the GPA in the Major:** A minimum GPA of 2.00 across all classes applied to the major is required. If a class is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Benchmarks Expectations:** For details, go to the Mathematics admissions tab (p. 327).

Curriculum Requirements

University Requirements		23
WVUE 191	First Year Seminar	
GEF Requirements (will vary with overlap)		
ECAS B.S. Requirements:		16
Global Studies & Diversity Requirement		
Mathematics Requirements		
Select one of the following:		
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
Science Requirement		

Please see the Eberly College of Arts and Sciences' Bachelor of Science (B.S.) tab.

Departmental Requirements		
Foundation Courses		21
MATH 156	Calculus 2	
MATH 222 or MATH 420	Numerical and Symbolic Methods in Mathematics and Statistics Numerical Analysis 1	
MATH 251	Multivariable Calculus	
MATH 261	Elementary Differential Equations	
MATH 283	Introduction to the Concepts of Mathematics	
MATH 343 or MATH 441	Introduction to Linear Algebra Applied Linear Algebra	
Statistics Requirement		3
STAT 215 or STAT 461	Introduction to Probability and Statistics Theory of Probability	
Upper-Division Math		6
MATH 451	Introduction to Real Analysis 1	
Select one:		
MATH 341	Introduction to Algebraic Structures	
MATH 381	Introduction to Analysis and Topology	
MATH 456	Complex Variables	
Mathematics Electives *		6
Select one option:		
2 Mathematics courses at the 300-level or above		
or:		
1 Math course at the 300-level or above, and 1 appropriate course in another department, with departmental approval		
Capstone Experience:		4
MATH 495	Independent Study	
General Electives		41
Number of electives may vary depending.		
Total Hours		120

* Except MATH 490 and MATH 493.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2 (B.S. First Area 1)	4 GEF 6	3
GEF 4	3 B.S. First Area 2 (GEF 8)	4
GEF 5	3 MATH 156 (GEF 8; B.S. Second Area 1)	4
MATH 155 (GEF 3)	4 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
B.S. Third Area 1 (GEF 8)	4 ENGL 102 (GEF 1)	3
ECAS Global Studies & Diversity Requirement (GEF 7)	3 B.S. Third Area 2	4
MATH 251	4 MATH 261	4
General Elective	3 MATH 283	3
General Elective	1 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
MATH 343	3 MATH 222	3
Advanced MATH Elective	3 MATH 495	1
STAT 215 (B.S. Second Area 2)	3 MATH Elective 1	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	General Elective	2
	15	15

Fourth Year

Fall	Hours Spring	Hours
MATH 451	3 MATH 495	1
MATH 495	2 MATH Elective 2	3
General Elective	3 General Elective	3
General Elective	3 General Elective	4
General Elective	3 General Elective	4
General Elective	1	
	15	15

Total credit hours: 120

Bachelor of Arts or Bachelor of Science in Mathematics: Actuarial Science Area of Emphasis

A mathematics degree with an emphasis in Actuarial Science provides the student with preparation necessary for becoming an actuary and passing the first two actuary exams. Coursework includes the study of compound interest models, valuation of financial instruments, forecasting and population trend analysis.

Actuarial Science Emphasis Requirements:

- **Mathematics B.A. requirement:** Students intending to graduate with a B.A. in Mathematics with an Actuarial Science emphasis posted to the transcript must meet the requirements of the mathematics major B.A. degree, including a minimum of 20 hours of upper division courses.
- **Mathematics B.S. requirement:** Students intending to graduate with a B.S. in Mathematics with an Actuarial Science emphasis posted to the transcript must meet the requirements of the mathematics major B.S. degree, including a minimum of 20 hours of upper division courses.
- **Capstone Requirement:** Students completing an Actuarial Science Area of Emphasis will focus their capstone on pricing models, premium analysis, and other aspects of financial mathematics.

CURRICULUM REQUIREMENTS

MATH 363	Mathematical Foundations of Actuarial Science	3
MATH 364	Mathematics of Compound Interest	3
MATH 441	Applied Linear Algebra	3
STAT 461	Theory of Probability	3
Total Hours		12

Suggested Plan of Study for the Bachelor of Arts in Mathematics with an Area of Emphasis in Actuarial Science

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	4 Foreign Language 102	3
GEF 4	3 MATH 156 (GEF 8)	4
Foreign Language 101	3 General Elective	2
MATH 155 (GEF 3)	4 GEF 8	3
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 Foreign Language 204	3
Foreign Language 203	3 MATH 261	4
MATH 251	4 MATH 283	3
General Elective	3 STAT 461	3
General Elective	2 General Elective	2
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 5	3 ECAS Fine Arts Requirement (GEF 6)	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 MATH 363 (Mathematics of Actuarial Science)	3
General Elective	3 MATH 441	3
MATH 222	3 MATH 495 (Capstone)	1
Advanced Math Elective	3 General Elective	3
	General Elective	2
	15	15

Fourth Year

Fall	Hours Spring	Hours
GEF 8	3 MATH 495 (Capstone)	1
MATH 364	3 MATH Elective 2	3
MATH 495 (Capstone)	2 General Elective	3
MATH Elective 1	3 General Elective	3
Advanced Math Elective	3 General Elective	3
General Elective	1 General Elective	2
	15	15

Total credit hours: 120

Suggested Plan of Study for the Bachelor of Science in Mathematics with an Area of Emphasis in Actuarial Science

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2 (B.S. First Area 1)	4 GEF 6	3
GEF 4	3 B.S. First Area 2 (GEF 8)	4
GEF 5	3 MATH 156 (GEF 8; B.S. Second Area 1)	4
MATH 155 (GEF 3)	4 General Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
B.S. Third Area 1 (GEF 8)	3 ENGL 102 (GEF 1)	3
ECAS International Requirement (GEF 7)	4 MATH 261	4
MATH 251	4 MATH 283	3
General Elective	3 STAT 461	3
General Elective	1 General Elective	2
	15	15

Third Year

Fall	Hours Spring	Hours
B.S. Third Area 2	4 MATH 222	3
Advanced MATH Elective	3 MATH 363	3
General Elective	3 MATH 441	3

General Elective	3 MATH 495	1
General Elective	2 General Elective	2
	General Elective	3
<hr/>		
	15	15

Fourth Year

Fall	Hours Spring	Hours
MATH 364	3 MATH 495	1
MATH 451	3 General Elective	3
MATH 495	3 General Elective	3
General Elective	3 General Elective	4
General Elective	3 General Elective	4
<hr/>		
	15	15

Total credit hours: 120

WVUteach

MATHEMATICS 5-ADULT

Teaching changes lives. It is a rewarding profession that makes a difference. If you've ever considered teaching, WVUteach is an innovative program uniting in-depth science and mathematics education with teacher preparation. Science and Mathematics teachers are some of the most sought after high school teachers.

WVUteach is designed to give undergraduate students the opportunity to explore the profession of teaching in STEM fields (science, technology, engineering, and math) in a hands-on way. In your very first semester in the program, you will have the opportunity to develop and teach a lesson in a local classroom. WVUteach allows you to complete a rigorous degree in any STEM field and earn your secondary teaching certification in tandem with your 4-year degree in mathematics or science, one degree, with an additional career option. WVUteach is designed to give you the essential tools to forge change in the next generation.

In WVUteach, you take the same courses as students in non-teaching options, with slight variations. You will be able to compete with students in the non-teaching option for the same jobs and graduate programs in your field. Graduate program prerequisites vary. Students thinking about graduate school should always speak to the Graduate Advisor for the program to determine the coursework expected for applicants.

For more information on licensure requirements please visit our webpage (<http://WVUteach.wvu.edu>) and schedule an appointment with a WVUteach advisor.

Students seeking Mathematics 5-Adult teaching certification complete the Mathematics B.A. or B.S. major requirements and the following courses (36 hours). The WVUteach curriculum can be completed within the 120 hours required for graduation with a B.A. or B.S. in Mathematics:

ARSC 120	Inquiry Approaches to Teaching	1
ARSC 220	Inquiry-Based Lesson Design	1
UTCH 221	Knowing and Learning in Mathematics and Science (GEF 4)	3
UTCH 222	Classroom Interactions in Math and Science	3
UTCH 420	Project-Based Instruction in Mathematics and Science	3
UTCH 430	Apprentice Teaching in Math and Science	10
MATH 318	Perspectives on Mathematics and Science (GEF 5) *	3
PHYS 376	Research Methods	3
MATH 376	Foundations, Functions and Regression Models *	3
C&I 432	Curriculum and Technology in Mathematics	3
C&I 434	Teaching Mathematics: Secondary School	3
<hr/>		
Total Hours		36

* MATH 318 and MATH 376 count within the math major requirements.

Multidisciplinary Studies

Degree Offered

- Bachelor of Multidisciplinary Studies (B.MdS.)

The Eberly College Multidisciplinary Studies program (MDS) offers two degree options, the Bachelor of Multidisciplinary Studies degree (B.MdS.) and the Bachelor of Arts in Interdisciplinary Studies (B.A.). Both the Multidisciplinary Studies and Interdisciplinary Studies degree programs are comprised of three related minors. The program does not limit students to courses of study in a particular college or school, but rather stresses the importance of breadth of knowledge and cross-disciplinary communication. The MDS and IDS degrees emphasize flexibility and problem solving. Students will learn to use specialized knowledge from individual disciplines to analyze problems from divergent perspectives. Students will also apply multidisciplinary and interdisciplinary techniques to communicate the strengths of their self-chosen course of study.

MDS and IDS students choose three minor areas and must demonstrate how these fields of study work together toward his/her educational and/or career goals. For example, a student may choose the areas of business administration, sport and exercise psychology, and professional writing and editing, with the goal of a career in sports and special events or marketing/coordinating. MDS and IDS students participate in a capstone during their final semester, incorporating their three disciplines into a senior project, presentation, and paper.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (p. 44) here. Please note that students may not earn a minor in their major field. MDS students may add a fourth minor to complement their three core minors.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

MDS Graduates

The breadth of study available to Multi- and Interdisciplinary students empowers them to be successful in any field they choose. MDS and IDS degree holders are flourishing in business, teaching, entrepreneurial endeavors, health professions, and public and health administration. They are earning advanced degrees in social work, business administration, and law. The flexibility of the IDS and MDS degrees ensure that students are prepared for success in today's rapidly changing workforce.

FACULTY

COORDINATOR

- Evan Widders - Ph.D. (University of California)

CLINICAL ASSOCIATE PROFESSOR

- Evan Widders - Ph.D. (University of California)

TEACHING ASSOCIATE PROFESSORS

- Carol Zwickel - Ph.D. (West Virginia University)
MDS and Humanities

TEACHING ASSISTANT PROFESSORS

- Cheyenne Luzynski - Ph.D. (Eastern Michigan)
MDS and Leadership
- Renee Nicholson - M.F.A (West Virginia University)

INSTRUCTORS

- Andrea Soccorsi - M.A. (West Virginia University)

Admission

Admission to the Multidisciplinary Studies degree program (B.MdS.) is possible after completion of twenty-nine credit hours with a cumulative grade point average of at least 2.0. Students may not declare the Multidisciplinary Studies degree before completing twenty-nine credit hours. Students may enroll in MDS 199 before they are admitted to the degree program.

Once students are admitted to the Multidisciplinary Studies program, they should declare their three minors.

The Interdisciplinary Studies degree program (B.A.) direct admits selected incoming freshmen based on high school GPA and the results of standardized tests. Students may also join the program if they have a GPA 3.0 or better at West Virginia University. Please contact a program advisor for details.

In MDS, advisors are assigned to students by last name. MDS students keep the same adviser until they graduate from the program.

- Last name begins with A-CO, Andrea Soccorsi, room 441 Stansbury Hall.
- Last name begins with CP-HI, Cheyenne Luzynski, room 443 Stansbury Hall.
- Last name begins with HJ-MC, Carol Zwickel, room 458 Stansbury Hall.
- Last name begins with MD-SE, Renee Nicholson, room 456 Standbury Hall.
- Last name begins with SF-Z, Evan Widders, room 466 Stansbury Hall.
- MDS Pathways students should contact Rishira Dille at Rishira.Dille@mail.wvu.edu

Benchmark Expectations

Students in the MDS program must maintain a 2.0 GPA. MDS 199 must be completed by the 2nd semester in the program. Students should make progress toward their plan of study, reviewed each semester. All majors must meet with an MDS program adviser each semester. Students who do not meet these benchmarks may be removed from their major.

Students in the IDS program must maintain a 2.5 GPA. MDS 199 must be completed by the 2nd semester in the program. Students should make progress toward their plan of study, reviewed each semester. All majors must meet with an IDS program adviser each semester. Students who do not meet these benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 340)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students in the Bachelor of Multidisciplinary Studies (B.D.M.S) must complete the WVU General Education Foundations requirements, programmatic requirements, and electives to total a minimum of 120 hours.

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Students in the MDS program must complete MDS 489 (<http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/multidisciplinarystudiesdegreeprogram>) with a grade of C- or better during their final year.
- **Writing and Communication Skills Requirement:** Multidisciplinary Studies students fulfill the requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses**TM: MDS 199 and MDS 489.

- **Course Requirements:** Minor courses may not be used to satisfy the General Education Foundations requirements. Each minor must consist of at least fifteen unique credits. Students must complete at least sixty credit hours of coursework at the 200 level or above.
At the latest, the required MDS orientation course, MDS 199 (<http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/multidisciplinystudiesdegreeprogram>), must be completed the semester before taking MDS 489 (<http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/multidisciplinystudiesdegreeprogram>).
- **Calculation of the GPA in the Major:** Students must obtain a cumulative grade point average of at least 2.0, with grade of C- or better in all courses counted toward the major.
- **Benchmark Expectations:** For details, go to the Multidisciplinary Studies admission tab (p. 338).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	37
WVUE 191 First Year Seminar	
GEF (credit hour may vary based on selected options)	
PROGRAM REQUIREMENTS	2
MDS 199 Orientation to MDS	
Minor One	15
Minor Two	15
Minor Three	15
Capstone Experience	3
MDS 489 Capstone	
General Electives	33
Number of electives may vary depending on options selected and AP credits	
Total Hours	120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 GEF 5	3
GEF 4	3 GEF 6	3
General Elective	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 8*	3
ECAS International Requirement (GEF 7)	3 Minor II-1	3
MDS 199	2 Minor III-1	3
Minor I-1	3 General Elective	3
General Elective	4 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 GEF 8*	3
Minor I-2	3 Minor I-3	3
Minor II-2	3 Minor II-3	3
Minor III-2	3 Minor III-3	3
General Elective @ 200-level	3 General Elective @ 200-level	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Minor I-4	3 MDS 489	3
Minor II-4	3 Minor I-5	3
Minor III-4	3 Minor II-5	3
General Elective @ 200-level	3 Minor III-5	3
General Elective @ 200-level	3 General Elective @ 200-level	3
15		15

Total credit hours: 120

* Students earning a fourth minor, a second major or a dual degree already fulfill F 8.

Major Learning Goals

MULTIDISCIPLINARY STUDIES

1. Knowledge

- Broad-based knowledge of three discrete areas of study
- Understanding of synergistic advantage of multidisciplinary curriculum

2. Skills

- Ability to think critically in each of three disciplines
- Ability to partition and interpret information or events using the most appropriate discipline's toolset
- Ability to write a professional resume, conduct a job interview, and apply to graduate school.
- Ability to research and write a research paper

3. Attitudes

- Positive attitude towards civic action, nonprofit organizations, and community engagement

4. Integrative Learning

- Ability to explain Multidisciplinary Studies and its advantages to others
- Ability to apply academic knowledge to contemporary political, social, scientific, and humanitarian questions

Native American Studies

Nature of Program

Native American Studies (NAS) is an interdisciplinary academic program in the Eberly College of Arts and Sciences. The NAS minor curriculum is designed to help students develop a greater respect for and understanding of diverse Native cultures by providing historical context and contemporary perspectives.

Students who complete the NAS minor enhance their ability to think in nontraditional, non-Western ways and interact more effectively with diverse populations. NAS students learn about some of the many cultures, languages, histories, and traditions of indigenous Americans, as well as the challenges and successes of Native nations in the 21st century. Experiential and hands-on learning, travel and immersion-style courses, as well as lectures and dialogue with highly-regarded Native American leaders, authors, scholars, activists, and artists, are at the heart of the NAS curriculum.

Admission Requirements

Any student admitted to an undergraduate degree program at WVU may complete a minor in Native American Studies. An "area of emphasis" in NAS is available to Regents Bachelor of Arts majors. Students who choose the NAS minor come from a variety of academic majors as far-ranging as business, engineering, art, English, history, anthropology, and health sciences, to name a few. Our graduates find practical ways to apply their NAS education, working in fields such as cultural resource management, education, law, health care, and government.

FACULTY

COORDINATOR

- Bonnie M. Brown - M.A. (University of Texas at Austin)

TEACHING INSTRUCTOR

- Bonnie M. Brown - M.A. (University of Texas at Austin)
Interests: Contemporary Native American Issues; Native Women in Leadership; Tribal Sovereignty

LECTURERS

- Robert Pirner
Interests: Lakota Studies; Indian Country Economic Development; Warrior Culture Then and Now; Native Music and Dance
- Angela Grabuloff - Ed.D. (West Virginia University)
Interests: Native Youth Education; Indigenous Communities; Yup'ik Culture and History, Subsistence Living
- Travis L. Henline - M.A. (West Virginia University)
Interests: Eastern Woodland Indians; Cherokee History and Culture; American Indian Interpretation/Public History
- John Joseph "Joe" Candillo (Pascua Yaqui Tribe of Arizona) - A.B.D. (University at Buffalo)
Interests: American Indian Material Culture and Practices; Wilderness Immersion and Traditional Native American Ecology
- Ellesa Clay High (Mekoce Shawnee) - Ph.D. (Ohio University)
WVU Assoc. Professor of English. Interests: Literature of Native America; Native American Film; Culture and Tradition
- Karen Manzo - Ph.D. ABD (West Virginia University)
Interests: American Indian Health; Native Youth Suicide Prevention; Cultural Resilience; Community-Based Participatory Research
- Carol Markstrom - Ph.D. (Utah State University)
WVU Professor of Child Development and Family Studies, Dept. of Technology, Learning and Culture, College of Education and Human Services.
Interests: Native American Children and Families; Apache Culture and History; American Indian Education
- SilverMoon - Ph.D. (Duke University)
Interests: Indigenous Intellectuals; Native American Images-"New World" Film; Latin American History; Native American Studies; Ethnohistory; Mesoamerican Studies; Pre-Conquest America; Colonial Latin America; Modern Latin America; Early Modern Transatlantic Studies; World History and Globalization
- Thomas Keopuhiwa - Ed.D. (West Virginia University)
Interests: Native Hawaiian Culture and History; Immersion Learning in Hawaii
- Darla Spencer - M.A. (Marshall University)
(Registered Professional Archaeologist) Interests: Moundbuilder Cultures; Native American Cultural Preservation

NATIVE AMERICAN STUDIES MINOR

MINOR CODE -U038

Students wishing to earn a Native American Studies minor must complete requirements as listed below, with a grade of C or better in each course. Please visit <http://nas.wvu.edu> for more details.

Core Courses:		9
NAS 200	Introduction: Native American Studies	
ENGL 156	Literature of Native America	
HIST 264	American Indian History	
Upper-Division Electives:		9
Select 3 courses:		
NAS 491	Professional Field Experience	
NAS 495	Independent Study (no more than 3 credits may count toward the minor)	
ENGL 356	Topics in Native American Literature	
POLS 355	Governments of Latin America	
Total Hours		18

Philosophy/Humanities

Degree Offered

- Bachelor of Arts

Nature of Program

The Department of Philosophy is a small, academically vibrant, student-centered, undergraduate program. Our mission is to provide an outstanding liberal arts education with all the advantages of a large research university.

Philosophy students are trained to understand and to respond both critically and creatively to philosophical problems, theories, and arguments. Philosophy students investigate fundamental questions that have puzzled human beings for ages. Philosophy deals with questions such as: What do we know and how do we know it? What is morally right and how should we live? What is the nature of the human mind and self? Is there a God and how might human beings know about God? What is the ideal form of government? What is the ultimate nature of reality?

The areas in which students receive instruction include logic, ethics, social-political philosophy, philosophy of law, theory of knowledge, philosophy of science, continental philosophy, metaphysics, history of ancient and modern philosophy, and philosophy of religion.

Because of the vigorous critical thinking students enjoy in a philosophy class, the study of philosophy provides a strong preparation for a wide range of careers including law, business, medicine, and journalism. Those who desire a career teaching philosophy in college will need the Ph.D. degree.

Philosophy is an especially strong major for students going to law school. We offer a pre-law area of emphasis within the philosophy major.

For students without any definite career plans, philosophy is an excellent major in that it provides skills essential for any career that requires clear communication, problem solving, strong writing, evaluation and/or creation of policies and procedures, comfort with complexity and disagreement, and careful and creative thinking.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Humanities

No Degree Offered

Nature of Program

The study of the humanities is the study of our effort to understand ourselves through history, literature, religion, philosophy, and fine arts. It is also the study of our effort to comprehend the masterpieces of the past and present as we seek to deepen our understanding of ourselves and our culture: what we are, why we are, and what our options for a significant life are.

Although we do not offer a major or a minor in the humanities, many students enjoy our courses as part of their General Education Foundations.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Matthew Talbert - Ph.D. (UC Riverside)
Associate Professor; Ethics, Moral Psychology, Agency

PROFESSORS

- David Cerbone - Ph.D. (U.C. Berkeley)
Continental philosophy (esp. Heidegger), Wittgenstein, History of Analytic Philosophy
- Ralph W. Clark - Ph.D. (U. Colo.)
Ethics, Business ethics, Medieval Philosophy
- Sharon Ryan - Ph.D. (U. Rochester)
Epistemology, Metaphysics, Philosophy of Religion
- Daniel Shapiro - Ph.D. (U. Minn.)
Social and political philosophy, Ethics, Philosophy of law
- Mark Wicclair - Ph.D. (Columbia U.)
Philosophy of law, Medical ethics, Ethics

ASSOCIATE PROFESSORS

- Joseph Baltimore - Ph.D. (U. Wisconsin-Madison)

Philosophy of Mind, Metaphysics, Philosophy of religion

- Jessica Wolfendale - Ph.D. (Monash U.)
Ethics, Military Ethics, Health Care Ethics

ASSISTANT PROFESSORS

- Geoff Georgi - Ph.D. (U. Southern California)
Philosophy of Language, Philosophical Logic

PROFESSORS EMERITI

- Theodore M. Drange
- Henry Ruf

Admission Requirements

Entering freshmen are admitted directly into the major. Students admitted from the Center for Learning, Advising, and Student Success or from another department must meet minimum standards, including a 2.0 overall GPA. However, the department is willing to work with students with a lower GPA if they have taken and done well in a PHIL course and their low GPA is the result of grades outside of humanities and social science coursework. Please contact a department adviser for details.

Benchmark Expectations

Philosophy majors must earn a grade of C- or higher in courses required for the major (PHIL 244, 248, 260, 301 or 302, 321 or 346, 480 or 496) and must possess at least a 2.0 average across their PHIL coursework. The department recommends 9 hours in PHIL in the first year in the program. All majors must meet with a Philosophy department adviser each semester. Students who do not meet these benchmarks may be removed from the major.

Click here to view the Suggested Plan of Study (p. 346)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences page (p. 167).

Departmental Requirements for the B.A. in Philosophy

A degree in philosophy requires thirty hours in Philosophy, including three credits at any level, and 18 hours of work at the 300 level or above. All students wishing to obtain a degree in Philosophy must comply with the following:

- **Capstone Requirement:** The university requires the successful completion of a Capstone course.

- Students in Philosophy usually take PHIL 480.
 - In some instances, with special permission from the department, students can write a thesis to fulfill the Capstone requirements. These students must take PHIL 496, and should make arrangements with a faculty member during the semester preceding the one in which they plan to write the thesis. Only students who have a 3.7 average or higher in Philosophy courses are eligible to write the senior thesis. Ability to enroll in PHIL 496 will depend upon the availability of a faculty member who is able to work with the student, the student's level of preparation for successful completion of a thesis, and the student's submission of an appropriate proposal for the thesis.
- **Writing and Communication Skills Requirement:** The Philosophy Bachelor of Arts is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of the GPA in the Major:** A grade of C- or higher must be earned in required courses, and majors must possess at least a 2.0 average in all Philosophy courses in order to graduate. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Pre-Law Area of Emphasis:** The course of study for the Pre-Law Area of Emphasis includes all of the requirements for the Philosophy major as well as PHIL 130, PHIL 323, and PHIL 325 as part of their PHIL electives.
- **Benchmark Expectations:** For details, go to the Philosophy admissions tab (p. 344).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	25
WVUE 191 First Year Seminar	
GEF Requirements (number of credit hours may vary depending on overlap):	
ECAS B.A. REQUIREMENTS	12
Foreign Languages	
Fine Arts Requirement	
Global Studies & Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
Basic Core Requirements:	9
PHIL 244 History of Ancient Philosophy	
PHIL 248 History of Modern Philosophy	
PHIL 260 Introduction to Symbolic Logic	
Philosophy Upper-Division Courses	6
Select one of the following:	
PHIL 301 Metaphysics	
PHIL 302 Theory of Knowledge	
Select one of the following:	
PHIL 321 Ethical Theory	
PHIL 346 History of Ethics	
Philosophy Upper-Division Electives:	9
Select 9 hours at the 300 level or above in PHIL	
Philosophy General Elective	3
Any PHIL course at the 100-level or above	
Capstone Experience:	3
Select one of the following:	
PHIL 480 Capstone Seminar	
PHIL 496 Senior Thesis	
General Electives	53
Number of electives may vary depending on overlap	
Total Hours	120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
PHIL 244 (GEF 5)	3 PHIL 260 (GEF 8)	3
Foreign Language 101	3 Foreign Language 102	3
General Elective	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 Foreign Language 204	3
GEF 3	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3
GEF 4	3 PHIL 301 (GEF 8)	3
Foreign Language 203	3 General Elective	3
PHIL 248 (GEF 8)	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
ECAS Fine Arts Requirement (GEF 6)	3 PHIL Upper Division Elective 2	3
PHIL Ethics Course	3 PHIL Upper Division Elective 3	3
PHIL General Elective	3 General elective	3
PHIL Upper Division Elective 1	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
General Elective	3 PHIL 480	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

Major Learning Goals

PHILOSOPHY

Upon successful completion of the B.A. degree, **Philosophy** majors will be able to:

1. Clearly articulate philosophical problems and theories.
2. Demonstrate a deep understanding of major ideas in the history of philosophy and in contemporary philosophy.
3. Read complex philosophical texts.
4. Write clearly and logically.
5. Carefully analyze arguments.
6. Think carefully, logically, and creatively about philosophy.
7. Speak carefully, logically, and creatively about philosophy.
8. Think, write, and speak carefully, logically, and creatively about complex ideas and issues.

PHILOSOPHY MINOR

MINOR CODE - U025

The Philosophy minor is designed to acquaint students with a broad range of philosophical topics and skills, and to introduce them to the fundamental issues in philosophy. The minor consists of fifteen hours in Philosophy, with at least nine hours at the upper level (300 level or above). An average of at least 2.0 in courses counted toward the minor is required.

Physics and Astronomy

Degrees Offered

- Bachelor of Arts
- Bachelor of Science

Students may not earn both a B.A. and a B.S. in Physics.

Nature of Program

There are two degree options for students in physics. The bachelor of science degree is designed for students committed to a career in research. It can be followed by graduate work in physics, chemistry, materials science, optical sciences, astrophysics, engineering, or in other physical sciences such as meteorology, oceanography, etc. Some students instead pursue positions in industry or in a government laboratory immediately after completing the B.S. This degree program provides a comprehensive grounding in the fundamentals of physics and is usually accompanied by participation in one of the active research programs within the department.

The bachelor of arts degree is designed to prepare students for a career that utilizes physics preparation in conjunction with an applied emphasis. By allowing more free elective choices, it prepares a student for a career that combines a science background with subsequent professional training.

Typical career paths for this degree program include teaching, medicine, dental school, medical school, patent law, forensics, health physics, environmental engineering, science journalism, government policy, and business management.

The courses in physics provide a mix of theoretical concepts and practical examples. Each course within a degree plan builds upon the knowledge base acquired in previous courses and, together, these courses allow a student to acquire the combination of physical insight and mathematical skill needed for success in today's demanding job markets.

The department also offers introductory survey courses in physics and astronomy that are of interest to a broad range of students in the social sciences, fine arts, humanities, health sciences, and education. These courses use a minimum of mathematics to introduce the principles of physics and they provide many examples from the "real world" of the environment, energy, space, communications, transportation, and medicine.

For the B.S. degree, an Area of Emphasis is required. The Professional Preparation Area of Emphasis is the typical plan of study for graduate study in physics. Recommendations for the other areas of emphasis include:

Applied Physics

Capstone research/senior design project must emphasize an applied physics topic. Students interested in completing this area of emphasis are encouraged to consider these courses as general electives: EE 311 Junior Instrumentation Lab; CPE 310 & CPE 311 Microprocessor Systems and Microprocessor Laboratory.

Space Physics

Capstone research must emphasize a space physics topic. Students completing this area of emphasis are encouraged to consider the following courses as elective choices: PHYS 340 Experimental Space Physics; EE 223 Electrical Circuits & EE 224 Electrical Circuits Laboratory.

Biophysics

Capstone research must emphasize a biophysics topic. Students interested in this area of emphasis are encouraged to consider these courses as electives: BIOL 117 Introductory Physiology; BIOL 219 The Living Cell; PHYS 225 Medical Imaging Physics. Students considering medical school are encouraged to take CHEM 233 Organic Chemistry & CHEM 235 Organic Chemistry Laboratory in place of CHEM 231, and follow with CHEM 234 Organic Chemistry & CHEM 236 Organic Chemistry Laboratory as elective courses.

COMPUTATIONAL PHYSICS

Capstone research must emphasize a computational physics topic. Students interested in this area of emphasis are encouraged to consider these courses as electives: CS 221 Analysis of Algorithms; STAT 215 Introduction to Probability and Statistics.

MATERIALS SCIENCE

Capstone research must emphasize a materials science topic. Students interested in this area of emphasis are encouraged to consider these courses as electives: PHYS 321 Optics; CHEM 233 Organic Chemistry & CHEM 235 Organic Chemistry Laboratory. CHEM 233 & 235 are highly recommended for students interested in studying polymers.

MEDICAL PHYSICS

Capstone research must emphasize a medical physics topic. Students interested in this area of emphasis are encouraged to consider these courses as electives: BIOL 219 The Living Cell; BIOL 310 Advanced Cellular/Molecular Biology. Students considering medical school are encouraged to take CHEM 233 Organic Chemistry & CHEM 235 Organic Chemistry Laboratory in place of CHEM 231, and follow with CHEM 234 Organic Chemistry & CHEM 236 Organic Chemistry Laboratory as elective courses.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Earl Scime - Ph.D. (University of Wisconsin - Madison)
Oleg D. Jefimenko Professor, Plasma Physics

PROFESSORS

- Wathiq Abdul-Razzaq - Ph.D. (University of Illinois - Chicago)
Physics Education
- Leonardo Golubovic - Ph.D. (University of Belgrade)
Theoretical Condensed Matter Physics and Statistical Physics
- Matthew Johnson - Ph.D. (California Institute of Technology)
Experimental Condensed Matter Physics
- Mark E. Koepke - Ph.D. (University of Maryland)
Plasma Physics, Experiment
- James P. Lewis - Ph.D. (Arizona State University)
Computational Condensed Matter Physics
- Lian Li - Ph.D. (University of Arizona)
Carroll Professor, Experimental Condensed Matter Physics
- Duncan R. Lorimer - Ph.D. (University of Manchester)
Astrophysics/Astronomy
- Maura McLaughlin - Ph.D. (Cornell University)
Eberly Family Professor, Astrophysics/Astronomy
- Sheena Murphy - Ph.D. (Cornell University)
Experimental Condensed Matter Physics
- Earl E. Scime - Ph.D. (University of Wisconsin - Madison)
Oleg D. Jefimenko Professor, Plasma Physics
- Gay Stewart - Ph.D. (University of Illinois-Urbana Champaign)
Eberly Professor of SEM Education

ASSOCIATE PROFESSORS

- Loren Anderson - Ph.D. (Boston University)
Astrophysics/Astronomy
- Alan Bristow - Ph.D. (University of Sheffield)
Experimental Condensed Matter Physics

- Paul Cassak - Ph.D. (University of Maryland)
Plasma Physics, Theory
- Mikel Holcomb - Ph.D. (University of California - Berkeley)
Condensed Matter Physics
- Paul Miller - Ph.D. (West Virginia University)
Physics Education Research
- D.J. Pisano - Ph.D. (University of Wisconsin - Madison)
Astrophysics/Astronomy
- Aldo Romero - Ph.D. (University of California - San Diego)
Theoretical Condensed Matter Physics
- Tudor Stanescu - Ph.D. (University of Illinois)
Theoretical Condensed Matter Physics
- John Stewart - Ph.D. (University of Illinois-Urbana Champaign)
Physics Education Research

ASSISTANT PROFESSORS

- Sarah Burke Spolaor - Ph.D. (Swinburne University of Technology)
Astrophysics/Astronomy
- Cheng Cen - Ph.D. (University of Pittsburgh)
Condensed Matter Physics
- Edward Flagg - Ph.D. (University of Texas - Austin)
Condensed Matter Physics
- Mikel Holcomb - Ph.D. (University of California - Berkeley)
Experimental Condensed Matter Physics
- Sean McWilliams - Ph.D. (University of Maryland)
Astrophysics/Astronomy
- Kathryn Williamson - Ph.D. (Montana State University)
Astronomy Education Research
- Weichao Tu - Ph.D. (University of Colorado - Boulder)
Space Plasma Physics

RESEARCH PROFESSORS

- Vladimir Demidov - Ph.D. (St. Petersburg University)
Plasma Physics and Plasma Chemistry

RESEARCH ASSOCIATE PROFESSORS

- Amy Keesee - Ph.D. (West Virginia University)
Plasma Physics

RESEARCH ASSISTANT PROFESSOR

- Julian Schulze - Ph.D. (Ruhr University - Bochum)
Plasma Physics
- Qiang Wang - Ph.D. (University of Colorado - Boulder)
Condensed Matter Physics

PROFESSORS EMERITI

- Larry E. Halliburton - Ph.D. (University of Missouri - Columbia)
Condensed Matter Physics
- Arthur S. Pavlovic - Ph.D. (Columbia University)
Condensed Matter Physics
- Mohindar S. Seehra - Ph.D. (University of Rochester)
Eberly Family Professor, Condensed Matter Physics
- Richard Treat - Ph.D. (University of California – Riverside)
General Relativity
- H. Arthur Weldon - Ph.D. (Massachusetts Institute of Technology)
Particle Physics

Admission Requirements

Honor students and students who qualify to take college Algebra (MATH 126) or above, after taking the ALEKS Assessment (<http://math.wvu.edu/> placement), are admitted directly into the B.A. or B.S. physics program. Students transferring from another major must meet milestones set by the department: a GPA of 2.2 in math & physics courses with at least one math & physics course completed and a 2.0 overall GPA. Please see a departmental adviser for details.

Benchmark Expectations

Students must have a cumulative GPA in the major requirements of 2.2 or better after completing two physics courses, or they will be placed on probation.

- Students who do not raise their GPA in the major requirements above 2.2 after one semester on probation will be removed from the Major.
- Students may repeat any physics or mathematics course for which the grade is a D/F/W. If a course is repeated, the GPA will be calculated according to the WVU repeat policy.
- Students not able to attain better than a D/F/W by the second attempt in a mathematics or physics course will be placed on probation.
- A student with three grades of D/F/W in the same physics or mathematics course will be removed from the Major.

Major Learning Goals

PHYSICS

Upon successful completion of the B.S. degree, **Physics** majors will demonstrate:

1. An understanding of and ability to solve basic conceptual and quantitative problems in theoretical mechanics, electricity and magnetism, quantum mechanics, and thermodynamics.
2. An ability to perform accurate measurements of physical systems and communicate the results and implications of those measurements orally and in writing.
3. An ability to develop experiments to test basic or applied research questions, to perform accurate experimental measurements, and to critically evaluate others' answers to research questions.
4. Preparation for success in graduate school or in a post baccalaureate career.

Upon successful completion of the B.A. degree, **Physics** majors will demonstrate:

1. An understanding of and ability to solve basic conceptual and quantitative problems in foundational physics areas and to apply complex reasoning and problem solving skills developed in physics across disciplines, with focus on such application in a cognate area.
2. An ability to perform accurate measurements of physical systems and communicate the results and implications of those measurements orally and in writing.
3. An ability to develop experiments to test basic or applied research questions, to perform accurate experimental measurements, and to critically evaluate others' answers to research questions.
4. Preparation for success in a post baccalaureate career, or graduate or professional school in the cognate area.

The Physics B.A. is designed to prepare students for a career that utilizes physics preparation in conjunction with an applied emphasis. Some common examples are teaching, science journalism, medicine or patent law. Students work with their advisors to choose complementary courses tailored to suit the student's career aspirations. These hours are completed within the block of elective hours.

ASTRONOMY MINOR

MINOR CODE - U087

Physics majors may complete an astronomy minor, provided the ASTR courses counted toward the minor are not counted as electives toward the physics major. A minimum grade of C or better is required in each course counted toward the minor.

Students must earn a minimum overall GPA of 2.00 in all courses applied to the minor.

Core Courses:

PHYS 111	General Physics	4
PHYS 112	General Physics	4
PHYS 314	Introductory Modern Physics	4

Upper Division Electives: *

9

Select three electives from any ASTR courses numbered 300 and above.

Total Hours 21

* An ASTR course applied toward an ASTR minor may not be counted toward a PHYS minor.

PHYSICS MINOR

MINOR CODE - U026

A grade of C- or better is required in each course counted toward the minor:

Core Courses:		
PHYS 111	General Physics	4
PHYS 112	General Physics	4
PHYS 314	Introductory Modern Physics	4
General Electives:		
One PHYS course at the 300-level or above		6
One PHYS or ASTR course at the 300-level or above *		
Total Hours		18

* An ASTR course applied toward an ASTR minor may not be counted toward a PHYS minor.

Physics B.A.

Click here to view the Suggested Plan of Study (p. 353)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in Physics

Students may not earn both a B.A. and a B.S. in Physics. All students wishing to obtain a B.A. degree in Physics must comply with the following:

- **Calculation of the GPA in the Major:** Students must maintain at least a minimum cumulative 2.2 GPA is required in all PHYS and MATH courses. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Writing and Communication Skills Requirement:** Physics Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two of the following **SpeakWrite Certified Courses™**: PHYS 199, PHYS 341, PHYS 496, ASTR 469.
- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Students majoring in Physics must complete PHYS 496.
- **Benchmark Expectations:** For details, go to the Physics admissions tab (p. 349).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	22
PHYS 199 Orientation to Physics (meets WVU First Year Seminar requirement)	
GEF Requirements (may vary depending on overlap)	
ECAS B.A. Requirements	18
Fine Arts Requirement (GEF 6)	
Foreign Language	
Global Studies and Diversity Requirement (GEF 7)	
DEPARTMENTAL REQUIREMENTS	
Physics Foundation Courses	11
PHYS 111 General Physics	
PHYS 112 General Physics	
PHYS 211 Introduction to Mathematical Physics	
Advanced Physics Courses	16
PHYS 314 Introductory Modern Physics	
Three additional Physics or Astronomy courses (9 hours minimum) at the 300 or 400-level *	
PHYS 341 Advanced Laboratory	
or PHYS 376 Research Methods	
Science Requirement	8
8 credits from Biology, Chemistry, Computer Science, or Geology	
Mathematics Requirement	15
MATH 155 Calculus 1	
or MATH 153 Calculus 1a with Precalculus	
& MATH 154 and Calculus 1b with Precalculus	
MATH 156 Calculus 2	
MATH 251 Multivariable Calculus	
MATH 261 Elementary Differential Equations **	
or	any mathematics course at the 300 or 400 level**
Capstone Experience	3
PHYS 496 Senior Thesis	
GENERAL ELECTIVES ***	27
Number may vary depending on overlap	
Total Hours	120

* No more than 3 hours may be chosen from PHYS 490, 491, 494, 495, or 497

** Choose either Math 261 or any mathematics course at the 300 or 400 level, excluding Math 490, 494, 495, 497

*** The Physics B.A. is designed to prepare students for a career that utilizes physics preparation in conjunction with an applied emphasis. Some common examples are teaching, science journalism, medicine or patent law. Students work with their advisors to choose complementary courses tailored to suit the student's career aspirations. These hours are completed within the block of elective hours.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
PHYS 199 (First Year Seminar)	1 Foreign Language 102	3
Foreign Language 101	3 MATH 156 (GEF 8)	4
MATH 155 (GEF 3)	4 PHYS 111 (GEF 8)	4
Science Elective 1	4 Science Elective 2	4
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
Foreign Language 203	3 Foreign Language 204	3
GEF 4	3 PHYS 211	3
MATH 251	4 PHYS 314	4
PHYS 112	4 General Elective	4
	General Elective	1
	14	15

Third Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 ENGL 102 (GEF 1)	3
GEF 5	3 ECAS Global Studies and Diversity Requirement (GEF 7)	3
PHYS Elective 1	3 MATH 261 (or 300- or 400-level MATH class)	4
General Elective	3 PHYS 341 or 376	3
General Elective	3 General Elective	3
	15	16

Fourth Year

Fall	Hours Spring	Hours
ECAS Fine Arts Requirement (GEF 6)	3 PHYS 496	3
PHYS Elective 2	3 General Elective	4
PHYS Elective 3	3 General Elective	4
General Elective	3 General Elective	4
General Elective	3	
	15	15

Total credit hours: 120

Physics B.S.

[Click here to view the Suggested Plan of Study \(p. 355\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3

F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.S. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.S. Degrees tab on the Eberly College of Arts and Sciences (p. 171) pages.

Departmental Requirements for the B.S. in Physics

Students may not earn both a B.A. and a B.S. in Physics. All students wishing to obtain a degree in Physics must comply with the following:

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Students majoring in Physics must complete PHYS 496 (other options maybe available depending on AoE selected).
- **Writing and Communication Skills Requirement:** Physics Bachelor of Science students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two of the following **SpeakWrite Certified Courses™**: PHYS 199, PHYS 341, PHYS 496, ASTR 496.
- **Calculation of the GPA in the Major:** Students are required to maintain at least a minimum cumulative 2.2 GPA in all courses counted toward the major. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Area of Emphasis:** Students completing a Bachelor of Science in Physics must complete an Area of Emphasis selected from Applied Physics, Biophysics, Computational Physics, Materials Science, Medical Physics, Physics Teaching, Professional Preparation, or Space Physics. **The Professional Preparation Area of Emphasis is the typical plan of study for a B.S. degree in physics.**
- **Course Requirement:** Physics students completing the Materials Science, Professional Preparation, or Space Physics Areas of Emphasis are required to complete two semesters of PHYS 341. Students completing Applied Physics, Biophysics, Computational Physics, or Medical Physics Areas of Emphasis only need to complete one semester of PHYS 341. Students completing the Physics Teaching Area of Emphasis are required to complete PHYS 376 in place of PHYS 341.
- **Benchmark Expectations:** For details, go to the Physics admissions tab (p. 349).

Curriculum Requirements

UNIVERSITY REQUIREMENTS

23

PHYS 199 Orientation to Physics

GEF Requirements (may vary depending on overlap)

ECAS B.S. REQUIREMENTS

Global Studies and Diversity Requirement

College Mathematics Requirement

MATH 153 Calculus 1a with Precalculus
& MATH 154 and Calculus 1b with Precalculus

or

MATH 155 Calculus 1

Science Requirement:

Please see the Eberly College of Arts and Sciences' Bachelor of Science (B.S.) tab.

DEPARTMENTAL REQUIREMENTS

Foundation Courses

15

PHYS 111 General Physics

PHYS 112 General Physics

PHYS 211 Introduction to Mathematical Physics

PHYS 314 Introductory Modern Physics

Mathematics Requirement	12
MATH 156	Calculus 2
MATH 251	Multivariable Calculus
MATH 261	Elementary Differential Equations
Science Electives: 8 credits in BIOL, CHEM, CS, or GEOL	8
May overlap with Eberly B.S. Requirements	
Physics Advanced Level Courses	17
PHYS 331	Theoretical Mechanics 1
PHYS 333	Electricity and Magnetism 1
PHYS 332	Theoretical Mechanics 2
or PHYS 334	Electricity and Magnetism
PHYS 341	Advanced Laboratory *
or PHYS 376	Research Methods
PHYS 451	Introductory Quantum Mechanics
PHYS 461	Thermodynamics and Statistical Mechanics
Area of Emphasis	18
Number of hours will vary, depending on Area of Emphasis.	
General Electives	27
Number may vary depending on overlap	
Total Hours	120

* Please see individual AoE to select appropriate choice.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
PHYS 199	1 ENGL 101 (F 1)	3
GEF 2 (B.S. First Area 1)	4 Science Elective (B.S. First Area 2)	4
F 4	3 MATH 156 (B.S. Second Area 1; F 8)	4
MATH 155 (F 3)	4 PHYS 111 (B.S. Third Area 1; F 8)	4
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (F 1)	3 F 6	3
F 5	3 MATH 261	4
MATH 251 (B.S. Second Area 2)	4 PHYS 211	3
PHYS 112 (B.S. Third Area 2; F8)	4 PHYS 314	4
General Elective	1 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
PHYS 331	3 ECAS Glo. St. & Div. Req. (F 7)	3
PHYS 333	3 PHYS 332 or 334	3
PHYS 341	2 PHYS 341	2
AoE Course 1	4 AoE Course 2	3
General Elective	3 General Elective	4
	15	15

Fourth Year

Fall	Hours Spring	Hours
PHYS 451	3 PHYS 461	3
AoE Course 3	3 Capstone	3

AoE Course 4	4 AoE Course 5	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
<hr/>		
	15	15

Total credit hours: 120

Areas of Emphasis

- Applied Physics (p. 356)
- Astro/Space Physics (p. 357)
- Biophysics (p. 358)
- Computational Physics (p. 359)
- Materials Science (p. 360)
- Medical Physics (p. 360)
- Physics Teaching (p. 361)
- Professional Preparation (p. 362)

APPLIED PHYSICS

EE 221 & EE 222	Introduction to Electrical Engineering and Introduction to Electrical Engineering Laboratory	4
EE 223 & EE 224	Electrical Circuits and Electrical Circuits Laboratory	4
EE 251 & EE 252	Digital Electronics and Digital Electronics Laboratory	4
CPE 271	Introduction to Digital Logic Design	3
PHYS 496 or EE 481	Senior Thesis Senior Design Project	3

Total Hours 18

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
PHYS 199	1 ENGL 101 (F1)	3
F4	3 CS 111 (B.S. First Area 2; F8)	4
CS 110 (B.S. First Area 1; F2)	4 MATH 156 (B.S. Second Area 1; F8)	4
MATH 155	4 PHYS 111 (B.S. Third Area 1; F8)	4
General Elective	3	
<hr/>		
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (F1)	3 F6	3
F5	3 MATH 261	4
MATH 251 (B.S. Second Area 2)	4 PHYS 211	3
PHYS 112 (B.S. Third Area 2; F8)	4 PHYS 314	4
General Elective	1 General Elective	1
<hr/>		
	15	15

Third Year

Fall	Hours Spring	Hours
PHYS 331	3 ECAS Glob. St. & Div. Req. (F7)	3
PHYS 333	3 CPE 271	3
PHYS 341	3 EE 223 & EE 224	4

EE 221 & EE 222	4 PHYS 332 or 334	3
General Elective	2 General Elective	2
		<hr/>
		15 15

Fourth Year

Fall	Hours Spring	Hours
EE 251 & EE 252	4 PHYS 461	3
PHYS 451	3 PHYS 496 or EE 481	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
		<hr/>
		15 15

Total credit hours: 120

SPACE PHYSICS

ASTR 367	Astrophysics 1	3
EE 221 & EE 222	Introduction to Electrical Engineering and Introduction to Electrical Engineering Laboratory	4
PHYS 341	Advanced Laboratory	2
PHYS 321	Optics	3
Choose one of the following		3
PHYS 481 or ASTR 368	Plasma Physics Astrophysics 2	
PHYS 496	Senior Thesis	3
		<hr/>
Total Hours		18

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
PHYS 199	1 ENGL 101 (F1)	3
F4	3 CS 111 (B.S. First Area 2; F8)	4
CS 110 (B.S. First Area 1; F2)	4 MATH 156	4
MATH 155	4 PHYS 111 (B.S. Third Area 1)	4
General Elective	3	
		<hr/>
		15 15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (F1)	3 F6	3
F5	3 MATH 261	4
MATH 251 (B.S. Second Area 1)	4 PHYS 211	3
PHYS 112 (B.S. Third Area 2)	4 PHYS 314	4
General Elective	1 General Elective	1
		<hr/>
		15 15

Third Year

Fall	Hours Spring	Hours
EE 221 & EE 222	4 ECAS Glob. Stu. & Div. Req. (F7)	3
PHYS 331	3 PHYS 321	3
PHYS 333	3 PHYS 332 or 334	3
PHYS 341	2 PHYS 341	2

General Elective	3 General Elective	4
	15	15

Fourth Year

Fall	Hours Spring	Hours
ASTR 367	3 PHYS 461	3
PHYS 451	3 PHYS 481 or ASTR 368	3
MATH Elective	3 PHYS 496	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

BIOPHYSICS

BIOL 115	Principles of Biology	4
BIOC 339	Introduction to Biochemistry	4
CHEM 231	Organic Chemistry: Brief Course	4
or CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	
PHYS 496	Senior Thesis	3
Total Hours		15

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
PHYS 199	1 ENGL 101 (F1)	3
F 4	3 CHEM 116 (B.S. First Area 2; F8)	4
CHEM 115 (B.S. First Area 1; F2)	4 MATH 156 (B.S. Second Area 1; F8)	4
MATH 155 (F3)	4 PHYS 111 (B.S. Third Area 1)	4
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (F1)	3 F6	3
BIOL 115	4 MATH 261	4
MATH 251 (B.S. Second Area 2)	4 PHYS 211	3
PHYS 112 (B.S. Third Area 2; F8)	4 PHYS 314	4
	General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
F5	3 ECAS Glo. Stu. & Div. Req. (F7)	3
PHYS 331	3 CHEM 233 & CHEM 235	4
PHYS 333	3 PHYS 332 or 334	3
PHYS 341	3 General Elective	5
General Elective	3	
	15	15

Fourth Year

Fall	Hours Spring	Hours
BIOC 339	4 PHYS 461	3
PHYS 451	3 PHYS 496	3
General Elective	4 General Elective	3

General Elective	4 General Elective	3
	General Elective	3
	15	15

Total credit hours: 120

COMPUTATIONAL PHYSICS

CPE 271	Introduction to Digital Logic Design	3
CS 210	File and Data Structures	4
CS 220	Discrete Mathematics	3
PHYS 301	Computational Physics	3
PHYS 496 or CS 481	Senior Thesis Senior Project	3
Total Hours		16

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
PHYS 199	1 ENGL 101 (F1)	3
F4	3 CS 111 (B.S. First Area 2; F8)	4
CS 110 (B.S. First Area 1; F2)	4 MATH 156 (B.S. Second Area 1 (F8))	4
MATH 155 (F3)	4 PHYS 111 (B.S. Third Area 1; F8)	4
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (F1)	3 F6	3
F5	3 MATH 261	4
MATH 251 (B.S. Second Area 2)	4 PHYS 211	3
PHYS 112 (B.S. Third Area 2; F8)	4 PHYS 314	4
General Elective	1 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
CPE 271	3 ECAS Glo. Stu. & Div. Req. (F7)	3
PHYS 331	3 CS 210	4
PHYS 333	3 PHYS 332 or 334	3
PHYS 341	3 General Elective	3
General Elective	3 General Elective	2
	15	15

Fourth Year

Fall	Hours Spring	Hours
CS 220	3 MATH Elective	3
PHYS 301	3 PHYS 461	3
PHYS 451	3 PHYS 496 or CS 481	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

MATERIALS SCIENCE

EE 221 & EE 222	Introduction to Electrical Engineering and Introduction to Electrical Engineering Laboratory	4
CHE 366	Materials Science	3
CHE 466	Electronic Materials Processing	3
PHYS 341	Advanced Laboratory	2
PHYS 471	Solid State Physics	3
PHYS 496 or CHE 456	Senior Thesis Chemical Process Design 2	3
Total Hours		18

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
PHYS 199	1 ENGL 101 (F1)	3
F4	3 CHEM 116 (B.S. First Area 1; F8)	4
CHEM 115 (B.S. First Area 1; F2)	4 MATH 156 (B.S. Second Area 1; F8)	4
MATH 155 (f3)	4 PHYS 111 (B.S. Third Area 1; F8)	4
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (F1)	3 F6	3
F5	3 MATH 261	4
MATH 251 (B.S. Second Area 2)	4 PHYS 211	3
PHYS 112 (B.S. Third Area 2)	4 PHYS 314	4
General Elective	1 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
EE 221 & EE 222	4 ECAS Glob. Stu. & Div. Req. (F7)	3
PHYS 331	3 CHE 366	3
PHYS 333	3 PHYS 332 or 334	3
PHYS 341	3 PHYS 341	2
General Elective	2 General Elective	4
	15	15

Fourth Year

Fall	Hours Spring	Hours
CHE 466	3 PHYS 461	3
PHYS 451	3 PHYS 471	3
General Elective	3 PHYS 496 or CHE 456	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

MEDICAL PHYSICS

BIOL 115	Principles of Biology	4
BIOL 117	Introductory Physiology	4
CHEM 231	Organic Chemistry: Brief Course *	4

or CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	
PHYS 225	Medical Imaging Physics	3
PHYS 496	Senior Thesis	3
Total Hours		18

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
PHYS 199	1 ENGL 101 (F1)	3
F4	3 CHEM 116 (B.S. First Area 2; F8)	4
CHEM 115 (B.S. First Area 1; F8)	4 MATH 156 (B.S. Second Area 1; F8)	4
MATH 155 (F3)	4 PHYS 111 (B.S. Third Area; F8)	4
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (F1)	3 F6	3
F5	3 MATH 261	4
MATH 251 (B.S. Second Area 2)	4 PHYS 211	3
PHYS 112 (B.S. Third Area 2; F8)	4 PHYS 314	4
General Elective	1 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
BIOL 115	4 ECAS Glo. Stu. & Div. Req. (F7)	3
PHYS 331	3 BIOL 117	4
PHYS 333	3 PHYS 332 or 334	3
PHYS 341	3 General Elective	4
General Elective	3	
	16	14

Fourth Year

Fall	Hours Spring	Hours
CHEM 233 & CHEM 235	4 PHYS 225	3
MATH Elective	3 PHYS 461	3
PHYS 451	3 PHYS 496	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

PHYSICS TEACHING AREA OF EMPHASIS

PHYS 490	Teaching Practicum	3
Choose one of the following sets of courses		6-8
MATH 376 & C&I 434	Foundations, Functions and Regression Models and Teaching Mathematics: Secondary School	
CHEM 215 & CHEM 231	Introductory Analytical Chemistry and Organic Chemistry: Brief Course	
CHEM 215 & CHEM 341 & CHEM 342	Introductory Analytical Chemistry and Physical Chemistry: Brief Course and Experimental Physical Chemistry	

CHEM 231 & CHEM 341 & CHEM 342	Organic Chemistry: Brief Course and Physical Chemistry: Brief Course and Experimental Physical Chemistry	
PHYS 496	Senior Thesis	3
Total Hours		12-14

SUGGESTED PLAN OF STUDY FOR THE B.S. IN PHYSICS WITH AN AREA OF EMPHASIS IN TEACHING

First Year

Fall	Hours Spring	Hours
F7	3 ENGL 101 (F1)	3
CHEM 115 (ECAS B.S. First Area 1; F2B)	4 CHEM 116 (ECAS B.S. First Area 2; F8)	4
MATH 155 (F3)	4 MATH 156 (GEF 8; B.S. Second Area 1; F8)	4
General Elective	1 PHYS 111 (ECAS B.S. Third Area 1; F8)	4
PHYS 199 (First Year Experience)	1	
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
F4	3 ECAS Glob. & Div. Studies Req; F6	3
ENGL 102 (F1)	3 MATH 261	4
MATH 251 (B.S. Second Area 2)	4 PHYS 211	3
PHYS 112 (ECAS B.S. Third Area 2)	4 PHYS 314	4
General Elective	1 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
PHYS Teaching AoE Course 1	4 PHYS Teaching AoE Course 2	4
PHYS 331	3 PHYS 376	3
PHYS 333	3 PHYS 332 or 334	3
General Elective	3 PHYS 461	3
General Elective	2 General Elective	2
	15	15

Fourth Year

Fall	Hours Spring	Hours
F5	3 PHYS 496	3
PHYS 451	3 General Elective	4
PHYS 490	3 General Elective	4
General Elective	3 General Elective	4
General Elective	3	
	15	15

Total credit hours: 120

PROFESSIONAL PREPARATION AREA OF EMPHASIS

PHYS 341	Advanced Laboratory	2
Physics Electives: Select 3 from any PHYS 300- or 400- level course** or the following ASTR courses		9
ASTR 367	Astrophysics 1	
ASTR 368	Astrophysics 2	
ASTR 469	Observational Astronomy	
ASTR 470	General Relativity	
Math Elective: Any Math, Computer Science, Statistics course at the 300- or 400- level		3

PHYS 496	Senior Thesis	3
Total Hours		17

** No more than 6 hours combined of PHYS 490, 491, 494, 495, or 497 may be used to fulfill major requirements.

First Year

Fall	Hours Spring	Hours
PHYS 199	1 ENGL 101	3
F4	3 B.S. First Area 2; F8	4
B.S. First Area 1; F 2	4 MATH 156 (B.S. Second Area 1; F8)	4
MATH 155 (F 3)	4 PHYS 111 (Third Area 1; F8)	4
General Elective	3	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102	3 F6	3
F5	3 MATH 261	4
MATH 251 (B.S. Second Area 2)	4 PHYS 211	3
PHYS 112 (B.S. Third Area 2; F8)	4 PHYS 314	4
General Elective	1 General Elective	1
	15	15

Third Year

Fall	Hours Spring	Hours
PHYS 331	3 ECAS Glob. Stu. and Div. Req. (F7)	3
PHYS 333	3 PHYS 332 or 334	3
PHYS 341	2 PHYS 341	2
General Elective	4 Physics Elective 1	3
General Elective	3 General Elective	1
	General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Math Elective	4 PHYS 461	3
PHYS 451	3 PHYS 496	3
Physics Elective 2	3 Physics or Astronomy Elective 3	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Total credit hours: 120

WVUteach

PHYSICS 9-ADULT

Teaching changes lives. It is a rewarding profession that makes a difference. If you've ever considered teaching, WVUteach is an innovative program uniting in-depth science and mathematics education with teacher preparation. Science and Mathematics teachers are some of the most sought after high school teachers.

WVUteach is designed to give undergraduate students the opportunity to explore the profession of teaching in STEM fields (science, technology, engineering, and math) in a hands-on way. In your very first semester in the program, you will have the opportunity to develop and teach a lesson in a local classroom. WVUteach allows you to complete a rigorous degree in any STEM field and earn your secondary teaching certification in tandem with your 4-year degree in mathematics or science, one degree, with an additional career option. WVUteach is designed to give you the essential tools to forge change in the next generation.

In WVUteach, you take the same courses as students in non-teaching options, with slight variations. You will be able to compete with students in the non-teaching option for the same jobs and graduate programs in your field. Graduate program prerequisites vary. Students thinking about graduate school should always speak to the Graduate Advisor for the program to determine the coursework expected for applicants.

For more information on licensure requirements please visit our webpage (<http://WVUteach.wvu.edu>) and schedule an appointment with a WVUteach advisor.

Students seeking Physics 9-Adult teaching certification complete the Physics B.A. or B.S. major requirements and the following courses (27 hours). The WVUteach curriculum can be completed within the 120 hours required for graduation with a B.A. or B.S. in Physics. Physics B.S. students are advised to select the Physics Teaching Area of Emphasis to facilitate appropriate course choices.

WVUTEACH: PHYSICS 9-ADULT

ARSC 120	Inquiry Approaches to Teaching	1
ARSC 220	Inquiry-Based Lesson Design	1
UTCH 221	Knowing and Learning in Mathematics and Science (GEF 4)	3
UTCH 222	Classroom Interactions in Math and Science	3
UTCH 420	Project-Based Instruction in Mathematics and Science	3
UTCH 430	Apprentice Teaching in Math and Science	10
MATH 318	Perspectives on Mathematics and Science (GEF 5)	3
PHYS 376	Research Methods *	3
Total Hours		27

* All WVUteach students need to select PHYS 376 instead of PHYS 341 for their research requirement.

** A second area of licensure is recommended. WVUteach students should discuss second area licensure requirements with their advisor to best support their interests. Completion of a second area of licensure can normally fit within 120 hours required for graduation for the B.A. or B.S. in Physics.

ADDITIONAL COURSEWORK FOR NON-PHYSICS MAJORS

Core Coursework		12
PHYS 111	General Physics	
PHYS 112	General Physics	
PHYS 314	Introductory Modern Physics	
Physics Electives		9
CE 321	Fluid Mechanics for Civil Engineers	
CHE 310	Process Fluid Mechanics	
CHE 320	Chemical Engineering Thermodynamics	
EE 223	Electrical Circuits	
EE 345	Engineering Electromagnetics	
MAE 241	Statics	
MAE 242	Dynamics	
MAE 320	Thermodynamics	
MAE 331	Fluid Mechanics	
MAE 421	Problems in Thermodynamics	
MAE 423	Heat Transfer	
MINE 382	Mine Power Systems	
PHYS 211	Introduction to Mathematical Physics	
PHYS 313	Introductory Electronics	
PHYS 321	Optics	
PHYS 331	Theoretical Mechanics 1	
PHYS 333	Electricity and Magnetism 1	
PHYS 461	Thermodynamics and Statistical Mechanics	
PHYS 490	Teaching Practicum	
Additional Coursework		24
Mathematics		
MATH 155	Calculus 1	

MATH 156	Calculus 2
Chemistry	
CHEM 115	Fundamentals of Chemistry
CHEM 116	Fundamentals of Chemistry
Biology	
BIOL 101 & BIOL 103 or BIOL 115	General Biology and General Biology Laboratory Principles of Biology
Geology	
Select one of the following sequences:	
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory
GEOL 103 & GEOL 104	Earth Through Time and Earth Through Time Laboratory

Political Science

Degree Offered

- Bachelor of Arts

Nature of Program

The undergraduate curriculum in the Department of Political Science has five main objectives:

- To acquaint students with the nature and role of government in modern society, thus contributing to the general education of political science majors. In order to achieve this objective, the department offers the general political science emphasis. This emphasis is open to any student who has an interest in political science but who has not yet focused on a specific career goal.
- To impart a broad understanding of the American political system. Courses are offered on national institutions, political actors, and political behavior. Other courses focus on the policy making process and on various substantive policy issue-areas. Students who seek to work in politics and/or government should enroll in the American politics and policy area of emphasis.
- To provide a broad foundation of relevant courses for students who plan careers in law.
- To prepare students who wish to pursue future careers in international relations, comparative politics, and national security area.
- To provide pre-professional training for students who intend to pursue political science as a career. Those who intend to be teachers, researchers, or administrators should plan to enroll in graduate school after completing their bachelor's degrees, and our major is designed to provide a strong foundation for that.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

Honors Program

The Department of Political Science, in cooperation with the University Honors College, offers courses that are open exclusively to honors students. These courses are listed in the University's Schedule of Courses each semester. Students who meet the standards of the University Honors Program may enroll in these courses.

FACULTY

CHAIR

- R. Scott Crichlow - Ph.D. (Louisiana State University)

DIRECTOR OF UNDERGRADUATE STUDIES

- John C. Kilwein - Ph.D. (Ohio State University)

PROFESSORS

- Joe D. Hagan - Ph.D. (University of Kentucky)
Barnette Professor in Political Science.
- Erik Herron - Ph.D. (Michigan State University)
Eberly Family Professor
- Jeffrey S. Worsham - Ph.D. (University of Wisconsin)

ASSOCIATE PROFESSORS

- Erin Cassese - Ph.D. (SUNY at Stony Brook)
- R. Scott Crichlow - Ph.D. (Louisiana State University)
- Christina Fattore - Ph.D. (Florida State University)
- John C. Kilwein - Ph.D. (Ohio State University)
- Jason MacDonald - Ph.D. (The George Washington University)
- Philip Michelbach - Ph.D. (University of California)
- Trisha Phillips - Ph.D. (Rice University)

TEACHING ASSOCIATE PROFESSORS

- Clarissa Estep - Ph.D. (West Virginia University)
- David Hauser - Ph.D. (University of Pittsburgh)

ASSISTANT PROFESSORS

- Shauna Fisher - Ph.D. (University of Washington)
- William Franko - Ph.D. (University of Iowa)
- Simon Haeder - Ph.D. (University of Wisconsin)
- Patrick Hickey - Ph.D. (University of Texas)
- Matthew Jacobsmeier - Ph.D. (University of Rochester)
- Jay Krehbiel - Ph.D. (Washington University)
- Mason Moseley - Ph.D. (Vanderbilt University)
- Matthew Wilson - Ph.D. (Pennsylvania State University)

TEACHING ASSISTANT PROFESSORS

- Boris Barkanov - Ph.D. (University of California)

PROFESSORS EMERITI

- Richard Brisbin - Ph.D. (Johns Hopkins)
- Robert E. DiClerico - Ph.D. (Indiana University)
- Allan S. Hammock - Ph.D. (University of Virginia)
- Sophia L. Peterson - Ph.D. (University of California)
- Susan Hunter - Ph.D. (The Ohio State University)
- James Whisker - Ph.D. (University of Maryland)

Admission Requirements

All first-time freshmen and first-time transfer students are admitted directly to the major. Students admitted from other majors must have an overall GPA of 2.0 and have completed at least one POLS class with a grade of C- or higher.

Benchmark Expectations

Within four semesters in the POLS major, students must have completed four of the following courses: 102, 230 or 240, 250, 260, 270. Students must maintain a 2.0 GPA overall and in the major. They must declare an Area of Emphasis in consultation with an adviser. Students must meet with their POLS adviser each semester. Students who do not meet these benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 368)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences page (p. 167).

Departmental Requirements for the B.A. in Political Science

All students wishing to obtain a degree in Political Science must complete a minimum of 39 credits of POLS courses, and comply with the following:

- **Capstone Requirement:** The General Education Foundations requires the successful completion of a Capstone course. Political Science majors must successfully complete one of the following: POLS 487, POLS 488, POLS 489.
- **Writing Requirement:** The Department of Political Science is a SpeakWrite Affiliated Program, committed to fostering and assessing students' written, verbal, visual, and mediated communication skills. The Political Science major requires its Bachelor of Arts program graduates to complete ENGL 101 and ENGL 102 (or ENGL 103), and a minimum of four additional **SpeakWrite Certified Courses**[™] as a part of their programs of study.
- **Calculation of the GPA in the Major:** A cumulative and political science GPA of 2.0 is required for graduation. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Area of Emphasis:** All Political Science majors must complete a minimum of 39 credits of POLS courses. Students may select an Area of Emphasis, depending on their academic or career interests.
- **Minor:** All students must complete a minor in a related area, except for students who select the Pre-Law and Legal Studies Area of Emphasis.
- **Benchmarks Expectations:** For details, go to the Political Science admissions tab (p. 366).

Curriculum Requirements

WVUE 191	First Year Seminar	
GEF: number of classes will vary depending on overlap		
ECAS B.A. Requirements		12
Fine Arts Requirement		
Foreign Language		
International Studies Requirement		
DEPARTMENTAL REQUIREMENTS		36
Core Requirement		
POLS 102	Introduction to American Government	
Political Science Policy Analysis or Public Administration requirement:		
POLS 230	Introduction to Policy Analysis	
or POLS 240	Introduction to Public Administration	
POLS 250	Introduction to Comparative Politics	
Political Science International Requirement:		
POLS 103	Global Political Issues	
or POLS 260	Introduction to International Relations	
POLS 270	History of Political Thought 1	
or POLS 271	History of Political Thought 2	
POLS 300	Empirical Political Analysis	
Political Science Economics:		
POLS 334	Politics of Economic Policy	
or POLS 360	International Political Economy	
15 additional credit hours in POLS above the 100-level, excluding POLS 230, 240, 260, 270, 271, 334, 360		
Capstone Experience		3
Select one of the following:		
POLS 487	Capstone: Senior Paper	
POLS 488	Capstone: Political Simulation	
POLS 489	Capstone: Citizenship Seminar	
Minor		15
All Political Science majors must complete a minor in a related area, except for students who choose to complete the Law and Legal Studies Area of Emphasis		
General Electives		32
Number of General Electives may vary depending on GEF overlap and Area of Emphasis		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2A	3 GEF 2A	3
Foreign Language 101	3 GEF 3	3
POLS 102 (GEF 4)	3 Foreign Language 102	3
POLS 103 or 260 (ECAS Glo. St. & Div.; GEF 7)	3 POLS 270 or 271	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 5	3
Foreign Language 203	3 ECAS Fine Arts Requirement (GEF 6)	3
POLS 250	3 Foreign Language 204	3
General Elective	3 POLS 230 or 240	3

General Elective	3 POLS 300	3
	15	15
Third Year		
Fall	Hours Spring	Hours
POLS 334 or 360	3 POLS Elective 200-level or above 3	3
POLS Elective 200-level or above 1	3 POLS Elective 200-level or above 4	3
POLS Elective 200-level or above 2	3 Minor Course 2	3
Minor Course 1*	3 General Elective	3
General Elective	3 General Elective	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
POLS Elective 200-level or above 5	3 POLS Capstone	3
Minor Course 3	3 Minor Course 5	3
Minor Course 4	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a double major or a dual degree fulfill the GEF 8 requirement.

Areas of Emphasis

AMERICAN POLITICS AND POLICY AREA OF EMPHASIS REQUIREMENTS

Select five of the following courses:	15
POLS 261	Introduction to National Security
POLS 310	American Presidency
POLS 311	Political Parties & Elections
POLS 313	American Constitutional Law
POLS 314	Civil Liberties in the United States
POLS 315	Law and Public Policy
POLS 316	Public Opinion and Politics
POLS 317	Interest Groups and Democracy
POLS 320	American Federalism and Policy
POLS 321	West Virginia Government
POLS 322	Race, Ethnicity & US Politics
POLS 323	Religion & Politics
POLS 324	Sexuality, Law, and Politics
POLS 331	Criminal Law Policy and Administration
POLS 333	Politics of Social Welfare
POLS 334	Politics of Economic Policy
POLS 335	Civil Rights, Policy, and Politics
POLS 336	Energy Policy and Politics
POLS 337	Gender/Politics and Policy
POLS 338	Environmental Policy
POLS 339	National Security Analysis
POLS 342	Bureaucratic Politics
POLS 373	American Political Philosophy

Total Hours

15

PRE-LAW AND LEGAL STUDIES AREA OF EMPHASIS REQUIREMENTS

PRE-LAW AND LEGAL STUDIES EMPHASIS

Law-Related Courses in Political Science 12

Select 2 classes:

POLS 210	Law and the Legal System
POLS 313	American Constitutional Law
or POLS 314	Civil Liberties in the United States

Select 2 classes:

POLS 312	Appellate Judicial Process
POLS 314	Civil Liberties in the United States ((alternate classes from above))
or POLS 313	American Constitutional Law
POLS 315	Law and Public Policy
POLS 324	Sexuality, Law, and Politics
POLS 331	Criminal Law Policy and Administration
POLS 344	Administrative Law
POLS 357	Comparative Law and Politics
POLS 363	International Law
POLS 452	European Union Law/Legal Systems
POLS 453	European Union Law/Institutions

Skills & Related Courses 6

Select two of the following:	
CSAD 270	Effective Public Speaking
ENGL 304	Business and Professional Writing
PHIL 170	Introduction to Critical Reasoning
PHIL 260	Introduction to Symbolic Logic
PHIL 325	Philosophy of Law
STAT 211	Elementary Statistical Inference
or ECON 225	Elementary Business and Economics Statistics

Political Science Electives 3

Select 3 credits above 100 level, except POLS 230, 250, 260, 270 or 300 for 39 total credits in POLS.

Total Hours 21

INTERNATIONAL RELATIONS, COMPARATIVE POLITICS, AND NATIONAL SECURITY AREA OF EMPHASIS REQUIREMENTS

Select Five of the following: 15

POLS 261	Introduction to National Security
POLS 350	Government of Japan
POLS 351	Russian and Post-Soviet Politics
POLS 352	Politics of the European Union
POLS 353	Western Democratic Governments
POLS 354	Government of China
POLS 355	Governments of Latin America
POLS 356	Politics of the Middle East
POLS 357	Comparative Law and Politics
POLS 358	Politics of Africa
POLS 359	Politics of Terrorism
POLS 360	International Political Economy
POLS 361	International Law and Institutions
POLS 362	Comparative Foreign Policy
POLS 363	International Law
POLS 364	American Foreign Relations

POLS 365	Foreign Policy Decision-Making
POLS 368	Politics of War and Peace
POLS 369	Far East International Affairs
POLS 370	Dictatorship and Democratization
POLS 453	European Union Law/Institutions
POLS 452	European Union Law/Legal Systems
POLS 460	Gender and International Relations
POLS 461	Transformation of War

History 3

Select one of the following:

HIST 209	Twentieth Century Europe
HIST 242	Latin America: Reform and Revolution
HIST 321	Colonial Africa and Independence
HIST 325	Modern China
HIST 463	American Foreign Relations to 1941
HIST 464	American Foreign Relations 1941 to Present

Total Hours 18

Major Learning Goals

POLITICAL SCIENCE

Political Science Department Learning Outcomes

1. A command of basic substantive knowledge about the basic institutions, political actors, and relevant processes in state, national, and international political systems – in particular as they apply to the student's particular area of emphasis.
2. A knowledge of major policy issues in state, national, and international affairs and an appreciation of the complexity reflective of the uncertainties, trade-offs, and institutional/bureaucratic context of problems confronting governments.
3. An ability to think critically about political phenomena in a way that applies alternative explanatory perspectives across the major theoretical schools of thought in the political science literature.
4. A demonstrated capability to carry out systematic empirical research in political science, i.e. articulate a theoretical question, construct a rigorous research design, and analyze data or cases using appropriate methodological approaches.
5. An appreciation of the policy implications of different theoretical approaches and, more generally, how they relate to the larger ethical issues facing the West Virginia, national, and international communities.

POLITICAL SCIENCE (GENERAL) MINOR

MINOR CODE - U049

Students must earn an overall GPA of 2.00 in all courses applied to the minor.

Required Courses:

Select two of the following: 6

POLS 102	Introduction to American Government
POLS 210	Law and the Legal System
POLS 220	State and Local Government
POLS 230 or POLS 240	Introduction to Policy Analysis Introduction to Public Administration
POLS 250	Introduction to Comparative Politics
POLS 260	Introduction to International Relations

Upper-Division Electives

Select 3 courses from POLS 310-379 9

Total Hours 15

AMERICAN POLITICS & POLICY MINOR**MINOR CODE - U027**

Students must earn an overall GPA of a 2.0 in all courses applied to the minor.

Required Courses:

Select two of the following: *	6
POLS 102 Introduction to American Government	
POLS 210 Law and the Legal System	
POLS 220 State and Local Government	
POLS 230 Introduction to Policy Analysis	
POLS 240 Introduction to Public Administration	
Select 3 courses from POLS 310-349 *	9
Total Hours	15

* Students may not take both POLS 230 and POLS 240.

INTERNATIONAL & COMPARATIVE POLITICS MINOR**MINOR CODE - U028**

A minimum GPA of 2.0 is required in all courses applied toward the minor.

Required Courses:	6
POLS 250 Introduction to Comparative Politics	
POLS 260 Introduction to International Relations	
Upper-Division Electives:	9
Select 3 courses from POLS 350-369	
Total Hours	15

LAW & LEGAL STUDIES MINOR**MINOR CODE - U029**

A minimum GPA of 2.0 is required in all courses applied toward the minor.

Core Courses:	6
POLS 102 Introduction to American Government	
POLS 210 Law and the Legal System	
Upper-Division Electives:	9
Select three of the following:	
POLS 312 Appellate Judicial Process	
POLS 313 American Constitutional Law	
POLS 314 Civil Liberties in the United States	
POLS 315 Law and Public Policy	
POLS 331 Criminal Law Policy and Administration	
POLS 335 Civil Rights, Policy, and Politics	
POLS 344 Administrative Law	
POLS 363 International Law	
Total Hours	15

POLITICAL THEORY MINOR**Minor Code - U030**

Students must earn a minimum overall GPA of 2.0 in all courses applied toward the minor.

Core Courses:	6
POLS 270 History of Political Thought 1	
POLS 271 History of Political Thought 2	

Upper-Division Electives:

9

Select 3 additional POLS courses from 370-379

Total Hours

15

Psychology

Degrees Offered

- Bachelor of Arts
- Bachelor of Sciences

Students may not earn both a B.A. and a B.S. in Psychology.

Nature of the Program

Psychology is the science of behavior. Courses in this discipline convey the principles, methods, and theories that are necessary for a better understanding of human and animal behaviors. Students who choose this subject as their major are expected to fulfill certain requirements, but the program is structured to allow considerable flexibility. Studying psychology at WVU allows students to work toward a liberal arts degree rather than a specialized degree that prepares students for a specific type of job. Typically, individuals tailor their schedules according to the career paths they choose, and these decisions generally fall into three categories: pursuit of graduate studies, pursuit of a career applying principles of psychology to human problems, or pursuit of a career in a non-related field.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors/html>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

Honors Program

The Department of Psychology honors program is designed to provide special enrichment, attention, and recognition for exceptional psychology majors. Admission to the program requires completion of nine hours of psychology, a psychology GPA of 3.5, and an overall GPA of 3.4. Graduation with departmental honors in psychology requires the same GPAs and completion of an honors thesis (three to six hours of PSYC 498). Information about the program is available in the department's student records office or from the director of undergraduate training.

FACULTY

CHAIR

- Kevin T. Larkin - Ph.D. (University of Pittsburgh)
Clinical Health Psychology, Applied Psychophysiology, Cardiovascular Behavioral Medicine

PROFESSORS

- Christina Duncan - Ph.D. (Louisiana State University)
Behavioral Pediatrics, Chronic Illness, Adherence
- Barry A. Edelstein - Ph.D. (University of Memphis)
Eberly Family Distinguished Professor of Clinical Psychology. Clinical Gero-psychology, Anxiety and Medical Decision Making in Older Adults
- Katherine Karraker - Ph.D. (Michigan State University)
Associate Provost for Graduate Academic Affairs. Adults' Perceptions of Infants, Infant Social Development, Infant Stress and Coping, Infant Temperament, Infant Assessment
- Kennon A. Lattal - Ph.D. (University of Alabama)
Centennial Professor. Experimental Analysis of Behavior, History and Philosophy of Psychology, Human-Pet Interactions
- Cheryl B. McNeil - Ph.D. (University of Florida)
Disruptive Behavior Disorders of Children, Child Behavior Therapy, Parent-Child Interactions

- Daniel W. McNeil - Ph.D. (University of Alabama)
Eberly Family Professor for Outstanding Public Service. Experimental Psychopathology, Behavioral Dentistry and Behavioral Medicine, Pain and Anxiety
- Tracy L. Morris - Ph.D. (University of Mississippi)
Eberly Distinguished Professor for Outstanding Teaching and Associate Dean for Research, Graduate Studies, and Outreach. Developmental Psychopathology, Social Anxiety, Peer Relationships
- Melanie C. Page - Ph.D. (Arizona State University)
Assistant Vice President for Creative and Scholarly Activity. Quantitative/Developmental Psychology
- Michael Perone - Ph.D. (University of Wisconsin-Milwaukee)
Associate Dean for Faculty. Positive and Negative Reinforcement, Animal and Human Operant Behavior, Research Methodology
- JoNell Strough - Ph.D. (University of Utah)
Life-Span Development, Decision Making, Everyday Problem Solving, Gender Development

ASSOCIATE PROFESSORS

- Karen Anderson - Ph.D. (University of Florida)
Behavioral Pharmacology, Self-Control and Impulsivity
- Amy Fiske - Ph.D. (University of Southern California)
Late Life Depression and Suicide
- Amy Gentzler - Ph.D. (Kent State University)
Emotion Regulation and Coping in Children, Positive Psychology
- Amy Herschell - Ph.D. (West Virginia University)
Dissemination of Evidence-Based Treatments
- Elisa Krackow - Ph.D. (Binghamton University-SUNY)
Children and Adults as Witnesses, Developmental Psychopathology
- Aaron Metzger - Ph.D. (University of Rochester)
Adolescent Social-Cognitive Development, Civic Engagement, Adolescent-Parent Communication
- Hawley Montgomery-Downs - Ph.D. (University of Connecticut)
Sleep, Sleep Disorders, Developmental Psychobiology
- Julie Hicks Patrick - Ph.D. (University of Akron)
Decision Making, Family Processes in Mid- and Late-Life
- Natalie Shook - Ph.D. (Ohio State University)
Social Psychology, Attitudes and Emotion, Cognitive Bias
- Claire St. Peter - Ph.D. (University of Florida)
Applied Behavior Analysis, Assessment and Treatment of Problem Behavior, School-Based Interventions
- Constance (Connie) Toffle - Ph.D. (West Virginia University)
Teaching of Psychology, Curriculum Design

ASSISTANT PROFESSORS

- Melissa Blank - Ph.D. (Virginia Commonwealth University)
Behavioral Neuroscience, Tobacco Use, Tobacco-Related Health Risks, Genetics of Substance Use
- Regina Carroll - Ph.D. (University of Nebraska Medical Center)
Applied Behavior Analysis, Autism and Developmental Disabilities
- Kathryn Kestner - (Western Michigan University)
Behavior Analysis
- Steven Kinsey - Ph.D. (Ohio State University)
Behavioral Neuroscience, Stress and Inflammation
- Elizabeth Levelle - Ph.D. (West Virginia University)
Teaching of Psychology, Academic Advising
- Kris Martens - Ph.D. (Southern Illinois University - Carbondale)
Behavioral Neuroscience, Recovery from Traumatic Brain Injury
- Shari Steinman - Ph.D. (University of Virginia)
Cognitive Bias in Anxiety Disorders, Treatment of Anxiety and Obsessive Compulsive Disorders
- Sharon Tenenholz - Ph.D. (University of California, Los Angeles)
Teaching of Psychology, Curriculum Design, Academic Advising
- Nicholas Turiano - Ph.D. (Purdue University)
Personality, Health, and Aging
- Cole Vonder Haar - Ph.D. (University of Southern Illinois - Carbondale)

Behavioral Dysfunction and Traumatic Brain Injury, Behavioral Neuroscience

PROFESSORS EMERITI

- Stanley H. Cohen - Ph.D.
- Philip Comer - Ph.D.
- William J. Fremouw - Ph.D.
- Robert Hawkins - Ph.D.
- B. Kent Parker - Ph.D.
- Hayne W. Reese - Ph.D.

CLINICAL INSTRUCTOR

- Stephanie McWilliams - MA (Columbia University)
Youth Mentorship; Sport and Exercise Psychology, Health Psychology, Behavior Change and Weight Management

ADJUNCT ASSISTANT PROFESSORS

- Martin Boone - Ph.D. (Oklahoma State University)
- Kimberly Foley - Ph.D. (West Virginia University)
- Keegan Kowcheck - MA (West Virginia University)
- Kara Samaj - MA (West Virginia University)

Admission Requirements

Entering freshmen are admitted directly into the major.

Students coming from another major can be admitted once they meet milestones set by the department:

- completion of PSYC 101, with a grade of C- or higher,
- MATH 124 or higher in progress if they intend to pursue the B.A.,
- or, MATH 126 or higher in progress if they intend to pursue the B.S.,
- and an overall GPA of 2.00.

Benchmark Expectations

Students should have completed PSYC 101, with a C- or better, and MATH 126 by the end of the second semester in the program. PSYC 202, or PSYC 203 and PSYC 204, with a C- in PSYC 203 by the end of the 4th semester. PSYC 301 and PSYC 302 by the end of the 6th semester. Students must maintain a GPA of at least 2.0 in the major and overall. All majors must attend Group Advising sessions with a Psychology adviser each semester. Students who fail to meet these benchmarks may be removed from their major.

Major Learning Goals

PSYCHOLOGY

Upon successful completion of the B.A. or B.S. degree, **Psychology** majors will be able to:

1. Describe the central principles, facts, concepts, and theories of major areas of psychology (i.e., Behavior Analysis, Behavioral Neuroscience, Clinical, Developmental) including: Theory, Content, and Research Methods. Students will also be able to describe advanced principles.
2. Apply scientific principles of psychology to analyze and solve basic and applied problems.
3. Create, evaluate, and revise text (oral, written) that effectively communicates information using APA format.
4. Demonstrate critical thinking, information and technology literacy, and communication skills, areas specifically identified by the American Psychological Association.
5. Apply psychological content and skills to career goals and develop meaningful professional direction.

PSYCHOLOGY MINOR

MINOR CODE - U074

A minimum grade of C- or better is required for PSYC 101 . An overall GPA of 2.0 across courses applied toward the minor is required. Courses taken as P/F do not count toward the total 18 hours of coursework.

Core Courses

PSYC 101	Introduction to Psychology (C- or higher)
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PSYC 304	Critical Thinking in Psychology	3
Electives:		12
Select 12 additional PSYC credits, including 6 at the 300-400 level (in addition to PSYC 304). PSYC 490, 491 and 495 may not be applied to the Psychology minor.		
Total Hours		18

Psychology B.A.

[Click here to view the Suggested Plan of Study \(p. 378\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101	Introduction to Composition and Rhetoric	
& ENGL 102	and Composition, Rhetoric, and Research	
or ENGL 103	Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, [visit the B.A. Degrees tab on the Eberly College of Arts and Sciences page.](#)

Departmental Requirements for the B.A. in Psychology

Students may not earn both a B.A. and a B.S. in Psychology. All students wishing to complete a B.A. must comply with the following:

- **Capstone Requirement:** : The university requires the successful completion of a Capstone course: PSYC 490A, PSYC 491A, PSYC 495A, or PSYC 498A.
- **Writing and communication Skills Requirement:** The Psychology Bachelor of Arts is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of the GPA in the Major:** Students must maintain an overall cumulative GPA of 2.0 or higher. Students must also earn an overall cumulative 2.0 GPA in all courses with a PSYC designation, and a grade of C- or better in PSYC 101 and PSYC 203. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Note:** Students are required to have completed college algebra or a higher MATH course in order to register for PSYC 203.
- **Residence requirement:** To graduate from WVU with a major in Psychology, a student must have successfully completed (with a passing grade) a minimum of 10 credit hours of 300- and 400-level psychology coursework at WVU, *not* including PSYC 490, 491, 495, 498. Online courses taught by WVU may be counted toward the 10 credit hours of coursework at WVU.
- **Benchmark Expectations:** For details, go to the Psychology admissions tab (p. 375).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	32
WVUE 191 First Year Seminar	
GEF Requirements (number of credits may vary based on overlap)	
ECAS B.A. Requirements	12
Foreign Language	
Fine Arts Requirement	
Global Studies & Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
Foundation Courses	16
PSYC 101 Introduction to Psychology (minimum grade of C-)	
PSYC 203 Research Methods & Analysis 1 (minimum grade of C-)	
PSYC 204 Research Methods & Analysis 2	
PSYC 301 Biological Foundations of Behavior	
PSYC 302 Behavior Principles	
Select one course from Cluster A or B	3
Cluster A: Learning and Cognition:	
PSYC 423 Cognition and Memory	
PSYC 424 Learning and Behavior Theory	
PSYC 474 Applied Behavior Analysis	
Cluster B: Biological Bases of Behavior	
PSYC 234 Drugs and Behavior	
PSYC 425 Perception	
PSYC 426 Physiological Psychology	
PSYC 427 Psychobiology of Sleep	
Cluster C: Clinical and Individual Differences (Select one):	3
PSYC 281 Introduction to Abnormal Psychology	
PSYC 362 Psychological Assessment	
PSYC 363 Personality Theory	
PSYC 364 Psychology of Adjustment	
PSYC 365 Forensic Psychology	
PSYC 370 Emotions and Mood	
PSYC 382 Exceptional Children	
Cluster D: Developmental Psychology (Select one):	3
PSYC 241 Introduction to Human Development	
PSYC 342 Prenatal and Infant Development	
PSYC 343 Child and Adolescent Development	
PSYC 345 Adulthood and Aging	
Cluster E: Social Processes (Select one):	3
PSYC 231 Leadership and Human Relations	
PSYC 232 Sex Roles and Behavior	
PSYC 251 Introduction to Social Psychology	
PSYC 351 Topics in Social Psychology	
PSYC 379 Community Psychology	
Psychology Electives	3
Alternate 300 or 400-level PSYC course excluding PSYC 490, 491, 495, or 498.	
Capstone Course (Select one of the following):	3
PSYC 490A Teaching Practicum	
PSYC 491A Professional Field Experience	
PSYC 495A Independent Study	
PSYC 498A Honors	
GENERAL ELECTIVES	42

Number of electives may vary based on overlap

Total Hours

120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 5	3 Foreign Language 102	3
Foreign Language 101	3 PSYC 203	3
GEF 3	3 PSYC Cluster D	3
PSYC 101 (GEF 4)	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 2	4
ECAS Global Studies & Diversity Requirement (GEF 7)	3 GEF 8*	3
Foreign Language 203	3 Foreign Language 204	3
PSYC 204	3 PSYC Cluster C	3
PSYC Cluster E	3 General Elective	2
	15	15

Third Year

Fall	Hours Spring	Hours
ECAS Fine Arts Requirement (GEF 6)	3 GEF 8*	3
GEF 8*	3 PSYC 301	3
PSYC 302	4 General Elective	3
General Elective	3 General Elective	3
General Elective	2 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
PSYC Cluster A/B	3 PSYC Capstone	3
PSYC Upper-Division Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or dual degree already fulfill F 8.

Psychology B.S.

Click here to view the Suggested Plan of Study (p. 380)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

3-6

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.S. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.S. Degrees tab on the Eberly College of Arts and Sciences page (p. 171).

Departmental Requirements for the B.S. in Psychology

Students may not earn both a B.A. and a B.S. in Psychology. Students wishing to graduate with a B.S. in Psychology must comply with the following:

- **Capstone Requirement:** The university requires the successful completion of a Capstone course: PSYC 490A, PSYC 491A, PSYC 495A, PSYC 498A.
- **Writing and Communication Skills requirement:** The Psychology Bachelor of Science is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of the GPA in the Major:** Students must maintain an overall cumulative GPA of 2.0 or higher. Students must also earn an overall cumulative 2.0 GPA in all courses with a PSYC designation, and a minimum grade of C- or better in PSYC 101 and PSYC 203. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Note:** Students must successfully complete MATH 153 and 154, or MATH 155. Completion of MATH 126A, MATH 126B, or MATH 126C (College Algebra) or higher is a pre-requisite to PSYC 203.
- **Residence Requirement:** To graduate from WVU with a major in Psychology, a student must have successfully completed (with a passing grade) a minimum of 10 credit hours of 300- and 400-level psychology coursework at WVU, *not* including PSYC 490, PSYC 491, PSYC 495, and PSYC 498. Online courses taught by WVU may be counted toward the 10 credit hours of coursework at WVU.
- **Benchmark Expectations:** For details, go to the Psychology admissions tab (p. 375).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	20
WVUE 191	First Year Seminar
GEF Requirements: number of credits will vary depending on overlap	
ECAS B.S. REQUIREMENTS	24
Global Studies & Diversity Requirement	
Mathematics Requirement	
Select one of the following:	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus
MATH 155	Calculus 1
Science Requirement: Please see the Eberly College of Arts and Sciences' Bachelor of Science (B.S.) tab.	
DEPARTMENTAL REQUIREMENTS	
Foundation Courses	16
PSYC 101	Introduction to Psychology (minimum grade of C-)

PSYC 203	Research Methods & Analysis 1 (minimum grade of C-)	
PSYC 204	Research Methods & Analysis 2	
PSYC 301	Biological Foundations of Behavior	
PSYC 302	Behavior Principles	
Select one course from Cluster A or B:		3
Cluster A: Learning and Cognition		
PSYC 423	Cognition and Memory	
PSYC 424	Learning and Behavior Theory	
PSYC 474	Applied Behavior Analysis	
Cluster B: Biological Bases of Behavior		
PSYC 234	Drugs and Behavior	
PSYC 425	Perception	
PSYC 426	Physiological Psychology	
PSYC 427	Psychobiology of Sleep	
Cluster C: Clinical and Individual Differences (Select one):		3
PSYC 281	Introduction to Abnormal Psychology	
PSYC 362	Psychological Assessment	
PSYC 363	Personality Theory	
PSYC 364	Psychology of Adjustment	
PSYC 365	Forensic Psychology	
PSYC 370	Emotions and Mood	
PSYC 382	Exceptional Children	
Cluster D: Developmental Psychology (Select one):		3
PSYC 241	Introduction to Human Development	
PSYC 342	Prenatal and Infant Development	
PSYC 343	Child and Adolescent Development	
PSYC 345	Adulthood and Aging	
Cluster E: Social Processes (Select one):		3
PSYC 231	Leadership and Human Relations	
PSYC 232	Sex Roles and Behavior	
PSYC 251	Introduction to Social Psychology	
PSYC 351	Topics in Social Psychology	
PSYC 379	Community Psychology	
Upper-Division Psychology Elective:		3
Alternate 300 or 400 level PSYC course excluding Psyc 490, 491, 495, and 498		
Capstone Course (Select one of the following):		3
PSYC 490A	Teaching Practicum	
PSYC 491A	Professional Field Experience	
PSYC 495A	Independent Study	
PSYC 498A	Honors	
GENERAL ELECTIVES		42
Number of general electives may vary based on overlap		

Total Hours

120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
MATH 155 (GEF 3)	4 PSYC 203	3
GEF 2 (B.S. First Area 1)	4 PSYC Cluster D	3
GEF 5	3 GEF 8 (B.S. First Area 2)	4

PSYC 101 (GEF 4)	3 General Elective	2
	15	15
Second Year		
Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 8 (B.S. Second Area 2)	4
GEF 8 (B.S. Second Area 1)	4 GEF 6	3
PSYC Cluster C	3 PSYC Cluster E	3
PSYC 204	3 General Elective	3
General Elective	2 General Elective	2
	15	15
Third Year		
Fall	Hours Spring	Hours
B.S. Third Area 1	4 B.S. Third Area 2	4
PSYC 301	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3
PSYC Upper-Division Elective	3 PSYC 302	4
General Elective	3 General Elective	3
General Elective	2 General Elective	1
	15	15
Fourth Year		
Fall	Hours Spring	Hours
PSYC Cluster A/B	3 General Elective	3
Capstone	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

Religious Studies

Degree Offered

- Bachelor of Arts

Nature of Program

The program for religious studies in the Eberly College of Arts and Sciences meets the needs of West Virginia University students by offering instruction in the history and practice of many world religions including Judaism, Christianity, Islam, Buddhism, and Near Eastern traditions. In addition, the program offers opportunities to explore many other interesting areas of study including Hebrew and Christian scriptures, ethics, and current topics of interest. The program for religious studies also seeks to address issues of interest within the WVU community by providing activities such as guest lectures and panel forums for students and the public.

In the program, students have the unique opportunity to study religious issues from a scholarly perspective. Hence, religion courses at West Virginia University are intended to stimulate interest in the academic discipline of religious studies, which involves studying world faiths objectively, without an agenda. Instructors utilize various methodologies that allow students to immerse themselves in, and learn about, many different traditions. Some of these methodologies include studying ancient texts, examining the history and traditions of various world cultures, the use of resource texts from reputable scholars, and the analysis of archaeological data.

The degree in religious studies offers a general liberal arts education for students entering such professions as law, medicine, and business, if electives are chosen carefully. This major is useful to anyone seeking a professional career in religion, such as the ministry, teaching, graduate study of theology, biblical studies, and religious journalism. For further information about this program, please go to: <http://religiousstudies.wvu.edu>.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

COORDINATOR

- Aaron Gale - Ph.D. (Northwestern University)
Associate Professor, New Testament Studies, World Religions, Archaeology

ASSISTANT PROFESSOR

- Alex Snow - Ph.D. (Syracuse University)
Asian Religions

Admission Requirements

Entering freshmen are admitted directly into the major. Students coming from the Center for Learning, Advising, and Student Success or another department must meet minimum standards: have a 2.00 overall GPA. Please see an adviser for details.

Benchmark Expectations

By the end of the 4th semester in the major students should have successfully completed RELG 102, all three 200-level required RELG courses, RELG 304, and maintain a 2.0 GPA in all courses counted toward the major. All majors must meet with RELG program adviser each semester. Students who fail to meet these benchmarks may be removed from their major.

[Click here to view the Suggested Plan of Study \(p. 384\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) pages.

Departmental Requirements for the B.A. in Religious Studies

All students wishing to obtain a degree in Religious Studies must complete a minimum of 30 credits of course work in Religious Studies and comply with the following:

- **Capstone Experience:** The university requires the successful completion of Capstone course. Religious Studies majors must complete RELG 482.
- **Writing and Communication Skills Requirement:** Religious Studies Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and at least two additional **SpeakWrite Certified Courses™** selected from: RELG 219, RELG 223, RELG 230, RELG 231, RELG 301, RELG 310, RELG 482.
- **Calculation of the GPA in the Major:** A cumulative GPA of 2.0 in all RELG courses is required for graduation; only grades of C- or higher will be applied toward major requirements. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Benchmarks Expectations:** For details, go to the Religious Studies admissions tab (p. 382).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	37
WVUE 191 First Year Seminar	
GEF: number of hours may vary depending on options selected and overlap with major; please see above	
ECAS B.A. Requirements	12
Foreign Language	
Fine Arts Requirement	
Global Studies & Diversity Requirement	
DEPARTMENTAL REQUIREMENTS	
All RELG courses must be completed with a grade of C- or higher	
Religious Studies Basic Requirements	3
Select one of the following:	
RELG 102 Introduction to World Religions	
RELG 105 Introduction to Issues in Religious Studies	
Religious Studies Intermediate Requirements	9
Select three from the following:	
RELG 210 Contemporary Theology 1	
RELG 219 The History of Christianity	
RELG 222 Origins of Judaism	
RELG 223 Christianity in America	
RELG 230 Religions of India	
RELG 231 Religions of China and Japan	
RELG 232 History and Practice of Islam	
RELG 242 Theological Perspectives in Modern Literature	
RELG 255 Religion Across Cultures	
RELG 293 Special Topics	
Religious Studies Advanced Requirements	15
RELG 350 Biblical Ethics/Current Issues	
Select four from the following:	
PHIL 308 Philosophy of Religion	
RELG 301 Studies in Asian Scriptures	
RELG 302 Studies in Islamic Scriptures	
RELG 303 Studies in Christian Scripture	

RELG 304	Studies in Hebrew Scriptures	
RELG 305	Biblical History/Archaeology	
RELG 306	Biblical History and Archeology of Israel	
RELG 310	Historical Theology	
RELG 393	Special Topics	
RELG 410	Apocalypse	
RELG 493	Special Topics	
RELG 494	Seminar	
Capstone Experience		3
RELG 482	Interactions in World Religions	
General Electives		41
Number of electives may vary depending on GEF overlap		

Total Hours 120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 3	3 GEF 2	3
GEF 4	3 Foreign Language 102	3
Foreign Language 101	3 RELG Intern. Course 1	3
RELG Basic Course	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 5	3
GEF 2	3 ECAS Fine Arts Requirement (GEF 6)	3
Foreign Language 203	3 ECAS Global Studies & Diversity Requirement (GEF 7)	3
RELG Intern. Course 2	3 Foreign Language 204	3
General Elective	3 RELG 350	3
	15	15

Third Year

Fall	Hours Spring	Hours
RELG Intern. Course 3	3 GEF 8*	3
RELG Adanced Course 1	3 GEF 8*	3
RELG Advanced Course 2	3 RELG Advanced Course 3	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
GEF 8*	3 RELG 482 (Capstone)	3
RELG Advanced Course 4	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students who complete a minor, a double major or a dual degree already meet F 8.

Major Learning Goals

RELIGIOUS STUDIES

1. Identify and differentiate among the core principles and theories of at least three major world religions.
2. Research and critique, utilizing academic methods of inquiry, sacred texts from at least two major world religions.
3. Demonstrate satisfactory research and writing skills, coherent thought, and ability to articulate with clarity concepts related to the study of world religions.
4. Demonstrate a general knowledge of religious ethics and theology.
5. Demonstrate the use of critical methods in the analysis of religious texts.
6. Summarize and compare the histories and cultural settings of at least three major world religions.

RELIGIOUS STUDIES MINOR

MINOR CODE - U031

Students choosing the Religious Studies minor will coordinate with an advisor to design 15 hours of coursework within Religious Studies that best represents the student's interests within the minor. Students must earn a minimum grade of C in all courses applied to the minor.

- **Course requirements:** The minor consists of 15 hours of coursework in religious studies (any RELG courses), with at least 9 hours at the upper-level (300-level or above).

Slavic and East European Studies

Degree Offered

- Bachelor of Arts

Nature of Program

The Slavic and East European Studies (SEES) interdisciplinary major offers an integrated approach to the study of the languages, cultures, history, geography, politics, economies, religions, and societies of Eastern Europe. This region includes: Russia, Ukraine, Belarus, Latvia, Lithuania, Estonia, Poland, Czech Republic, Slovakia, Bulgaria, Macedonia, Serbia, Montenegro, Bosnia, Croatia, Albania, Romania, and Moldova. The demand of government and the private sector for individuals specializing in this resurgent area of Europe has renewed in recent years, even as economic, political, and cultural changes have served to make Eastern Europe more accessible. The program incorporates diverse disciplines, language study, and study abroad to provide students with a deep as well as broad grasp of the region's past, present, and future.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (p. 44) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

Career Goals

In today's increasingly global setting, business, diplomacy, and scholarship all benefit from a thorough knowledge of at least one foreign language and a familiarity with the culture, history, and economics of the region speaking that language. A major in SEES prepares students for further study in graduate or professional schools, as well as contributing background that may be applied to work in government, foreign service, non-governmental organizations (NGOs), and international business or law.

Admission, Residency, and Other Requirements

There are no special requirements for direct admission into the SEES major, but once admitted students must achieve a minimum grade point average of 2.25, both overall and in the major. They must also satisfy University General Education Foundations (GEF) and Eberly College of Arts and Sciences requirements and earn a total of 120 hours credit in order to graduate. Although study abroad is strongly encouraged, a student completing a major in SEES must fulfill a residency requirement by completing at least fifteen of the hours for the major on campus, excluding courses numbered 100, 101, 102, 200, 203, 204, and courses obtained through credit by examination.

Other Coursework/Second Majors/Minors

Students are strongly encouraged to work closely with the advisor and faculty in the SEES program to select related courses, second majors, and/or minors (such as international studies, Russian studies, foreign languages, history, political science, or economics) that will complement their work in SEES and lead to meaningful career options.

FACULTY

COORDINATOR

- Lisa Di Bartolomeo - Ph.D. (University of North Carolina)

Freshmen are admitted directly into the SEES major. Students admitted from the Center for Learning, Advising, and Student Success or another major must have a 2.0 overall GPA, and have completed a minimum of one related-language course with at least a C- (*language courses do not include FCLT, FLIT, LANG, LING). Please see an adviser for details.

Benchmark Expectations

By the end of the second year in the major, students should have completed RUSS (or other language) 204 and LING 311. Students must retain a 2.25 GPA in courses that count toward the major by their Junior year. All majors must meet with an SEES adviser each semester. Students who do not meet these benchmarks may be removed from the major.

Click here to view the Suggested Plan of Study (p. 388)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences page (p. 167).

Program Requirements for the B.A. in Slavic and Eastern European Studies

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. Students in the SEES program must successfully pass SEES 497A.
- **Writing and Communication Skills Requirement:** Slavic and East European Studies Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and at least two additional **SpeakWrite Certified Courses™** selected from: SEES 497A, RUSS 301, RUSS 302, RUSS 303, RUSS 304, RUSS 331, RUSS 332, RUSS 341, RUSS 342, RUSS 451, FCLT 250, FCLT 280, FCLT 281, FCLT 380, FCLT 381, FCLT 382, FLIT 256, FLIT 257.

- **Calculation of the GPA in the Major:** Students must earn a 2.25 GPA in all courses applied to the SEES major. A grade of C- or above must be earned in all courses applied to the SEES major. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat
- **Residency Requirement:** Students completing a major in world languages/world language studies at WVU must fulfill a residency requirement by completing at least fifteen credit hours on campus in their area of study, excluding courses numbered 101, 102, 200, 203, 204, 493, and courses obtained through credit by examination.
- **Benchmarks Expectations:** For details, go to the Slavic and East European Studies admission tab (p. 386).

Foundations Requirements

UNIVERSITY REQUIREMENTS	34
WVUE 191 First Year Seminar	
GEF: number of credits will vary depending on overlap	
ECAS B.A. Requirement	12
Foreign Language	
Fine Arts Requirement	
Global Studies and Diversity Requirement	
PROGRAM REQUIREMENTS	
Foundation Course:	3
SEES 101 Introduction to Slavic and Eastern European Studies	
Language Requirement	6
Six hours from either 300-level Russian, or another SEES-approved language at any level.	
Economics	3
ECON 453 Economic Transition in Europe (Pre-req is ECON 201 and ECON 202)	
or ECON 454 Comparative Economic Systems	
History Requirement	6
Select one from the following:	
HIST 417 World War II in Europe	
or HIST 418 Eastern Europe Since 1945	
Select one from the following:	
HIST 217 History of Russia to 1917	
HIST 218 History of Russia: 1900-Present	
HIST 417 World War II in Europe	
HIST 418 Eastern Europe Since 1945	
HIST 419 Revolutionary Russia: 1900-1953	
HIST 420 USSR and After: 1953 to Present	
FLIT/FCLT Requirement	6
Select one from the following:	
FCLT 281 Vampire: Blood and Revolution	
FCLT 380 Holocaust: Eastern Europe Film and Literature	
FCLT 381 Contemporary Polish Cinema	
FCLT 382 Polish Cinema: Kieslowski	
Select one from the following:	
FLIT 256 Russian Literature Translation 1	
FLIT 257 Russian Literature Translation 2	
FCLT 250 Russian Fairy Tales	
FCLT 280 Science Fiction: East and West	
FCLT 281 Vampire: Blood and Revolution	
FCLT 380 Holocaust: Eastern Europe Film and Literature	
FCLT 381 Contemporary Polish Cinema	
FCLT 382 Polish Cinema: Kieslowski	
Other culture course with approval from adviser	

Electives		9
ECON 453	Economic Transition in Europe	
ECON 454	Comparative Economic Systems	
HIST 417	World War II in Europe	
HIST 418	Eastern Europe Since 1945	
POLS 351	Russian and Post-Soviet Politics	
Additional FLIT/FCLT courses from the list above.		
Additional language courses other than Russian		
Capstone Experience		3
SEES 497A	Research: Capstone	
GENERAL ELECTIVES		38
Number of elective may vary depending on overlap		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 GEF 4	3
RUSS 101	3 RUSS 102	3
SEES 101 (ECAS Global Studies and Diversity Requirement - GEF 7)	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 8*	3
GEF 5	3 GEF 8*	3
GEF 6 (ECAS Fine Arts Requirement)	3 GEF 8*	3
RUSS 203	3 RUSS 204	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
SEES Language Course 1	3 SEES Language Course 2	3
History Requirement 1	3 SEES Elective 2	3
History Requirement 2	3 SEES Economics Requirement	3
SEES Elective 1	3 SEES FCLT/FLIT Requirement 1	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
SEES 497A (Capstone)	3 SEES Elective 3	3
SEES FCLT/FLIT Requirement 2	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or a dual degree satisfy F 8

Major Learning Goals

SLAVIC AND EAST EUROPEAN STUDIES

Upon successful completion of the B.A. degree, **Slavic and East European Studies** majors will be able to:

1. Demonstrate a basic understanding of the political, historical, and cultural structures that define the region of Eastern Europe through formal and informal writing assignments, oral presentations, and other assessment tools.
2. Explain, in written and spoken form, the challenges that globalization presents to the region from economic, political, and cultural perspectives.
3. Describe the historical and cultural contexts that led to the formation of contemporary Eastern Europe as a region.
4. Identify and differentiate the characteristics of the languages and cultures of the region.
5. Analyze the similarities and differences between the cultures of the nations and sub-regions in Eastern Europe and the historical origins that led to these similarities and differences.

SLAVIC & EAST EUROPEAN STUDIES MINOR

MINOR CODE - U077

Students must earn a grade of C or better in all courses applied to the minor. In addition to the language hours under "Language Courses," a maximum of 3 credit hours RUSS may be counted as an upper-division elective.

CORE COURSE:		3
SEES 101	Introduction to Slavic and Eastern European Studies	
LANGUAGE COURSES:		6
Select one of the following language options		
6 hours of Russian at any level		
6 hours of a SEES-related language at any level		
UPPER-DIVISION ELECTIVES:		9
ECON 453	Economic Transition in Europe	
ECON 454	Comparative Economic Systems	
FCLT 380	Holocaust: Eastern Europe Film and Literature	
FCLT 381	Contemporary Polish Cinema	
FCLT 382	Polish Cinema: Kieslowski	
HIST 417	World War II in Europe	
HIST 418	Eastern Europe Since 1945	
HIST 419	Revolutionary Russia: 1900-1953	
or HIST 420	USSR and After: 1953 to Present	
POLS 351	Russian and Post-Soviet Politics	
Total Hours		18

Social Work

Degree Offered

- Bachelor of Social Work

Nature of Program

The School of Social Work provides students with a comprehensive program of professional education in social work, including degree programs at the baccalaureate and master's levels, and a range of part-time and continuing education opportunities.

The BSW and MSW programs at West Virginia University are fully accredited by the Council on Social Work Education, which makes graduates eligible to seek licensure as social workers in West Virginia and other states, depending on individual state laws. The degree programs offered by the School of Social Work allow students the opportunity to prepare for entry-level professional practice at the baccalaureate level and to specialize at the advanced (graduate) level of study. The baccalaureate program prepares social workers for generalist practice and is a recognized national leader in the development of baccalaureate-level curriculum to support this educational goal.

B.S.W. Program Mission

The mission of the B.S.W. Social Work Program at West Virginia University is to train competent and effective undergraduate students in generalist social work practice committed to enhancing social well-being and quality of life with particular emphasis on vulnerable and oppressed populations in small towns and rural areas characteristic of the Appalachian region.

The 2 + 2 Program

WVU and several colleges have entered into a joint commitment to increase the college-going rate within the state of WV and throughout the country, as well as the number of social workers within the state, through a special 2+2 arrangement that will lead to a bachelor of social work degree from WVU. Current affiliation agreements for the 2 + 2 program include Pierpont Community and Technical College, WV Northern Community College, and Bermuda College. For students from these colleges to enjoy the benefits of the 2+2 program they must be ready to enter the major when they matriculate to WVU. Students in the 2+2 program must meet the admissions standards for WVU and the B.S.W. program and must follow the B.S.W. program's policies for transfer students.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

DIRECTOR

- Deana Morrow - Ph.D.
North Carolina State University

ASSOCIATE DIRECTOR

- Carrie Rishel - Ph.D.
(University of Pittsburgh)

BACCALAUREATE PROGRAM DIRECTOR

- Linda Ferrise - MSW (West Virginia University)

PROFESSORS

- Elise Fullmer - Ph.D.
(University of Albany, State University of New York)
- Karen V. Harper-Dorton - Ph.D. (Ohio State University)
Title IV-E Project in Child Welfare, Rural Social Work, Social administration
- Kristina Hash - Ph.D.
(Virginia Commonwealth University)
- Deana Morrow - Ph.D.
North Carolina State University
- Leslie Tower - Ph.D. (Barry University)
Domestic Violence, Women's Issues, Health Care Administration
- Michael Zakour - Ph.D. (Washington University)
Associate Director of Nova Institute, Organizations and Communities, Non-profit Management, Disaster Response

ASSOCIATE PROFESSORS

- Patricial Chase - Ed.D. (West Virginia University)
Child Welfare
- Linda Ferrise - MSW (West Virginia University)
Clinical Practice, Community Mental Health
- Helen Hartnett - Ph.D.
Ohio State
- Neal Newfield - Ph.D. (Texas Tech. University)
Strategic Therapy, Hypnosis, Solution focused Therapy, Social Documentary Photography

ASSISTANT PROFESSORS

- Hae Jung Kim - Ph.D. (University of Maryland)

Non-profit Management, Social Policy

- Mary LeCloux - (Simmons College)
- Mariann Mankowski - Ph.D. (Smith College)
Military Issues, Aging, Women's Issues, Aging
- Jiyong Tabone - Ph.D. (University of Chicago)
Risk and Resilience, Program Evaluation

INSTRUCTORS AND FACULTY EQUIVALENTS

- Carol Amendola - MSW (West Virginia University), LCSW
Baccalaureate Program Coordinator, Clinical Practice, Child Welfare
- Jacqueline Englehardt - MSW (West Virginia University), LCSW
Professional and Community Education Director, Non-profit Management
- Rhonda Hayes - MSW (West Virginia University)
Wheeling MSW Coordinator, Clinical Practice, Teaching Instructor
- Samuel J. Leizear - MSW (West Virginia University), LCSW
Field Education Director, Human Diversity, Health Care and Aging, LGBT Issues
- Alysha Nichols - MSW/MPA (West Virginia University)
Teaching Instructor
- Erica Shell - MSW (West Virginia University)
Martinsburg MSW Coordinator, Spirituality, Mental Health, Poverty Issues
- Jeremy Speer - MSW
(West Virginia University)
- Debra Young - Ed.D. (Marshall University)
Charleston MSW Coordinator, Community Organization and Social Administration

RESEARCH ASSOCIATE

- Rebekah Bledsoe - MSW (West Virginia University)
Title IV-E, Child Welfare

EMERITUS FACULTY

- Majorie H. Buckholz-Cleveland - Ph.D. (West Virginia University)
- Barry Locke - Ed.D. (West Virginia University)
- Roger A. Lohmann - Ph.D. (Brandeis University)
- Nancy Lohmann - Ph.D. (Brandeis University)
- Caroline T. Mudd - MSW (University of Pennsylvania)

Admissions

Freshmen and students in good standing are admitted directly into the major. At the end of their fourth semester, students apply to be admitted to the professional level of the major.

In order for social work majors at WVU, its branch campuses, or 2+2 program students to attain *professional* social work status, they must meet the B.S.W. program's admission criteria, complete a formal application for admission, and have their application approved by the School of Social Work B.S.W. Admission Committee. The process is competitive, and students are selectively admitted to the advanced level of the program for their final two years of education, which includes the upper-division courses in social work.

To be eligible for admission to the advanced level and become *professional* social work majors, students must meet the following minimum criteria:

- Have a 2.50 GPA on a four-point scale.
- Complete 100 hours of human service activity (paid or volunteer) by the time of application with verification of completed hours on the BSW program application form.
- Submit a supportive or generally positive reference letter from the volunteer site supervisor(s), or a faculty member
- Complete fifty-eight credit hours by the conclusion of the semester during which application to the professional major is made
- Earn a C or better in SOWK 147 and SOWK 151 (Students may be enrolled in one or both of these courses at the time of application to the professional major; additionally, students applying to the program through the 2+2 arrangement or as transfers from another institution can replace the SOWK 147 course with another minority course pre-approved by the B.S.W. Program Director).

- Successful completion of at least 75% of the General Education Foundation courses (GEF) by the conclusion of the semester during which application to the advanced level is made.
- Demonstrate college-level writing skills
- Show potential for commitment to the National Association of Social Workers (NASW) Code of Ethics

Applications are reviewed in January for entry to the advanced level, *professional* social work major the following fall semester.

Transfer Students

Transfer students, including 2+2 students, who wish to enter the social work major must contact WVU's Office of Admissions and the B.S.W. program director no later than the semester before you intend to matriculate to WVU. For entry to the B.S.W. program, students must meet all requirements that apply to major status. Students, who plan to matriculate to WVU in the fall semester at the *professional* social work major level should contact WVU's Office of Admissions the prior December and complete the application to the B.S.W. program for admission at the *professional* social work major level in January.

Upper-division social work courses taken at other institutions do not automatically transfer to WVU and meet the program's requirements. To gain approval for these courses students must have earned a B or better in the course(s) and must submit course syllabi and other appropriate course materials to the B.S.W. program director. Courses that are not approved count as electives. The lower-division social work courses taught on 2+2 campuses have received approval via the formal agreement with the program.

Benchmark Expectations

By January of the 4th semester, students must submit an application to the professional major. For the application, students must have a C or higher in SOWK 147 and 151, completed 100 hours volunteer service, and submit a personal statement and a reference from academic or volunteer service individual. Students must maintain a 2.0 GPA overall after admission to the professional major. All majors must meet with Mrs. Carol Amendola, the SOWK adviser each semester. Students who do not meet these benchmarks may be removed from their major.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, School of Social Work (major) requirements, and electives to total a minimum of 120 hours.

SCHOOL REQUIREMENTS FOR THE BACHELOR OF SOCIAL WORK

The undergraduate social work program consists of a foundation in the liberal arts, and students must complete all courses outlined below, with 58 credits at the 200-level or above. Students are encouraged to consult with the social work adviser regarding the selection of electives appropriate for their career interest.

- **Capstone Requirement:** The university requires the successful completion of a capstone course, preferably in the major. Social Work majors satisfy these requirements by completing SOWK 494A.
- **Writing and Communication Skills Requirement:** Social Work BSW students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional **SpeakWrite Certified Courses™**: SOWK 320 and SOWK 494.
- **GPA in the major:** Social Work majors must maintain a 2.00 GPA in their major courses; students must complete all required GERO and SOWK courses—in their proper sequence—with grades of C- or higher, except for SOWK 319, 491A and 491, which are taken P/F. If a course is repeated, the all attempts will be included in the calculation of the GPA. Students who are unable to meet the performance standards for social work courses are permitted to repeat a course once. Students who are unsuccessful in the second attempt will be counseled out of the program. If a student is unsuccessful in either SOWK 494A or SOWK 491, both courses must be repeated and successfully completed to meet graduation requirements.
- **Field Instruction Requirements:** Students must successfully complete 12 credits of field placement.
- **Benchmark expectations:** For details, go to the Social Work admissions tab (p. 391).

Curriculum Requirements

UNIVERSITY REQUIREMENTS	28
WVUE 191	First Year Seminar
GEF: Number of credits may vary based on overlap	
PROGRAM REQUIREMENTS	
Foundation Social Work Requirement	6
SOWK 147	Human Diversity
SOWK 151	Introduction to Social Work
Social Science Requirement:	6
POLS 220	State and Local Government
SOCA 221	Families and Society
Social Science Electives:	9
One class in PSYC 200 level or above	
One class in SOCA 200 level or above	
One class in POLS, PSYC, or SOCA- 200 level or above	
Minority Content Class:	3
Select one class in:	
ASP 220	Introduction to Africana Studies
COMM 212	Gender Communication
COMM 317	Communication and Aging
ENGL 154	African American Literature
ENGL 251	American Folklore and Culture
ENGL 252	Appalachian Fiction
ENGL 254	African American Literature
ENGL 285	Images of Women in Literature
ENGL 352	Topics in Appalachian Studies
ENGL 387	Topics in Women's Literature
HIST 250	West Virginia
HIST 473	Appalachian Regional History
POLS 337	Gender/Politics and Policy
PSYC 232	Sex Roles and Behavior
PSYC 345	Adulthood and Aging
SOCA 235	Race and Ethnic Relations
SOCA 323	Sociology of Rural Life
SOCA 360	Women and Men in Society
WGST 170	Introduction to Women's and Gender Studies
WGST 242	Women's Health and Fitness
Advanced Social Work Courses	25

SOWK 300	Social Welfare Policy and Services 1	
SOWK 310	Social Welfare Policy and Services 2	
SOWK 319	Skills Lab 1	
SOWK 320	Social Work Methods 1	
SOWK 322	Social Work Methods 2	
SOWK 324	Methods 3: Organizations and Communities	
SOWK 330	Human Behavior in the Social Environment 1	
SOWK 350	Human Behavior in the Social Environment 2	
SOWK 360	Social Work Research and Statistics	
Social Work Electives		6
GERO 212	Introduction to Gerontology	
GERO 410	Rural Gerontology	
SOWK 400	Legal Issues in Social Work	
SOWK 493	Special Topics	
Field Instruction		12
SOWK 491	Professional Field Experience	
Capstone Experience		3
SOWK 494A	Seminar	
GENERAL ELECTIVES		22
Number of hours may vary depending on overlap		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 102 (GEF 1)	3
ENGL 101 (GEF 1)	3 GEF 2	3
GEF 3	3 GEF 5	3
GEF 6	3 SOWK 147 (GEF 7)	3
SOWK 151	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
GEF 2	3 GEF 8*	3
POLS 220 (GEF 4)	3 SOCA 221 (GEF 8)	3
SOCA 200-level Elective	3 PSYC 200-level Elective	3
General Elective	3 Minority Content Course	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 SOWK 310	3
SOWK 300	3 SOWK 322	3
SOWK 319	1 SOWK 350	3
SOWK 320	3 SOWK Elective 1	3
SOWK 330	3 General Elective	3
General Elective	2	
	15	15

Fourth Year

Fall	Hours Spring	Hours
SOWK 360	3 SOWK 494A (Capstone)	3

SOWK 324	3	SOWK 491	12
SOWK Elective 2	3		
Social Science Elective	3		
General Elective	3		
		15	15

Total credit hours: 120

* Student completing a minor, a second major or a dual degree already fulfill F 8.

Major Learning Goals

SOCIAL WORK

Upon successful completion of the B.S.W. degree, **Social Work** majors will demonstrate:

1. Competence for entry-level generalist practice, with an emphasis on rural and small town settings, gained through a curriculum including liberal arts and social work foundations, human behavior in the social environment (HBSE) practice, policy, assessment/research with individuals, families, groups, communities, and society.
2. Ability to engage in effective practice that is responsive to changing the social context, with an existing value base and ethical standards of the social work profession.
3. Skills for effective for practice with diverse, vulnerable, and oppressed populations and to further social and economic justice.
4. A foundational identity as a professional social worker and commitment to conduct oneself accordingly.
5. Sensitivity, knowledge, and understanding of human needs and rights, social welfare issues, and approaches toward resolving social problems.

Undergraduate Certificate in Gerontology

CERTIFICATE CODE - CU03

The Undergraduate Certificate in Gerontology may be pursued concurrently with any undergraduate major. The Certificate affords students an opportunity to explore the basic biological, psychological, and sociological processes of aging, their effect on the needs of older people, and the impact of social policies related to human aging. Additionally, through required field experience, students develop basic skills for effective practice with older adults. The certificate emphasizes an understanding of the unique problems and needs of older adults in Appalachia and other rural areas.

The Certificate requires eighteen credit hours, including a field experience as described below.

- Students are admitted to the Certificate Program by application. An application form is available on the School of Social Work website or may be obtained from the main office. Applications are accepted during the Fall and Spring semesters. Students must have an overall GPA of 2.75 or higher to be considered for admission to the Certificate Program.
- A grade of a B or better must be earned in all Certificate coursework.
- Students who satisfactorily complete the requirements of the program will receive an Undergraduate Certificate in Gerontology awarded by the School of Social Work at the time they receive their baccalaureate degree. The Certificate award will be noted on each recipient's University transcript.

Required Courses

9

GERO 212 or PSYC 345	Introduction to Gerontology Adulthood and Aging
GERO 410	Rural Gerontology
GERO 491	Professional Field Experience *

Electives

9

GERO 412	Public Policy of Aging
GERO 418	Aging, Women and Culture
GERO 495	Independent Study
CSAD 440	Audiological Assessment
CSAD 442	Aural Rehabilitation
COMM 317	Communication and Aging
NSG 480	Core Concepts in Gerontological Nursing
PHIL 331	Health Care Ethics
SOCA 223	Death and Dying
SOCA 293	Special Topics

SOCA 393B	Special Topics	
SOWK 404	Social Work Practice and End of Life Care	
SOWK 572	Contemporary Issues in Aging	
Total Hours		18

* Fieldwork credits for the undergraduate program are earned in GERO 491 or in practicum courses in organizations appropriate to the student's major. Gerontology professors assist in identifying sites for fieldwork experience with older persons and/or a relevant agency and in the supervision of the student's work. **Permission from instructor required prior to enrollment.**

Gerontology Minor

MINOR CODE - U146

A 2.0 GPA is required for admission to the Minor program. A grade of C- or better must be earned in all coursework applied to the Minor. Except for GERO 491, courses applied to the Minor cannot be taken as pass/fail.

Core Courses		7
GERO 212 or PSYC 345	Introduction to Gerontology Adulthood and Aging	
GERO 410	Rural Gerontology	
GERO 491	Professional Field Experience (*one credit hour required)	
Electives		9
GERO 412	Public Policy of Aging	
GERO 418	Aging, Women and Culture	
GERO 491	Professional Field Experience *	
GERO 495	Independent Study	
COMM 317	Communication and Aging	
CSAD 440	Audiological Assessment	
CSAD 442	Aural Rehabilitation	
NSG 480	Core Concepts in Gerontological Nursing	
PHIL 331	Health Care Ethics	
SOCA 223	Death and Dying	
SOCA 312	Death and Dying	
SOWK 404	Social Work Practice and End of Life Care	
Total Hours		16

*GERO 491 (1 credit hour) is a requirement for the Minor in Gerontology and GERO 212 or PSYC 345 must be taken prior to enrollment. Additional experience through GERO 491 (3 credit hours) may be taken as an elective for the Minor.

For further information about the Undergraduate Minor in Gerontology, contact Dr. Kristina Hash (kmhash@mail.wvu.edu, 304.293.8807) or Ms. Morgan Boyles (Morgan.Boyles@mail.wvu.edu, 304.293.3192).

Sociology

Degree Offered

- Bachelor of Arts

Nature of Program

Sociology examines human society with an emphasis on social structure, processes of social interaction, and social change. Students learn the methods of social science as well as the specialized knowledge and insights of discipline while selecting from a range of substantive course topics. These include but are not limited to: Racial and ethnic relations, sex and gender, social class and poverty, families and relationships, social psychology and media, health and health care, and urban and rural sociology. Courses in the department also are intended to facilitate the application of sociological principles to a wide range of contemporary social problems.

The major prepares students to pursue a broad range of careers that require knowledge of social organization and social processes. It also prepares students for graduate studies in the social sciences in pursuit of academic or applied research careers or for professional training in law, public administration, social work, public health and other fields. For more information about this program, please visit the departmental website (<http://soca.wvu.edu/students/undergraduate-students>).

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Jeralynn S. Cossman - Ph.D. (Florida State University) Sociology
Demography, Health, Inequalities

PROFESSORS

- Walter S. DeKeseredy - Ph.D. (York University) Sociology
Anna Deane Carlson Endowed Chair of Social Sciences. Violence against women, Critical criminology, Masculinities and crime, Criminology theory
- S. Melissa Latimer - Ph.D. (University of Kentucky) Sociology
Gender/race/ethnicity, Inequality/labor markets/welfare systems
- R. Gregory Dunaway - Ph.D. (University of Cincinnati) Sociology
Dean of the Eberly College of Arts and Sciences
- Lawrence T. Nichols - Ph.D. (Boston College) Sociology
Criminology, Theory, Business
- James Nolan, III - Ph.D. (Temple University) Sociology
Criminal justice, Group and social processes
- Rachael A. Woldoff - Ph.D. (Ohio State University) Sociology
Community, Crime, Inequality/race/class

ASSOCIATE PROFESSORS

- Corey Colyer - Ph.D. (Syracuse University) Sociology
People processing systems, Agencies of social control
- Amy Hirshman - Ph.D. (Michigan State University) Anthropology
Mesoamerican archaeology, Social complexity, Ceramics
- Daniel Renfrew - Ph.D. (Binghamton University) Anthropology
Environmental and political anthropology, Social movements, Latin American cultures
- Rachel Stein - Ph.D. (University of Akron) Sociology
Criminology, Victimization, Media and crime
- Karen Weiss - Ph.D. (SUNY-Stony Brook) Sociology
Criminology, Victimization, Gender/sexuality/culture
- Joshua Woods - Ph.D. (Michigan State University) Sociology
Social psychology, Media, Complex organizations, Sociology of risk

CLINICAL ASSOCIATE PROFESSOR

- Jennifer Steele - Ph.D. (Pennsylvania State University) Rural Sociology
Natural resource sociology, Rural and community development

TEACHING ASSOCIATE PROFESSOR

- Adam Dasari - Ph.D. (Oklahoma State University) Sociology
Social stratification, Globalization, Environmental sociology, Theory

ASSISTANT PROFESSORS

- Katie E. Corcoran - Ph.D. (University of Washington) Sociology
Theory, Organizations, Culture, Criminology, Religion, Social networks

- Lisa M. Dilks - Ph.D. (University of South Carolina) Sociology
Social psychology, Group processes, Law and society, Quantitative methods
- Jason Manning - Ph.D. (University of Virginia) Sociology
Conflict and social control, Violence, Sociology of knowledge
- Christopher P. Scheitle - Ph.D. (Pennsylvania State University) Sociology
Religion, Science in society, Crime, Organizations
- Heather M. Washington - Ph.D. (Ohio State University) Sociology
Community, Crime, Family, Inequality
- Jesse Wozniak - Ph.D. (University of Minnesota) Sociology
Policing, Criminology, Deviance, State power

TEACHING ASSISTANT PROFESSORS

- Susanna Donaldson - Ph.D. (University of Iowa) Anthropology
Anthropology of work, Identity, Appalachian cultures
- Amanda Hall-Sanchez - Ph.D. (University of Hawaii at Manoa) Sociology
Violences against women, Incarcerated individuals, Victimology, Deviance, Feminist theory & methodologies
- Cheryl Johnson-Lyons - J.D. (West Virginia University)
Law and society, Inequalities, Political sociology

TEACHING INSTRUCTORS

- Daniel Brewster - M.A. (West Virginia University) Communication Studies
- Nancy Feather - M.S.W. (West Virginia University)
- Douglas Sahady - M.A. (California University of Pennsylvania) Social Science
- Genesis Snyder - M.A. (Western Michigan University) Anthropology

PROFESSOR EMERITUS

- Ronald C. Althouse - Ph.D. (University of Minnesota) Sociology
Theory, Work, Occupational safety and health

ASSOCIATE PROFESSORS EMERITI

- Ann L. Paterson - Ph.D. (Michigan State University) Sociology
- Patricia C. Rice - M.A. (Ohio State University) Anthropology
- Joseph J. Simoni - Ph.D. (University of Notre Dame) Sociology
- William I. Torry - Ph.D. (Columbia University) Anthropology

Admission Requirements

Some entering freshmen can be admitted directly into the major, based on their high school GPA and results of standardized tests. Others will be advised in the the Center for Learning, Advising, and Student Success until they meet milestones set by the department. These include: SOCA 101 and SOCA 105 with grades of C- or higher and an overall GPA of 2.0. It is recommended that students also take MATH 122 or higher (pre-requisite for STAT 211) at the same time SOCA 101 and SOCA 105 are being completed.

Benchmark Expectations

Students who start as freshmen are expected to complete SOCA 101 and SOCA 105 with grades of C- or higher by the end of freshman year; two 200-level sociology courses plus STAT 211 by the end of their sophomore year; and four 300-level courses (including SOCA 301 and SOCA 311) by the end of their junior year. Students must maintain a GPA of 2.0 overall and a minimum GPA of 2.0 in all SOCA courses counting toward major requirements. All majors must meet with their adviser every semester. Students who do not meet these benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 400)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Departmental Requirements for the B.A. in Sociology

All Sociology majors must complete a common set of required courses and choose major electives based on their scholarly and career interests.

- **Calculation of GPA:** A minimum GPA of 2.0 is required across all SOCA courses counted toward meeting major requirements. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Experiential Learning:** Students are encouraged to pursue a Professional Field Experience (SOCA 491) or Independent Study (SOCA 495) in their junior or senior year, combining experiential work with previously acquired skills in a project appropriate to their career goals. SOCA 490, SOCA 491, and SOCA 495 can be taken for variable credit and will count as general elective credits towards graduation, but they cannot be applied to major requirements.
- **Capstone Requirement:** The General Education Foundation requires the successful completion of a Capstone course. Sociology majors must complete SOCA 488.
- **Writing and Communication Skills Requirement:** Sociology Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two **SpeakWrite Certified Courses**[™]: SOCA 488, and a 2nd course selected from HIST 203, HIST 207, HIST 221, HIST 241, HIST 242, HIST 259, HIST 264, PSYC 241, SOCA 318, WGST 150, WGST 225.
- **Benchmark Expectations:** For details, go to the Sociology admissions tab (p. 398).

Curriculum Requirements

UNIVERSITY REQUIREMENTS		31
WVUE 191	First Year Seminar	
GEF Requirements: may vary depending on overlap		
ECAS B.A. Requirements		12
Fine Arts Requirement		
Foreign Language		
Global Studies and Diversity Requirement		
DEPARTMENTAL REQUIREMENTS		
Common Core Requirements		13
SOCA 101	Introduction to Sociology (MinGrade of C-)	
SOCA 105	Introduction to Anthropology (MinGrade of C-)	
SOCA 199	Orientation to Sociology and Anthropology (MinGrade of C-)	
SOCA 301	Sociological Theory	
SOCA 311	Social Research Methods	
Statistics Requirement		3
Select one of the following:		
STAT 201	Applied Statistical Modeling	
STAT 211	Elementary Statistical Inference	
Sociology Requirements		15
Select five of the following (at least three must be 300 or 400-level):		
SOCA 207	Social Problems in Contemporary America	

SOCA 221	Families and Society	
SOCA 223	Death and Dying	
SOCA 225	Inequality and the Media	
SOCA 235	Race and Ethnic Relations	
SOCA 302	Deviant Behavior	
SOCA 304	Complex Organizations	
SOCA 318	Hate Crime	
SOCA 320	Social Psychology	
SOCA 323	Sociology of Rural Life	
SOCA 331	Sociology of Law	
SOCA 333	Sociology of Work and Work Places	
SOCA 337	Sociology of American Business	
SOCA 360	Women and Men in Society	
SOCA 405	Class, Status, and Power	
SOCA 415	Mass Media, Crime and Deviance	
SOCA 463	Economy and Society	
SOCA 470	Cities and Urban Life	
Anthropology, Criminology, or Sociology Electives:		6
Two additional courses in sociology, anthropology, or criminology (200-level or above)		
Capstone Experience		3
SOCA 488	The Capstone Experience	
General Electives		37
Number of electives may vary depending on overlap and AP credits		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 5	3 GEF 2	3
Foreign Language 101	3 ECAS Fine Arts Requirement (GEF 6)	3
GEF 3	3 Foreign Language 102	3
SOCA 101 (GEF 4)	3 SOCA 105 (ECAS Global Studies and Diversity Requirement; GEF 7)	3
SOCA 199	1 General Elective	1
	14	16

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 2	3
GEF 8 [*]	3 GEF 8 [*]	3
Foreign Language 203	3 Foreign Language 204	3
200-level Sociology Course	3 200-level Sociology Course	3
Statistics Requirement	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8 [*]	3 SOCA 311	3
SOCA 301	3 Upper-level Sociology Course	3
Upper-level Sociology Course	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Upper-level Sociology Course	3 SOCA 488 (Capstone)	3
Anthropology, Criminology, or Sociology Elective 1	3 Anthropology, Criminology, or Sociology Elective 2	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or a dual degree already fulfill F 8.

Major Learning Goals**SOCIOLOGY**

Students graduating with a BA in **Sociology** will have the ability to:

1. Describe sociology's core concepts and approaches to the study of social structures, social dynamics, and social issues, and how it is similar to and different from other social sciences.
2. Demonstrate the sociological imagination by describing how culture and social structure operate, how society shapes individuals and individuals shape society, and the intersectionality of race/ethnicity, gender, class, or other bases of inequality.
3. Identify and compare sociology's core theoretical and methodological approaches and discuss their role in building knowledge about society.
4. Apply ethical principles to the conduct of sociological research and the applications of its findings.
5. Critically analyze sociological questions and issues by retrieving and synthesizing appropriate information and evidence and identifying implications for research and practice/policy.
6. Demonstrate effective, clear and persuasive communication skills according to disciplinary conventions.

Anthropology Minor**MINOR CODE - U032**

Students must earn a minimum overall GPA of 2.0 in all courses applied toward the minor.

Core Course:		3
SOCA 105	Introduction to Anthropology	
Anthropology Electives		15
Select 15 credits, with 9 credits at 300-level or higher		
SOCA 252	Physical Anthropology	
SOCA 254	Cultural Anthropology	
SOCA 258	Introduction to Archaeology	
SOCA 350	Latin American Culture	
SOCA 351	Traditional and Changing Africa	
SOCA 352	Historical Archaeology	
SOCA 354	Mesoamerican Archaeology	
SOCA 355	Cultural Resource Management	
SOCA 357	Archaeological Field School	
SOCA 358	Anthropology of Health and Illness	
SOCA 450	Archaeology of Ancient States	
SOCA 457	Social Movements	
SOCA 458	Environmental Anthropology	
Total Hours		18

SOCIOLOGY MINOR**MINOR CODE - U033**

Students must earn a minimum overall GPA of 2.0 in all courses applied toward the minor.

Core Course:		3
SOCA 101	Introduction to Sociology	
Upper-Division Electives: *		15
Select 15 credits from the list below; 9 credits must be at the 300-level or higher:		
SOCA 207	Social Problems in Contemporary America	
SOCA 221	Families and Society	
SOCA 223	Death and Dying	
SOCA 225	Inequality and the Media	
SOCA 232	Criminology	
SOCA 234	The Criminal Justice System	
SOCA 235	Race and Ethnic Relations	
SOCA 302	Deviant Behavior	
SOCA 304	Complex Organizations	
SOCA 318	Hate Crime	
SOCA 320	Social Psychology	
SOCA 322	Third World Development	
SOCA 323	Sociology of Rural Life	
SOCA 331	Sociology of Law	
SOCA 333	Sociology of Work and Work Places	
SOCA 337	Sociology of American Business	
SOCA 360	Women and Men in Society	
SOCA 405	Class, Status, and Power	
SOCA 407	Constructing Social Problems	
SOCA 457	Social Movements	
SOCA 463	Economy and Society	
Total Hours		18

* Special topic courses (SOCA 293 or 393 or 493) are also eligible. If a special topic course does not contain "sociology" in the title, consult the approved course list on the current students section of the department website to verify its status as a sociology course.

Statistics

Nature of Program

A Minor in Statistics is available to any undergraduate students at WVU. The Statistics Minor requires 15 credit hours not counted toward another minor with a grade of C- or higher in each course. If you are interested in pursuing a Minor, please contact your academic advisor.

Students interested in a major related to statistics should consider the interdepartmental bachelor of sciences degree in industrial mathematics and statistics.

FACULTY

CHAIR

- Michael Mays - Ph.D. (Penn State University)

PROFESSORS

- Erdogan Gunel - Ph.D. (SUNY-Buffalo)
Bayesian inference, Biostatistics, Categorical data analysis
- Robert Mnatsakanov - Ph.D. (Moscow Stat Institute of Electronics and Mathematics)
Nonparametric statistics, Statistical Inverse Problems, Mixture Models, Change-set Problems

ASSOCIATE PROFESSORS

- Mark V. Culp - Ph.D. (University of Michigan)
Statistical Machine Learning, Computational Statistics, Semi-supervised and Multi-view Learning
- Kenneth J. Ryan - Ph.D. (Iowa State University)
Experimental Design, Statistical Machine Learning, Biometrics

TEACHING ASSOCIATE PROFESSOR

- Huey Miin Lee - Ph.D. (Johns Hopkins University)
Bioinformatics, Operations research, Statistical education

ASSISTANT PROFESSORS

- Stacey Culp - Ph.D. (University of Michigan)
Statistics Education, Statistical Consulting
- Casey Jelsema - Ph.D. (Western Michigan U.)
Spatial Statistics, Mixed Effects Models, Bayesian hierarchical modeling, constrained inference, bootstrap methods, environmental statistics, micro biome, statistical computation
- Erin Leatherman - Ph.D. (Ohio State)
Prediction and Design for Computer and Physical Experiments

TEACHING INSTRUCTOR

- Anthony Billings - M.S. (WVU); A.B.D. (CMU)
Statistical computing, Statistical modeling, Robust estimation, Nonlinear dynamic systems, Statistical education

PROFESSOR EMERITUS

- E. James Harner - Ph.D. (Cornell University)
Bioinformatics, Statistical computing, Statistical modeling, Statistical learning
- William V. Thayne - Ph.D. (University of Illinois)
Experimental Design, Statistical Genetics, Regression Analysis
- Edwin C. Townsend - Ph.D. (Cornell University)
Experimental Design, Regression Analysis

ASSOCIATE PROFESSOR EMERITUS

- Daniel M. Chilko - M.S. (Rutgers University)
Statistical Computing, Computer Graphics
- Gerald R. Hobbs Jr. - Ph.D. (Kansas State University)
Biostatistics, Nonparametric statistics, Regression analysis

Minor Learning Goals

STATISTICS

Undergraduate courses in statistics, and sequences of statistics courses leading to a minor in statistics or a major in Industrial Mathematics and Statistics, provide a foundation of statistical literacy, statistical reasoning, and statistical thinking. Our aim is for all of our students to be challenged and encouraged in their statistical course work. In particular, we enable our students to:

- Appreciate the inherent variation and uncertainty of information, and understand that statistics can be a resource for improved decision making;
- Develop critical thinking skills for application of statistics in novel situations;
- Effectively communicate the results of statistical analysis;
- Become responsible and competent practitioners of statistics in order to attain personal goals, either in a profession or in further educational experiences.

STATISTICS MINOR

MINOR CODE - U034

The Statistics minor requires 15 hours not counted toward another minor.

Minimum grade of C- is required in all courses applied toward the minor.

Core Course:		3
STAT 211	Elementary Statistical Inference	
or STAT 215	Introduction to Probability and Statistics	
or ECON 225	Elementary Business and Economics Statistics	
Upper-Division Electives:		12
One STAT course numbered 200 or above or one MATH course numbered 126 or above		
Select 9 STAT credits numbered 300 or above		
Total Hours		15

Women's and Gender Studies

Degree Offered

- Bachelor of Arts

The Center for Women's and Gender Studies offers a bachelor of arts degree in women's and gender studies, as well as a minor, and an area of emphasis for Regents B.A. students. Many students in women's and gender studies double major in other fields such as history, psychology, communication studies, English, and other fields in the social sciences, humanities, and physical sciences.

Nature of Program

Scholarship on women and gender has revolutionized most academic disciplines over the last several years. This field studies the advancement of women, as well as how gender influences the questions that are asked, the methods that are used, and the uses of knowledge in creating feminist scholarship within a multicultural and historical framework. Women's and gender studies courses lead students to challenge the stereotypes of women and men, and to explore the relationships among gender, race, ethnicity, sexual identity, socioeconomic class, and age. As an interdisciplinary field, women's and gender studies embraces the arts, humanities, social sciences, life sciences, and physical sciences.

Career Opportunities

Business, public administration, health care, communications, law, teaching, social work, counseling, creative arts, government, and journalism are all fields in which a major or minor in women's and gender studies may be a valuable professional credential. A background in this field is helpful to both women and men entering professions that have traditionally been restricted to one sex. These areas of study are especially useful for employment in fields such as family law, international development, child and family counseling, domestic violence, social services, and education.

Academic Opportunities in Women's and Gender Studies

Women's and Gender Studies courses are offered in a variety of academic disciplines throughout the University. Many of these courses fulfill General Education Curriculum requirements. In addition to the Women's & Gender Studies courses listed in this catalog, many other courses are offered through other departments. Updated lists of these courses are available from the Center for Women's & Gender Studies each semester.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

INTERIM DIRECTOR

- Cari Carpenter - Ph.D. (University of Michigan)

PROFESSOR

- Cris Mayo - Ph.D. (University of Illinois Urbana-Champaign)

ASSOCIATE PROFESSOR

- Cynthia Gorman - Ph.D. (Rutgers University)
- Jennifer Kasi Jackson - Ph.D. (University of Kentucky)

INSTRUCTOR

- Kristiina Riivald
- Jorge Castillo

ADJUNCT PROFESSORS

- Allyson Perry
- Teresa Pershing - Ph.D. (West Virginia University)

Admission Requirements

Freshmen are admitted directly into the major. Students coming from the Center for Learning, Advising, and Student Success or another major must have a 2.00 GPA.

Benchmark Expectations

Benchmark Expectations: Students must maintain a 2.0 overall GPA. They should have completed WGST 170 (<http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/womenstudies>) by their 2nd semester in the major, and review their progress toward their plan of study each semester. Students should maintain a GPA of 2.2 in courses that will count toward the major by their Junior year. All majors must meet with a WGST program adviser each semester. Students who do not meet these benchmarks may be removed from their major.

Click here to view the Suggested Plan of Study (p. 407)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) pages.

Departmental Requirements

The Women's and Gender Studies major requires 30 hours, 24 of which must be unique (not counted toward another major or minor). Women's and Gender Studies majors are also required to complete a minor or a second major of their choice.

- **Capstone Requirement:** The university requires the successful completion of a Capstone course: WGST 484.
- **Writing and Communication Skills Requirement:** The Women's and Gender Studies Bachelor of Arts is a **SpeakWrite Certified Program™**. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of the GPA in the Major:** Students must earn a C- or better in WGST 170, WGST 330, WGST 360, and WGST 484 and attain a final cumulative GPA of 2.0 overall in WGST courses that they wish to apply toward their major requirements. Students must also earn an overall 2.0 GPA in their minor. If a course is repeated, all attempts will be included in the calculation of the GPA unless the course is eligible for a D/F repeat.
- **Secondary Concentration:** Students must complete a minor outside of Women's & Gender Studies or a second major.
- **Credit Limitations:** Students may not count more than three hours of WGST 490 and six hours of any combination of WGST 490, WGST 491 or WGST 495 toward their major requirements.
- **Benchmark Expectations:** For details, go to the Women and Gender Studies admissions tab (p. 404).

Curriculum Requirements

WVUE 191	First Year Seminar	
GEF: number of credits may vary depending on overlap		
ECAS B.A. Requirements		12
Foreign Language		
Fine Arts Requirement		
Global Studies and Diversity Requirement		
DEPARTMENTAL REQUIREMENTS		
Core Courses:		9
WGST 170	Introduction to Women's and Gender Studies	
WGST 330	Feminist Theory (Prerequisite to WGST 484)	
WGST 360	Queer Theories	
Electives:		18
Choose 18 hours from Group A & B. A minimum of two courses must be from Group A, 9 credits must be at the 300- and 400-level.		
Group A		
WGST 150	Women in Movies	
WGST 215	African Women Writers	
WGST 225	Women in Appalachia	
WGST 260	Perspectives on Lesbian, Gay, Bisexual, Transgender, and Queer Studies	
WGST 340	Gender and Violence	
WGST 448	Sexuality in American Culture	
Group B:		
Any other WGST course at the 100, 200, 300 or 400 level		
ACE 471	Women and Sport	
ARHS 348	Women in Art	
BIOL 122	Human Sexuality	
CDFS 413	Contemporary Issues in Family Relations	
CHPR 365	Men's Health	
CHPR 380	Women and Health	
COMM 212	Gender Communication	
DISB 380	Disability and the Family	
DISB 385	Disability and Society	
ENGL 156	Literature of Native America	
ENGL 180	Literature of Love, Sex, and Gender	
ENGL 235	Novel	
ENGL 241	American Literature 1	
ENGL 242	American Literature 2	
ENGL 254	African American Literature	
ENGL 255	Multiethnic Literature	
ENGL 285	Images of Women in Literature	
ENGL 288	Sexual Diversity in Literature and Film	
ENGL 385	American Women Writers	
ENGL 386	British Women Writers	
ENGL 387	Topics in Women's Literature	
ENGL 388	Topics in Gay/Lesbian Studies	
FCLT 250	Russian Fairy Tales	
FCLT 281	Vampire: Blood and Revolution	
FCLT 460	Sexuality and Gender in Hispanic Cinema	
FLIT 237	French Women Writers	
FCLT 280	Science Fiction: East and West	
FLIT 238	African Women Writers	
FLIT 239	Francophone Literature in Translation	
FLIT 240	Italian Women Writers	

FLIT 267	Women Writers of Spain	
FLIT 316	Arab Women Writers	
GEOG 412	Geography of Gender	
GERO 412	Public Policy of Aging	
GERO 418	Aging, Women and Culture	
GERO 212	Introduction to Gerontology	
HIST 346	Women, Gender, and Kinship in Premodern Europe	
HIST 207	Revolutionary Europe	
HIST 438	Women in Colonial Latin America	
HIST 445	History of American Women	
HN&F 171	Introduction to Human Nutrition	
HN&F 200	Nutrition/Activity/Health	
IDT 430	Women in International Development	
LDR 335	Women and Leadership	
NSG 310	Maternal Infant Nursing & Women's Health Care	
NSG 489	Reproductive Issues in Women	
PHIL 130	Current Moral Problems	
PHIL 331	Health Care Ethics	
POLS 317	Interest Groups and Democracy	
POLS 324	Sexuality, Law, and Politics	
POLS 337	Gender/Politics and Policy	
POLS 460	Gender and International Relations	
PSYC 232	Sex Roles and Behavior	
PSYC 298	Honors	
PSYC 343	Child and Adolescent Development	
SOWK 401	Social Work Practice and Human Sexuality	
SOCA 221	Families and Society	
SOCA 324	Gender and Crime	
SOCA 235	Race and Ethnic Relations	
SOCA 358	Anthropology of Health and Illness	
SOCA 360	Women and Men in Society	
SOCA 405	Class, Status, and Power	
SPED 381	Special Problems and Workshop in Special Education	
ULIB 301	Gender and the Research Process	
Minor Requirement		15
Students must complete a minor (or a second major)		
Capstone Experience		3
WGST 484	Seminar:Capstone	
GENERAL ELECTIVES		38
Number of electives may vary depending on overlap		
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 GEF 4	3
WGST 170 (ECAS Global Studies & Diversity Requirement; GEF 7)	3 Foreign Language 101	3
Foreign Language 101	3 General Elective	3

General Elective	2	
	15	15
Second Year		
Fall	Hours Spring	Hours
GEF 5	3 ENGL 102 (GEF 1)	3
ECAS Fine Arts Requirement (GEF 6)	3 Foreign Language 204	3
Foreign Language 203	3 WGST Upper Division Elective 1	3
WGST Elective Group A 1	3 Minor Requirement 1*	3
General Elective	3 General Elective	3
	15	15
Third Year		
Fall	Hours Spring	Hours
WGST 330	3 WGST 360	3
WGST Upper Division Elective 2	3 WGST Elective Group A 2	3
Minor Requirement 2	3 Minor Requirement 3	3
General Elective	3 Minor Requirement 4	3
General Elective	3 General Elective	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
WGST Upper Division Elective 3	3 WGST 484 (Capstone)	3
WGST Elective at any level	3 Minor Requirement 5	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Completion of the minor also fulfills F 8.

Major Learning Goals

WOMEN'S AND GENDER STUDIES

Upon successful completion of the B.A. degree, **Women's and Gender Studies** majors will demonstrate competency in the field relative to three lenses: content, skills and application of knowledge.

- Content—Students will be able to:
 - Demonstrate how gender, class, race, ethnicity, age, sexuality and sexual identity shape experience and reflect societal constructs.
 - Demonstrate an understanding of key terms and concepts related to the field.
 - Use the lens of feminist and gender theory to analyze manifestations of human endeavor.
- Skills—Students will be able to:
 - Use critical thinking skills to formulate and defend positions by developing, supporting and presenting the information in written and oral form.
 - Use critical reading skills to analyze, dissect, and criticize, and reflect on arguments to demonstrate an understanding of the scholarship and theoretical underpinning of the field of women's and gender studies.
 - Apply approaches to problem solving that go beyond a single disciplinary framework.
- Application of knowledge—Students will:
 - Develop the knowledge and gain the experience to apply social justice aspects of women's and gender studies scholarship and activism in the classroom and in the community.
 - Apply transformational learning in the discipline (the interconnection between theory and practice) to coursework outside of the field of WGST, to their future education, careers, and/or civic and community engagement.

WOMEN AND GENDER STUDIES MINOR**MINOR CODE - U111**

A grade point average of 2.0 for all courses counted toward the minor is required.

REQUIREMENTS:

Core Courses:		6
WGST 170	Introduction to Women's and Gender Studies	
WGST 330 or WGST 360	Feminist Theory Queer Theories	
Intermediate Electives *		3
WGST 100-, 200-level		
BIOL 122	Human Sexuality	
COMM 212	Gender Communication	
ENGL 156	Literature of Native America	
ENGL 180	Literature of Love, Sex, and Gender	
ENGL 235	Novel	
ENGL 252	Appalachian Fiction	
ENGL 254	African American Literature	
ENGL 255	Multiethnic Literature	
ENGL 285	Images of Women in Literature	
ENGL 288	Sexual Diversity in Literature and Film	
FCLT 250	Russian Fairy Tales	
FCLT 280	Science Fiction: East and West	
FCLT 281	Vampire: Blood and Revolution	
FLIT 237	French Women Writers	
FLIT 238	African Women Writers	
FLIT 239	Francophone Literature in Translation	
FLIT 240	Italian Women Writers	
FLIT 267	Women Writers of Spain	
GERO 212	Introduction to Gerontology	
HIST 207	Revolutionary Europe	
HN&F 171	Introduction to Human Nutrition	
HN&F 200	Nutrition/Activity/Health	
PHIL 130	Current Moral Problems	
PSYC 232	Sex Roles and Behavior	
PSYC 298	Honors	
SOCA 221	Families and Society	
SOCA 235	Race and Ethnic Relations	
Advanced Electives		6
WGST 300- or 400-level		
ACE 471	Women and Sport	
ARHS 348	Women in Art	
CDFS 413	Contemporary Issues in Family Relations	
CHPR 365	Men's Health	
CHPR 380	Women and Health	
DISB 380	Disability and the Family	
DISB 385	Disability and Society	
ENGL 385	American Women Writers	
ENGL 386	British Women Writers	
ENGL 387	Topics in Women's Literature	
ENGL 388	Topics in Gay/Lesbian Studies	
FCLT 460	Sexuality and Gender in Hispanic Cinema	

FLIT 316	Arab Women Writers
GEOG 412	Geography of Gender
GERO 412	Public Policy of Aging
GERO 418	Aging, Women and Culture
HIST 346	Women, Gender, and Kinship in Premodern Europe
HIST 438	Women in Colonial Latin America
HIST 445	History of American Women
IDT 430	Women in International Development
LDR 335	Women and Leadership
ULIB 301	Gender and the Research Process
NSG 310	Maternal Infant Nursing & Women's Health Care
NSG 489	Reproductive Issues in Women
PHIL 314	Philosophy of Sex and Gender
PHIL 331	Health Care Ethics
POLS 317	Interest Groups and Democracy
POLS 324	Sexuality, Law, and Politics
POLS 337	Gender/Politics and Policy
POLS 460	Gender and International Relations
PSYC 343	Child and Adolescent Development
SOWK 401	Social Work Practice and Human Sexuality
SOCA 324	Gender and Crime
SOCA 358	Anthropology of Health and Illness
SOCA 360	Women and Men in Society
SOCA 405	Class, Status, and Power
SPED 381	Special Problems and Workshop in Special Education
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Total Hours	15

* No more than 3 credits at the 100 or 200 level. Electives may include no more than 6 hours from the same department (WGST courses excepted) and no more than 3 hours of WGST 490.

LGBTQ STUDIES MINOR

MINOR CODE - U138

For the LGBTQ minor, 12 of the 15 credits must be unique to the minor.

Minimum GPA of 2.0 is required in all course counted toward the minor.

Core Courses		9
WGST 260	Perspectives on Lesbian, Gay, Bisexual, Transgender, and Queer Studies	
WGST 360	Queer Theories	
WGST 460	Men and Masculinities	
Upper-Division Elective*		6
ENGL 288	Sexual Diversity in Literature and Film	
ENGL 388	Topics in Gay/Lesbian Studies	
FCLT 460	Sexuality and Gender in Hispanic Cinema	
GEOG 412	Geography of Gender	
POLS 324	Sexuality, Law, and Politics	
SOWK 401	Social Work Practice and Human Sexuality	
WGST 340	Gender and Violence	
WGST 448	Sexuality in American Culture	

*Substitutions must be approved by the Center for Women's and Gender Studies LGBTQ minor coordinator.

Total Hours	15
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World Languages, Literatures, and Linguistics

Degree Offered

Bachelor of Arts, with six possible areas of emphasis

- Chinese Studies
- French
- German
- Italian
- Russian Studies
- Spanish

Nature of Program

Coursework is offered in foreign literature and cultures, linguistics, and languages, including Arabic, Chinese, French, German, Italian, Japanese, Latin (Classics), Portuguese, Russian, and Spanish. Literature courses taught in English are designated as Foreign Literature in Translation (FLIT) courses. Culture and film courses taught in English are designated as Foreign Cultures (FCLT) courses. Other areas of instruction are Language Teaching Methods (LANG), dealing with second language acquisition and teaching methodology, Linguistics (LING), and English as a Second Language (ESL).

The primary goal of the program in foreign languages is to provide students with a solid liberal arts education that is the foundation for personal and professional success and growth over a lifetime. The curriculum is designed to provide students with well-developed cognitive and communication skills and with a broad knowledge base that will enable them to pursue additional studies at the graduate level or to enter the job market in positions that will demand the ability to communicate in more than one language and in a variety of cultural contexts.

Career Goals for Graduates

In today's rapidly increasing global economy, students may use foreign language study to add a valuable international dimension to myriad career opportunities such as teaching, business, economics, government work and Foreign Service, journalism, law, medicine, computer, and other scientific research.

Study Abroad

The Department of World Languages regularly offers language courses abroad. Currently, summer courses are offered in Canada, China, France, Germany, Italy, Japan, Jordan, Mexico, Spain, and Taiwan. Students participating in a summer program normally register for six credit hours. Contingent upon funding and faculty availability, the department offers similar programs every year. Course work completed abroad at the appropriate level can be used to fulfill various requirements for the major, with permission from a World Language adviser.

Credit for Prior Knowledge

Many of our students have studied another language in high school, or are native speakers of the language they wish to study. The Department of World Languages offers several ways in which knowledge can be turned into College credit.

Advanced Placement and International Baccalaureate

Students who have passed AP or IB courses in high school can earn College credits for courses ranging from 101 to 204, depending on their scores. Please consult the equivalency table on the Office of Admissions (http://adm.wvu.edu/freshman/ap_clep_and_ib) website.

Placement Testing

- Students who have studied French, German, or Spanish in high school and who wish to continue the study of these languages at WVU must take a computerized placement test before entering the program. The placement test can be taken one time only and must be taken before completing any coursework in the languages at WVU.
- Students who have studied languages for which there is no placement test should check with the coordinator for that language if placement in a class above 101 is appropriate.
- Those who complete the course in which they are placed with a B or better will be eligible to apply for retroactive credit for all applicable courses in the 101, 102, 203, and 204 sequences out of which they placed. Fees for this back credit are waived.

Credit by Examination

The Department of World Languages offers a credit by examination program for elementary, intermediate, and some advanced classes in Arabic, Chinese, French, German, Italian, Japanese, Portuguese, Russian, and Spanish only. Information about the program is available in the Department

of World Languages, Literatures, and Linguistics. Students must take an examination for each course, and a registration fee applies for each examination.

Additional Points of Information

- World language courses are divided into elementary, intermediate, and advanced levels.
- The elementary level, courses 101 and 102, provides beginning work in understanding, speaking, reading, and writing the languages, with emphasis on communicative competence. The vocabulary is limited to words of high frequency.
- Courses numbered 100 are intensive and equal to courses 101 and 102. Students may receive credit for either course 101 and 102 or 100 but not for both.
- The intermediate level, courses 203 and 204, continues training in the four basic skills, with greater emphasis on reading. The vocabulary is greatly extended, especially the passive or recognition vocabulary.
- Courses numbered 200 are the intensive equivalent of courses 203 and 204. Students may receive credit for courses 203 and 204 or 200 but not both.
- Advanced-level courses are numbered 300 or 400.
- Core language courses are 301, 302, 303, and 304, except for Spanish where they are 310 or 314, 311, 312, and 313. In these courses, the four basic skills are further developed. All classroom questions and discussions are in the foreign language. The work is based on reading assignments followed by classroom discussions, oral drills, and written exercises.
- Above 304, each language numbers courses differently. Please select courses carefully.

Students who earn a degree in the Eberly College of Arts and Sciences must complete the University requirements, the College requirements for their specific degree program, and their major requirements.

Minors

All students have the possibility of earning one or more minors; view a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors>) here. Please note that students may not earn a minor in their major field.

Certificate of Global Engagement

Students in the Eberly College, regardless of their major, can earn a Certificate of Global Engagement. Completion of the Certificate demonstrates the student's knowledge of diverse cultures, as well as the ability to communicate and interact effectively with people of different cultural backgrounds. Students will be required to apply their knowledge of contemporary issues and global social contexts to their course work and their broader citizenship. For details regarding Certificate requirements, please visit the Eberly College page (p. 166).

FACULTY

CHAIR

- Ángel Tuninetti - Ph.D. (Washington University)
Latin American Literature and Culture

ASSOCIATE CHAIR

- Susan Braidt - Ph.D. (University of Delaware)
ESL/Linguistics, Applied Linguistics, Second Language Acquisition, and Syntax

UNDERGRADUATE COORDINATOR

- Pablo Garcia Loaeza - Ph.D. (Indiana University Bloomington)
Spanish Language, Latin American Colonial Literature

PROFESSORS

- Ahmed Fakhri - Ph.D. (University of Michigan)
ESL/Linguistics, Second Language Acquisition, Applied Linguistics, Discourse Analysis
- Daniel Ferreras - Ph.D. (Michigan State University)
French and Spanish, Comparative Romance Literature, French/Spanish 19th and 20th Century Novel, Theory of the Fantastic
- Valérie Lastinger - Ph.D. (University of Georgia.)
French. 18th century French Literature, French Women Writers.
- Janice Spleth - Ph.D. (Rice University)
French. Francophone Literature and Culture

ASSOCIATE PROFESSORS

- María Amores - Ph.D. (Penn State University)

Spanish, Foreign Language Acquisition

- Susan Braidi - Ph.D. (University of Delaware)
ESL/Linguistics, Applied Linguistics, Second Language Acquisition, Syntax
- Cynthia Chalupa - Ph.D. (Ohio State University)
Fin de siècle German and Austrian Literature, Poetry, Foreign Language Pedagogy
- Tania de Miguel Magro - Ph.D. (The State University of New York, Stony Brook)
Spanish Literature and Culture, Spanish Language, Spanish Golden Age Literature
- Pablo Garcia Loaeza - Ph.D. (Indiana University Bloomington)
Spanish Language, Latin American Colonial Literature
- Deborah Janson - Ph.D. (University of California, Los Angeles)
German, 18th through 21st Century German Literature, Enlightenment, Romanticism, GDR and post-Wende Literature, Ecofeminism
- Xiangying Jiang - Ph.D. (Northern Arizona University)
ESL/linguistics. Second language acquisition
- Twyla Meding - Ph.D. (University of Virginia)
French, 16th and 17th Century French Literature
- Jennifer Orlikoff - Ph.D. (Rutgers University)
French, 16th, 18th, and 19th Century French Literature, Second Language Acquisition and Methodology, Art History, and Feminist Criticism
- Sandra Stjepanovic - Ph.D. (University of Connecticut)
Linguistics, Syntax, Psycholinguistics, Semantics
- Ángel Tuninetti - Ph.D. (Washington University)
Latin American Literature and Culture. Travel Literature

ASSISTANT PROFESSORS

- Manal AlNatour - Ph.D. (University of Arkansas)
Arabic Studies, Comparative Literature and Cultural Studies
- Sandra Dixon - Ph.D. (Brown University)
Spanish, Portuguese Literature, Spanish-American Literature, Brazilian Literature
- Lourdes Estrada López - Ph.D. (University of Connecticut)
Spanish Literature and Culture, Spanish Language, Contemporary Spanish Literature, Gender and Sexuality Studies
- Jonah Katz - Ph.D. (Massachusetts Institute of Technology)
Phonetics, Phonology, Theoretical and Experimental Linguistics, Music Cognition
- Sergio Robles-Puente - Ph.D. (University of Southern California)
Spanish Phonetics, Phonology, and Sociolinguistics
- Elena Shimanskaya - Ph.D. (University of Iowa)
French, Second Language Acquisition

PROFESSORS EMERITI

- Pablo González - Ph.D. (Universidad Complutense de Madrid)
Spanish Literature and Culture
- Michael Lastinger - Ph.D. (University of Georgia)
French, 19th Century French Literature, Critical Theory
- Kathleen McNerney - Ph.D. (University of New Mexico)
Spanish, Catalan Language and Literature, Spanish Literature and Culture, Women Writers

TEACHING ASSOCIATE PROFESSORS

- Lisa Di Bartolomeo - Ph.D. (University of North Carolina, Chapel Hill)
Russian and Polish Language and Literature, Slavic Folklore, Culture and Cinema, Science Fiction, the Holocaust
- Hannah Lin - Ph.D. (Ohio State University)
Chinese Studies
- Annastella Vester - Ph.D. (University of California, Los Angeles)
Italian, Contemporary Italian Literature, 18th and 19th Century Italian

TEACHING ASSISTANT PROFESSOR

- Heiko ter Haseborg - Ph.D. (West Virginia University)
Education
- Rafael Osuna Montanez - Ph.D. (University of Connecticut)
Spanish

INSTRUCTORS

- Yumiko Adachi - M.A. (University of Wisconsin-Madison)
Japanese Linguistics
- Beatrice Malvisi - M.A. (University of Pittsburgh)
Italian.

LECTURERS

- Daniel Borsay - Ph.D. (University of Pittsburgh)
Classics
- Lisa Dunn - M.A. (West Virginia University)
Spanish
- Irina Manukova - M.S. (Georgian Polytechnical University)
Russian
- Robert Tallaksen - M.D. (North Carolina State University)
Classics

Admission Requirements

Entering freshmen are admitted directly into the major. Students coming from the Center for Learning, Advising, and Student Success or another unit must meet minimum requirements: 2.0 overall and a minimum of one language course with at least a C- (language courses do not include FCLT, FLIT, LANG, LING).

Benchmark Expectations

By the end of the second year in the major, students must have completed the appropriate foreign language 204 course and LING 311. A progress review will be completed in the middle of the 3rd semester. Students must retain a 2.25 GPA in courses that count toward the major by their junior year. All majors must meet with a WLLL department adviser each semester. Students who do not meet these benchmarks may be removed from their major.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (p. 167) page.

Departmental Requirements for the B.A. in World Languages, Literature, and Linguistics

Students may select from six areas of emphasis (three language areas of emphasis in French, German, and Spanish; and three language studies areas of emphasis in Chinese studies, Italian studies and Russian studies) to complete a bachelor of arts in world languages. Each area of emphasis requires thirty-three hours of coursework beyond the intermediate level (203–204 or the equivalent) in the language of study, including a three-credit capstone experience. The capstone may be taken anytime after completion of twenty-one hours beyond the intermediate level (204 or the equivalent).

- **Capstone Requirement:** The university requires the successful completion of a Capstone course. The Capstone course is designated based upon the Area of Emphasis completed.
- **Writing and Communication Skills Requirement:** The World Languages, Literatures, and Linguistics Bachelor of Arts is a **SpeakWrite Certified Program™** across each language Area of Emphasis. SpeakWrite Certified programs incorporate and develop students' written, verbal, visual, and mediated communication skills across the curriculum.
- **Calculation of GPA in the Major:** World language majors must achieve a minimum grade point average of 2.25, both overall and in the major, to qualify for graduation.
- **Residency Requirements:** Students completing a major in world languages/world language studies at WVU must fulfill a residency requirement by completing at least fifteen credit hours on campus in their language/area of study, excluding courses numbered 100, 101, 102, 200, 203, 204, 493, and courses obtained through credit by examination.
- **Benchmark Expectations:** For details, go to the World Languages Admissions tab (p. 414).

Curriculum Requirements

University Requirements	37
WVUE 191 First Year Seminar	
GEF: Number of electives may vary depending on overlap	
ECAS B.A. Requirements	12
Foreign Language	
Fine Arts Requirement	
Global Studies and Diversity Requirement	
Area of Emphasis Requirement *	33
General Electives	38
Number of electives may vary depending on overlap	
Total Hours	120

* For specific requirements for the Areas of Emphasis and a Suggested Plan of Study, see the AOE tab.

Major Learning Goals

WORLD LANGUAGES, LITERATURES, AND LINGUISTICS

Upon successful completion of the B.A. degree, **World Languages, Literatures, and Linguistics** majors will meet the following goals:

1. Cultural Content Goal: Demonstrate an understanding of the connections among the perspectives, practices and products of a culture.
2. Literary/Cultural Texts Content Goal: Demonstrate ability to interpret and reflect upon literary and cultural texts in their historical contexts.
3. Language Proficiency Goal: Express their own ideas and interpret the messages of others in the target language at the advanced level of proficiency.
4. Language Knowledge Goal: Demonstrate knowledge of the systematic and changing nature of language as applied to the language of study.
5. Critical Thinking Goal: Relate cultural and linguistic knowledge to their own experiences and to the study of other disciplines.
6. Affective Goal: Accept and appreciate fundamental differences among cultures and languages and to seek opportunities for continued learning on their own.

Areas of Emphasis

- Chinese Studies (p. 416)
- French (p. 417)
- German (p. 418)

- Italian Studies (p. 419)
- Russian Studies (p. 421)
- Spanish (p. 422)

CHINESE STUDIES AREA OF EMPHASIS REQUIREMENTS

Language Courses	15
Select five of the following courses: *	
CHIN 301	Third Year Chinese 1
CHIN 302	Third Year Chinese 2
CHIN 303	Readings in Modern Chinese 1
CHIN 304	Readings in Modern Chinese 2
CHIN 461	Business Chinese
CHIN 465	Chinese Media
CHIN 471	Intensive Mandarin Chinese 2
CHIN 495	Independent Study
* May include Upper-division Study Abroad Courses	
Literature and Culture Requirement	6
Select two of the following courses:	
FCLT 210	Chinese Civilization and Culture
FLIT 216	Chinese Literature Translation 1
FLIT 217	Chinese Literature in Translation 2
Chinese Studies Electives	9
Select three courses in any of the following categories:	
1. Alternate upper-division courses in Chinese language	
2. Alternate FLIT or FCLT courses in Chinese literature or culture	
3. Courses from another related field in or outside of the department, with approval of adviser, or any of the following:	
HIST 325	Modern China
LING 311	Introduction to Structural Linguistics
POLS 354	Government of China
RELG 231	Religions of China and Japan
Capstone	3
CHIN 496	Senior Thesis
Total Hours	33

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 4	3
GEF 3	3 GEF 5	3
CHIN 101	3 CHIN 102	3
General Elective	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
CHIN 203	3 ENGL 102 (GEF 1)	3
GEF 2	3 CHIN 204	3
ECAS Fine Arts Requirement (GEF 6)	3 CHIN Literature & Culture Course 2	3
Chinese Lit & Culture Course 1	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
CHIN 301	3 CHIN 302	3
CHIN 303	3 CHIN 304	3
CHIN Studies Elective1	3 GEF 8*	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 GEF 8*	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
CHIN 461	3 CHIN 496 (Capstone)	3
CHIN Studies Elective 2	3 General Elective	3
CHIN Studies Elective 3	3 General Elective	3
GEF 8*	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

FRENCH AREA OF EMPHASIS REQUIREMENTS

Core Courses		12
FRCH 301	Language Through Civilization	
FRCH 302	Language Through Culture	
FRCH 303	Structure and Communication	
FRCH 304	Advanced Readings	
Literature Requirement		3
FRCH 421	Survey of Literature 1	
or FRCH 422	Survey of Literature 2	
Culture Requirement		3
FRCH 431	French Civilization	
or FRCH 432	Contemporary Culture	
General Requirement		3
LING 311	Introduction to Structural Linguistics	
Electives		9
Select 3 classes from		
1-Additional upper-division French classes (may include alternate courses from above or below)		
2-Up to 3 credits in FLIT 230-239, 330-339, FCLT 230-239, 330-339, or a course in a directly related area approved by the department.		
Capstone Requirement:		3
FRCH 421	Survey of Literature 1	
FRCH 422	Survey of Literature 2	
FRCH 431	French Civilization	
FRCH 432	Contemporary Culture	
FRCH 450	French Cinema	
FRCH 496	Senior Thesis	
Total Hours		33

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 FRCH 200	6

GEF 4	3 GEF 2	3
FRCH 100	6 General Elective	3
General Elective	2	
		15
Second Year		
Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 5	3
GEF 3	3 ECAS Fine Arts Requirement (GEF 6)	3
FRCH 301 (GEF 8)	3 FRCH 303	3
FRCH 302	3 FRCH 304	3
LING 311	3 General Elective	3
		15
Third Year		
Fall	Hours Spring	Hours
GEF 8*	3 GEF 8*	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 FRCH Elective 1	3
French Literature Requirement	3 FRCH Elective 2	3
General Elective	3 FRCH Elective 3	3
General Elective	3 General Elective	3
		15
Fourth Year		
Fall	Hours Spring	Hours
FRCH Culture Requirement	3 FRCH 496 (Capstone)	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
		15

Total credit hours: 120

* Students completing a minor, a major or a dual degree already meet F 8.

GERMAN AREA OF EMPHASIS REQUIREMENTS

Core Courses		12
GER 301	Conversations in Context 1: Germany and its Past	
GER 302	Conversations in Context 2: Germany Today	
GER 303	Communication through Culture: Building the German Nation	
GER 304	Stories and Histories: Reading and Writing German- Speaking Culture	
Literature Requirement		3
GER 431 or GER 432	German Literature: Fables/Fairy Tales/Enlightenment -Romanticism German Literature: Since Romanticism	
Culture Requirement		3
GER 440 or GER 441	German Cultural History: 350-1700 German Cultural History Since 1945	
General Requirement		3
LING 311	Introduction to Structural Linguistics	
Electives		9
Select 3 classes from		
1-Additional upper-division German classes (may include alternate courses from above or below)		
2-Up to 3 credits in FLIT 220-229, 320-329, FCLT 220-229, 320-329, or a course in a directly related area approved by the department.		
Capstone Requirement		3

GER 496
or GER 441Senior Thesis
German Cultural History Since 1945

Total Hours

33

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 GEF 5	3
GEF 4	3 GER 102	3
GER 101	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 ECAS Global Studies and Diversity Requirement (GEF 7)	3
GER 203	3 GER 204	3
General Elective	3 LING 311	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8*	3 GEF 8*	3
GEF 8*	3 GER 302	3
GER 301	3 GER 304	3
GER 303	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
GER Literature Requirement (ECAS Fine Arts Requirement; GEF 6)	3 GER 496 (Capstone)	3
GER Elective 1	3 GER Elective 3	3
GER Elective 2	3 GER Culture Requirement	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or a dual degree already fulfill F 8.

ITALIAN STUDIES AREA OF EMPHASIS REQUIREMENTS**Language Courses**

15

Select five of the following courses:

ITAL 301	Language Through Culture
ITAL 302	Italian Through Film
ITAL 303	Composition and Conversation
ITAL 304	Advanced Conversation
ITAL 331	Survey of Italian Literature 1

ITAL 332	Survey of Italian Literature 2	
ITAL 431	Italian Folktales	
ITAL 432	Modern Italian Civilization	
Electives		15
Select five of the following courses		
1. Unrestricted Electives		
Alternate ITAL 300- or 400-level course from the list above		
ITAL 371	L'Italia Dal Vivo	
ARHS 160	Survey of Art History 2	
ARHS 354	Italian Renaissance	
ARHS 360	Baroque	
CLAS 231	Greek and Roman Civilization and Culture	
CLAS 232	Greek and Roman Myths	
FCLT 240	Italian-American Experience	
FCLT 340	Italian Cinema 1945 to Present	
FLIT 240	Italian Women Writers	
HIST 204	Renaissance and Reformation	
HIST 300	Greece and Rome	
HIST 330	History of Italy, 1200-1800	
HIST 331	History of Italy since 1800	
HIST 403	Rome: From Romulus to Zenobia	
HUM 109	The Italian Renaissance	
LING 311	Introduction to Structural Linguistics	
2. Restricted Electives: no more than three courses from the following may be included in the 15 elective hours		
ARHS 120	Survey of Art History 1	
ARHS 331	Medieval	
HIST 201	History of Ancient Times: Stone Age to the Fall of Rome	
HIST 205	Absolutism & Enlightenment	
HIST 211	The Mediterranean 1200-1800	
HIST 423	History of Fascism	
HIST 480	History of the Alps	
Capstone		3
ITAL 496 or ITAL 491	Senior Thesis Professional Field Experience	
Total Hours		33

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 GEF 5	3
GEF 4	3 ECAS Fine Arts Requirement (GEF 6)	3
ITAL 101	3 ITAL 102	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 8*	3
GEF 8*	3 GEF 8*	3
ITAL 203	3 ITAL 204	3
General Elective	3 ITAL Studies Elective 1	3

General Elective	3 General Elective	3
	15	15
Third Year		
Fall	Hours Spring	Hours
ITAL Lang Course 1	3 ITAL Lang Course 3	3
ITAL Lang Course 2	3 ITAL Lang Course 4	3
ECAS Global Studies and Diversity Requirement (GEF 7)	3 General Elective	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
ITAL Lang Course 5	3 ITAL 496 (Capstone)	3
ITAL Studies Elective 2	3 ITAL Studies Elective 4	3
ITAL Studies Elective 3	3 ITAL Studies Elective 5	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or a dual degree already fulfill F 8.

RUSSIAN STUDIES AREA OF EMPHASIS REQUIREMENTS

Language courses	15
Select five from the following courses:	
RUSS 301	Conversation and Composition 1
RUSS 302	Conversation and Composition 2
RUSS 303	Advanced Structure and Reading 1
RUSS 304	Advanced Structure and Reading 2
RUSS 331	The Russian Short Story
RUSS 332	The Russian Short Story
RUSS 341	Survey of Russian Literature
RUSS 342	Survey of Russian Literature
RUSS 451	Russian Culture
Electives	15
Select two from the following culture/literature courses:	
FCLT 250	Russian Fairy Tales
FCLT 280	Science Fiction: East and West
FLIT 256	Russian Literature Translation 1
FLIT 257	Russian Literature Translation 2
Select three from the following history/linguistics courses:	
HIST 217	History of Russia to 1917
HIST 218	History of Russia: 1900-Present
HIST 419	Revolutionary Russia: 1900-1953
HIST 420	USSR and After: 1953 to Present
LING 311	Introduction to Structural Linguistics
Any alternate upper-division courses in Russian	
Additional FCLT, FLIT, or RUSS courses or upper-division study abroad courses with approval of adviser	
Capstone	3

RUSS 496

Senior Thesis

Total Hours

33

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 GEF 4	3
RUSS 101	3 RUSS 102	3
General Elective	3 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 ECAS Fine Arts Requirement (GEF 6)	3
GEF 5	3 RUST Lit & Cult Course 2	3
RUST Lit & Cult Course 1	3 RUSS 204	3
RUSS 203	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
ECAS Global Studies & Diversity Requirement (GEF 7)	3 GEF 8 *	3
RUSS Language Course 1	3 GEF 8 *	3
RUST Hist & Ling 1	3 RUSS Language Course 2	3
General Elective	3 RUSS Language Course 3	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
RUSS Language Course 4	3 RUSS 496 (Capstone)	3
RUSS Language Course 5	3 RUST Hist & Ling 3	3
RUST Hist & Ling 2	3 GEF 8 *	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or a dual degree already fulfill F 8.

SPANISH AREA OF EMPHASIS REQUIREMENTS**Core Courses**

12

SPAN 310 or SPAN 314	Spanish for Heritage Speakers Spanish Conversation
SPAN 311	Readings in Spanish
SPAN 312	Writing in the Hispanic World
SPAN 313	Spanish Through Media

Literature and Culture Requirement

6

Select one combination

SPAN 333 & SPAN 340	Spanish American Literature and Culture of Spain
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SPAN 343 & SPAN 330	Spanish Literature and Latin American Culture	
Electives		9
Select 3 classes from		
1-Additional upper-division Spanish classes (may include alternate courses from above or below)		
2-Up to 3 credits in FLIT 260-269, 360-369, FCLT 260-269, 360-369, or a course in a directly related area approved by the department.		
General Requirement		3
LING 311	Introduction to Structural Linguistics	
Capstone Experience		3
SPAN 480 or SPAN 481	Issues in the Hispanic World Hispanic Presence in the World	
Total Hours		33

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 101 (GEF 1)	3
GEF 2	3 GEF 2	3
GEF 3	3 SPAN 200	6
SPAN 100	6 General Elective	3
General Elective	2	
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 5	3
GEF 4	3 ECAS Fine Arts Requirement (GEF 6)	3
LING 311	3 SPAN 312	3
SPAN 311	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
SPAN 313	3 GEF 8 *	3
SPAN 314	3 GEF 8 *	3
General Elective	3 Spanish Literature Requirement	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
GEF 8 *	3 SPAN Capstone	3
SPAN Culture Requirement (ECAS Global Studies and Diversity Requirement (GEF7))	3 SPAN Elective 2	3
SPAN Elective 1	3 SPAN Elective 3	3
General Elective	3 General Elective	3
General Elective	3 General Elective	3
	15	15

Total credit hours: 120

* Students completing a minor, a second major or a dual degree already fulfill F 8.

ARABIC STUDIES MINOR**MINOR CODE - U140**

The minor in Arabic Studies is an interdisciplinary program recognizing students' successful completion of coursework focusing on the language, culture, history, politics, and economies of the Middle East.

The minor requires successful completion of 15 credit hours, 9 of which must be upper-division (300- and 400-level), and 12 of which must be unique (not counted toward another major or minor). Students must achieve an overall GPA of at least 2.25 in the coursework applied toward the minor. At least six hours must be taken in residence at WVU.

Core Courses	9
Select three courses from the following:	
ARBC 303	Arabic Conversation 1
ARBC 304	Arabic Conversation 2
ARBC 305	Advanced Arabic Structure
ARBC 306	Readings in Arabic
Literature and Culture	3
One course selected from:	
FLIT 315	Modern Arabic Literature
FLIT 316	Arab Women Writers
Area Electives	3
Three hours selected from:	
GEOG 244	Geography of the Middle East
HIST 427	East Africa to 1895
RELG 102	Introduction to World Religions
RELG 232	History and Practice of Islam
An additional ARBC course above ARBC 204, excluding those counted toward the 9 hours of core courses above.	
Total Hours	15

FRENCH MINOR**MINOR CODE - U007**

Students must achieve an overall GPA of at least 2.25 in the coursework applied toward the minor.

Core Courses	6
Choose 2 classes	
FRCH 301	Language Through Civilization
FRCH 302	Language Through Culture
FRCH 303	Structure and Communication
FRCH 304	Advanced Readings
Upper-Division Electives *	9
Select 3 classes from	
1-Alternate 301-304 courses	
2-Additional upper-division French classes	
3-Up to 3 credits in FLIT 230-239, 330-339, FCLT 230-239, 330-339, or LING 311, or a course in a directly related area approved by the department.	
Total Hours	15

* At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).

GERMAN MINOR

Students must achieve an overall GPA of at least 2.25 in the coursework applied toward the minor.

MINOR CODE - U008

Core Courses	6
Choose two classes:	
GER 301	Conversations in Context 1: Germany and its Past
GER 302	Conversations in Context 2: Germany Today
GER 303	Communication through Culture: Building the German Nation
GER 304	Stories and Histories: Reading and Writing German- Speaking Culture
Upper-Division Electives *	9
Choose 3 classes:	
1- Alternate 301-304 classes	
2- Additional upper-division German courses	
3- Up to 3 credits in FLIT 220-229, 320-329, FCLT 220-229, 320-329, or LING 311, or a course in a directly related area approved by the department.	
Total Hours	15

* At least 6 of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination.)

SPANISH MINOR**MINOR CODE - U011**

Students must achieve an overall GPA of at least 2.25 in the coursework applied toward the minor.

Core Courses	6
Choose two classes:	
SPAN 311	Readings in Spanish
SPAN 312	Writing in the Hispanic World
SPAN 313	Spanish Through Media
SPAN 314 or SPAN 310	Spanish Conversation Spanish for Heritage Speakers
Upper-Division Electives *	9
Choose two classes:	
1- Alternate SPAN 310-314 classes	
2- Additional upper-division Spanish courses	
3- up to 3 credits in FLIT 260-269, 360-369, FCLT 260-269, 360-369, or LING 311, or a course in a directly related area approved by the department.	
Total Hours	15

* At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).

CHINESE STUDIES MINOR**MINOR CODE - U086**

Students must achieve an overall GPA of at least 2.25 in the coursework applied toward the minor.

Core Courses	12
Culture Requirement:	
FCLT 210	Chinese Civilization and Culture
Select three language courses: *	
CHIN 301	Third Year Chinese 1
CHIN 302	Third Year Chinese 2
CHIN 303	Readings in Modern Chinese 1
CHIN 304	Readings in Modern Chinese 2
CHIN 461	Business Chinese

CHIN 465	Chinese Media	
Upper-Division Electives **		3
Select one class:		
1. Alternate upper division courses in Chinese language		
2. Alternate FLIT or FCLT courses in Chinese literature or culture		
3. Courses from another related field in or outside of the department, with approval of Chinese Studies advisor, including HIST 325, LING 311, POLS 354, and RELG 231.		

Total Hours 15

* Upper-Division CHIN courses earned through Study Abroad may also be applied.

** At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).

ITALIAN STUDIES MINOR

Students must achieve an overall GPA of at least 2.25 in the coursework applied toward the minor.*

MINOR CODE - U054

Core Courses		6
Select two classes:		
ITAL 301	Language Through Culture	
ITAL 302	Italian Through Film	
ITAL 303	Composition and Conversation	
ITAL 304	Advanced Conversation	
ITAL 331	Survey of Italian Literature 1	
ITAL 332	Survey of Italian Literature 2	
ITAL 431	Italian Folktales	
ITAL 432	Modern Italian Civilization	

Electives		9
Select up to three courses from the following lists. At least 3 elective hours (9 of the 15 hours for the minor) must be at the upper-division (300-400) level. **		

1. Unrestricted Electives:

Alternative ITAL courses from list of core courses above	
ITAL 371	L'Italia Dal Vivo
ARHS 160	Survey of Art History 2
ARHS 354	Italian Renaissance
ARHS 360	Baroque
CLAS 231	Greek and Roman Civilization and Culture
CLAS 232	Greek and Roman Myths
FCLT 240	Italian-American Experience
FCLT 340	Italian Cinema 1945 to Present
FLIT 240	Italian Women Writers
HIST 204	Renaissance and Reformation
HIST 300	Greece and Rome
HIST 403	Rome: From Romulus to Zenobia
HIST 330	History of Italy, 1200-1800
HIST 331	History of Italy since 1800
HIST 403	Rome: From Romulus to Zenobia
HUM 109	The Italian Renaissance
LING 311	Introduction to Structural Linguistics

2. Restricted Electives

Up to six hours may be chosen from the following:

ARHS 120	Survey of Art History 1
ARHS 331	Medieval

HIST 201	History of Ancient Times: Stone Age to the Fall of Rome	
HIST 205	Absolutism & Enlightenment	
HIST 211	The Mediterranean 1200-1800	
HIST 423	History of Fascism	
HIST 480	History of the Alps	
Total Hours		15

* At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).

** Substitutions must be approved by the Italian Studies program coordinator.

JAPANESE STUDIES MINOR

MINOR CODE - U092

Students must achieve an overall GPA of at least 2.25 in the coursework applied toward the minor.

Core Courses 12

Culture Requirement

Select one of the following:

FCLT 206	Introduction to Japanese Culture
FCLT 306	Japanese Culture and Cinema

Select three of the following: *

JAPN 301	Conversation and Composition 1
JAPN 302	Conversation and Composition 2
JAPN 303	Advanced Structure
JAPN 304	Advanced Reading
JAPN 441	Japanese Culture

Upper-Division Electives ** 3

Select one of the following:

1- Any alternate 300- or 400-level JAPN course, or alternate FCLT 206 or 306, not applied to core courses

2- Any of the following courses:

FCLT 307	Japanese Culture Immersion
FLIT 203	Japanese Literature Translation
HIST 326	Modern Japan
LING 311	Introduction to Structural Linguistics
POLS 338	Environmental Policy
POLS 350	Government of Japan
RELG 231	Religions of China and Japan

Total Hours 15

* Upper-Division JAPN courses earned through Study Abroad may also be applied.

** At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).

RUSSIAN STUDIES MINOR

Students must achieve an overall GPA of at least 2.25 in the coursework applied toward the minor.

MINOR CODE - U072

Core Courses 12

Select four of the following:

RUSS 301	Conversation and Composition 1
RUSS 302	Conversation and Composition 2
RUSS 303	Advanced Structure and Reading 1
RUSS 304	Advanced Structure and Reading 2
RUSS 331	The Russian Short Story

RUSS 332	The Russian Short Story
RUSS 341	Survey of Russian Literature
RUSS 342	Survey of Russian Literature
RUSS 451	Russian Culture

Elective 3

Select one from any of these groups:

1. Any alternate upper-division courses in Russian; *

2. FCLT/FLIT courses, selected from:

FCLT 250	Russian Fairy Tales
FCLT 280	Science Fiction: East and West
FLIT 256	Russian Literature Translation 1
FLIT 257	Russian Literature Translation 2

3. Other electives with approval of advisor.

Total Hours 15

* At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).

FOREIGN LITERATURE IN TRANSLATION MINOR**MINOR CODE - U006**

A student must earn an overall GPA of 2.25 in the coursework applied toward the minor. At least two different national literatures must be represented in the selection of courses.

Required Courses

Select 5 courses from at least two areas * 15

Chinese	FLIT or FCLT courses 210-219, 310-319 or 410-419.
French	FLIT or FCLT courses 230-239, 330-339, 430-439.
German	FLIT or FCLT courses 220-229, 320-329, 420-429.
Italian	FLIT or FCLT courses 240-249, 340-349, 440-449.
Japanese	FLIT or FCLT courses 200-209, 300-309, 400-409.
Russian	FLIT or FCLT courses 250-259, 350-359, 450-459.
Spanish	FLIT or FCLT courses 260-269, 360-369, 460-469.

Total Hours 15

* At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).

LINGUISTICS MINOR**MINOR CODE - U009**

Students must earn an overall GPA of at least 2.25 in the coursework applied toward the minor.

Core Courses 9

LING 311 or LING 101	Introduction to Structural Linguistics Introduction to Language
LING 411	Phonology
LING 412	Syntax

Upper-Division Electives * 6

Choose 2 courses from the following

ENGL 321	History of the English Language
ENGL 329	Topics in English Language
FRCH 402	Phonetics and Pronunciation
GER 222	German Pronunciation
LANG 322	Second Language Acquisition

LANG 421	The Teaching of Foreign Languages	
LING 402	Structure of Modern French	
SPAN 350	Phonetics and Pronunciation	
Total Hours		15

- * At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).
Qualified students may also apply 500-level courses to the upper-division electives. 500-level classes are only available to juniors who have earned a GPA of 3.00 minimum; the instructor's and the Dean's permission are mandatory.

TEACHING ENGLISH AS A SECOND LANGUAGE MINOR

MINOR CODE - U050

Students must earn an overall GPA of at least 2.25 in the coursework applied toward the minor.

Core Courses		12
LING 311	Introduction to Structural Linguistics	
LANG 322	Second Language Acquisition	
LANG 421	The Teaching of Foreign Languages	
LING 511	English as a Second Language Linguistics	
Upper-Division Electives *		3
LANG 422	Second Language Reading	
Total Hours		15

- * At least six of the upper-division hours must be completed on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).
Qualified students may also apply 500-level courses to the upper-division electives. 500-level classes are only available to juniors who have earned a GPA of 3.00 minimum; the instructor's and the Dean's permission are mandatory.

College of Business and Economics

Degrees Offered

Bachelor of Science in Business Administration

- Accounting
- Entrepreneurship and Innovation
- Finance
- General Business
- Global Supply Chain Management
- Hospitality and Tourism Management
- Management
- Management Information Systems
- Marketing

Bachelor of Science

- Economics

Area of Emphasis (AoE) in Entrepreneurship

The College offers an area of emphasis in Entrepreneurship to all majors in the College. Requirements for the area of emphasis are described in more detail in the Management section of the catalog.

Historical Background

The College of Business and Economics was founded in November of 1951 and graduated its first class in the spring of 1953. Since that time, the College has become one of the largest colleges at West Virginia University. In 1954, the College became fully accredited by The Association to Advance Collegiate Schools of Business (AACSB) International, the gold standard for business accreditation.

The College of Business and Economics building is located on the site of old Mountaineer Stadium on the downtown campus adjacent to historic Woodburn Hall. The four-story facility houses modern classrooms, including high technology distance-learning classrooms, auditoriums, state-of-the-art computer laboratories, and space for the College's research and service centers.

Mission

Through our people and our values, the WVU College of Business & Economics is committed to educate and transform our students, our state, and our world toward greater prosperity.

Vision

The WVU College of Business and Economics fosters a diverse and inclusive culture and builds business leaders while dedicating ourselves to excellence, innovation, and ethics. We catalyze interdisciplinary solutions that advance economic growth in the state of West Virginia, and beyond.

Goals

- Foster and advance the reputation of the College and its programs
- Recruit, retain, and graduate high-quality students
- Recruit and retain top-notch faculty and staff devoted to the land grant mission of the University and College
- Continually enhance the educational environment for student learning
- Promote discovery and exchange of knowledge and ideas
- Improve West Virginia's economic health and quality of life

Values

- SERVICE - We seek opportunities to serve others and are committed to providing the highest quality of service.
- CURIOSITY - We ask questions, seek new opportunities and change through innovation.
- RESPECT - We are respectful, transparent and inclusive with each other.
- ACCOUNTABILITY - We perform at our very best every day to create a University that is responsive, efficient and effective.
- APPRECIATION - We support and value each other's contributions as we build a community that is One WVU.

Statement of Quality

The faculty, staff, administrators, and student employees of the College of Business and Economics are committed to being responsive, sensitive, and understanding to the needs of the students and to the needs of each other. Our conduct shall be positive, professional, and supportive to all.

Accreditation

Business programs in the College of Business and Economics are accredited by The Association to Advance Collegiate Schools of Business (AACSB) International at the undergraduate and graduate levels. AACSB International accreditation assures students and prospective employers that our programs adhere to the highest standards of excellence in worldwide recognized business programs. The College has maintained full accreditation in the AACSB International since 1954.

Honor Societies

- Beta Gamma Sigma Honorary for Bachelor of Science in Business Administration candidates of all majors.
- Beta Alpha Psi for accounting, finance and management information systems majors.

Technology

The array of technology available to students in the College of Business and Economics is impressive. Through coursework, students develop skills with technology and its application to business. Business students have access to standard and specialized business software, e-mail, and Internet services through two computer labs in the Business and Economics building.

Students use the latest word processing, spreadsheet, database, and presentation software. Each student is encouraged to purchase a personal computer; special purchase plans are available through the WVU Technology Service Center. A wireless network provides Internet access from anywhere in the Business and Economics building to students with properly equipped laptop computers. In addition, all general-purpose classrooms have multimedia presentation capabilities, and the building houses two fully equipped distance-learning sites.

Careers

Students pursuing the degree of Bachelor of Science in Business Administration or Bachelor of Science in Economics who are not direct admitted to a major as a first-time freshman or first-time transfer may declare an academic major during the first semester of their sophomore year. Career opportunities for each major are indicated in the description of the major in later sections. All majors emphasize scholarly and professional education rather than training for a first position.

Student Organizations

- Accounting Club
- Alpha Kappa Psi
- Beta Alpha Psi
- Beta Gamma Sigma
- Business Ethics Club
- Delta Sigma Pi
- Economics Club
- Entrepreneurship Club
- Finance and Investment Club
- International Business Club
- MIS Association
- Marketing Club
- SHRM Club
- Supply Chain Management Association

Definition of Good Academic Standing

To remain in good academic standing with the College of Business and Economics a student must possess a minimum overall GPA of 2.0 and demonstrate reasonable progress toward completion of the degree requirements.

A minimum grade of C- is normally required in each of the prerequisite courses required for admission to the program or for enrollment in upper-division business (BCOR) or major core courses; however, some academic majors require heightened grade requirements in the prerequisite courses. Please see detailed information on prerequisite courses in the academic major sections that follow.

College of Business and Economics undergraduate students not direct admitted to a major as a first-time freshman or a first-time transfer normally apply for admission to an academic major at the beginning of the first semester of the sophomore year. Although a minimum overall GPA of 2.5 is required

for admission consideration (2.0 for majors in Entrepreneurship and Innovation, General Business, and Hospitality and Tourism Management), some academic majors may require a more competitive overall GPA. At the beginning of the semester in which students intend to complete the prerequisite courses, they will meet with their academic advisor to review the student's transcript to determine if all prerequisite courses have been taken with the required grade in order to move into the desired major. Once verified, the advisor will complete an Academic Status Update, declaring the student's major.

This publication was produced well in advance of the start of the academic year; therefore, students are advised to review current academic program requirements on the College's website.

Prerequisites for Non-Business and Economics Students

To enroll in any upper-division, undergraduate business course, excluding Business Administration (BUSA) and Entrepreneurship (ENTR) courses, non-business and economics undergraduate students must possess the overall GPA of at least 2.5 and have completed the prerequisite courses required for admission to the respective academic major. Accommodations will be granted after all declared majors have registered for the respective semester.

Recommended Business Courses for Non-Business and Economics Students

Students not intending to pursue a degree in the College of Business and Economics may earn a Minor in Business Administration by completing the following courses and meeting the requirements as stated below.

- BUSA 201 is offered in the fall, spring and summer.
- BUSA 202 is offered in the fall, spring and summer.
- BUSA 320 and BUSA 340 are offered in fall and summer.
- BUSA 310 and BUSA 330 are offered in spring and summer.
- To qualify for the Minor in Business Administration, a student must have earned a minimum grade of C- in each course.
- The minor is not available to any student seeking a Bachelor of Science degree awarded by the College of Business and Economics.

Classes Taken at Other Institutions

Business and economics majors may petition the College to complete upper-division business administration coursework out of residence, provided the courses are completed at other AACSB-accredited institutions. Courses must be approved by the dean or designee of the College before registering at another institution. Ordinarily, required business courses must be taken at WVU.

Upper level coursework in business will only be accepted in transfer from other AACSB-accredited institutions. Up to 15 hours of upper level coursework will be accepted in transfer. Students who have taken courses at non-AACSB-accredited institutions may petition to have their coursework accepted for degree credit. These courses will only be accepted as electives. Courses taken at two-year institutions will not be given upper level credit.

Maximum and Minimum Load

A minimum of twelve hours in a semester is required for full-time status in the College of Business and Economics. The maximum load is nineteen hours. Exceptions to the minimum or maximum load require approval of the student's academic advisor before registration. Students seeking to withdraw from individual courses must seek approval from their academic advisor whenever the remaining load falls below the required minimum, even though all other conditions supporting the request for the individual course withdrawal may be in order.

Undergraduate Advising

Eligible students are admitted into the College of Business and Economics through the Office of Undergraduate Programs and Advising, Room 358, Business and Economics Building. The telephone number is (304) 293-4959. Professional academic advisors assist students with academic planning and career counseling. Course registration and graduation certification are also administered by this office. Any student in the College in need of academic advising may make an appointment with an advisor upon request.

REGULATIONS AFFECTING DEGREE COMPLETION

Consistent with University requirements, a student has seven years from the first semester in the major to complete the requirements. After seven years, the student will have to meet the requirements of a later catalog that is no more than seven years old when the student completes his or her studies. With the consent of the student's advisor and dean, a student may choose to meet the conditions published in a later catalog.

Transfer or returning students who have upper-division business or economics coursework completed more than seven years prior must have that coursework evaluated by the College before the credit may apply to a bachelor of science degree awarded by the College.

Regarding pass-fail courses and grading, University regulations limit full-time students with a 2.0 GPA or higher to a maximum of four semester hours each term. Courses taken for pass-fail grading must be unrestricted (free) electives. The College permits pass-fail grading in business and economics courses only if the credit does not apply toward the 120 credit hours requirement.

Students are permitted to apply a maximum of six semester hours of Professional Field Experience (491) toward a business administration or economics degree. Some academic departments prohibit or limit the use of Professional Field Experience towards requirements in the major. Students should consult an academic advisor to ascertain how Professional Field Experience applies to a respective degree program.

A maximum of three semester hours of teaching practicum (490) in a discipline may be counted toward unrestricted (free) electives in a bachelor's degree program.

Students are required to complete their final 30 hours of study as a resident at the WVU main campus.

Multiple and Concurrent Bachelor's Degrees

If a student seeks to earn two bachelor's degrees simultaneously, and one of the two is the bachelor of science in business administration or the bachelor of science in economics, the student must meet all requirements leading to the undergraduate degree offered by the College of Business and Economics.

The student must complete all University GEF requirements, all College of Business and Economics core requirements, and must satisfy the course requirements of one of the College's curricula. (See Requirements for Degrees.) Students seeking to earn a Bachelor of Science in Business Administration or Bachelor of Science in Economics and another bachelor's degree simultaneously must earn a minimum of 150 hours.

International Opportunities

The College of Business and Economics offers students opportunities to provide an international dimension to their B.S. degree studies by participating in programs that include travel to places such as China, Italy, South America and the United Kingdom.

As an example, the China program, coordinated by the College's Center for Chinese Business, offers a maximum six-credit-hour program in international business with classes taught by WVU faculty on location in China. Attending the classes also will be Chinese executives who provide a rich perspective on their own country. The program includes corporate visits to American and Chinese companies as well as sightseeing trips to Tiananmen Square, the Great Wall, and the Forbidden City. Besides tuition, students pay a fee to cover their airfare, accommodations, some meals, and other expenses.

The Italy program is somewhat different. WVU participates in a consortium along with thirty-four schools for the purpose of providing international study opportunities for their students. The consortium's classes are held on a campus in Paderno del Grappa, Italy. Paderno is in northern Italy about thirty miles northwest of Venice. Students have the opportunity to attend either for a full semester or for a summer session. All classes are taught in English by faculty from the consortium universities with the students also being from the consortium member schools. Students who attend have the opportunity to take upper-division business, language, culture, and other specialized classes. Students pay tuition and fees as well as room and board to the consortium. The contact person for the Italy program is the College's coordinator of international studies.

ADMINISTRATION

DEAN

- Javier Reyes - Ph.D. (Texas A&M University)
Economics

ASSOCIATE DEAN, GRADUATE PROGRAMS & RESEARCH

- Mark Gavin - Ph.D. (Purdue University)
Organizational Behavior

ASSOCIATE DEAN, ACADEMIC AFFAIRS & UNDERGRADUATE PROGRAMS

- A. Graham Peace - Ph.D. (University of Pittsburgh)
Management Information Systems

ASSISTANT DEANS

- John Deskins - Ph.D. (University of Tennessee)
Assistant Dean for Outreach and Engagement
- Luke O'Connell
Assistant Dean of Development
- Linda Rudy
Assistant Dean for Finance and Administration
- Rebel Smith
Assistant Dean for Undergraduate Programs
- Elizabeth Vitullo - Ph.D. (West Virginia University)
Assistant Dean of Graduate Programs

Degree Designation Learning Goals

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION (BSBAD)

1. **Critical Thinking** - *Graduates will be able to think critically and determine appropriate actions.*

1. Students can define the problem by describing it (what is wrong in the present situation and identifying its source).
2. Students can establish criteria for a good solution to the problem.
3. Students can determine appropriate solutions for qualitative and quantitative problems.

2. **Teamwork** - *Graduates will be able to deal with the dynamics of individuals and teams within organizations.*

1. Students can identify characteristics of an effective team.
2. Students can identify characteristics of an effective goal.
3. Students can distinguish the basic conflict management styles.

3. **Global Awareness** - *Graduates will recognize the opportunities and challenges associated with the global marketplace.*

1. Students can objectively evaluate the foreign market potential for a product or service.
2. Students can recognize the implications of cross-cultural differences
3. Students can objectively evaluate and select appropriate global strategies for organizations.

4. **Ethics** - *Graduates will have an appreciation of the ethical, legal, and regulatory issues impacting the decision-making process.*

1. Students can identify an ethical dilemma.
2. Students can distinguish the components of a problem as ethical or legal.
3. Students can apply ethical principles to business situations.

5. **Communication** - *Graduates will be able to communicate recommendations to management and other constituencies.*

1. Students can effectively present material in written format.
2. Students can effectively communicate material and respond appropriately.

6. **Functional Knowledge** – *Graduates will be able to demonstrate and apply the basic concepts in each of the following areas: accounting, economics, finance, management, management information systems, and marketing.*

Accounting

1. Students use accounting terminology to communicate economic events to external stakeholders.
2. Students use accounting terminology to communicate economic events to internal stakeholders.

Economics

1. Students can use supply and demand to analyze how world events affect market equilibrium prices and quantities.
2. Students understand the theory of the firm and its implications for prices and production under different market structures.
3. Students understand the role of prices and profits and losses in coordinating economic activity.
4. Students can evaluate the efficiency of competitive market outcomes relative to alternative arrangements.
5. Students can explain how GDP, the unemployment rate, inflation, interest rates, and economic growth are measured, can distinguish between real and nominal variables, and can explain the significance of these measures.
6. Students understand and can analyze the determinants of long-run variations in national economic growth rates, wealth, and income.
7. Students understand and can analyze the determinants of short-run fluctuations of economic variables over the business cycle.
8. Students understand the goals and tools of monetary and fiscal policy.

Statistics

1. Students can organize and display data in a meaningful way and communicate its essential features using tables and charts.
2. Students can compute and interpret summary measures of data, especially measures of central tendency and dispersion.
3. Students understand the basics of probability and sampling distributions.
4. Students can conduct, understand and interpret confidence interval estimation and hypothesis testing.
5. Students can conduct, understand, and interpret correlation analysis and simple linear regression analysis.

Finance

1. Students can translate values across time.
2. Students can value common stock, bonds, and preferred stock.
3. Students can determine the cost of capital.
4. Students can make business decisions using a discounted cash flow model.

Management

1. Graduates can describe the characteristics of effective leaders
2. Graduates can identify and explain the four functions of management.
3. Graduates can explain the importance of an operations strategy in gaining a competitive strategy.
4. Graduates can describe the processes of competitive strategy formulation and implementation.

Management Information Systems

1. Students can identify types of information systems
2. Students can explain the value of information systems for organizations.
3. Students can demonstrate the ability to use appropriate IT applications, such as database and spreadsheet software.
4. Students can define the technical foundations of hardware, software, telecommunications, and data management.
5. Students can compare and contrast the methods by which information systems are created.

Marketing

1. Students explain core concepts related to the marketing functions of an organization.
2. Students can explain the marketing concept.
3. Students can explain the value of being a market-driven organization.
4. Students can describe the importance of customer behavior and marketing research in the marketer's decision-making process.
5. Students can apply the concepts of market segmentation, target marketing, and product positioning.

Admission to the College

The College of Business and Economics offers admission to eligible freshmen. Students interested in pursuing the degree of Bachelor of Science in Business Administration or the degree of Bachelor of Science in Economics are encouraged to apply to the University online at <http://apply.wvu.edu/>.

Admission for First Time Freshmen

The College of Business and Economics offers two different classifications of admission to first time freshmen. Students are eligible for direct admission to a major or general admission to Business. Students offered direct admission to a major may select from one of ten academic majors: Accounting, Economics, Entrepreneurship and Innovation, Finance, General Business, Global Supply Chain Management, Hospitality and Tourism Management, Management, Management Information Systems (MIS) or Marketing. Please review the table below to verify your admission eligibility.

1. **Direct Admission to Major** - 3.25 HS GPA, ACT Math score of 22 or SAT Math score of 570
2. **Admission to Business** - admitted to WVU with an ACT Math score of 19 or SAT Math score of 500

Students who take the ACT or SAT more than once should note that WVU superscores results. The highest ACT and SAT scores are combined to determine eligibility for admission. Students who satisfy the requirements for admission to WVU but not those stated above will be admitted to the Center for Learning, Advising, and Student Success until they are eligible for admission to the College of Business and Economics.

Admission for Transfer and International Students

All non-first time freshmen students are admitted into the College of Business and Economics based on the following criteria. Please review the table below to verify your admission eligibility.

1. Those with fewer than 24 hours must be eligible to start in Math 122 (ACT Math of 19 or SAT Math of 500 or have the appropriate ALEKS score), with a minimum GPA of 2.25
2. Those with 24-59 hours must be eligible to take College Algebra, with a minimum GPA of 2.25
3. Those with 60+ hours must be eligible to take Math 150, and have a minimum GPA of 2.25
4. Students who have taken College Algebra or Math 150 must have the minimum grade required by their major.

GPA calculation for admission is computed using all (transferable) baccalaureate coursework attempted at regionally accredited institutions. All students entering the College of Business and Economics who do not qualify for direct admission to a major as freshmen will declare their major once prerequisites have been met with the minimum required GPA for that major. International students who do not have an ACT or SAT score will be admitted to CLASS until the appropriate level of Math and minimum GPA of 2.25 is reached.

*These admissions requirements are effective for all newly admitted students in Fall 2017 and beyond.

Admission to Major and Eligibility to Enroll in Upper-Division Business Courses

Students are asked to refer to the individual major pages for admission to the major and eligibility to enroll in upper-division business courses.

Center for Career Development

The Center for Career Development helps students in their career development and job search efforts, while preparing them for the world of work through planning, reflection, skill development, and portfolio documentation.

The Center offers services that include:

- Facilitating employment interviews with corporate representatives from a wide range of firms
- Developing valuable internship opportunities
- Organizing and conducting workshops on developing necessary job-search skills
- Sponsoring corporate networking events
- Offering advice to help students clarify and achieve their career goals
- Publishing a weekly online newsletter with information about full-time and internship opportunities and current trends in the job market
- Organizing career fairs and networking events that enable students to interface with potential employers and explore career options

Visit our website at <http://be.wvu.edu/careers> for details.

Research and Outreach Centers

BUREAU OF BUSINESS AND ECONOMIC RESEARCH

Founded in 1949, the Bureau conducts basic research relating to the West Virginia economy. Active programs include:

- West Virginia Economic Outlook with short and long-term forecasts of the state and its regional economies
- West Virginia Public Policy Program with studies on state and local public finance and the implication of national policies on the state level
- Demographic Program with population projections and socioeconomic studies
- Industry Studies Program focuses on major industries including bio-science energy, chemicals, tourism, and the arts
- Target industry and labor market studies
- Strategic planning
- Statewide and regional economic outlook conferences and briefings
- Special studies for the executive and legislative branches of West Virginia government

Publications include:

- The West Virginia Business and Economic Review
- County Data Profiles
- Harrison County Economics Monitor
- The Morgantown MSA Economic Monitor

Undergraduate research assistants assist with many bureau studies. Visit our website at: <http://www.be.wvu.edu/bber> for details.

BRICKSTREET CENTER FOR INNOVATION AND ENTREPRENEURSHIP

Established in 2002, the Brickstreet Center for Innovation and Entrepreneurship serves the entire University community. The Center's mission is to promote entrepreneurship education that leads to economic development. In 2005, the Center launched a minor in entrepreneurship open to all non-College of Business and Economics majors. Additionally, the Center supports an Area of Emphasis (AoE) in Entrepreneurship offered to all majors within the College - more information may be found under the Management section of the catalog. The Center hosts the Statewide Collegiate Business Plan Competition in which teams of students from colleges and universities across West Virginia, with the help of trained professionals, develop business plans for their business ideas to be judged by a panel of experts. The winning team receives a grand prize consisting of seed money and business services to help start a new business in the state. Additionally, the Center sponsors an "App Challenge" in which students are given a business problem by an organization and must develop an application to solve the problem. Through partnerships, the Center also actively participates in an internship program that provides students with real world experience. The Center sponsors the Entrepreneurship Club and is actively involved in outreach promoting innovation and entrepreneurship across the state.

Visit our website at <http://be.wvu.edu/cie> for details.

CENTER FOR EXECUTIVE EDUCATION

The goal of the Center for Executive Education is to strengthen businesses, industry clusters, and individual leadership capacity by maximizing human capital. This is accomplished through the development and delivery of individualized executive education and experiential learning programs and comprehensive business services. The Center helps decision-makers from all industries become more dynamic leaders, more effective managers, and more valuable team members.

The Center uses College and University faculty, augmented by outside subject matter experts, to deliver high-quality programs and business services for businesses and industry clusters using state-of-the-art technology. Examples of business services include executive coaching, facilitation of strategic planning sessions, and mediation services.

Visit our website at <http://be.wvu.edu/execed> for details.

CENTER FOR CHINESE BUSINESS

The Center for Chinese Business was established at the West Virginia University College of Business and Economics in 1994 to provide international management education, business facilitation, and research services focused on countries throughout the world. Fostering close relationships among academia, business, and government in the United States and China, the Center focuses on furthering mutually beneficial enterprise.

The Center has formed many mutually advantageous partnerships with government, educational organizations, and businesses in which all parties have benefited from their participation. These partnerships include government entities such as the Tianjin Economic and Technological Development Area, Shanghai Organization Department, the Tianjin Finance Bureau, Shaanxi Provincial Government, West Virginia Development Office, and the West Virginia District Export Council. The Center has formed relationships with educational organizations such as the Shanghai University of Finance and Economics, the Shanghai Education Center for Administrators, the U.S. Department of Education, Sinyi Cultural Foundation, and Tianjin University of Finance and Economics.

Additionally, the Center has worked closely with many U.S. and Chinese companies such as Cisco Systems China, Baoshan Steel Group, Allegheny Wood Products, TRW Inc., Minsheng Bank, Development Dimensions International, Shanghai Airlines, and Kroll International.

Visit our website at <http://business.wvu.edu/centers/center-for-chinese-business> for details.

CENTER FOR FORENSIC BUSINESS STUDIES

The College of Business and Economics in collaboration with the WVU Forensic Science Institute offers several programs meeting the needs of the forensic community. These initiatives include:

- (1) The FORESIGHT Project which assists forensic science laboratories in standardizing definitions for performance metrics to evaluate work process while linking financial information to work tasks and functions.
- (2) The Forensic Management Academy which is a certificate program designed to provide forensic laboratory managers with contemporary business and leadership skills.
- (3) The Institute for Fraud Prevention (IFP) which is a coalition of industry leaders, law enforcement agencies, and academic institutions all working in concert to support multidisciplinary research and education on the prevention of fraud and corruption. The IFP's overarching goal is to improve the ability of business and government to combat fraud and corruption.
- (4) The Forensic Accounting and Fraud Examination Certificate (FAFE) program exposes students to practicing experts in addition to full-time faculty. The real world expertise brought to the classroom prepares students for successful careers.

Visit our website at <http://be.wvu.edu/fafe> for more details.

STUART M. AND JOYCE N. ROBBINS CENTER FOR GLOBAL BUSINESS AND STRATEGY 20/21

Through an endowment to the College of Business and Economics, the Stuart M. and Joyce N. Robbins Center for Global Business and Strategy 20/21 has been established. The mission of the Center is to support research, education, and outreach activities related to global business and strategy focusing on G-20 countries. Through the Center, the College has developed student and faculty exchanges with top universities in G-20 countries. For example, students may pursue studies at the University of Grenoble and University of Strasbuorg in France, The University of Münster in Germany and Fundação Getulio Vargas in Brazil to name just a few.

The Center is also responsible for developing stronger connections with international institutions and global business enterprises.

Visit our website at <http://be.wvu.edu/robbinscenter> for details.

Business Administration Minor

MINOR CODE - U039

A minimum grade of C- is required in all courses counting toward the minor in Business Administration. A student who has completed at WVU or who has received advanced standing for ACCT 201 Principles of Accounting may substitute the course for BUSA 202 Survey of Accounting.

Requirements		
BUSA 201	Survey of Economics	3
BUSA 202	Survey of Accounting	3
BUSA 310	Survey of Business Law	3
BUSA 320	Survey of Management	3
BUSA 330	Survey of Marketing	3
BUSA 340	Survey of Finance	3
Total Hours		18

The minors in Media Entrepreneurship, Business Administration and Entrepreneurship are mutually exclusive. A student is permitted to complete only one of the three minors.

* ECON 201 Principles of Microeconomics, ECON 202 Principles of Macroeconomics may replace BUSA 201 Survey of Economics for the minor in Business Administration.

Entrepreneurial Studies Minor

MINOR CODE - U135

A minimum grade of C is required in all courses counting toward the Minor in Entrepreneurship.

BUSA 201	Survey of Economics	3
BUSA 202	Survey of Accounting	3
BUSA 310	Survey of Business Law	3
ENTR 340	Survey of Entrepreneurship	3
ENTR 380	Survey of Business Planning	3
ENTR 300	Creativity and Idea Generation	3
Total Hours		18

The minors in Media Entrepreneurship, Business Administration and Entrepreneurship are mutually exclusive. A student is permitted to complete only one of the three minors.

* ECON 201 Principles of Microeconomics and ECON 202 Principles of Macroeconomics may replace BUSA 201 Survey of Economics for the minor in Entrepreneurship.

Accounting

Degree Offered

- Bachelor of Science in Business Administration

Accounting Program Objectives

The accounting program has a rich heritage of producing successful accounting professionals and business leaders. Graduates excel on professional examinations, and the majority of students seeking employment upon graduation are successful. With a strong alumni network and a solid reputation among major accounting firms, the accounting program at WVU has an excellent record of placing students in the accounting profession.

The faculty is comprised of thirteen tenure-track faculty, four teaching instructors, and one visiting professor.

Faculty members are actively engaged in meeting the four elements of our mission:

1. Educate students at the undergraduate and graduate levels
2. Conduct and disseminate research that impacts the accounting profession, the business community, or society as a whole
3. Deliver service to the academy, the profession, and the citizens of West Virginia

4. Engage in a program of ongoing assessment and continuous improvement

The overarching goal of the accounting programs is to meet the evolving needs of its constituencies through teaching, research, and service. The undergraduate accounting degree program builds upon a general education curriculum to provide students with a base of academic knowledge in business and accounting. It is designed to integrate basic knowledge with a professional orientation and form a foundation for future learning as well as career and academic success. The accounting program and course offerings are subject to periodic review for timeliness, professional requirements, and relevance in a global marketplace.

The advanced courses in the program provide both specialized knowledge in accounting and financial reporting and an integrated overview of the economic activities of a business entity. These courses give students the basic educational foundation required for a variety of entry-level positions in accounting, business, government, and not-for-profit organizations. Accounting graduates may pursue careers that lead to positions such as certified public accountants, managerial accountants, controllers, financial officers, tax accountants, financial fraud examiners, budget analysts, internal auditors, public administration officers, and other executives.

The accounting major is also designed to give students the basic educational foundation necessary to prepare for the professional examinations that may be required of them in their careers. These examinations include those needed to become a Certified Public Accountant (CPA), Certified Management Accountant (CMA), Certified Fraud Examiner (CFE), and Certified Internal Auditor (CIA). Requirements to sit for the Uniform CPA Examination vary by jurisdiction, and students are encouraged to become familiar with the requirements of the jurisdictions where they plan to be certified. Many states, including West Virginia, require a bachelor degree to sit for the exam and 150 semester hours of college credit to be certified. The College of Business and Economics offers a master of professional accountancy (M.P.A.) that helps students meet the professional certification requirement while allowing students to earn a graduate degree. The College also offers an innovative Master of Science in Forensic & Fraud Examination (MS FFE) and a graduate certificate in Forensic Accounting and Fraud Examination (FAFE), both designed to prepare entry-level accountants and others for forensic accounting and fraud investigative careers.

The accounting program at WVU has been separately accredited by AACSB International, the Association to Advance Collegiate Schools of Business, since 1997. As of March 2017, only 180 programs had achieved this distinction internationally.

FACULTY

CHAIR

- Richard B. Dull - Ph.D. (Virginia Polytechnic Institute and State University)
GoMart Professor in Accounting Information Systems

PROFESSORS

- Barbara Apostolou - Ph.D. (Louisiana State University)
CPA, CGMA. Auditing, Assurance services, Fraud and forensic accounting.
- Richard C. Brooks - Ph.D. (Louisiana State University)
CGFM. Financial accounting, Governmental accounting and not-for-profit accounting.
- Richard B. Dull - Ph.D. (Virginia Polytechnic Institute and State University)
GoMart Professor in Accounting Information Systems, CPA/CFF, CFE, CISA. Accounting information systems, Fraud and forensic accounting, IT auditing.
- Presha Neidermeyer - Ph.D. (Virginia Commonwealth University)
CPA. International accounting. Federal and state income taxation, Estate planning, Financial accounting.
- Richard A. Riley Jr. - Ph.D. (University of Tennessee)
Louis F. Tanner Distinguished Professor of Public Accounting, CPA/CFF, CFE, FCPA. Financial accounting, Fraud and forensic accounting, Auditing, Consulting, Entrepreneurship.
- L. Christian Schupp - Ph.D. - (Virginia Polytechnic Institute and State University)
David W. and Nancy F. Hamstead Professor, CFE. Accounting information Systems, IT Auditing

ASSOCIATE PROFESSORS

- Jack W. Dorminey - Ph.D. (Virginia Commonwealth University)
Financial accounting, Regulatory accounting.
- Arron Scott Fleming - Ph.D. (Virginia Polytechnic Institute and State University)
CPA, CMA. Managerial and financial accounting, Fraud and forensic accounting, behavioral research.

ASSISTANT PROFESSORS

- Lauren Cooper - Ph.D. (Oklahoma State University)
Taxation, Financial accounting
- Kip D. Holderness - Ph.D. (Bentley University)
CPA, CMA, CFE. Managerial accounting, Forensic accounting, Behavioral research.
- Mark Nigrini - Ph.D. (University of Cincinnati)

Auditing, Forensic Analytics, Prosecution of fraud schemes.

- Trevor Sorensen - Ph.D. (University of Alabama)
Taxation, Managerial Accounting, Financial Accounting
- John Treu - LLM (New York University) JD (University of Utah)
Taxation

TEACHING ASSISTANT PROFESSORS

- Cindy Dalton - MBA (Waynesburg College)
CPA, Financial accounting
- Gary LeDonne - MPA (West Virginia University)
CPA, Income Taxation
- Nancy P. Lynch - M.S. (University of Colorado)
CPA, CMA. Principles of accounting. Financial accounting.
- Megan McBride Schaupp - M.A.C.I.S. (Virginia Polytechnic Institute and State University)
CISA. Principles of accounting, Financial accounting, Accounting information systems.

TEACHING INSTRUCTOR

- Denise R. Hayes - MPA (West Virginia University)
CPA, Financial and managerial accounting, Governmental accounting.

VISITING PROFESSOR

- Nicholas Apostolou - D.B.A. (University of Tennessee)
CPA, CGMA. Financial accounting, Managerial accounting, Fraud and forensic accounting.

EMERITI

- Jay H. Coats
- Robert Maust
- Adolph Neidermeyer
- David Pariser
- Ann B. Pushkin

Admission

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting *	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 153	Calculus 1a with Precalculus	
Choose one of the Following:		3-4
MATH 150	Applied Calculus **	
MATH 154	Calculus 1b with Precalculus **	
MATH 155	Calculus 1 **	

MATH 156

Calculus 2 **

Total Hours

31-33

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many accounting majors as resources are available. Students who are denied admission to the accounting major may apply for admission in a future application period or accept admission to an alternative major in the College.

- * A minimum grade of a B- each in ACCT 201 and ACCT 202 is required for admission to the program and to enroll in ACCT 311, Intermediate Accounting.
- ** A minimum grade of C- in MATH 150 is required for admission to the program. A grade of D- in MATH 154 or a higher level of college calculus also satisfies the calculus requirement for admission to the program.

[Click here to view Suggested Plan of Study \(p. 443\)](#)

Accounting Program Requirements

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

To qualify for the Bachelor of Science in Business Administration students must meet the following criteria:

- Complete a minimum of 120 credit hours.
- Possess an overall GPA of 2.0.
- Possess a minimum GPA of 2.0 for all major courses (i.e. ACCT, BLAW), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

Curriculum Requirements

Overall GPA of 2.0 required

Possess a minimum GPA of 2.0 for all major courses (i.e. ACCT, BLAW), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of B-)	3
ACCT 202	Principles of Accounting (Minimum grade of B-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4

ECON 201	Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum Grade of C-; may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (may fulfill GEF 1; minimum grade of C-):		6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF 2A, Science and Technology		3
GEF 5, Human Inquiry and the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies and Diversity		3
Select one of the following; minimum grade of C- in MATH 150 or D- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	
MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3
BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance	3
BCOR 350	Principles of Marketing	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy (Fulfills University Capstone requirement)	3
ACCT 311	Intermediate Accounting (Minimum grade of C- to attempt ACCT 312)	3
ACCT 312	Intermediate Accounting	3
ACCT 321	Introduction to Accounting Systems	3
ACCT 322	Accounting Systems	3
ACCT 431	Cost Management	3
ACCT 441	Income Tax Accounting 1	3
ACCT 451	Auditing Theory	3
ACCT 442	Income Tax Accounting 2	3
Any 400-level ACCT Elective		3
Unrestricted Electives *		17
Total Hours		120

* A maximum of six credit hours of ACCT 491, Professional Field Experience, may apply towards the 120 credit hours required for the degree.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199	3 ACCT 201	3
CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
SOCA 101 (GEF 8)	3 ENGL 101 (GEF 1)	3
Select one of the following:	3 Select one of the following:	3
MATH 126A	MATH 150	
MATH 126B	MATH 154	
MATH 129	MATH 155	
MATH 153	GEF (Choose from F2A, F5, F6 or F7)	3
GEF (Choose from F2A, F5, F6 or F7)	3	
	16	15

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 ACCT 311	3
ECON 202 (GEF 8)	3 ACCT 321	3
ECON 225 (GEF 3)	3 BCOR 299	3
ENGL 102 (GEF 1))	3 BCOR 330	3
PSYC 101 (GEF 8)	3 BCOR 370	3
	15	15

Third Year

Fall	Hours Spring	Hours
ACCT 312	3 ACCT 431	3
ACCT 322	3 BCOR 360	3
BCOR 340	3 BCOR 380	3
BCOR 350	3 GEF (Choose from F2A, F5, F6 or F7)	3
GEF (Choose from F2A, F5, F6 or F7)	3 Unrestricted electives	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ACCT 441	3 ACCT 442	3
ACCT 451	3 BCOR 460	3
BCOR 320	3 Any 400-level ACCT Elective	3
Unrestricted Electives	6 Unrestricted electives	5
	15	14

Total credit hours: 120

Major Learning Goals

ACCOUNTING

The objective of providing a foundational education in accounting at the undergraduate level cannot be realized without appropriate curricula content, effective teaching, and ultimately, learning. Within the undergraduate accounting major, we subscribe to the following learning goals for each of our undergraduate students.

- Competence in core technical areas
- Knowledge of the use of accounting information systems
- Awareness of the Professional Standards and the US Federal Income Tax Code
- The ability to identify the effect of regulatory and ethical issues on the global practice of accounting

Economics

Degree Offered

- Bachelor of Science

Economics Program Objectives

In the broadest sense, economics is the science of decision-making. In economics, students learn how to identify the costs, benefits, and consequences of a decision. Government economists assess economic conditions in the U.S. and abroad and estimate the economic impact of specific changes in legislation or public policy. Economists in private industry work largely for marketing research firms, management consulting firms, banks, investment firms, and insurance companies. A degree in economics is also highly desirable for students who plan to attend graduate school or law school. The College of Business and Economics has an excellent record of placing economics students in both.

The Department of Economics has developed several areas of strength including market-based solutions to social and economic problems and, through its long relationship with the University's well-known Regional Research Institute, a focus on spatial econometric and regional analysis. Cooperation with the finance department faculty allows the department to leverage its strength in financial economics.

Economics is an excellent major for anybody interested in a career in:

- Banking
- Business
- Domestic government service
- Foreign service
- Law
- Politics

FACULTY

DEPARTMENT CHAIRPERSON

- Clifford B. Hawley - Ph.D. (Duke University)

PROFESSORS

- Roger Congleton - Ph.D. (Virginia Polytechnic Institute and State University)
Public economics, Public choice.
- Clifford B. Hawley - Ph.D. (Duke University)
Labor economics, Personnel economics, Managerial economics, Statistics.
- Brad Humphreys - Ph.D. (Johns Hopkins University)
Sports economics, Economics of gambling

ASSOCIATE PROFESSORS

- Arabinda Basistha - Ph.D. (University of Washington)
Empirical macroeconomics.
- Brian J. Cushing - Ph.D. (University of Maryland)
Urban/regional economics, Poverty, Econometrics, Public finance.
- John Deskins - Ph.D. (University of Tennessee)
Director, Bureau of Business & Economic Research.
- Stratford M. Douglas - Ph.D. (University of North Carolina)
Energy economics, Applied econometrics.
- Joshua Hall - Ph.D. (West Virginia University)
Applied microeconomics.
- Shuichiro Nishioka - Ph.D. (University of Colorado at Boulder)
International trade, Economic development.
- Jane Ruseski - Ph.D. (Johns Hopkins University)
Associate Director, Bureau of Business & Economic Research.
- Feng Yao - Ph.D. (Oregon State University)
Theoretical & applied econometrics.

ASSISTANT PROFESSORS

- Gregory DeAngelo - Ph.D. (University of California at Santa Barbara)

Applied Microeconomics

- Daniel S. Grossman - M.S. (Cornell University)
Health economics, Labor economics, Applied Microeconomics.
- Bryan C. McCannon - Ph.D. (Pennsylvania State University)
Law and economics, Public choice, Behavioral economics.
- Adam Nowak - Ph.D. (Arizona State University)
Econometrics, Financial economics.
- Eric Olson - Ph.D. (University of Alabama)
Macroeconomics, Monetary policy, Financial economics.

EMERITI

- Robert D. Britt
- Ming-Jeng Hwang
- Kern Kymn
- Patrick C. Mann
- William Reece
- Tom S. Witt

ADJUNCT PROFESSORS

- Victor Chow - Ph.D. (University of Alabama)
Business finance, Security analysis, Portfolio management.
- Randall Jackson - Ph.D. (University of Illinois at Urbana-Champaign)
Regional economic development.
- David Martinelli - Ph.D. (University of Maryland)
- Timothy Phipps - Ph.D. (University of California)
Applied econometrics.
- Peter Schaeffer - Ph.D. (University of Southern California)
Economic policy, Regional & rural economics, development.

ADJUNCT ASSOCIATE PROFESSORS

- Ashok Abbott - Ph.D. Virginia Tech
- Paul Speaker - Ph.D. (Purdue University)
Economic modeling.

VISITING ASSISTANT PROFESSOR

- Judge (Earl) Glock - Ph.D. (Rutgers University)
American Economic History and History of Central Banking and Money
- Michael Sacks - Ph.D. (University of California, Irvine)
Economics of innovation, industrial organization, public/club theory and game theory

Admission Requirements

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics *	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	3-6

Choose one of the following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 126B	College Algebra 4-Day	
MATH 153	Calculus 1a with Precalculus	
Choose one of the following:		3-4
MATH 150	Applied Calculus **	
MATH 154	Calculus 1b with Precalculus **	
MATH 155	Calculus 1 **	
MATH 156	Calculus 2 **	
Total Hours		28-33

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many economics majors as resources are available. Students who are denied admission to the economics major may apply for admission in a future application period or accept admission to an alternative major in the College.

* A minimum grade of one B- and one C- are required in ECON 201 and ECON 202 for admission to the program.

** A minimum grade of B- is required in MATH 150 for admission to the program. A grade of C- in MATH 154 or a higher college calculus course satisfies the calculus requirement for admission to the program.

Click here to view the Suggested Plan of Study (p. 447)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

To qualify for the Bachelor of Science in Economics students must meet the following criteria:

- Complete a minimum of 120 credit hours.
- Possess an overall GPA of 2.0.
- Possess a minimum GPA of 2.0 for all major courses (i.e. ECON), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

Curriculum Requirements

Most economics electives should not be attempted until ECON 301 has been completed with a minimum grade of C-. Students interested in graduate work in economics should take ECON 421 and ECON 425. Of the twenty-one semester hours of required business electives and business and economics electives completed by an Economics major, no more than twelve semester hours may consist of economics courses.

Minimum GPA of 2.0 is required

Possess a minimum GPA of 2.0 for all major courses (i.e. ECON), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of one B- and one C- in ECON 201 and ECON 202; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of one B- and one C- in ECON 201 and ECON 202; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum Grade of C-; may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum Grade of C-; may fulfill GEF 1):		6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
Select one of the following; minimum grade of B- in MATH 150 or C- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	
MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
GEF 2A, Science & Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies & Diversity		3
GEF 8, Focus		6
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3
ECON 301	Intermediate Micro-Economic Theory (Minimum grade of C-)	3
ECON 302	Intermediate Macro-Economic Theory (Minimum grade of C-)	3
ECON 481	American Economic History	3
Economics Electives		15
Business Electives		9
Business & Economics Electives		12
Unrestricted Electives		23
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199	3 ACCT 201	3

CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
Select one of the following:	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following:	3
MATH 126B	MATH 150	
MATH 129	MATH 154	
MATH 153	MATH 155	
GEF (Choose from F2A, F5, F6 or F7)	3 MATH 156	
Unrestricted Electives	3 GEF (Choose from F2A, F5, F6 or F7)	3
	16	15

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 Business Elective	3
ECON 225 (GEF 3)	3 Business and Economics Elective	3
ENGL 102 (GEF 1)	3 ECON 301	3
GEF (Choose from F2A, F5, F6 or F7)	3 GEF (Choose from F2A, F5, F6 or F7)	3
	15	15

Third Year

Fall	Hours Spring	Hours
Business and Economics Elective	3 Business and Economics Elective	3
ECON 302	3 Economics Elective	3
Economics Elective	3 Economics Elective	3
GEF 8	3 GEF 8	3
Unrestricted Electives	3 Unrestricted Electives	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Business Elective	3 Business Elective	3
Business and Economics Elective	3 ECON 481	3
Economics Elective	3 Economics Elective	3
Unrestricted Electives	6 Unrestricted Electives	5
	15	14

Total credit hours: 120

Major Learning Goals**ECONOMICS**

The objective of providing a foundational education in economics at the undergraduate level cannot be realized without appropriate curricula content, effective teaching, and ultimately, learning. Within the undergraduate economics major, we subscribe to the following learning goals for each of our undergraduate students.

- Students can use supply and demand to analyze how world events affect market equilibrium prices and quantities.
- Students understand the theory of the firm and its implications for prices and production under different market structures.
- Students understand the role of prices and profits and losses in coordinating economic activity.
- Students can evaluate the efficiency of competitive market outcomes relative to alternative arrangements.
- Students can explain how GDP, the unemployment rate, inflation, interest rates, and economic growth are measured, can distinguish between real and nominal variables, and can explain the significance of these measures.
- Students understand and can analyze the determinants of long-run variations in national economic growth rates, wealth, and income.
- Students understand and can analyze the determinants of short-run fluctuations of economic variables over the business cycle.
- Students understand the goals and tools of monetary and fiscal policy.

Entrepreneurship and Innovation

Degree Offered

- Bachelor of Science in Business Administration

The Entrepreneurship and Innovation major will prepare graduates for starting new ventures, as well as positions in organizations that propose, analyze, and implement entrepreneurial growth strategies. Students will learn many important topics related to business planning, managing family businesses, social entrepreneurship, managing creativity and innovation, managing risk, and entrepreneurial finance.

FACULTY

CHAIR

- Abhishek Srivastava - Ph.D. (University of Maryland, College Park)

PROFESSOR

- Jodi Goodman - Ph.D. (Georgia Institute of Technology)
Entrepreneurship practicum

ASSOCIATE PROFESSOR

- Curt Moore - Ph.D. (Texas Tech University)
Entrepreneurial finance, Entrepreneurial strategy

DIRECTOR, BRICKSTREET CENTER FOR INNOVATION AND ENTREPRENEURSHIP

- Steve Cutright - M.B.A. (West Virginia University)
Business analysis and planning

TEACHING ASSISTANT PROFESSOR

- Thomas Zeni - Ph.D. (University of Oklahoma, Norman)
Entrepreneurial creativity and innovation

Admission

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.0 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.0 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 153	Calculus 1a with Precalculus	
Choose one of the Following:		3-4
MATH 150	Applied Calculus *	
MATH 154	Calculus 1b with Precalculus	
MATH 155	Calculus 1	
MATH 156	Calculus 2	

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the College.

* A minimum grade of D- in Math 150 or a higher level of college calculus satisfies the calculus requirement for admission to the program.

Click here to view the Suggested Plan of Study (p. 451)

Entrepreneurship & Innovation Program Requirements

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Students seeking admission to the Bachelor of Science in Business Administration, Entrepreneurship & Innovation Major offered by the College of Business and Economics (B&E) must make formal application to the program. Ideally, a student will apply for admission to the program when he/she has completed the pre-requisite coursework (listed in the table below) with a minimum grade of C- at the end of the application term, an overall GPA of at least 2.0 (B&E student 2.0, other students 2.5) and completed a minimum of 45 semester hours at the end of the application term.

Minimum Overall GPA of 2.0 is required

Pre-requisite Coursework

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum grade of C-; may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum grade of C-; may fulfill GEF 1):		6
ENGL 101 & ENGL 102 ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
GEF 2A, Science & Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies & Diversity		3
Select one of the following; minimum grade of D- in MATH 150, MATH 154 or MATH 155:		3

MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	
MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
Business Core coursework		
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3
BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance	3
BCOR 350	Principles of Marketing	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy	3
ACCT 331	Managerial Accounting	3
ENTR 400	Fundamentals of Entrepreneurship	3
ENTR 405	Entrepreneurial Creativity & Innovation	3
ENTR 416	Social Entrepreneurship	3
ENTR 420	Entrepreneurial Finance	3
ENTR 425	Risk Assessment and Contracts	3
ENTR 430	Business Analysis and Planning	3
ENTR 436	Family Business	3
ENTR 440	Entrepreneurship Practicum	3
ENTR 460	Entrepreneurial Strategy: Managing New Entry, Innovation & Growth	3
Unrestricted Electives		14
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199	3 ACCT 201	3
CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
MATH 126A (or 129 or 153)	3 ENGL 101 (GEF 1)	3
SOCA 101 (GEF 8)	3 GEF 2A	3
GEF 5	3 MATH 150 (or 154/155/156)	3
	16	15

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 BCOR 330	3
ECON 225 (GEF 3)	3 BCOR 340	3
ENGL 102 (GEF 1)	3 BCOR 350	3

PSYC 101 (GEF 8)	3 BCOR 370	3
	15	15
Third Year		
Fall	Hours Spring	Hours
BCOR 320	3 BCOR 360	3
ACCT 331	3 ENTR 416	3
ENTR 400	3 ENTR 420	3
ENTR 405	3 GEF 7	3
GEF 6	3 Electives	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
BCOR 380	3 BCOR 460	3
ENTR 425	3 ENTR 440	3
ENTR 430	3 ENTR 460	3
ENTR 436	3 Electives	3
Electives	3 Electives	2
	15	14

Total credit hours: 120

Major Learning Goals

ENTREPRENEURSHIP AND INNOVATION

The objective of providing a foundational education in entrepreneurship and innovation at the undergraduate level cannot be realized without appropriate curricula content, effective teaching, and ultimately, learning. Within the undergraduate entrepreneurship and innovation major, we subscribe to the following learning goals for each of our undergraduate students:

- Graduates will be able to manage and evaluate organizational systems focused on the following entrepreneurial outcomes.
 - Identify organizational tasks, roles, and responsibilities of managing entrepreneurial ventures.
 - Designate the interrelationships between functional areas of entrepreneurial ventures.
 - Describe the interrelationships between resources, organizational structure, and strategies utilized to create and grow entrepreneurial ventures.
 - Demonstrate an understanding of entrepreneurial phenomena across organizational contexts, including start-ups, small and medium sized enterprises, family businesses, and corporate ventures.
 - Prescribe effective practices in identifying and exploiting entrepreneurial opportunities.
 - Identify alternative ways to market a new product or service that contribute to the growth of an entrepreneurial venture.
 - Assess entrepreneurial opportunities using financial methods.
- Graduates will be able to think critically and solve problems in entrepreneurial ventures.
- Graduates will be able to deal with the dynamics of individuals and teams within organizations and to motivate, lead, and inspire employees toward achieving organizational goals.
- Graduates will be able to use computer and information technology in solving problems and perform functions commonly seen in managing businesses and other organizations.
- Graduates will be able to effectively communicate recommendations to management and other constituencies, orally and in writing.
- Graduates will have knowledge of business disciplines: accounting, finance, management, management information systems, and marketing.

Finance

Degree Offered

- Bachelor of Science in Business Administration

Finance Program Objectives

Finance is the study of the creation and management of wealth and allocation of resources in capital markets. A finance major learns how to evaluate and control risk, appropriately price new projects and perform capital expansion for firms, and how to maximize returns from investment. The finance

program prepares students for a variety of positions in financial enterprises. Curriculum tracks within the major are aligned with career opportunities existing in investments, wealth management, corporate valuation and management, personal finance, insurance, and commercial banking.

People with degrees in finance have careers such as:

- Financial Manager
- Commercial Banker
- Credit Manager
- Financial Analyst
- Financial Planner
- Institutional Portfolio Manager
- Insurance and Risk Manager
- Insurance Underwriter
- Investment Banker
- Loan Officer
- Stock Broker

FACULTY

DEPARTMENT CHAIRPERSON

- Naomi Boyd - Ph.D. (George Washington University)
Market Microstructure, Investments, Personal Finance

PROFESSORS

- Victor Chow - Ph.D., CFA (University of Alabama)
Investments, Portfolio management.
- William B. Riley - Ph.D. (University of Arkansas)
Investments, Capital markets.

ASSOCIATE PROFESSORS

- Ashok Abbott - Ph.D. (Virginia Polytechnic Institute and State University)
Financial institutions, Corporate finance, Mergers and acquisitions.
- Naomi Boyd - Ph.D. (George Washington University)
Market Microstructure, Investments, Derivative Markets
- Ann Marie Hibbert - Ph.D. (Florida International University)
Behavioral Finance, Fixed Income Securities, Derivative Securities
- Alexander Kurov - Ph.D., CFA (Binghamton University (SUNY))
Financial market microstructure, Futures markets.
- Costanza Meneghetti - Ph.D. (Georgia State University)
Corporate Finance
- Terry L. Rose - Ph.D. (University of Illinois)
Insurance, Risk management.
- Paul J. Speaker - Ph.D. (Purdue University)
Corporate finance, Public sector financial management, Business valuation, Business of forensics.

ASSISTANT PROFESSORS

- Bingxin Li - Ph.D. (University of Houston)
Energy finance, Investments, Risk management.
- Gulnara Zaynutdinova - Ph.D. (Washington State University)
Empirical Asset Pricing, Institutional Investors, Mutual Funds and Investor Behavior

INSTRUCTOR

- Frank DeGeorge - MSA, CPA (Duquesne University)
Financial statement analysis, Principles of finance.

EMERITI

- Howard L. Brewer

- Frederick C. Scherr

Admission

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics *	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 153	Calculus 1a with Precalculus	
Choose one of the Following:		3-4
MATH 150	Applied Calculus **	
MATH 154	Calculus 1b with Precalculus **	
MATH 155	Calculus 1 **	
MATH 156	Calculus 2 **	
Total Hours		31-33

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the College.

* A minimum grade of B- is required in ECON 201 and ECON 202 for admission to the program.

** A minimum grade of B- is required in MATH 150 for admission to the program. A minimum grade of C- in MATH 154 or a higher college calculus course satisfies the calculus requirement for admission to the program.

[Click here to view the Suggested Plan of Study \(p. 456\)](#)

Finance Program Requirements

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3

F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

To qualify for the Bachelor of Science in Business Administration students must meet the following criteria:

- Complete a minimum of 120 credit hours.
- Possess an overall GPA of 2.0.
- Possess a minimum GPA of 2.0 for all major courses (i.e. FIN), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

Curriculum Requirements

Minimum overall GPA of 2.0 is required

Possess a minimum GPA of 2.0 for all major courses (i.e. FIN), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of B-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of B-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum Grade of C-; may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum Grade of C-; may fulfill GEF 1):		6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF 2A, Science & Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies & Diversity		3
Select one of the following; minimum grade of B- in MATH 150 or C- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	
MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3

BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance (Minimum grade of B- to advance to FIN courses, except FIN 350)	3
BCOR 350	Principles of Marketing	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy	3
FIN 305	Intermediate Finance (B- or better in BCOR 340)	3
FIN 310	Investments (B- or better in BCOR 340)	3
FIN 320	Financial Statements Analysis (B- or better in BCOR 340)	3
FIN 330	Financial Institutions (B- or better in BCOR 340)	3
FIN 350	General Insurance	3
Finance Electives *		12
Unrestricted Electives		17
Total Hours		120

* FIN 491, Professional Field Experience, may not be used to fulfill finance elective credit. A maximum of six credit hours of professional field experience may be counted towards the 120 credit hours required for the degree.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199 (Fulfills First Year Seminar requirement)	3 ACCT 201	3
CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
Select one of the following:	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following:	3
MATH 126B	MATH 150	
MATH 129	MATH 154	
MATH 153	MATH 155	
SOCA 101 (GEF 8)	3 MATH 156	
GEF (Choose from 2A, 5, 6 or 7)	3 GEF (Choose from 2A, 5, 6 or 7)	3
	16	15

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 BCOR 330	3
ECON 225 (GEF 3)	3 BCOR 340	3
ENGL 102 (GEF 1)	3 BCOR 370	3
PSYC 101 (GEF 8)	3 FIN 350	3
	15	15

Third Year

Fall	Hours Spring	Hours
BCOR 350	3 BCOR 320	3
BCOR 360	3 BCOR 380	3
FIN 305	3 FIN 310	3
FIN 320	3 GEF (Choose from 2A, 5, 6 or 7)	3
FIN 330	3 Unrestricted electives	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Finance Elective	3 BCOR 460	3

Finance Elective	3 Finance Elective	3
GEF (Choose from 2A, 5, 6 or 7)	3 Finance Elective	3
Unrestricted electives	6 Unrestricted electives	5
	15	14

Total credit hours: 120

Major Learning Goals

FINANCE

The undergraduate finance curriculum offers rigorous study and investigation of a variety of topics related to financial markets, decision making, products, and institutions. Within the undergraduate finance major, we subscribe to the following learning goals for each of our undergraduate students.

- Competence in core technical areas
- Knowledge of financial markets and institutions
- Ability to value and analyze financial products and firms
- Execute financial decisions for firms and individuals that demonstrate an understanding of risk and return

General Business

Degree Offered

- Bachelor of Science in Business Administration

General Business Program Objectives

The General Business program is for students who may desire an "individualized," (i.e., less prescriptive) business major or for students who successfully maintain a minimum GPA of 2.0 but do not qualify for admission into other majors with more competitive admission standards. For instance, a student interested in working for a market research firm may want to combine courses from both management information systems (MIS) and marketing.

Under the program, the major in General Business is comprised of twenty-four semester hours of upper#division business core course work (required of all candidates for the degree of B.S. in Business Administration) and twenty-seven semester hours of upper division business and economics electives. The twenty-seven semester hours of course work must be approved by the academic advisor and will *not* exceed more than nine semester hours in one academic discipline (e.g. MTKG).

Students interested in pursuing the General Business major should contact an academic advisor in the Office of Undergraduate Programs and Advising, 3rd Floor, Business and Economics Building to prepare a matriculation plan that satisfies the requirements for the degree and academic major and that compliments their professional career interests.

Admission

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.0 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.0 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 129	Pre-Calculus Mathematics	

MATH 153	Calculus 1a with Precalculus	
Choose one of the Following:		3-4
MATH 150	Applied Calculus *	
MATH 154	Calculus 1b with Precalculus	
MATH 155	Calculus 1	
MATH 156	Calculus 2	
Total Hours		31-33

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the College.

* A minimum grade of D- in Math 150 or a higher level of college calculus satisfies the calculus requirement for admission to the program.

Click here to view the Suggested Plan of Study (p. 459)

General Business Program Requirements

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

To qualify for the Bachelor of Science in Business Administration-General Business students must meet the following criteria:

- Complete a minimum of 120 credit hours.
- Possess an overall GPA of 2.0.
- Possess a minimum GPA of 2.0 for all major courses (i.e. ACCT, MANG, MKTG), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

Curriculum Requirements

Minimum Overall GPA of 2.0 is required

Possess a minimum GPA of 2.0 for all major courses (i.e. ACCT, MANG, MKTG), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum Grade of C-; may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum Grade of C-; may fulfill GEF 1):		6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF 2A, Science & Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies & Diversity		3
Select one of the following; minimum grade of D- in MATH 150 or D- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	
MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3
BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance	3
BCOR 350	Principles of Marketing	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy	3
Major Electives*		27
Unrestricted Electives		17
Total Hours		120

* The twenty-seven semester hours of major electives that form the General Business major must consist of upper-division business and economics courses in disciplines such as Accounting (ACCT), Economics (ECON), Finance (FIN), (HTOR) Hospitality and Tourism Management, Management (MANG), Management Information Systems (MIST), Marketing (MKTG) and (GSCM) Supply Chain Management. No more than nine semester hours in one of the aforementioned disciplines may apply toward the major. General Business majors may apply for up three credit hours of Professional Field Experience toward the major electives and the remaining three credit hours toward unrestricted electives.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199	3 ACCT 201	3

CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
Select one of the following:	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following:	3
MATH 126B	MATH 150	
MATH 129	MATH 154	
MATH 153	MATH 155	
SOCA 101 (GEF 8)	3 MATH 156	
GEF (Choose from 2A, 5, 6 or 7)	3 GEF (Choose from 2A, 5, 6 or 7)	3
	16	15

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 BCOR 320	3
Select one of the following:	3 BCOR 330	3
ECON 225 (GEF 3)	BCOR 350	3
STAT 211	BCOR 370	3
ENGL 102 (GEF 1)	3	
PSYC 101 (GEF 8)	3	
	15	15

Third Year

Fall	Hours Spring	Hours
BCOR 340	3 BCOR 380	3
BCOR 360	3 Major Elective	3
Major Elective	3 Major Elective	3
Major Elective	3 GEF (Choose from 2A, 5, 6 or 7)	3
GEF (Choose from 2A, 5, 6 or 7)	3 Unrestricted Electives	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Major Elective	3 BCOR 460	3
Major Elective	3 Major Elective	3
Major Elective	3 Major Elective	3
Unrestricted Electives	6 Unrestricted Electives	5
	15	14

Total credit hours: 120

Major Learning Goals

GENERAL BUSINESS

The objective of providing a foundational education in general business at the undergraduate level cannot be realized without appropriate curricula content, effective teaching, and ultimately, learning. Within the undergraduate general business major, we subscribe to the following learning goals for each of our undergraduate students

- Graduates will be able to think critically and solve problems in business settings.
- Graduates will be able to deal with the dynamics of individuals and teams within organizations and to motivate, lead, and inspire employees toward achieving organizational goals.
- Graduates will be able to use computer and information technology in solving problems and perform functions commonly seen in managing businesses and other organizations.
- Graduates will recognize the opportunities and challenges associated with the global marketplace.
- Graduates will have an appreciation of the ethical, legal, and regulatory issues impacting the decision-making process.
- Graduates will be able to communicate recommendations to management and other constituencies, orally and in writing.

Global Supply Chain Management

Degree Offered

- Bachelor of Science in Business Administration

Supply chain management (SCM) is a challenging and rewarding professional field that will continue to grow in importance, offering a broad range of career opportunities across a wide range of industries. The U.S. Bureau of Labor Statistics' Occupational Outlook Handbook indicates that positions in supply chain management are expected to grow more than 25 percent from 2010 to 2020, more than 10 percent faster than the average growth of all occupations. This program will provide undergraduate students with the opportunity to learn and advance knowledge, technical skills and competencies pertaining to supply chain processes through a high-quality set of courses, in order to pursue entry-level opportunities across a broad range of organizations. The curriculum will provide a strong global perspective, systems orientation, and information technology training. The program in Global Supply Chain Management consists of a 27 semester-hour sequence.

FACULTY

CHAIR

- Virginia Franke Kleist - Ph.D. (University of Pittsburgh)
Management Information Systems

ASSOCIATE PROFESSOR

- Ednilson Bernardes - Ph.D. (University of Minnesota)
Supply Chain Management

ASSISTANT PROFESSOR

- John Saldanha - Ph.D. (Penn State University)
Supply Chain Management

VISITING ASSISTANT PROFESSOR

- Yuan Ye - Ph.D. (University of Houston)
Supply Chain Management

Admission Requirements

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	3-6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 153	Calculus 1a with Precalculus	
Choose one of the Following:		3-4
MATH 150	Applied Calculus *	
MATH 154	Calculus 1b with Precalculus *	
MATH 155	Calculus 1 *	

MATH 156	Calculus 2 *	
Total Hours		28-33

* A minimum grade of B- in MATH 150 is required for admission to the program. A grade of C- in MATH 154 or a higher college calculus course satisfies the calculus requirement.

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the College.

Click here to view the Suggested Plan of Study (p. 463)

Global Supply Chain Management Program Requirements

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

Overall GPA of 2.0 required

Possess a minimum GPA of 2.0 for all major courses (i.e. ACCT, GSCM) calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum grade of C-, may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum grade of C-, may fulfill GEF 1):		6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF 2A, Science and Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3

GEF 7, Global Studies & Diversity		3
Select one of the following; minimum grade of B- in MATH 150 or C- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	
MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
BCOR 199	Introduction to Business	3
BCOR 299	Business Communication	3
BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance	3
BCOR 350	Principles of Marketing	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy	3
ACCT 331	Managerial Accounting	3
GSCM 350	Sourcing and Supply Management	3
GSCM 355	Logistics and Distribution Management	3
GSCM 360	Supply Chain Analytics	3
GSCM 370	Transportation Management	3
GSCM 425	Supply Chain Network Design	3
GSCM 430	Supply Chain Technology	3
GSCM 450	Supply Chain Quality Management	3
GSCM 455	Project Management	3
GSCM 470	Global Supply Chain Systems	3
Unrestricted Electives		14
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199	3 ACCT 201	3
CS 101 (GEF 2A)	4 ECON 201	3
Select one of the following (GEF 3):	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following:	3
MATH 126B	MATH 150	
MATH 129	MATH 154	
MATH 153	MATH 155	
SOCA 101 (GEF 4)	3 MATH 156	
GEF (Choose from F2A, F5, F6 or F7)	3 GEF (Choose from F2A, F5, F6 or F7)	3

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 BCOR 330	3
ECON 225 (GEF 8)	3 BCOR 340	3
ENGL 102 (GEF 1)	3 BCOR 350	3
PSYC 101 (GEF 8)	3 BCOR 370	3
	15	15

Third Year

Fall	Hours Spring	Hours
BCOR 360	3 ACCT 331	3
GSCM 350	3 BCOR 380	3
GSCM 355	3 GSCM 360	3
GEF (Choose from F2A, F5, F6 or F7)	3 GSCM 370	3
Unrestricted Electives	3 GEF (Choose from F2A, F5, F6 or F7)	3
	Unrestricted Electives	1
	15	16

Fourth Year

Fall	Hours Spring	Hours
BCOR 320	3 BCOR 460	3
GSCM 425	3 GSCM 455	3
GSCM 430	3 GSCM 470	3
GSCM 450	3 Unrestricted Electives	4
Unrestricted Electives	3	
	15	13

Total credit hours: 120

Major Learning Goals

GLOBAL SUPPLY CHAIN MANAGEMENT

Students who successfully complete the program will be prepared and competitive for entry-level positions in areas pertaining to supply chain management. These jobs include areas such as materials project manager, sourcing leader, supply chain analyst, production analyst, logistics planning, shipping and delivery management, among others.

- Graduates from the program will have the knowledge and skills to manage and coordinate all supply chain functions in an enterprise, from overseeing acquisition, internal allocation of resources, movement and storage of raw materials and inventory, to managing complex networks of supply and demand.
- They will have the knowledge and skills to lead supply chain improvement projects, to function in supply chain teams, and to perform or lead supply chain activities.
- Graduates will be able to recognize the systemic and global nature of supply chain processes and activities in the decision-making process, the interdependencies critical to effectively manage and improve performance, the role of supply chain information technology in the effective management and improvement of supply chain activities, and the complexities of global supply chain operations and related ethical issues.
- In addition, students will recognize the great potential that supply chain activities and decisions offer in terms of making a positive contribution not only to the improvement of business performance but also to society.

Hospitality and Tourism Management

Degree Offered

- Bachelor of Science in Business Administration

Hospitality and Tourism Management Program Objectives

The Hospitality and Tourism Management major covers all aspects of the hospitality and tourism industry from a management perspective. The curriculum provides a solid foundation in all core business functions along with specialized courses in the field. The curriculum balances theory and practice with internship requirements that take students around the world.

Hospitality and Tourism Management students are actively involved in the Hospitality Club and networking with the Advisory Board made up of industry experts.

Students have been placed with companies such as the Fresh Hospitality, Greenbrier Resort, Hyatt Hotels Corporation, InterContinental Hotels Group, Marriott International, Nemaocolin Woodlands Resorts, Real Hospitality Management Company, and Stonebridge Companies.

FACULTY

CHAIR

- Abhishek Srivistava - Ph.D. (University of Maryland, College Park)

ASSISTANT PROFESSOR

- Ajay Aluri - Ph.D. (Oklahoma State University)
Hospitality management and information systems, Social media, Website quality, New technology deployment, and Consumer behavior.

TEACHING ASSOCIATE PROFESSOR

- Frank DeMarco - M.B.A. (West Virginia University)
Hotel and restaurant management, Event planning, Professional field experience.

Admission

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.0 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.0 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 153	Calculus 1a with Precalculus	
Choose one of the Following:		3-4
MATH 150	Applied Calculus *	
MATH 154	Calculus 1b with Precalculus *	
MATH 155	Calculus 1 *	
MATH 156	Calculus 2 *	

Total Hours 31-33

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the College.

* A grade of D- in Math 150 or a higher level of college calculus satisfies the calculus requirement for admission to the program.

[Click here to view the Suggested Plan of Study \(p. 467\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

To qualify for the Bachelor of Science in Business Administration students must meet the following criteria:

- Complete a minimum of 120 credit hours.
- Possess an overall GPA of 2.0.
- Possess a minimum GPA of 2.0 for all major courses (i.e. HTOR), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

Curriculum Requirements

Minimum Overall GPA of 2.0 is required

Possess a minimum GPA of 2.0 for all major courses (i.e. HTOR), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum Grade of C-; may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum Grade of C-; may fulfill GEF 1):		6
ENGL 101 & ENGL 102 ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
GEF 2A, Science & Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies & Diversity		3
Select one of the following; minimum grade of D- in MATH 150 or D- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	

MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3
BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance	3
BCOR 350	Principles of Marketing	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy	3
HTOR 376	Hospitality & Tourism Leadership	3
HTOR 470	Tourism Management	3
HTOR 471	Restaurant Management	3
HTOR 472	Hotel Operations Management	3
HTOR 473	Hospitality Social Customer Relationship Management	3
HTOR 474	Hospitality Revenue Management	3
HTOR 480	Event Planning Practicum	3
HTOR 491	Professional Field Experience *	6
Unrestricted Electives		17
Total Hours		120

* Hospitality and Tourism Management majors must complete two distinct professional field experiences, each of which must be approved by the academic department.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199	3 ACCT 201	3
CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
Select one of the following:	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following:	3
MATH 126B	MATH 150	
MATH 126C	MATH 154	
MATH 153	MATH 155	
SOCA 101 (GEF 8)	3 MATH 156 (or Higher)	
GEF (Choose from 2A, 5, 6 or 7)	3 GEF (Choose from 2A, 5, 6 or 7)	3
	16	15

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 BCOR 330	3
ECON 225 or STAT 211 (GEF 3)	3 BCOR 340	3
ENGL 102 (GEF 1)	3 BCOR 350	3

PSYC 101 (GEF 8)	3 BCOR 370	3
	15	15
Third Year		
Fall	Hours Spring	Hours
BCOR 320	3 BCOR 380	3
BCOR 360	3 HTOR 470	3
HTOR 376	3 HTOR 471	3
GEF (Choose from 2A, 5, 6 or 7)	3 HTOR 472	3
Unrestricted Electives	3 GEF (Choose from 2A, 5, 6 or 7)	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
HTOR 473	3 BCOR 460	3
HTOR 474	3 HTOR 480	3
HTOR 491	3 HTOR 491	3
Unrestricted Electives	6 Unrestricted Electives	5
	15	14

Total credit hours: 120

Major Learning Goals

HOSPITALITY AND TOURISM MANAGEMENT

The objective of providing a foundational education in hospitality and tourism management at the undergraduate level cannot be realized without appropriate curricula content, effective teaching, and ultimately, learning. Within the undergraduate hospitality and tourism management major, we subscribe to the following learning goals for each of our undergraduate students:

- Graduates will be able to manage and evaluate functional systems in lodging and restaurant operations.
 - Students can identify front of the office and back of the office tasks, roles, and responsibilities of managing operations.
 - Students can operate and manage functional areas of lodging and restaurant operations effectively and efficiently.
 - Students can describe the interrelationship of organizational structure and the operational strategy of hotels and restaurants.
 - Students can list the functions of various other departments in hotels and restaurants.
 - Students can describe the effective best practices in managing hotels and restaurants.
 - Students can identify ways to market a product or service that contribute to increased guest satisfaction and experience.
 - Students can identify financial goals and results by analyzing the costs involved in managing hotel and restaurant operations.
- Graduates will be able to think critically and solve problems in the Hospitality and Tourism industry.
- Graduates will be able to deal with the dynamics of individuals and teams within organizations and to motivate, lead, and inspire employees toward achieving organizational goals.
- Graduates will be able to use computer and information technology in solving problems and perform functions commonly seen in managing businesses and other organizations.
- Graduates will be able to communicate recommendations to management and other constituencies, orally and in writing.
- Graduates will have knowledge of basic business disciplines: accounting, economics, finance, management, management information systems, and marketing.

Department of Management

Degree Offered

- Bachelor of Science in Business Administration

Management Program Objectives

The management major provides the skills and knowledge needed for students who aspire to leadership roles in business. The major prepares them for various managerial positions. Students choose from one of four areas of emphasis (AoE) in management:

- Entrepreneurship
- Human Resource Management
- International Business

- Supply Chain Management
- Students pursuing the **Entrepreneurship** area of emphasis pursue positions such as small business manager, entrepreneur, franchise owner or opportunities with large companies with an innovation focus. So, students are prepared for management roles with small business or large companies.
- Students pursuing the **Human Resource Management** area of emphasis develop capabilities for careers in compensation, recruiting, or training that could lead to managerial positions in human resources.
- Students pursuing the **International Business** area of emphasis are encouraged to study a foreign language and to participate in a study abroad program. They develop expertise in international business strategy, and they acquire an appreciation of foreign culture and business practices. Students electing this area of emphasis would be prepared to work in overseas locations and develop expertise in managing operations outside the United States.

Management majors must declare one of the aforementioned areas of emphasis and complete all requirements for the major and the AoE in order to be eligible for graduation. Students who prefer not to pursue an area of emphasis may declare the General Business major, which offers students the opportunity to complete electives in more than one of the areas of emphasis.

FACULTY

CHAIR

- Abhishek Srivastava - Ph.D. (University of Maryland, College Park)

PROFESSORS

- Jack A. Fuller - Ph.D. (University of Arkansas)
Heuristic decision making, Production planning and control, Systems analysis and design.
- Mark Gavin - Ph.D. (Purdue University)
Organizational behavior, Human resource management, Ph.D. seminars-Research methods, Structural equation modeling.
- Jodi Goodman - Ph.D. (Georgia Institute of Technology)
Organization behavior, Human resource management, Learning & training methodologies, Statistics, Ph.D. seminar-Organizational behavior.
- Usha Haley - Ph.D. (New York University)
Multinational corporations and strategic management, Business-government relations, sanctions and subsidies.

ASSOCIATE PROFESSORS

- Gerald Blakely - Ph.D. (University of North Carolina at Chapel Hill)
Human resource management, Organizational behavior, Business research methods.
- David Dawley - Ph.D. (Florida State University)
Strategic management, Strategic turnaround decisions and organization commitment, Ph.D. seminar-Strategy.
- Jeffrey Houghton - Ph.D. (Virginia Polytechnic Institute and State University)
International human resources management, Self leadership, Team processes, Ph.D. seminar-Leadership.
- Nancy McIntyre - Ph.D. (University of Rhode Island)
Management, Organizational behavior.
- Curt Moore - Ph.D. (Texas Tech University)
Entrepreneurship, Strategy, Ph.D. seminar - Organization theory, Entrepreneurship
- Edward Tomlinson - Ph.D. (The Ohio State University)
Organizational behavior, Trust, Negotiation, Conflict resolution, Compensation and benefits, Ph.D. seminar-Group processes.

ASSISTANT PROFESSORS

- Ajay Aluri - Ph.D. (Oklahoma State University)
Hospitality management, Social media.
- Olga Bruyaka - Ph.D. (Jean Moulin University Lyon 3, EM Lyon)
Strategic management, Technology management and innovation, Strategic alliances, Firm internationalization, Social issues in management
- Jennifer Sexton - Ph.D. (Florida State University)
Strategy, Entrepreneurship, Global business communication.

TEACHING PROFESSOR

- David Cale - Ph.D. (Duquesne University-Pittsburgh)
Business ethics
- Steve Cutright - M.B.A. (West Virginia University)
Entrepreneurship
- Frank DeMarco - M.B.A. (West Virginia University)

Hospitality, Hotel and restaurant management.

- Suzanne Gosden-Kitchen - Ed.D. (West Virginia University)
Human resource management, Diversity, EEO, Disability, Business writing, Higher education leadership.
- Thomas Zeni - Ph.D. (University of Oklahoma, Norman)
Ethical decision-making, Counterproductive work behaviors, Emotions in organizations, and Quantitative methodology and research design

EXECUTIVE IN RESIDENCE

- William Hutchison - M.S.I.R. (West Virginia University)
Collective bargaining, Compensation & benefits.

PROFESSORS EMERITI

- Neil Bucklew
- Randy D. Elkin
- John Harpell, Jr.
- Richard W. Humphreys
- Thomas S. Isaack
- Ali H. Mansour

ADJUNCT PROFESSORS

- Shane Courtland - Ph.D.
- David Hendrickson - J.D.
- Eric London - J.D.
- Tina Parton - M.S.I.R.
- Jon Reed - J.D.
- Kellyn Smith - M.S.I.R.
- Mark Sullivan - M.S.I.R.
- Jessika Thomas - J.D.
- Elizabeth Vitullo - Ph.D.
- Carrie White - Ed.D.

Admission

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 153	Calculus 1a with Precalculus	
Choose one of the Following:		3-4
MATH 150	Applied Calculus *	
MATH 154	Calculus 1b with Precalculus *	
MATH 155	Calculus 1 *	

MATH 156

Calculus 2 *

Total Hours

31-33

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the College.

* A minimum grade of C- in MATH 150 is required for admission to the program. A grade of D- in MATH 154 or a higher level of college calculus also satisfies the calculus requirement for admission to the program.

Click here to view the Suggested Plan of Study (p. 472)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Management Program Requirements

To qualify for the Bachelor of Science in Business Administration students must meet the following criteria:

- Complete a minimum of 120 credit hours.
- Possess an overall GPA of 2.0 or higher.
- Possess a minimum GPA of 2.0 for all Major Courses (i.e., ACCT, ENTR, GSCM, HRMG, INBS, MANG, and all AOE courses) calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

Curriculum Requirements

Overall GPA of 2.0 or higher is required

Possess a minimum GPA of 2.0 for all Major Courses (i.e. ACCT, ENTR, GSCM, HRMG, INBS, MANG, and all AOE courses), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum Grade of C-; may fulfill GEF 3):		3

ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum grade of C-; may fulfill GEF 1):		6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF 2A, Science and Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies & Diversity		3
Select one of the following; minimum grade of C- in MATH 150 or D- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	
MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3
BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance	3
BCOR 350	Principles of Marketing	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy	3
ACCT 331	Managerial Accounting	3
MANG 330	Human Resource Management Fundamentals	3
MANG 360	International Business	3
MANG 422	The Individual and the Organization	3
MANG 434	Business Research Methods	3
Required Area of Emphasis		12
Unrestricted Electives		17
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199	3 ACCT 201	3
CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
Select one of the following:	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following:	3
MATH 126B	MATH 150	
MATH 129	MATH 154	
MATH 153	MATH 155	
SOCA 101 (GEF 8)	3 MATH 156	

GEF (Choose from F2A, 5, 6 or 7)	3 GEF (Choose from F2A, 5, 6 or 7)	3
	16	15
Second Year		
Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 BCOR 330	3
ECON 225 (GEF 3)	3 BCOR 340	3
ENGL 102 (GEF 1)	3 BCOR 350	3
PSYC 101 (GEF 8)	3 BCOR 370	3
	15	15
Third Year		
Fall	Hours Spring	Hours
Area of Emphasis Elective	3 Area of Emphasis Elective	3
BCOR 320	3 BCOR 360	3
MANG 330	3 MANG 360	3
GEF (Choose from F2A, 5, 6 or 7)	3 MANG 422	3
Unrestricted Electives	3 GEF (Choose from F2A, 5, 6 or 7)	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
Area of Emphasis Elective	3 Area of Emphasis Elective	3
ACCT 331	3 Area of Emphasis Elective or Unrestricted Electives	3
BCOR 380	3 BCOR 460	3
Unrestricted Electives	5 MANG 434	3
	Unrestricted Electives	3
	14	15

Total credit hours: 120

Area of Emphasis

A student must declare an Area of Emphasis (AoE) upon matriculation to the management program. The required courses for each area of emphasis are listed in the charts below.

SUPPLY CHAIN MANAGEMENT AREA OF EMPHASIS

GSCM 350	Sourcing and Supply Management	3
GSCM 355	Logistics and Distribution Management	3
GSCM 450	Supply Chain Quality Management	3
GSCM 455	Project Management	3
MIST 320	Managing Information Technology	3
Total Hours		15

HUMAN RESOURCE MANAGEMENT AREA OF EMPHASIS

HRMG 440	Training and Development	3
HRMG 450	Staffing and Selection	3
HRMG 460	Compensation and Benefits	3
HRMG 470	Conflict Management	3
or HRMG 480	Collective Bargaining and Labor Relations	
Total Hours		12

INTERNATIONAL BUSINESS AREA OF EMPHASIS

INBS 310	Global Business Communication	3
INBS 480	Global Strategic Issues	3
Choose two of the following:		6

ECON 451	International Economics	
FIN 480	International Finance	
MKTG 440	Export Management	
MKTG 485	Global Marketing	

Total Hours		12
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ENTREPRENEURSHIP AREA OF EMPHASIS

ENTR 400	Fundamentals of Entrepreneurship	3
ENTR 420	Entrepreneurial Finance	3
ENTR 430	Business Analysis and Planning	3
ENTR 440	Entrepreneurship Practicum	3

Total Hours		12
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Major Learning Goals

MANAGEMENT

The objective of providing a foundational education in management at the undergraduate level cannot be realized without appropriate curricula content, effective teaching, and ultimately, learning. Within the undergraduate management major, we subscribe to the following learning goals for each of our undergraduate students:

- Graduates will be able to deal with the dynamics of individuals and teams within organizations and to motivate, lead, and inspire employees toward achieving organizational goals.
- Graduates will have an appreciation of the ethical, legal, and regulatory issues impacting the decision-making process.
- Graduates will recognize the opportunities and challenges associated with the global marketplace.
- Graduates will acquire knowledge of basic functional areas of human resource management.

Management Information Systems (MIS)

Degree Offered

- Bachelor of Science in Business Administration

MIS Program Objectives

Students in the MIS program gain the skills necessary to analyze an organization's information needs and develop technological solutions to effectively solve business problems. In today's fast-paced, global environment, technology is a necessary and integral part of business. MIS professionals have the knowledge to understand both the business goals and information needs of the organization, and to deliver the application of technology to meet those needs. Career opportunities include:

- Consulting
- Database Administration
- Information Systems Security
- Networking and Telecommunications
- Systems Analysis and Design
- Technology Management

This is an excellent major for students who enjoy technology and want to apply their knowledge in a business environment.

FACULTY

DEPARTMENT CHAIRPERSON

- Virginia Franke Kleist - Ph.D. (University of Pittsburgh)
Management information systems.

PROFESSOR

- Virginia Franke Kleist - Ph.D.
University of Pittsburgh

ASSOCIATE PROFESSORS

- A. Graham Peace - Ph.D. (University of Pittsburgh)
Management information systems.
- Nanda Surendra - Ph.D. (University of Cincinnati)
Management information systems.

ASSISTANT PROFESSOR

- Stephane Collignon - Ph.D. (Virginia Tech)
Business Information and Technology
- Salman Nazir - Ph.D. (McGill University)
Management information systems

EMERITUS

- Thomas L. Blaskovics

Admission Requirements

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4
ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	3-6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 153	Calculus 1a with Precalculus	
Choose one of the Following:		3-4
MATH 150	Applied Calculus *	
MATH 154	Calculus 1b with Precalculus *	
MATH 155	Calculus 1 *	
MATH 156	Calculus 2 *	
Total Hours		28-33

* A minimum grade of B- in MATH 150 is required for admission to the program. A grade of C- in MATH 154 or a higher college calculus course satisfies the calculus requirement.

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the College.

Click here to view the Suggested Plan of Study (p. 477)

Program Requirements

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

To qualify for the Bachelor of Science in Business Administration students must meet the following criteria:

- Complete a minimum of 120 credit hours.
- Possess an overall GPA of 2.0.
- Possess a GPA of 2.0 for all major courses (i.e. ACCT, MIST), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

Curriculum Requirements

Minimum Overall GPA of 2.0 is required

Possess a GPA of 2.0 for all major courses (i.e. ACCT, MIST), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum grade of C-; may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum Grade of C-; may fulfill GEF 1):		6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF 2A, Science & Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies & Diversity		3
Select one of the following; minimum grade of B- in MATH 150 or C- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	

MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3
BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance	3
BCOR 350	Principles of Marketing	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy	3
ACCT 331	Managerial Accounting	3
MIST 320	Managing Information Technology	3
MIST 351	Database Management Systems	3
MIST 352	Business Application Programming	3
MIST 353	Advanced Information Technology	3
MIST 355	Data Communications	3
MIST 450	Systems Analysis	3
MIST 452	Systems Design and Development	3
MIST Electives (ACCT 321, ACCT 322, & GIS 350 Allowable MIST Electives Courses)		6
Unrestricted Electives		14
Total Hours		120

The College restricts students to six credit hours of Professional Field Experience toward completion of a degree. No more than three credit hours may apply toward the major.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
BCOR 199*	3 ACCT 201	3
CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
Select one of the following:	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following:	3
MATH 126B	MATH 150	
MATH 129	MATH 154	
MATH 153	MATH 155	
SOCA 101 (GEF 8)	3 MATH 156	
GEF (Choose from 2A, 5, 6, or 7)	3 GEF (Choose from 2A, 5, 6, or 7)	3
	16	15

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 BCOR 330	3
ECON 225 (GEF 3)	3 BCOR 350	3

ENGL 102 (GEF 1)	3 BCOR 370	3
PSYC 101 (GEF 8)	3 MIST 352	3
	15	15
Third Year		
Fall	Hours Spring	Hours
BCOR 340	3 ACCT 331	3
MIST 320	3 BCOR 380	3
MIST 351	3 MIST 355	3
GEF (Choose from 2A, 5, 6, or 7)	3 GEF (Choose from 2A, 5, 6, or 7)	3
Unrestricted Electives	3 Unrestricted Electives	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
BCOR 320	3 BCOR 460	3
BCOR 360	3 MIST 452	3
MIST 353	3 MIS Elective	3
MIST 450	3 Unrestricted Electives	5
MIS Elective	3	
	15	14

Total credit hours: 120

Major Learning Goals

MANAGEMENT INFORMATION SYSTEMS

The objective of providing a foundational education in management information systems and innovation at the undergraduate level cannot be realized without appropriate curricula content, effective teaching, and ultimately, learning. Within the undergraduate management information systems major, we subscribe to the following learning goals for each of our undergraduate students:

- Competence in core technical areas associated with MIS, such as programming, data communications and databases
- Knowledge of the selection, implementation and use of management information systems in organizations
- Awareness of how to analyze business problems and to design, build and maintain appropriate technological systems to solve those problems
- An ability to apply business skills to technical problems while using an information ethics lens to achieving solutions

Marketing

Degree Offered

- Bachelor of Science in Business Administration

Marketing Program Objectives

Marketing professionals are involved in the exchange of value through planning, promoting, pricing, and distributing products and services. The marketing program is designed to give students a strong understanding of the elements of marketing plans used by organizations to satisfy customer needs and wants. In addition to the foundations of marketing strategy, the required courses provide an appreciation of how marketing strategies are used in the globalized economy. Students may select from three tracks: integrated digital marketing communications (iDMC), professional sales, and sustainable pathways to markets. Career opportunities for marketing majors include:

- Digital Marketing
- Distribution and Channel Management
- International Business
- Marketing Analytics
- Marketing Management
- Product Management
- Professional Sales
- Promotions
- Retail Management

- Sustainable Marketing

FACULTY

CHAIR

- Michael Walsh - Ph.D. (University of Pittsburgh)
Integrated marketing communications, Services marketing, Public policy and marketing

PROFESSORS

- James R. Brown - D.B.A. (Indiana University)
K-mart chair, Distribution strategies
- M. Paula Fitzgerald - Ph.D. (University of South Carolina)
Consumer behavior, Promotion, Marketing research

ASSOCIATE PROFESSORS

- Jody Crosno - Ph.D. (University of Kentucky)
Marketing channels, Product and price policies
- Annie Peng Cui - PhD (Kent State University)
Brand management, International marketing, Consumer behavior

ASSISTANT PROFESSORS

- Laurel Anne Cook - Ph.D. (University of Arkansas)
Consumer collaboration, Consumer health & welfare, Public policy
- Stephen He - OhD Georgia Institute of Technology
Consumer information processing and make decisions in digital marketplaces
- Wyatt Schrock - PhD Michigan State University
Salesperson motivation, persuasion and sales manager leadership
- Emily Tanner - PhD (Oklahoma State University)
Formation and management of marketing relationships and the outcomes associated with strong relationships

TEACHING ASSOCIATE PROFESSORS

- Chas Koermer - Ph.D. (University of Nebraska)
Intercultural communication (Middle East Gulf Region), Organizational communication and Instructional communication

TEACHING ASSISTANT PROFESSORS

- Susan Lantz - Ph.D. (West Virginia University)
First year students, Business communication, Gender and diversity in business
- Elizabeth Tomlinson - Ph.D. (Kent State University)
Business Writing, Digital Literacies, Rhetoric and Audience
- Li Wang - Ph.D. (Ohio University)
Business communication, Diffusion of innovations, Digital communication

EMERITUS

- Robert Cook
- Cy Logar
- Philip Mahin
- John L. Porter

Admission Requirements

Students who are direct admitted to the major as first-time freshmen must possess an overall GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

ACCT 201 & ACCT 202	Principles of Accounting and Principles of Accounting	6
CS 101	Intro to Computer Applications	4

ECON 201 & ECON 202	Principles of Microeconomics and Principles of Macroeconomics	6
ECON 225 or STAT 211	Elementary Business and Economics Statistics Elementary Statistical Inference	3
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	3-6
Choose one of the Following:		3-4
MATH 126A	College Algebra 5-Day *	
MATH 126B	College Algebra 4-Day *	
MATH 129	Pre-Calculus Mathematics *	
MATH 153	Calculus 1a with Precalculus *	
Choose one of the Following:		3-4
MATH 150	Applied Calculus *	
MATH 154	Calculus 1b with Precalculus *	
MATH 155	Calculus 1 *	
MATH 156	Calculus 2 *	
Total Hours		28-33

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the College.

* A minimum grade of C- in MATH 150 is required for admission to the program. A grade of D- in MATH 154 or a higher college calculus course satisfies the calculus requirement for admission to the program.

Click here to view the Suggested Plan of Study (p. 482)

Marketing Program Requirements

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

To qualify for the degree of Bachelor of Science in Business Administration, Marketing, students must meet the following criteria:

- Complete a minimum of 120 credit hours.

- Possess a minimum overall GPA of 2.0.
- Possess a GPA of 2.0 for all major courses (i.e. MKTG), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

Curriculum Requirements

Minimum Overall GPA of 2.0 is required

Possess a GPA of 2.0 for all major courses (i.e. MKTG), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

ACCT 201	Principles of Accounting (Minimum grade of C-)	3
ACCT 202	Principles of Accounting (Minimum grade of C-)	3
CS 101	Intro to Computer Applications (Minimum grade of C-; may fulfill GEF 2A)	4
ECON 201	Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
ECON 202	Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 4 or 8)	3
Select one of the following (Minimum grade of C-; may fulfill GEF 3):		3
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Select one of the following (Minimum Grade of C-; may fulfill GEF 1):		6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
ENGL 103	Accelerated Academic Writing	
GEF 2A, Science & Technology		3
GEF 5, Human Inquiry & the Past		3
GEF 6, The Arts & Creativity		3
GEF 7, Global Studies & Diversity		3
Select one of the following; minimum grade of C- in MATH 150 or D- in MATH 154 or higher		3
MATH 126A & MATH 150	College Algebra 5-Day and Applied Calculus	
MATH 126B & MATH 150	College Algebra 4-Day and Applied Calculus	
MATH 129 & MATH 155	Pre-Calculus Mathematics and Calculus 1	
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
PSYC 101	Introduction to Psychology (May fulfill GEF 4 or 8)	3
SOCA 101	Introduction to Sociology (May fulfill GEF 4 or 8)	3
BCOR 199	Introduction to Business (Fulfills First Year Seminar requirement)	3
BCOR 299	Business Communication (Fulfills Writing and Communication Skills Requirement)	3
BCOR 320	Legal Environment of Business	3
BCOR 330	Information Systems and Technology	3
BCOR 340	Business Finance	3
BCOR 350	Principles of Marketing (Minimum grade of C- to advance to MKTG courses)	3
BCOR 360	Supply Chain Management	3
BCOR 370	Managing Individuals and Teams	3
BCOR 380	Business Ethics	3
BCOR 460	Contemporary Business Strategy	3
MKTG 315	Buyer Behavior	3
MKTG 325	Marketing Research	3
MKTG 330	Distribution Channels	3
MKTG 350	Product and Price Policies	3

MKTG 485	Global Marketing	3
Area of Emphasis *		12
Business and Economics Electives **		3
Unrestricted Electives		14
<hr/>		
Total Hours		120

* Students may opt to complete 12 additional hours of 300/400 level MKTG coursework for instances where an Area of Emphasis cannot be achieved.

** MKTG 491, Professional Field Experience, may not be used to fulfill marketing elective credit. A maximum of six credit hours of professional field experience may be counted towards the 120 credit hours required for the degree.

Suggested Plan of Study

All Marketing Majors are required to take MKTG 315 Buyer Behavior, MKTG 325 Marketing Analytics, MKTG 330 Distribution Channels, MKTG 350 Product & Price, and MKTG 485 Global Marketing

First Year

Fall	Hours Spring	Hours
BCOR 199**	3 ACCT 201	3
CS 101 (GEF 2A)	4 ECON 201 (GEF 4)	3
Select one of the following:	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following:	3
MATH 126B	MATH 150	
MATH 129	MATH 154	
MATH 153	MATH 155	
SOCA 101 (GEF 8)	3 MATH 156	
GEF (Choose from 2A, 5, 6, or 7)	3 GEF (Choose from 2A, 5, 6, or 7)	3
	<hr/>	
	16	15

Second Year

Fall	Hours Spring	Hours
ACCT 202	3 BCOR 299	3
ECON 202 (GEF 8)	3 BCOR 320	3
ECON 225 (GEF 3)	3 BCOR 330	3
ENGL 102 (GEF 1)	3 BCOR 350	3
PSYC 101 (GEF 8)	3 BCOR 370	3
	<hr/>	
	15	15

Third Year

Fall	Hours Spring	Hours
BCOR 340	3 BCOR 380	3
BCOR 360	3 MKTG 325	3
MKTG 315	3 MKTG 350	3
MKTG 330	3 Area of Emphasis Course	3
GEF (Choose from 2A, 5, 6, or 7)	3 Unrestricted Electives	3
	<hr/>	
	15	15

Fourth Year

Fall	Hours Spring	Hours
Area of Emphasis Courses	6 BCOR 460	3
GEF (Choose from 2A, 5, 6, or 7)	3 MKTG 485	3
Unrestricted Electives	6 Area of Emphasis Course	3
	Business and Economics Elective	3
	Unrestricted Electives	2
	<hr/>	
	15	14

Total credit hours: 120

DIGITAL MARKETING PROMOTIONS AREA OF EMPHASIS

MKTG 380	Integrated Promotions	3
MKTG 389	Online Analytics	3
MKTG 474	Outside Case Competition	3
MKTG 475	Social Media and Marketing	3
Total Hours		12

PROFESSIONAL SALES AREA OF EMPHASIS

MKTG 320	Personal Selling 1	3
MKTG 321	Professional Selling 2	3
MKTG 345	Selling with Digital Media	3
MKTG 420	Sales Management	3
Total Hours		12

SUSTAINABLE PATHWAYS TO MARKETS AREA OF EMPHASIS

MKTG 410	Retail Management	3
MKTG 425	Sustainable Marketing	3
MKTG 426	Sustainability Strategy	3
MKTG 480	Services Marketing	3
Total Hours		12

Major Learning Goals**MARKETING**

The overall goal of the undergraduate marketing program at the College of Business and Economics is to provide students with a rigorous education that prepares them for successful careers as professional marketing executives in industry, and for further graduate studies. More specifically, the marketing program has the following Learning Goals:

- Students will develop an understanding of the strategic marketing management planning process, and be able to integrate the various facets of marketing and apply these concepts to marketing decisions and the development of marketing plans.
- Students will demonstrate quantitative marketing techniques and be able to conduct, analyze and interpret marketing research
- Students will be able to describe the major types of consumer buying behavior, the stages in the buyer decision process and how the firms' marketing strategy and marketing mix must evolve and adapt to match consumer behavior.
- Students will be able to describe major bases for segmenting consumer and business markets; define and be able to apply the concepts of market segmentation, target marketing, and market positioning to a marketing situation.
- Students will be able to demonstrate the ability to develop marketing strategies based on product, price, place and promotion objectives.
- Students will be able to evaluate and assess the legal, ethical and social responsibility ramifications of marketing actions and decisions.
- Students will be able to demonstrate an understanding of global marketing and how to adapt domestic marketing programs to the global market.

College of Creative Arts

Degrees Offered

- Bachelor of Arts with **Majors:** Art History, Dance, Music, Theatre
- Bachelor of Fine Arts with **Majors:** Theatre, Art & Design (with or without teacher certification)
- Bachelor of Music
- Bachelors of Multidisciplinary Studies

Introduction

Creative development in art, music, theatre, dance and multidisciplinary arts is central to the College of Creative Arts. Made up of three professionally accredited and nationally recognized Schools of Art & Design, Music, and Theatre & Dance, the College provides students with a place where young artists forge a personal understanding between artistic practice and theory and form personal and professional insights that explore and expand the nature of human creativity. Combining performance, exhibition, and scholarship in ways that address both traditional and innovative approaches to art, music, theatre and dance, students gain a greater understanding of the arts—and, in turn, themselves.

A distinguished faculty of scholars and artists bring to the College's outstanding facilities a commitment to a creative process of artistic growth. In a rich environment of plays, exhibitions, and concerts, the College offers students the knowledge, skills, and inspiration necessary for artistic and professional success.

Vision Statement

The College of Creative Arts envisions broadening our role as a leader of innovation and engagement in the arts.

Mission Statement

The College of Creative Arts educates succeeding generations of artists, teachers, and scholars through an experiential student-centered approach to learning. The College advocates the arts as a medium through which the diversity of human experience is understood and valued. Exemplifying excellence and innovation in performance, exhibition, scholarship, and creative research, the College offers artistic and cultural opportunities for the citizens of West Virginia and the global community.

Study Abroad

The College of Creative Arts realizes the importance of the personal and professional benefits that result from studying abroad. Through WVU's international programs, students can gain a global perspective, broaden their experiences, and discover new career paths. College of Arts' students have the opportunity to study abroad through one of the programs coordinated by the College or by the Office of International Programs.

Interested students should work with their academic advisor in developing a program of study that includes a study abroad experience.

For more information about International programs, see each School's individual program descriptions in this catalog, visit each School's website, or go to West Virginia University's International Programs website at <http://internationalstudies.wvu.edu/>.

Graduation Requirements

Each School in the College of Creative Arts has specific graduation requirements for their programs. Students should refer to the individual program descriptions for graduation.

Application for Graduation

Three semesters prior to the anticipated date of graduation, each student should come to the College of Creative Arts Records Office to request an academic records audit to ensure that all program requirements will be fulfilled by the completion of the final semester of study. During the first month of a student's final semester or summer session (the one in which the student will graduate), each student must apply for graduation and a diploma. If a student does not complete all program requirements by the end of the anticipated final semester, it will be necessary to reapply for a later graduation date. No candidate can graduate without this application.

College Scholarship Resources

The College of Creative Arts offers a limited number of special College-based scholarship awards for freshman and current students enrolled in its programs. College-based awards are granted on the demonstration of outstanding talent, academic achievement, and the demonstration of future potential for success in the College of Creative Arts.

Information regarding both University and College of Creative Arts Scholarships can be found at ccarts.wvu.edu/academics/scholarships

ADMINISTRATION

INTERIM DEAN

- Keith Jackson - D.M.A. (Arizona State University)

ASSOCIATE DEAN

- John Hendricks III - M.M. (West Virginia University)

Degree Designation Learning Goals

The language stated in the learning goals for the College of Creative Arts undergraduate programs is based on (directly quoted, paraphrased or modified) current standards written and employed by the Council of Arts Accrediting Associations (National Association of Schools of Art and Design, National Association of Schools of Dance, National Association of Schools of Music and National Association of Schools of Theatre).

With the exception of the Bachelor of Multidisciplinary Studies in the Arts and the Bachelor of Art in Dance, which are pending "intent for accreditation," the appropriate association of the Council has awarded accreditation to all of West Virginia University's undergraduate degree programs within the College of Creative Arts.

As stated by the Council of Arts Accrediting Association:

National accreditation requirements outline threshold standards for institutional and individual achievement. These thresholds indicate essentials; they are rigorous. Attaining them represents a significant accomplishment. Therefore, these standards are both a foundation and a framework for specific achievements and evaluations of their quality.

The general learning goals listed below are for undergraduate degrees offered by the College. **Specific learning goals for individual majors and programs are listed under each School's section of the catalog.** Due to the nature of the College's specialized degrees, none of these goal lists are intended to be comprehensive.

BACHELOR OF ARTS-GENERAL LEARNING GOALS

The Bachelor of Arts (BA) degree is based on a breadth of general, liberal arts studies (humanities, natural and physical sciences, and social sciences) with a specialized focus in one area of the Arts.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

BACHELOR OF FINE ARTS-GENERAL LEARNING GOALS

The Bachelor of Fine Arts (BFA) is a professional degree with an intensive focus on an area of the Arts supported by a program in general studies. The intent of the BFA is to prepare for professional practice in the area of the degree.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

BACHELOR OF MUSIC-GENERAL LEARNING GOALS

The Bachelor of Music (BM) is a professional undergraduate degree in music. Students enrolled in professional undergraduate degrees in music are expected to develop the knowledge, skills, concepts, and sensitivities essential to the professional life of the musician.

- The ability to think, speak and write clearly and effectively.
- An informed acquaintance with fields of study beyond music such as those in the arts and humanities, the natural and physical sciences and the social sciences.

- A functional awareness of the differences and commonalities regarding work in artistic, scientific and humanistic domains. Awareness that multiple disciplinary perspectives and techniques are available to consider all issues and responsibilities including, but not limited to, history, culture, moral and ethical issues and decision-making.
- The ability to identify possibilities and locate information in other fields that have bearing on musical questions and endeavors.
- Technical skills requisite for artistic self-expression in at least one major performance area at a level appropriate for a particular music concentration.
- An overview understanding of the repertory in their major performance area and the ability to perform from a cross-section of that repertory.
- The ability to sight-read with fluency demonstrating both general musicianship and, in the major performance area, a level of skill relevant to professional standards appropriate for a particular music concentration.
- Knowledge and skills sufficient to work as a leader and in collaboration on matters of musical interpretation.
- Keyboard competency.
- Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences.
- An understanding of the common elements and organizational patterns of music and their interaction and the ability to employ this understanding in aural, verbal and visual analyses.
- The ability to place music in historical, cultural, and stylistic contexts.
- A rudimentary capacity to create original or derivative music.
- A basic knowledge of music history and repertories through the present time
- While synthesis is a lifetime process, students must be able to work on musical problems by combining, as appropriate to the issue, their capabilities in performance; aural, verbal, and visual analysis; composition/improvisation; and history and repertory.

Admission Requirements

The College of Creative Arts uses the admission standards and procedures of the University; acceptance into the College and/or one of its Schools is contingent upon admission to WVU as an undergraduate student. Each School within the College also has individual admission requirements.

- The School of Music requires that all applicants complete a successful audition before consideration for admission into one of its programs.
- The School of Art & Design requires all applicants to the Bachelor of Fine Arts (BFA) in studio art to submit and successfully pass a portfolio review before admission into the program.
- For the School of Theatre and Dance Bachelor of Fine Arts (BFA) programs in theatre, the School requires that all applicants complete a successful audition and interview before consideration for admission into one of its BFA programs.
- For the School of Theatre and Dance Bachelor of Arts (BA) program in theatre, the School uses an open admission policy.
- For the School of Theatre and Dance Bachelor of Arts (BA) major in Dance, the School requires all applicants complete a successful audition before consideration for admission.

Potential students should refer to the specific admission criteria of each school found in their program descriptions in this catalog and on the School's website. Students should also check the College's website for audition dates which are held throughout the year.

Students transferring to the College of Creative Arts from other colleges and universities are required to present a minimum grade point average (GPA) of 2.0 in addition to the standard auditions or portfolio reviews. Special exceptions may be made in the case of first-semester freshman students.

Because of the creative nature of the Arts, some students may be admitted under the individual consideration clause of the University's general admission policy. This category allows admission of exceptionally talented students in art, music, and theatre who might not meet the criteria for grade point averages and standardized test scores to be admitted to one of the College's programs of study.

For more information about studying at the College of Creative Arts, please contact:

James Froemel, Recruitment and Retention Specialist
College of Creative Arts
West Virginia University
P.O. Box 6111
Morgantown, WV 26506-6111
Phone: (304) 293-4339

Email: ccarecruitment@mail.wvu.edu.

Tuition

In addition to University tuition and fees, College of Creative Art students will also be charged College tuition. Music students (undergraduate and most graduate) and musical theatre undergraduate students will also be charged an Applied Lesson tuition. Music minor students who must take applied lessons for their programs will also be assessed the Applied Lesson tuition.

Scholarships and Financial Aid

The College of Creative Arts offers a number of special College-based scholarship awards for freshman and current students enrolled in its programs. College-based awards are granted on the demonstration of outstanding talent, academic achievement, and the student's potential for success in their chosen area of study. These undergraduate scholarships are a form of financial aid that helps students pay for their education. In order to receive and maintain an award from the College, a student must plan to enroll or be enrolled as a full-time major in one of the College's programs of study.

For general information on College-based scholarships, please contact the College of Creative Arts Recruitment Office at ccarecruitment@mail.wvu.edu. Because each School in the College of Creative Arts has specific criteria for its scholarships or cash awards, students should refer to the School's individual program descriptions in this catalog and on the School's website.

College of Creative Arts' scholarship and cash awards are made based on student talent, the needs of the College, and the student's financial needs. Students who receive a scholarship should note that any award from the College may impact one's overall financial aid package. Recipients of other forms of financial aid who also receive a scholarship or cash award from the College should consult with the WVU Financial Aid office to discuss the parameters of their complete financial aid package. To get more information about financial aid as well as other University-based scholarships, please visit the WVU Financial Aid website at <http://financialaid.wvu.edu/>.

Minors

In addition to their major areas of study, all of the Schools in the College of Creative Arts offer academic minors. A minor is comprised of a set of courses that a student takes outside of their major, and a successful audition, portfolio review, minimum grade, or grade point average may also be required for admission and/or completion of the minor. Requirements for academic minors are set by the School offering the minor, and the student should consult each individual School's program description in this catalog or the School's website for the program's specific requirements.

The College of Creative Arts offers a number of different minors that range from a general overview of a particular discipline to an in-depth experience in a practical application of an art form. Currently, the following minors are offered by the College:

- The School of Art & Design offers minors in Art History, Ceramics, Electronic Media, Interactive Media, Painting, Photography, Printmaking, and Sculpture.
- The School of Music offers minors in Music, Jazz Studies, Music Performance, Music Industry, Music Technology and World Music.
- The School of Theatre & Dance offers minors in Dance, Theatre and Theatre Production.
- The College of Creative Arts offers a minor in Arts Administration.

If a student successfully completes the requirements of a minor, it will be recorded on the student's official record and will appear on transcripts.

ARTS ADMINISTRATION MINOR

MINOR CODE - U078

Arts Administration is one of the fastest growing fields in the arts industry. This interdisciplinary minor includes courses in the arts, business, public relations, and leadership. The goal is to provide students with the basic knowledge and skills they will need for entry-level work with cultural, performing and visual arts organizations such as orchestras, theaters, museums, galleries and dance companies. Arts Administration may also lead to opportunities that include event planning, arts facilities management, public relations, marketing, and grant writing for arts organizations. A minimum GPA of 2.0 is required in all minor courses.

Art Core		3
Select 1 or more from the following		
ARHS 101	Landmarks of World Art	
ARHS 160	Survey of Art History 2	
MUSC 111	Introduction to Music	
THET 101	Introduction to the Theatre	
DANC 170	Introduction to Dance	
Business		3
BUSA 320	Survey of Management	
Public Relations		3
PR 215	Introduction to Public Relations	
Arts Administration		6
ART 315	Arts Administration	
ART 491	Professional Field Experience	
Electives		3
Select 1 or more from the following:		

BUSA 330	Survey of Marketing
COMM 306	Organizational Communication
IDS 493 - SPTP Arts Administration	
LDR 201	Principles of Leadership
STAT 111	Understanding Statistics

Total Hours

18

School of Art and Design

- Degrees Offered (p. 488)
- Mission (p. 488)
- Nature of the Program (p. 488)
- Global Positioning Studies (GPS) (p. 488)
- International Study Opportunities (p. 488)
- Scholarships (p. 488)

Degrees Offered

- Bachelor of Arts in Art History
- Bachelor of Fine Arts in Art and Design with majors in Art Education, Ceramics, Graphic Design, Intermedia/Photography, Painting, Printmaking, and Sculpture.

Mission

The mission of the School of Art and Design is to contribute to the greater good of art, education, and culture.

Nature of Program

The School of Art and Design is an accredited institutional member of the National Association of Schools of Art and Design. The curriculum of the School is designed to afford the student an opportunity to explore the visual arts. Undergraduate programs offer scholarly and studio experiences to potential artists and teachers. The in-depth instruction is enhanced by the close working relationship between students and faculty, which allows sharing the insights and investigative processes of professional artists and scholars.

Global Positioning Studies (GPS)

Global Positioning Studies (GPS) is an interdisciplinary visual arts initiative within the School of Art and Design. It positions students at the crossroads between a local sense of place and a global understanding of that place in the world. Through direct experience, GPS courses encourage students to engage the world as a fertile ground for art making and critical research. All Art and Design majors are expected to take at least one GPS-designated course to count toward degree requirements. See course details at: artanddesign.wvu.edu/gps.

International Study Opportunities

The School of Art and Design has established excellent international educational programs. These include summer study, short term, and semester-long programs. The focus of these international programs is with sister institutions in Chile, China and Italy. Additional opportunities in other countries are also available. Students should consult with their academic advisor about taking language courses and other liberal studies courses that would support international studies. See details at: <http://artanddesign.wvu.edu/field-study/international-programs>.

Scholarships

The College of Creative Arts offers a limited number of special College-based scholarship awards for freshman and current students enrolled in its programs. College-based awards are granted on the demonstration of outstanding talent, academic achievement, and future potential for success in the Art and Design program.

Information regarding both University, College of Creative Arts, and Art and Design Scholarships can be found at <http://ccarts.wvu.edu/academics/scholarships>

FACULTY

DIRECTOR

- Alison Helm - M.F.A. (Syracuse University)
Sculpture

ASSOCIATE DIRECTOR, UNDERGRADUATE ADVISOR

- Kristina Olson - M.A. (Stony Brook University)
Art History-Modern and contemporary, Art criticism

GRADUATE ADVISOR

- Joseph Lupo - M.F.A. (University of Georgia)
Printmaking

PROFESSORS

- Eve Faulkes - M.F.A. (Rhode Island School of Design)
Graphic Design
- Janet Snyder - Ph.D. (Columbia University)
Art History-Ancient, Medieval, Northern Renaissance, Native American

ASSOCIATE PROFESSORS

- Joseph Galbreath - M.F.A. (Maryland Institute College of Art)
Graphic Design
- Gerald Habarth - M.F.A. (University of South Florida)
Electronic Media
- Jason Lee - M.F.A. (University of Wisconsin-Madison)
Sculpture, Foundations
- Robert Moore - M.F.A. (Utah State University)
Ceramics
- Rhonda Reymond - Ph.D. (University of Georgia)
Art History-American, African American, 17th-19th century European art
- Shoji Satake - M.F.A. (University of Indiana-Bloomington)
Ceramics
- Michael Sherwin - M.F.A. (University of Oregon)
Photography, Digital imaging
- Naijun Zhang - M.F.A. (West Virginia University)
Painting, Drawing

ASSISTANT PROFESSORS

- Dylan Collins - M.F.A. (Kent State University)
Sculpture, Drawing
- Terese Giobbia - Ph.D. (Northern Illinois University)
Art Education
- Jeffrey Moser - M.F.A. (University of Delaware)
Interactive Media Design
- Kofi Opoku - M.F.A. (West Virginia University)
Graphic Design
- Amy Schissel - M.F.A. (University of Ottawa)
Painting, Drawing

LECTURERS

- Jennifer Allen - M.F.A. (Indiana University - Bloomington)
Ceramics
- Aaron Blum - M.F.A. (Syracuse University)
Photography
- Megan Gainer - M.F.A. (West Virginia University)
Sculpture
- Kelley Galbreath - M.F.A. (Maryland Institute College of Art)
Graphic Design
- Brett Herron - M.F.A. (West Virginia University)
Printmaking
- Ronald Hollingshead - M.F.A. (West Virginia University)
Sculpture
- Katherine Inge - Ph.D. student (University of Arizona)

Art History

- Patrick Jones - M.F.A. and M.A. (West Virginia University)
Painting and Art History
- Lourdes Karas - B.A. (Allegheny College)
Arts Administration
- Michael Loop - M.F.A. (West Virginia University)
Foundations and Sculpture
- Shalya Marsh - M.F.A. (University of Nebraska - Lincoln)
Gallery Manager
- Jack Moffett - Master of Design in Interaction Design (Carnegie Mellon University)
Graphic Design
- Jessica Nelson - Ed.D. (West Virginia University)
Art Education
- Linda Rosefsky - M.A. (West Virginia University)
Art History
- J. Bernard Schultz - Ph.D. (University of Pittsburgh)
Art History - Italian Renaissance

PROFESSORS EMERITI

- Clifford Harvey - M.F.A.
Graphic Design
- Margaret Rajam - B.A.
Art History

ASSOCIATE PROFESSORS EMERITI

- Victoria Fergus - Ph.D.
Art Education

Admission into Program

ENTRANCE PORTFOLIO

The School of Art and Design requires a portfolio review for all applicants to the Bachelor of Fine Arts program. This evaluation is conducted by the art faculty and is designed to ensure that all students entering the studio program have certain basic competencies and skills. Students are encouraged to apply and complete the portfolio review at the earliest possible date. Applicants should visit the School website: <http://artanddesign.wvu.edu/academics> or phone the office at (304) 293-2552 to receive detailed instructions and portfolio review application material.

TRANSFER

Transfer applicants in studio art must undergo a portfolio review to gain admittance in the program. Evaluation for advanced standing or transfer credit in studio subjects is not made solely upon the presentation of a transcript but may also depend on the evaluation of a portfolio of artwork.

- Advising (p. 490)
- Audit, Credit by Examination, Pass/Fail, and Non-Art Major Courses (p. 490)
- Grade Point Average (p. 491)
- Student Work (p. 491)
- Art Supplies (p. 491)
- Graphic Design Portfolio (p. 491)

Advising

The College of Creative Arts requires all art majors to confer each semester with an academic advisor in order to maintain the correct distribution of coursework and to establish the necessary prerequisites for upper-School instruction. Students will find it difficult to carry more than three studio art classes in one semester. Ultimately, it is the student's responsibility to ensure that all requirements for graduation are met.

Audit, Credit by Examination, Pass/Fail, and Non-Art Major Courses

No studio or art history courses are available on an audit or credit by examination basis. Students enrolled in the School of Art and Design may not take art classes on a pass/fail basis. Courses designated for non-art majors may not be substituted for art degree requirements unless approved in advance by the director of the School of Art and Design.

Grade Point Average

A degree candidate in the School of Art and Design must maintain a minimum GPA of 2.0 (C); admission to the teacher certification program requires a 2.5 GPA. Students must earn a grade of C- or higher in art studio and/or art history and/or art education classes in order for the course to fulfill degree requirements. In addition, students may be requested to present a portfolio of selected works for examination and evaluation by a faculty committee. The committee is empowered to make recommendations regarding the student's status as a major in art and their continuation toward a degree in art.

Student Work

Every effort is made to protect student work and property. Work displayed in the Mesaros Galleries is insured for the exhibition period. The School of Art and Design does not accept responsibility for damage or losses under any other circumstances. The School of Art and Design reserves the right to retain examples of student work for reproduction and exhibition purposes and NASAD accreditation reviews.

Art Supplies

The School of Art and Design orders in advance some necessary supplies for course projects. Students will also need to purchase materials for individual or specialized projects.

Graphic Design Portfolio

Following completion of the Foundation Core along with ART 223 Introduction to Graphic Design and ART 224 Graphic Design 2, students wishing to pursue the graphic design major must submit a portfolio for review in the spring, normally during the second semester of the sophomore year. Contact the area coordinator for information regarding the portfolio review for graphic design.

Minors

- Art History (p. 491)
- Ceramics (p. 491)
- Electronic Media (p. 492)
- Interactive Design for Media (p. 492)
- Painting (p. 492)
- Photography (p. 493)
- Printmaking (p. 493)
- Sculpture (p. 493)

ART HISTORY MINOR

MINOR CODE - U036

The study of the history of art can enhance comprehension of students' primary field of study and permit them to achieve a broader and deeper understanding of cultural history. First-hand observation and close study are emphasized. It is intended to help develop skills in critical thinking, written communication, and research. Since the minor in Art History requires a considerable grasp of writing and research, the vocabulary and technical aspects of art historical writing and research are addressed in both the survey and in the upper-level courses. This minor is especially beneficial for those students pursuing careers that demand an understanding of historical and contemporary culture.

Students must maintain an overall GPA of 2.5 with a grade of C or better in all required courses.

ARHS 120	Survey of Art History 1	3
ARHS 160	Survey of Art History 2	3
ARHS 240	Art Theory	3
Upper Division (300 or above) Art History (ARHS) courses		9
Total Hours		18

CERAMICS MINOR

MINOR CODE - U113

ART 112	Drawing 2	3
ART 122	Visual Foundations 2	3
ART 241 or ART 240	Ceramics	3
Portfolio Review		

ART 340	Ceramics	9
Total Hours		18

ELECTRONIC MEDIA MINOR

MINOR CODE - U116

Students in Electronic Media use digital tools and media—computers, the internet, digital cameras, cell phones, and others—to produce artworks such as animation, video and audio productions, interactive art and web-based artworks. Students are exposed to the exciting and rapidly expanding world of multimedia art while learning many valuable skills applicable to today's job market. A minimum GPA of 2.0 is required in all minor courses.

ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 270	Introduction to Electronic Media 1	3
or ART 271	Introduction to Electronic Media 2	
ART 370	Intermediate Electronic Media	3
ART 370	Intermediate Electronic Media	3
ART 370	Intermediate Electronic Media	3
Total Hours		18

INTERACTIVE DESIGN FOR MEDIA MINOR

MINOR CODE - U129

The interactive media design minor is intended to close an existing gap between the College of Creative Arts and the College of Media by providing a finely-tuned curriculum supplement for journalism and strategic communications students that delivers emergent digital and interactive design skills while expanding learning opportunities for art and design students in the study of narrative methodologies, multimedia and visual storytelling. This minor is restricted to students with a major in either the College of Media or the College of Creative Arts.

Through collaboration and shared support between the College of Creative Arts and the College of Media, students will be able to acquire critical competitive skills in interactive design and visual narrative using new technologies that will make them highly competitive in an environment that is increasingly determined by digital and visual media. To complete the interactive media design minor, students must schedule an appointment with their advisor in the School of Art and Design or the College of Media.

To earn this minor, a minimum grade of C- is required in all minor courses.

ART 272	Designing for Multimedia	3
Art and Design students complete the following JRL course; Media students complete the following ART course:		3
JRL 210	Visual Journalism and New Media	
ART 270	Introduction to Electronic Media 1	
JRL 225	Media Tools & Applications	3
JRL 322	Gaming Design and Digital Narrative	3
ART 372	Interactive Design	3
Art and Design students complete the ART course; Media students complete the JRL course:		3
ART 472	Advanced Interactive Design	
JRL 472	Advanced Interactive Design	
Total Hours		18

PAINTING MINOR

MINOR CODE - U114

The minor in Painting is designed to introduce students to the foundation of painting media. Traditional and experimental painting in both figurative and abstract imagery is explored. Learning is both one-on-one and collaborative, so that personal exploration and wider aesthetic discourse are heightened. The minor in Painting is designed to introduce students to the foundation of painting media. Traditional and experimental painting in both figurative and abstract imagery is explored. Learning is both one-on-one and collaborative, so that personal exploration and wider aesthetic discourse are heightened.

A minimum GPA of 2.0 is required in all minor courses.

ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 213	Painting 1	3

ART 313	Painting 3	9
Total Hours		18

PHOTOGRAPHY MINOR

MINOR CODE - U115

ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 232	Photography	3
Select from the following:		9
ART 332	Intermediate Photography (repeated three times)	
ART 333 & ART 331	Alternative Photography and GPS-Jackson Hole Photography Workshop *	
Total Hours		18

* 6 credits required of ART 333 and 3 credits required of ART 331.

PRINTMAKING MINOR

In Printmaking, particular attention is given to developing the student's personal imagery, built upon a solid foundation in traditional and non-traditional processes. This program provides a cohesive offering of courses that focus upon the students' visual expression through their examination of formal issues, media exploration, relevant histories, contemporary critical discourse, and diverse approaches to problem-solving. A minimum GPA of 2.0 is required in all minor course.

MINOR CODE - U118

ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 230 or ART 231	Printmaking - Intaglio and Relief Printmaking - Lithography	3
ART 330	Printmaking	9
Total Hours		18

SCULPTURE MINOR

The Sculpture program curriculum provides a thorough grounding in many different materials and processes and is structured to enhance the student's ability to solve structural, spatial, formal, and conceptual problems. Wood and metal studios, featuring a wide variety of equipment, allow students to investigate diverse materials and techniques in their exploration of the medium of sculpture. A minimum GPA of 2.0 is required in all minor courses.

MINOR CODE - U117

ART 112	Drawing 2	3
ART 122	Visual Foundations 2	3
ART 227	Sculpture	3
ART 326	Sculpture	9
Total Hours		18

Art Education

Bachelor of Fine Arts in Art Education

PreK-Adult

Studio Emphasis: Ceramics, Graphic Design, Intermedia/Photography, Painting, Printmaking, Sculpture

Students wanting certification to teach PreK-adult must complete competency requirements established by the state in addition to School of Art and Design B.F.A. degree requirements. This unique program allows students to earn teacher certification while emphasizing a content area within the B.F.A. curriculum. Typically, the student's schedule is reviewed with a studio-emphasis coordinator and the art education faculty member. Because the art education student also has a full emphasis in a B.F.A. studio area, it normally takes four-and-a-half to five years to complete requirements.

These requirements are designed by the certifying agency of the state of West Virginia and WVU. Education requirements are maintained by the state. Undergraduate art students who desire certification should consult with the art education coordinator to be certain of compliance with certification criteria.

Click the appropriate link below to view the corresponding Area of Emphasis (AOE) Requirements and Suggested Plans of Study.

- Ceramics (p. 498)
- Graphic Design (p. 499)
- Intermedia and Photography (p. 500)
- Painting (p. 501)
- Printmaking (p. 502)
- Sculpture (p. 502)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

B.F.A. with Teacher Certification Curriculum

This variation of the regular B.F.A. program begins after the completion of the freshman year and requires careful selection of both studio and academic courses. With the additional education course requirements, four-and-a-half to five years of schoolwork should be anticipated. Students wishing certification to teach PreK–adult in West Virginia must complete competency requirements established by the state in addition to School of Art and Design B.F.A. degree requirements. Admission to the teacher certification program requires a 2.5 GPA overall.

The School of Art and Design values and supports written communication abilities and critical thinking skills developed through iterative writing experiences across the curriculum and within the discipline. To meet this goal students must pass with a C- or better a writing portfolio requirement that includes examples of academic, professional, and reflective writing they have produced in their regular courses. Please contact your advisor for more information.

Degree Requirements

GEF 1, 2, 3, 5, 7, 8		25
Grade C- or higher required in all ART and ARHS courses		
ARHS 120	Survey of Art History 1 (May fulfill GEF 6)	3
ARHS 160	Survey of Art History 2 (May fulfill GEF 8)	3
ART 191	First-Year Seminar - Creative Arts	2
SPED 304	Special Education in Contemporary Society (May fulfill GEF 4)	3
Studio Foundations Core		
ART 111	Drawing 1	3
ART 112	Drawing 2	3

ART 121	Visual Foundations 1	3
ART 122	Visual Foundations 2	3
ART 211	Figure Drawing	3
ART 212	Multi Media	3
Art Education		
ART 264	Introduction to Art Education	3
ART 265	Art Education: Elementary	3
ART 266	Art Education: Secondary	3
ART 267	Technology Methods in Art Education	3
ART 365	Pre-Student Teaching	3
Education		
EDUC 301	Learning in Educational Settings	3
SPED 360	Differentiation of Instruction for Students with Special Needs	3
ARHS 389	Contemporary	3
Professional Practice (Student Teaching)		
ART 491D	Professional Field Experience	12
C&I 491	Professional Field Experience	4
Studio Emphasis Coursework (In correspondence with selected Area of Emphasis) **		27
Ceramics		
Art History ***		
Art History 200-level or above course		
Art Studio Non-Emphasis Areas		
Choose four courses from the following:		
ART 213	Painting 1	
or ART 214	Painting 2	
ART 223	Introduction to Graphic Design	
or ART 224	Graphic Design 2	
ART 226	Introduction to Sculpture	
or ART 227	Sculpture	
ART 230	Printmaking - Intaglio and Relief	
or ART 231	Printmaking - Lithography	
ART 232	Photography	
or ART 234	Digital Photography	
ART 270	Introduction to Electronic Media 1	
or ART 271	Introduction to Electronic Media 2	
Ceramics 200-level Coursework		
ART 240	Ceramics	
ART 241	Ceramics	
or ART 242	Life Modeling	
Senior Project		
ART 440	Senior Projects in Ceramics	
Graphic Design **		
ARHS 406	Graphic Design History	
Art Studio Non-Emphasis Areas		
Choose three courses from the following:		
ART 213	Painting 1	
or ART 214	Painting 2	
ART 226	Introduction to Sculpture	
or ART 227	Sculpture	
ART 230	Printmaking - Intaglio and Relief	
or ART 231	Printmaking - Lithography	
ART 240	Ceramics	

or ART 241	Ceramics
or ART 242	Life Modeling
ART 270	Introduction to Electronic Media 1
or ART 271	Introduction to Electronic Media 2

Graphic Design 200-level Coursework

ART 223	Introduction to Graphic Design
ART 224	Graphic Design 2
ART 232	Photography
ART 234	Digital Photography

Senior Project

ART 425	Graphic Design: Senior Project
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Intermedia and Photography

Art History ***

Art History 200-level or above course

Art Studio Non-Emphasis Areas

Choose four courses from the following:

ART 213	Painting 1
or ART 214	Painting 2
ART 223	Introduction to Graphic Design
or ART 224	Graphic Design 2
ART 226	Introduction to Sculpture
or ART 227	Sculpture
ART 230	Printmaking - Intaglio and Relief
or ART 231	Printmaking - Lithography
ART 240	Ceramics
or ART 241	Ceramics
or ART 242	Life Modeling

Intermedia/Photography 200-level Coursework

Select one of the following pairings:

ART 232 & ART 234	Photography and Digital Photography
ART 270 & ART 271	Introduction to Electronic Media 1 and Introduction to Electronic Media 2

Senior Project

ART 435	Senior Projects in Photography
or ART 470	Senior Projects in Intermedia

Painting

Art History ***

Art History 200-level or above course

Art Studio Non-Emphasis Areas

Choose four courses from the following:

ART 223	Introduction to Graphic Design
or ART 224	Graphic Design 2
ART 226	Introduction to Sculpture
or ART 227	Sculpture
ART 230	Printmaking - Intaglio and Relief
or ART 231	Printmaking - Lithography
ART 232	Photography
or ART 234	Digital Photography
ART 240	Ceramics
or ART 241	Ceramics
or ART 242	Life Modeling

ART 270	Introduction to Electronic Media 1
or ART 271	Introduction to Electronic Media 2

Painting 200-level Coursework

ART 213	Painting 1
ART 214	Painting 2

Senior Project

ART 413	Senior Projects in Painting
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Printmaking

Art History ***

Art History 200-level or above course

Art Studio Non-Emphasis Areas

Choose four courses from the following:

ART 240	Ceramics
or ART 241	Ceramics
or ART 242	Life Modeling
ART 223	Introduction to Graphic Design
or ART 224	Graphic Design 2
ART 270	Introduction to Electronic Media 1
or ART 271	Introduction to Electronic Media 2
ART 232	Photography
or ART 234	Digital Photography
ART 226	Introduction to Sculpture
or ART 227	Sculpture
ART 213	Painting 1
or ART 214	Painting 2

Printmaking 200-level Coursework

ART 230	Printmaking - Intaglio and Relief
ART 231	Printmaking - Lithography

Senior Project

ART 430	Senior Projects in Printmaking
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Sculpture

Art History ***

Art History 200-level or above course

Art Studio Non-Emphasis Areas

Choose four courses from the following:

ART 240	Ceramics
or ART 241	Ceramics
or ART 242	Life Modeling
ART 223	Introduction to Graphic Design
or ART 224	Graphic Design 2
ART 270	Introduction to Electronic Media 1
or ART 271	Introduction to Electronic Media 2
ART 232	Photography
or ART 234	Digital Photography
ART 230	Printmaking - Intaglio and Relief
or ART 231	Printmaking - Lithography
ART 213	Painting 1
or ART 214	Painting 2

Sculpture 200-level Coursework

ART 226	Introduction to Sculpture
ART 227	Sculpture

Senior Project

ART 426	Senior Projects in Sculpture	
Area of Emphasis		18
Writing Portfolio Requirement* *		
Total Hours		139

* Please see your advisor for details on this requirement.

** Graphic Design Area of Emphasis requires 30 hours of Studio Emphasis Coursework. All others (Ceramics, Intermedia and Photography, Painting, Printmaking, and Sculpture) require 27 hours of Studio Emphasis Coursework.

*** The following courses may not be used to fulfill this requirement: ARHS 401, ARHS 492, ARHS 496, ARHS 497, ARHS 498, ARHS 490, and ARHS 491.

Studio Emphasis: Ceramics Area of Emphasis Requirements

Art 300-level Studio Emphasis Area		18
ART 340	Ceramics	
ART 341	Ceramic Production Methods	
Total Hours		18

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ARHS 120 (GEF 6)	3 ARHS 160 (GEF 8)	3
ENGL 101 (GEF 1)	3 GEF 3	3
ART 191	2 GEF 7	3
GEF 5	3	
	17	15

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 213 or 214	3 ART 226 or 227	3
ART 240	3 ART 264	3
ENGL 102 (GEF 1)	3 ART 241	3
GEF 2	4 SPED 304 (GEF 4)	3
	16	15

Third Year

Fall	Hours Spring	Hours
ART 340	3 ART 340	6
ART 341	3 ART 266	3
Select one of the following:	3 GEF 8	3
ART 223	ART 230 or 231	3
ART 224		
ART 232		
ART 233		
ART 270		
ART 265	3	
EDUC 301	3	
	15	15

Fourth Year

Fall	Hours Spring	Hours
ART 340	6 ARHS 389 (fulfills requirement for Art History 200-level or above, and replaces RDNG 422 for major requirements)	3

ARHS 200-Level or higher	3 ART 440	6
GEF 8	3 ART 365	3
ART 267	3 SPED 360	3
	15	15

Fifth Year

Fall	Hours	
C&I 491	4	
ART 491D	12	
	16	

Total credit hours: 139

Studio Emphasis: Graphic Design Area of Emphasis Requirements

ART 323	Graphic Design 3	6
ART 324	Graphic Design 4	6
or ART 425	Graphic Design: Senior Project	
ART 325	Design for Web and Screen	3
ART 328	Advanced Typography	3
Total Hours		18

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ART 191 (University Requirement)	2 ARHS 160 (GEF 8)	3
ARHS 120 (GEF 6)	3 GEF 3	3
ENGL 101 (GEF 1)	3 GEF 7	3
GEF 5	3	
	17	15

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 223	3 ART 224	3
ENGL 102 (GEF 1)	3 ART 264	3
Art Studio Non-Emphasis Area	3 SPED 304 (GEF 4)	3
GEF 2	4 Art Studio Non-Emphasis Area	3
	16	15

Third Year

Fall	Hours Spring	Hours
ART 232	3 ART 266	3
ART 265	3 ART 323	3
ART 323	3 ART 325	3
ART 328	3 Art Studio Non-Emphasis Area	3
EDUC 301	3 GEF 8	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ART 234	3 ART 324	3
ART 267	3 ART 365	3
ART 324	3 ART 425	3
ART 425	3 ARHS 389	3

ARHS 406	3 SPED 360	3
GEF 8	3	
		18
		15

Fifth Year

Fall	Hours	
ART 491D	12	
C&I 491	4	
		16

Total credit hours: 142

Studio Emphasis: Intermedia and Photography Area of Emphasis Requirements**Art 300-level Studio Emphasis Area** 18

Select 1 of the following groupings:

ART 332	Intermediate Photography
or ART 333	Alternative Photography
or ART 335	Advanced Photography
ART 370	Intermediate Electronic Media
or ART 371	Interactive Art
or ART 372	Interactive Design

Total Hours 18

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ART 191 (University Requirement)	2 ARHS 160 (GEF 8)	3
ARHS 120 (GEF 6)	3 GEF 3	3
ENGL 101 (GEF 1)	3 GEF 7	3
GEF 5	3	
		17
		15

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
Art Studio Non-Emphasis Area	3 ART 264	3
Art 200-Level Studio Emphasis Area	3 Art Studio Non-Emphasis Area	3
ENGL 102 (GEF 1)	3 Art 200-Level Studio Emphasis Area	3
GEF 2	4 SPED 304 (GEF 4)	3
		16
		15

Third Year

Fall	Hours Spring	Hours
ART 265	3 ART 266	3
EDUC 301	3 GEF 8	3
Art Studio Non-Emphasis Area	3 Art Studio Non-Emphasis Area	3
Art 300-Level Studio Emphasis Area	6 Art 300-Level Studio Emphasis Area	6
		15
		15

Fourth Year

Fall	Hours Spring	Hours
ART 267	3 ARHS 389	3
ART 335	6 ART 365	3
ARHS 200-Level or higher	3 SPED 360	3

GEF 8	3 Senior Project Course	6
	15	15

Fifth Year

Fall	Hours	
ART 491D	12	
C&I 491	4	
	16	

Total credit hours: 139

Studio Emphasis: Painting Area of Emphasis Requirements

Art 300-level Studio Emphasis Area 18

ART 313	Painting 3	
Total Hours		18

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ART 191	2 ARHS 160 (GEF 8)	3
ARHS 120 (GEF 6)	3 GEF 3	3
ENGL 101 (GEF 1)	3 GEF 7	3
GEF 5	3	
	17	15

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 213	3 ART 214	3
ENGL 102 (GEF 1)	3 ART 264	3
Art Studio Non-Emphasis Area	3 SPED 304 (GEF 4)	3
GEF 2	4 Art Studio Non-Emphasis Area	3
	16	15

Third Year

Fall	Hours Spring	Hours
ART 265	3 ART 266	3
ART 313	6 ART 313	6
EDUC 301	3 Art Studio Non-Emphasis Area	3
Art Studio Non-Emphasis Area	3 GEF 8	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ART 267	3 ART 365	3
ART 313	6 ART 413	6
ARHS 200-Level or Higher	3 ARHS 389	3
GEF 8	3 SPED 360	3
	15	15

Fifth Year

Fall	Hours	
ART 491D	12	

C&I 491	4
	16

Total credit hours: 139

Studio Emphasis: Printmaking Area of Emphasis Requirements

Art 300-level Studio Emphasis Area		18
ART 330	Printmaking	

Total Hours 18

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ART 191	2 ARHS 160 (GEF 8)	3
ARHS 120 (GEF 6)	3 GEF 3	3
ENGL 101 (GEF 1)	3 GEF 7	3
GEF 5	3	
	17	15

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 230	3 ART 231	3
ENGL 102 (GEF 1)	3 ART 264	3
Art Studio Non-Emphasis Area	3 SPED 304 (GEF 4)	3
GEF 2	4 Art Studio Non-Emphasis Area	3
	16	15

Third Year

Fall	Hours Spring	Hours
ART 265	3 ART 266	3
ART 330	6 ART 330	6
EDUC 301	3 Art Studio Non-Emphasis Area	3
Art Studio Non-Emphasis Area	3 GEF 8	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ART 267	3 ART 365	3
ART 330	6 ART 430	6
ARHS 200-Level or Higher	3 ARHS 389	3
GEF 8	3 SPED 360	3
	15	15

Fifth Year

Fall	Hours
ART 491D	12
C&I 491	4
	16

Total credit hours: 139

Studio Emphasis: Sculpture Area of Emphasis Requirements

Art 300-level Studio Emphasis Area 18

ART 326

Sculpture

Total Hours

18

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ART 191	2 ARHS 160 (GEF 8)	3
ARHS 120 (GEF 6)	3 GEF 3	3
ENGL 101 (GEF 1)	3 GEF 7	3
GEF 5	3	
	17	15

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 226	3 ART 227	3
ENGL 102 (GEF 1)	3 ART 264	3
Art Studio Non-Emphasis Area	3 SPED 304 (GEF 4)	3
GEF 2	4 Art Studio Non-Emphasis Area	3
	16	15

Third Year

Fall	Hours Spring	Hours
ART 265	3 ART 266	3
ART 326	6 ART 326	6
EDUC 301	3 Art Studio Non-Emphasis Area	3
Art Studio Non-Emphasis Area	3 GEF 8	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ART 267	3 ART 365	3
ART 326	6 ART 426	6
ARHS 200-Level or Higher	3 ARHS 389	3
GEF 8	3 SPED 360	3
	15	15

Fifth Year

Fall	Hours
ART 491D	12
C&I 491	4
	16

Total credit hours: 139

Major Learning Goals**ART EDUCATION**

The Bachelor of Fine Arts (B.F.A.) is a professional degree with an intensive focus on an area of the Arts supported by a program in general studies. The intent of the B.F.A. is to prepare for professional practice in the area of the degree.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.

- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

Additional specific goals related to the art education major:

- Studio Art-The prospective art teacher must be familiar with the basic expressive, technical, procedural and organizational skills, and conceptual insights which can be developed through studio art and design experiences.
- Art History and Analysis-The prospective art teacher must have an understanding of: (1) The major styles and periods of art history, analytical methods, and theories of criticism. (2) The development of past and contemporary art forms. (3) Contending philosophies of art. (4) The fundamental and integral relationships of all these to the making of art.
- Teaching Competencies-The artist-teacher must be able to connect an understanding of educational processes and structures with an understanding of relationships among the arts, sciences, and humanities, in order to apply art competencies in teaching situations and to integrate art/design instruction into the total process of education. Specific competencies include:
 - a. An understanding of child development and the identification and understanding of psychological principles of learning as they relate to art education.
 - b. An understanding of the philosophical and social foundation underlying art in education and the ability to express a rationale for personal attitudes and beliefs.
 - c. Ability to assess aptitudes, experiential backgrounds, and interests of individuals and groups of students, and to devise learning experiences to meet assessed needs.
 - d. Knowledge of current methods and materials available in all fields and levels of art education.
 - e. Basic understanding of the principles and methods of developing curricula and the short- and long-term instructional units that comprise them.
 - f. The ability to accept, amend, or reject methods and materials based on personal assessment of specific teaching situations.
 - g. An understanding of evaluative techniques and the ability to apply them in assessing both the progress of students and the objectives and procedures of the curriculum.
 - h. Ability to organize continuing study and to incorporate knowledge gained into self-evaluation and professional growth.

Art History

Bachelor of Arts in Art History

Art history is the study of the traditions and techniques of the visual arts. It is an interdisciplinary field, drawing upon philosophy, history, literature, religion, and mythology to examine works of art and their contexts. The history of art provides means to penetrate cultural constructions and their aesthetic and artistic productions.

Each semester, art history field trips travel to study works in regional museums. The Art Museum of West Virginia University Collection provides first-hand experience with works of significant aesthetic and cultural value, and introduces students to curatorial and museum practice. Guest artist and art historian lectures and exhibitions in the Mesaros Galleries are scheduled each semester.

In order to broaden their experiences, students are encouraged to study abroad during one or two semesters of the junior year. Opportunities to study the history of art are also available within the School of Art and Design's established International summer programs in Italy and China.

Art history majors are required to complete four semesters of a language other than English, or two semesters of Latin, or pass a written translation competency exam in an agreed-upon language other than English.

The Bachelor of Arts in Art History provides a foundation in the history of art and architecture in its cultural and theoretical context. Aesthetic and historical issues have become increasingly central to the creation, display, and reception of art. School of Art and Design courses in Art History introduce tools for the making and analysis of art, including the history of works of art, the language of art, and the cultural context for works of art. In the final semester, the student will complete a senior research project on a topic selected by the student with the approval of the art history faculty.

Click here to view the Suggested Plan of Study (p. 506)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

The School of Art and Design values and supports written communication abilities and critical thinking skills developed through iterative writing experiences across the curriculum and within the discipline. To meet this goal students must pass with a C- or better a writing portfolio requirement that includes examples of academic, professional, and reflective writing they have produced in their regular courses. Please contact your advisor for more information.

ART 191	First-Year Seminar - Creative Arts	2
GEF 1, 2, 3, 4, and 5		19
Studio (Any ART course)		6
Art History Core		
ARHS 120	Survey of Art History 1 (fulfills GEF 6)	3
ARHS 160	Survey of Art History 2	3
Classics: Select 1 from the following		3
ARHS 320	Greek and Roman	
ARHS 325	Ancient Roman Art and Architecture	
ARHS 331	Medieval	
ARHS 333	Medieval Architecture	
Western European Traditions: Select 1 from the following		3
ARHS 350	Northern Renaissance	
ARHS 354	Italian Renaissance	
ARHS 360	Baroque	
ARHS Semester in Italy		
Modern and Contemporary Studies: Select 1 from the following		3
ARHS 370	American	
ARHS 375	Nineteenth Century	
ARHS 380	Modern	
ARHS 381	Modern Architecture	
ARHS 389	Contemporary	
Art History Major Courses		
ARHS 240	Art Theory	3
ARHS 345	Modern Art Theory	3
ARHS 494 or ARHS 493	Seminar Special Topics	3
ARHS 401	Senior Project-Capstone	3
ARHS Electives (200 level or higher; excluding Special Topics courses)		9
Foreign Language (fulfills GEFs 7 and 8) ***		12
Cognate Areas		

Cognate 1	9
Cognate 2	6
Cognate 3	6
Writing Portfolio Requirement **	
Electives (electives will vary based on GEF courses chosen; students must earn 120 credits to graduate)	24
Total Hours	120

* Recommended Cognate/GEF Depth/Minor Areas include: Art History Specializations; Chemistry/Physics/Forensics; Art Administration; Historic Presentation; History/Humanities/Classics/Archaeology/Anthropology; Literature; Museum/Curatorial; Native American/African Studies; Philosophy/Religion/Women's Studies; Studio Art/Theater/Music; Study Abroad/Off Campus; World Architecture

** Please see your advisor for details on this requirement.

*** All students must complete 6 credit hours of Latin (CLAS) or 12 credit hours of another foreign language. Students who elect to complete Latin (CLAS) courses will fulfill GEFs 5 and 8.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
Studio Arts	3 Cognate 1 Course	3
ARHS 120 (GEF 6)	3 ARHS 160	3
Foreign Language (GEF 7)	3 Foreign Language (GEF 8)	3
ENGL 101 (GEF 1)	3 Elective	3
ART 191 (University Requirement)	2 GEF 2	4
GEF 4	3	
	17	16

Second Year

Fall	Hours Spring	Hours
Art History Core course	3 ARHS 240	3
Cognate 2 Course	3 Art History Core course	3
Foreign Language (GEF 8)	3 GEF 3	3
ENGL 102 (GEF 1)	3 Foreign Language (GEF 8)	3
Elective	3 Cognate 3 Course	3
	15	15

Third Year

Fall	Hours Spring	Hours
ARHS 345	3 Art History Core course	3
Cognate 1 Course	3 ARHS Elective	3
ARHS Elective	3 GEF 5	3
Elective	3 Cognate 2 Course	3
Studio Art	3 Cognate 3 Course	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
ARHS 494	3 ARHS Elective	3
Cognate 1 Course	3 ARHS 401	3
Elective	3 Elective	3
Elective	3 Elective	3
Elective	3	
	15	12

Total credit hours: 120

Major Learning Goals

ART HISTORY

The Bachelor of Arts (B.A.) degree is based on a breadth of general, liberal arts studies (humanities, natural and physical sciences, and social sciences) with a specialized focus in one area of the Arts.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

Additional specific goals related to the art history degree:

- A general knowledge of the monuments and principal artists of all major art periods of the past, including a broad understanding of the art of the contemporary and modern periods and acquaintance with the art history of non-Western cultures.
- A general knowledge of the theory, modes of analysis, and criticism relevant to the discipline of art history.
- A general knowledge of world history.
- Knowledge of the tools and techniques of scholarship.
- Functional knowledge of the creative process.
- Adequate mastery of at least one foreign language to support research through the reading of primary source materials.

Ceramics

Bachelor of Fine Arts in Ceramics

WVU ceramics program is committed to fostering an environment where students may maximize their learning experience. Whether it is technical or conceptual, sculptural or functional, the WVU faculty work for the development of a course of study that promotes the competence of idea development and the technical means to accomplish it. WVU ceramics emphasizes the development in technical expertise, design and conceptual approaches as a means to expand the student's aesthetic vocabulary. Our goal is to help students gain insight into their professional approach and commitment in their active pursuit of process and self-discovery as artists.

The WVU ceramics program has offered a comprehensive summer study program at Jingdezhen, China since 1995 and, in 2004, expanded the partnership to include a fall semester program that provides advanced undergraduate, graduate and professional-level studies in ceramics, including basic language, culture and Chinese ceramic art history.

The unique relationship allows those who participate in the program to see first hand the historic connections of western ceramics to its roots in China and the preservation of ancient processes and techniques. Through a linkage with the famed Pottery Workshop, we have teamed to offer a study and travel program in the People's Republic of China where students have the opportunity to study with some of China's most prominent teachers and ceramic artists.

Click here to view the Suggested Plan of Study (p. 509)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3

F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

The School of Art and Design values and supports written communication abilities and critical thinking skills developed through iterative writing experiences across the curriculum and within the discipline. To meet this goal students must pass with a C- or better a writing portfolio requirement that includes examples of academic, professional, and reflective writing they have produced in their regular courses. The writing portfolio replaces the Writing Intensive "W" credit for all incoming students beginning Fall 2016. Students graduating Spring or Summer 2016 must complete a "W" course. Please contact the School of Art and Design undergraduate major advisor, Professor Kristina Olson, for more information.

A grade of C- or higher must be earned in all ART and ARHS courses.

GEF 1, 2, 3, 4, 5, 7, and 8	28	
ART 191	First-Year Seminar - Creative Arts	2
ARHS 120	Survey of Art History 1 (may fulfill GEF 6)	3
ARHS 160	Survey of Art History 2 (may fulfill GEF 8)	3
ART 111	Drawing 1	3
ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 122	Visual Foundations 2	3
ART 211	Figure Drawing	3
ART 212	Multi Media	3
ART 240	Ceramics	3
ART 241	Ceramics	3
or ART 242	Life Modeling	
Choose from the following:		18
ART 340	Ceramics	
ART 341	Ceramic Production Methods	
ART 440	Senior Projects in Ceramics	6
ART or ARHS 200/300/400 level		18
Choose two of the following Art 200-level electives:		6
ART 223	Introduction to Graphic Design	
or ART 224	Graphic Design 2	
ART 270	Introduction to Electronic Media 1	
or ART 271	Introduction to Electronic Media 2	
ART 213	Painting 1	
or ART 214	Painting 2	
ART 232	Photography	
or ART 234	Digital Photography	
ART 230	Printmaking - Intaglio and Relief	
or ART 231	Printmaking - Lithography	
ART 226	Introduction to Sculpture	
or ART 227	Sculpture	
ARHS 200/300/400 level		6
Writing Portfolio Requirement *		
Electives		6
Total Hours		120

* Please see your advisor for details on this requirement.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ARHS 120 (GEF 6)	3 ARHS 160 (GEF 8)	3
ART 191 (University Requirement)	2 GEF 2	4
ENGL 101 (GEF 1)	3 GEF 5	3
GEF 4	3	
	17	16

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 240	3 ART 241	3
ART 200-Level Elective	3 ART 200-Level Elective	3
ENGL 102 (GEF 1)	3 GEF 3	3
ARHS 200/300/400 level	3 ARHS 200/300/400 level	3
	15	15

Third Year

Fall	Hours Spring	Hours
ART 340	3 ART 340	6
ART 341	3 ART or ARHS 200/300/400 level	6
GEF 7	3 Elective	3
Elective	3	
	12	15

Fourth Year

Fall	Hours Spring	Hours
ART 340	6 ART 440	6
ART or ARHS 200/300/400 level	6 ART or ARHS 200/300/400 level	6
GEF 8	3 GEF 8	3
	15	15

Total credit hours: 120

Major Learning Goals

CERAMICS

The Bachelor of Fine Arts (B.F.A.) is a professional degree with an intensive focus on an area of the Arts supported by a program in general studies. The intent of the B.F.A. is to prepare for professional practice in the area of the degree.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

Additional specific goals related to the ceramics degree:

- Understanding of basic design principles, particularly as related to ceramics. Advanced work in three-dimensional design.
- Knowledge and skills in the use of basic tools, techniques, and processes sufficient to produce work from concept to finished object. This includes knowledge of raw materials and technical procedures such as clays, glazes, and firing.
- Understanding of the place of ceramics within the history of art, design, and culture.
- Preparation of clay bodies and glazes, kiln stacking procedures, and firing processes.

- Completion of a final project related to the exhibition of original work.

Graphic Design

Bachelor of Fine Arts in Graphic Design

Design today is more than web sites, print media, exhibits, branding or even social media. It is about informing, stimulating, persuading and empowering social change. Design now comes in at the front end of problems instead of decorating the message given to designers. It is an exciting time to be a designer. We work with communities and grants or author our own projects that advance innovation we believe is needed.

Graduates of the graphic design program are at the headquarters of Coca Cola, at the helm of NBC's entertainment division in Burbank, in major packaging firms, designing the web interests of *The New York Times*, creating multimedia for large corporations in Washington, DC, and designing for social concerns in the national offices of Big Brothers/Big Sisters and environmental groups.

Graduates have also stayed in the state, contributing to West Virginia by working at newspapers, the University, television stations, local agencies, and their own businesses. As part of their preparation, students have interned inside and outside the University and worked on client-initiated projects in the classroom.

Click here to view the Suggested Plan of Study (p. 511)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

The School of Art and Design values and supports written communication abilities and critical thinking skills developed through iterative writing experiences across the curriculum and within the discipline. To meet this goal students must pass with a C- or better a writing portfolio requirement that includes examples of academic, professional, and reflective writing they have produced in their regular courses. The writing portfolio replaces the Writing Intensive "W" credit for all incoming students beginning Fall 2016. Students graduating Spring or Summer 2016 must complete a "W" course. Please contact the School of Art and Design undergraduate major advisor, Professor Kristina Olson, for more information.

A grade of C- or higher must be earned in all ART or ARHS courses

GEF 1, 2, 3, 4, 5, 7, and 8		28
ART 191	First-Year Seminar - Creative Arts	2
ARHS 120	Survey of Art History 1 (GEF 6)	3
ARHS 160	Survey of Art History 2 (GEF 8)	3
ARHS 200/300/400 level		3
ARHS 406	Graphic Design History	3
ART 111	Drawing 1	3
ART 112	Drawing 2	3

ART 121	Visual Foundations 1	3
ART 122	Visual Foundations 2	3
ART 211	Figure Drawing	3
ART 212	Multi Media	3
ART 223	Introduction to Graphic Design	3
ART 224	Graphic Design 2	3
ART 325	Design for Web and Screen	3
ART 328	Advanced Typography	3
ART 323	Graphic Design 3	6
Choose one of the following:		6
ART 324	Graphic Design 4	
or ART 425	Graphic Design: Senior Project	
Graphic Design: Senior Project		6
ART 425	Graphic Design: Senior Project	
ART or ARHS 200/300/400		15
ART 232	Photography	3
ART 234	Digital Photography	3
Choose one from the following ART 200-level electives:		3
ART 213	Painting 1	
ART 214	Painting 2	
ART 226	Introduction to Sculpture	
ART 227	Sculpture	
ART 230	Printmaking - Intaglio and Relief	
ART 231	Printmaking - Lithography	
ART 240	Ceramics	
ART 241	Ceramics	
ART 242	Life Modeling	
ART 270	Introduction to Electronic Media 1	
ART 271	Introduction to Electronic Media 2	
Writing Portfolio Requirement *		
Electives		6
Total Hours		120

* Please see your advisor for details on this requirement.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ARHS 120 (GEF 6)	3 ARHS 160 (GEF 8)	3
ART 191 (University Requirement)	2 GEF 2	4
ENGL 101 (GEF 1)	3 GEF 5	3
GEF 4	3	
	17	16

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 223	3 ART 224	3
ART 232	3 ART 234	3
ENGL 102 (GEF 1)	3 GEF 3	3

ARHS 406	3 ARHS 200/300/400 level	3
	15	15
Third Year		
Fall	Hours Spring	Hours
ART 323	3 ART 323	3
ART 328	3 ART 325	3
ART 200-level Elective	3 ART or ARHS 200/300/400 level	6
GEF 7	3 Elective	3
Elective	3	
	15	15
Fourth Year		
Fall	Hours Spring	Hours
ART 324 or 425	3 ART 324 or 425	3
ART 425	3 ART 425	3
ART or ARHS 200/300/400 level	6 ART or ARHS 200/300/400 level	3
GEF 8	3 GEF 8	3
	15	12

Total credit hours: 120

Major Learning Goals

GRAPHIC DESIGN

The Bachelor of Fine Arts (B.F.A.) is a professional degree with an intensive focus on an area of the Arts supported by a program in general studies. The intent of the B.F.A. is to prepare for professional practice in the area of the degree.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

Additional specific goals related to the graphic design degree:

- Understanding of and ability to develop strategies for planning, producing, and disseminating visual communications.
- Functional knowledge of creative approaches, and the analytical ability to make appropriate, purpose-based choices among them, and to use such approaches to identify communication opportunities and generate alternative solutions.
- Fluency in the use of the formal vocabulary and concepts of design—including content, elements, structure, style, and technology—in response to visual communication problems.
- Ability to use typography, images, diagrams, motion, sequencing, color, and other such elements effectively in the contexts of specific design projects.
- Ability to incorporate research and findings regarding people and contexts into communication design decision-making.
- Understanding of design at different scales, ranging from components to systems and from artifacts to experiences.
- Ability to exercise critical judgment about the student's own design and the design of others with regard to usefulness, usability, desirability, technological feasibility, economic viability, and sustainability in terms of long-term consequences.
- Acquisition of collaborative skills and the ability to work effectively in interdisciplinary or multidisciplinary teams to solve complex problems.
- Understanding of and the ability to use technology, including but not limited to: (1) Functional understanding of how to continue learning technology, recognizing that technological change is constant. (2) Ability to conduct critical evaluations of different technologies in specific design problem contexts, including the placement of technical issues in the service of human-centered priorities and matching relationships between technologies and the people expected to use them. (3) Functional capability to shape and create technological tools and systems to address communication problems and further communication goals. (4) Ability to recognize and analyze the social, cultural, and economic implications of technology on message creation and production and on human behavior, and to incorporate results into design decisions.
- Functional knowledge of professional design practices and processes.

Intermedia/Photography

Bachelor of Fine Arts in Intermedia/Photography

The intermedia/photography program at West Virginia University provides an environment that fosters creative exploration and critical inquiry in the production of contemporary art. Through a variety of media explorations, including digital and traditional photographic processes, digital video, animation, installation, interactivity and sound design, students are encouraged to develop unique and compelling forms of expression. A state-of-the-art facility for analog and digital imaging, a diverse and sequenced curriculum, and a supportive and challenging faculty all aid students in their individual journeys as artists. In both our undergraduate and graduate programs, we encourage spirited interaction with the other programs of the College of Creative Arts and the university at large.

In the classroom, frequent critiques of student work become an important activity providing feedback on techniques and subject matter and a chance to discuss project ideas and interpretation. In addition, professional artists are frequently invited as guest lecturers to stimulate dialogue about current issues with the medium. These visiting artists share their experiences so that they may help prepare students for the workplace. Students also learn about the role of the artist beyond the university by attending exhibitions at museums and galleries, and by participating in regular art exhibitions in the community.

Click here to view the Suggested Plan of Study (p. 514)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

The School of Art and Design values and supports written communication abilities and critical thinking skills developed through iterative writing experiences across the curriculum and within the discipline. To meet this goal students must pass with a C- or better a writing portfolio requirement that includes examples of academic, professional, and reflective writing they have produced in their regular courses. The writing portfolio replaces the Writing Intensive "W" credit for all incoming students beginning Fall 2016. Students graduating Spring or Summer 2016 must complete a "W" course. Please contact the School of Art and Design undergraduate major advisor, Professor Kristina Olson, for more information.

A grade of C- or higher must be earned in all ART and ARHS courses.

GEF 1, 2, 3, 4, 5, 7, and 8		28
ART 191	First-Year Seminar - Creative Arts	2
ARHS 120	Survey of Art History 1 (may fulfill GEF 6)	3
ARHS 160	Survey of Art History 2 (may fulfill GEF 8)	3
ART 111	Drawing 1	3
ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 122	Visual Foundations 2	3

ART 211	Figure Drawing	3
ART 212	Multi Media	3
Choose one of the following pairs:		6
ART 232 & ART 234	Photography and Digital Photography	
ART 270 & ART 271	Introduction to Electronic Media 1 and Introduction to Electronic Media 2	
Studio Non-Emphasis Courses		
Choose two of the following ART 200-level electives:		6
ART 213 or ART 214	Painting 1 Painting 2	
ART 223 or ART 224	Introduction to Graphic Design Graphic Design 2	
ART 226 or ART 227	Introduction to Sculpture Sculpture	
ART 230 or ART 231	Printmaking - Intaglio and Relief Printmaking - Lithography	
ART 240 or ART 241 or ART 242	Ceramics Ceramics Life Modeling	
If not completed above:		
ART 232 or ART 234	Photography Digital Photography	
ART 270 or ART 271	Introduction to Electronic Media 1 Introduction to Electronic Media 2	
Choose from the following:		18
ART 332	Intermediate Photography	
ART 333	Alternative Photography	
ART 335	Advanced Photography	
ART 370	Intermediate Electronic Media	
ART 371	Interactive Art	
ART 470 or ART 435	Senior Projects in Intermedia Senior Projects in Photography	6
ARHS 200/300/400 level		6
ART or ARHS 200/300/400 level		18
Writing Portfolio Requirement *		
Electives		6
Total Hours		120

* Please see your advisor for details on this requirement.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 212	3
ARHS 120 (GEF 6)	3 ARHS 160 (GEF 8)	3
ART 191 (University Requirement)	2 GEF 2	4
ENGL 101 (GEF 1)	3 GEF 5	3
GEF 4	3	
	17	16

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
Select one from the following:	3 Select one from the following:	3
ART 232	ART 234	
ART 270	ART 271	
ART 200-level Elective	3 ART 200-level Elective	3
ENGL 102 (GEF 1)	3 GEF 3	3
ARHS 200/300/400 level	3 ARHS 200/300/400 level	3
	15	15

Third Year

Fall	Hours Spring	Hours
ART 370 or 333	6 ART 370 or 332	6
GEF 7	3 ART or ARHS 200/300/400 level	6
Elective	3 Elective	3
	12	15

Fourth Year

Fall	Hours Spring	Hours
ART 370 or 335	6 ART 470 or 435	6
ART or ARHS 200/300/400 level	6 ART or ARHS 200/300/400 level	6
GEF 8	3 GEF 8	3
	15	15

Total credit hours: 120

Major Learning Goals**INTERMEDIA/PHOTOGRAPHY**

The Bachelor of Fine Arts (B.F.A.) is a professional degree with an intensive focus on an area of the Arts supported by a program in general studies. The intent of the B.F.A. is to prepare for professional practice in the area of the degree.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

Additional specific goals related to the intermedia emphasis:

- Knowledge of the concepts related to the visual, spatial, sound, motion, interactive, and temporal elements/features of digital technology and principles for their use in the creation and application of digital media-based work.
- Understanding of narrative and other information/language structures for organizing content in time-based or interactive media; the ability to organize and represent content structures in ways that are responsive to technological, social, and cultural systems.
- Understanding of the characteristics and capabilities of various technologies (hardware and software); their appropriateness for particular expressive, functional, and strategic applications; their positions within larger contexts and systems; and their influences on individuals and society.
- Knowledge of history, theory, and criticism with respect to such areas as film, video, technology, and digital art and design.
- Ability to use the above competencies in the creation and development of professional quality digital media productions.

Additional specific goals related to the photography emphasis:

- Understanding of the visual forms and their aesthetic functions, and basic photographic design principles with attention to such areas as design, color, and lighting.
- Knowledge and skills in the use of basic tools, techniques, technologies, and processes sufficient to work from concept to finished product. This involves a mastery of the materials, equipment, and processes of the discipline, including but not limited to uses of cameras, film, lighting/digital technologies, processing in black and white, and color, printing, and work with nonsilver materials.

- Functional knowledge of photographic history and theory, the relationship of photography to the visual disciplines, and its influence on culture.

Painting

Bachelor of Fine Arts in Painting

Traditional and experimental oil and acrylic painting in figurative and abstract imagery are explored to their fullest potential for each student. The painting program is designed to introduce students to the historic and contemporary foundations of painting media. Learning is both one-on-one and collaborative, so that personal exploration and wider aesthetic discourse are heightened. The program emphasizes both craft and conceptualization.

Classes encourage open, diverse criteria for critique and evaluation. Students are invited to consider interdisciplinary media and multicultural sources of inspiration in order to find the most fluent and expressive voice for their work. Careful individualized advisement prepares painters to comprehend and engage the gallery market, trends in critical thinking, and reputable graduate programs for further study and other professional opportunities.

Click here to view the Suggested Plan of Study (p. 517)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

The School of Art and Design values and supports written communication abilities and critical thinking skills developed through iterative writing experiences across the curriculum and within the discipline. To meet this goal students must pass with a C- or better a writing portfolio requirement that includes examples of academic, professional, and reflective writing they have produced in their regular courses. The writing portfolio replaces the Writing Intensive "W" credit for all incoming students beginning Fall 2016. Students graduating Spring or Summer 2016 must complete a "W" course. Please contact the School of Art and Design undergraduate major advisor, Professor Kristina Olson, for more information.

A grade of C- or higher must be earned in all ART and ARHS courses.

GEF Requirements		28
Lower-Level Sequence		
ART 191	First-Year Seminar - Creative Arts	2
ART 111	Drawing 1	3
ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 122	Visual Foundations 2	3
ARHS 120	Survey of Art History 1 (may fulfill GEF 6)	3
ARHS 160	Survey of Art History 2 (may fulfill GEF 8)	3
ART 211	Figure Drawing	3
ART 212	Multi Media	3

ARHS 200/300/400 level		6
ART 213	Painting 1	3
ART 214	Painting 2	3
Studio Non-Emphasis Courses		
Choose two of the following ART 200-level electives:		6
ART 240 or ART 241 or ART 242	Ceramics Ceramics Life Modeling	
ART 223 or ART 224	Introduction to Graphic Design Graphic Design 2	
ART 270 or ART 271	Introduction to Electronic Media 1 Introduction to Electronic Media 2	
ART 232 or ART 234	Photography Digital Photography	
ART 230 or ART 231	Printmaking - Intaglio and Relief Printmaking - Lithography	
ART 226 or ART 227	Introduction to Sculpture Sculpture	
Painting		18
ART 313	Painting 3 (Repeated)	
ART 413	Senior Projects in Painting	6
ART 200/300/400 or ARHS 200/300/400 level		18
Writing Portfolio Requirement *		
Electives		6
Total Hours		120

* Please see your advisor for details on this requirement.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ARHS 120 (GEF 6)	3 ARHS 160 (GEF 8)	3
ART 191 (University Requirement)	2 GEF 2	4
ENGL 101 (GEF 1)	3 GEF 5	3
GEF 4	3	
	17	16

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 213	3 ART 214	3
ARHS 200/300/400 level	3 ART 200-level Elective	3
ART 200-level Elective	3 GEF 3	3
ENGL 102 (GEF 1)	3 ARHS 200/300/400 level	3
	15	15

Third Year

Fall	Hours Spring	Hours
ART 313	6 ART 313	6
Elective	3 ART or ARHS 200/300/400 level	6
GEF 7	3 Elective	3
	12	15

Fourth Year

Fall	Hours Spring	Hours
ART 313	6 ART 413	6
ART or ARHS 200/300/400 level	6 ART or ARHS 200/300/400 level	6
GEF 8	3 GEF 8	3
		15
		15

Total credit hours: 120

Major Learning Goals**PAINTING**

The Bachelor of Fine Arts (B.F.A.) is a professional degree with an intensive focus on an area of the Arts supported by a program in general studies. The intent of the B.F.A. is to prepare for professional practice in the area of the degree.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

Additional specific goals related to the painting degree:

- Understanding of basic principles of design and color, concepts, media and formats, and the ability to apply them to a specific aesthetic intent. This includes functional knowledge of the traditions, conventions, and evolution of the discipline as related to issues of representation illusion, and meaning.
- Ability to synthesize the use of drawing, two-dimensional design, and color.
- Knowledge and skills in the use of basic tools, techniques, and processes sufficient to work from concept to finished product, including knowledge of paints and surfaces.
- Exploration of the expressive possibilities of various media, and the diverse conceptual modes available to the painter.

Printmaking**Bachelor of Fine Arts in Printmaking**

Particular attention is given to developing personal imagery, while providing a solid foundation in the techniques of lithography and intaglio. Computer-mediated images, monoprinting, relief, silk-screen, and alternative printing processes are all integral to the curriculum. This program provides a cohesive offering of courses that focus upon the students' visual expression through their examination of formal issues, media exploration, relevant histories, contemporary critical discourse, and diverse approaches to problem solving.

The visiting artist and collaborative print programs are exciting components of the department, where nationally recognized artists work with us to produce limited edition prints. Whatever the occupation may be (arts administrators, master printers for galleries or museums, educators, or even non-art related professions), the printmaking program is dedicated to preparing students for life as practicing, professional artists.

[Click here to view the Suggested Plan of Study \(p. 520\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6

F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

The School of Art and Design values and supports written communication abilities and critical thinking skills developed through iterative writing experiences across the curriculum and within the discipline. To meet this goal students must pass with a C- or better a writing portfolio requirement that includes examples of academic, professional, and reflective writing they have produced in their regular courses. The writing portfolio replaces the Writing Intensive "W" credit for all incoming students beginning Fall 2016. Students graduating Spring or Summer 2016 must complete a "W" course. Please contact the School of Art and Design undergraduate major advisor, Professor Kristina Olson, for more information.

A grade of C- or higher must be earned in all ART and ARHS courses.

GEF 1, 2, 3, 4, 5, 7, and 8	28
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Lower-Level Sequence

ART 191	First-Year Seminar - Creative Arts	2
ART 111	Drawing 1	3
ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 122	Visual Foundations 2	3
ARHS 120	Survey of Art History 1 (may fulfill GEF 6)	3
ARHS 160	Survey of Art History 2 (may fulfill GEF 8)	3
ART 211	Figure Drawing	3
ART 212	Multi Media	3

Printmaking Emphasis

ARHS 200/300/400 level		6
ART 230	Printmaking - Intaglio and Relief	3
ART 231	Printmaking - Lithography	3

Studio Non-Emphasis Courses

Choose two of the following ART 200-level electives: 6

ART 240	Ceramics	
or ART 241	Ceramics	
or ART 242	Life Modeling	
ART 223	Introduction to Graphic Design	
or ART 224	Graphic Design 2	
ART 270	Introduction to Electronic Media 1	
or ART 271	Introduction to Electronic Media 2	
ART 213	Painting 1	
or ART 214	Painting 2	
ART 232	Photography	
or ART 234	Digital Photography	
ART 226	Introduction to Sculpture	
or ART 227	Sculpture	

Major Studio Area Sequence - 300 Level 18

ART 330	Printmaking	
ART 430	Senior Projects in Printmaking	6
ART or ARHS 200/300/400 level		18
Writing Portfolio Requirement *		

Electives	6
Total Hours	120

* Please see your advisor for details on this requirement.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ARHS 120 (GEF 6)	3 ARHS 160 (GEF 8)	3
ART 191 (University Requirement)	2 GEF 5	3
ENGL 101 (GEF 1)	3 GEF 2	4
GEF 4	3	
	17	16

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 230	3 ART 231	3
ART 200-level Elective	3 ART 200-level Elective	3
ENGL 102 (GEF 1)	3 GEF 3	3
ARHS 200/300/400 level	3 ARHS 200/300/400 level	3
	15	15

Third Year

Fall	Hours Spring	Hours
ART 330	6 ART 330	6
GEF 7	3 ART or ARHS 200/300/400 level	6
Elective	3 Elective	3
	12	15

Fourth Year

Fall	Hours Spring	Hours
ART 330	6 ART 430	6
ART or ARHS 200/300/400 level	6 ART or ARHS 200/300/400 level	6
GEF 8	3 GEF 8	3
	15	15

Total credit hours: 120

Major Learning Goals

PRINTMAKING

The Bachelor of Fine Arts (B.F.A.) is a professional degree with an intensive focus on an area of the Arts supported by a program in general studies. The intent of the B.F.A. is to prepare for professional practice in the area of the degree.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

Additional specific goals related to the printmaking degree:

- Understanding of basic design principles, concepts, media, and formats.

- Knowledge and skills in the use of basic tools, techniques, and processes sufficient to work from concept to finished product. This includes knowledge of basic materials and technical procedures such as intaglio, relief, lithography, silkscreen, and digital processes.
- Mastery of at least one printmaking technique, including the ability both to experiment with technical innovation and to explore and develop personal concepts and imagery.
- Functional knowledge of the history of printmaking.

Sculpture

Bachelor of Fine Arts in Sculpture

The sculpture curriculum provides a thorough grounding in many different materials and processes and is structured to enhance the student's ability to solve structural, spatial, formal, and conceptual problems. Initially, students concentrate on basic construction techniques and craftsmanship and then explore various tools and techniques used in the wood and metal shops. Large-scale works are encouraged and may be exhibited on the grounds of the Creative Arts Center.

The sculpture program encourages experimental approaches to art making including mixed media, mold making, installation, community-based, and environmental work. Students have the opportunity to participate each year in group metal pours, learning the technical and safety requirements to successfully cast in bronze and aluminum.

Click here to view the Suggested Plan of Study (p. 522)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

The School of Art and Design values and supports written communication abilities and critical thinking skills developed through iterative writing experiences across the curriculum and within the discipline. To meet this goal students must pass with a C- or better a writing portfolio requirement that includes examples of academic, professional, and reflective writing they have produced in their regular courses. The writing portfolio replaces the Writing Intensive "W" credit for all incoming students beginning Fall 2016. Students graduating Spring or Summer 2016 must complete a "W" course. Please contact the School of Art and Design undergraduate major advisor, Professor Kristina Olson, for more information.

A grade of C- or higher must be earned in all ART and ARHS courses.

GEF 1, 2, 3, 4, 5, 7, and 8		28
ART 191	First-Year Seminar - Creative Arts	2
ART 111	Drawing 1	3
ART 112	Drawing 2	3
ART 121	Visual Foundations 1	3
ART 122	Visual Foundations 2	3

ARHS 120	Survey of Art History 1 (may fulfill GEF 6)	3
ARHS 160	Survey of Art History 2 (may fulfill GEF 8)	3
ART 211	Figure Drawing	3
ART 212	Multi Media	3
ARHS 200/300/400 level		6
ART 226	Introduction to Sculpture	3
ART 227	Sculpture	3
Studio Non-Emphasis Courses		6
Choose two of the following ART 200-level Electives:		
ART 240	Ceramics	
or ART 241	Ceramics	
or ART 242	Life Modeling	
ART 223	Introduction to Graphic Design	
or ART 224	Graphic Design 2	
ART 270	Introduction to Electronic Media 1	
or ART 271	Introduction to Electronic Media 2	
ART 213	Painting 1	
or ART 214	Painting 2	
ART 232	Photography	
or ART 234	Digital Photography	
ART 230	Printmaking - Intaglio and Relief	
or ART 231	Printmaking - Lithography	
Sculpture		18
ART 326	Sculpture (Repeated)	
ART 426	Senior Projects in Sculpture	6
ART or ARHS 200/300/400 level		18
Writing Portfolio Requirement *		
Electives		6
Total Hours		120

* Please see your advisor for details on this requirement.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ART 111	3 ART 112	3
ART 121	3 ART 122	3
ARHS 120 (GEF 6)	3 ARHS 160 (GEF 8)	3
ART 191 (University Requirement)	2 GEF 2	4
ENGL 101 (GEF 1)	3 GEF 5	3
GEF 4	3	
17		16

Second Year

Fall	Hours Spring	Hours
ART 211	3 ART 212	3
ART 226	3 ART 227	3
ART 200-level Elective	3 ART 200-level Elective	3
ENGL 102 (GEF 1)	3 GEF 3	3
ARHS 200/300/400 level	3 ARHS 200/300/400 level	3
15		15

Third Year

Fall	Hours Spring	Hours
ART 326	6 ART 326	6
GEF 7	3 ART or ARHS 200/300/400 level	6
Elective	3 Elective	3
	12	15

Fourth Year

Fall	Hours Spring	Hours
ART 326	6 ART 426	6
ART or ARHS 200/300/400 level	6 ART or ARHS 200/300/400 level	6
GEF 8	3 GEF 8	3
	15	15

Total credit hours: 120

Major Learning Goals

SCULPTURE

The Bachelor of Fine Arts (B.F.A.) is a professional degree with an intensive focus on an area of the Arts supported by a program in general studies. The intent of the B.F.A. is to prepare for professional practice in the area of the degree.

- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency and rhetorical force.
- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines.
- The capacity to explain and defend views effectively and rationally.

Additional specific goals related to the sculpture degree:

- Understanding of basic design principles with an emphasis on three-dimensional design, and the ability to apply these principles to a specific aesthetic intent. This includes functional knowledge of the traditions, conceptual modes, and evolution of the discipline.
- Advanced abilities in drawing sufficient to support work in sculpture.
- Understanding of the possibilities and limitations of various materials.
- Knowledge and skills in the use of basic tools, techniques, and processes to work from concept to finished product.
- Mastery in one or more sculptural media.
- Functional knowledge of the history and theory of sculpture.
- The preparation of sculpture using the broadest possible range of techniques and concepts.

School of Music

- Degrees Offered (p. 523)
- Mission (p. 524)
- Career Prospects (p. 524)
- Music Scholarship Resources (p. 524)
- Performing Ensembles (p. 524)

The School of Music has been an important part of WVU's cultural and academic life since 1897. The University has been an institutional member of the National Association of Schools of Music since 1947. Our active faculty of fifty-two members includes internationally acclaimed artists and scholars who are distinguished teachers as well. The School is part of the College of Creative Arts, the center for the visual and performing arts at WVU and in the state of West Virginia.

Degrees Offered

- Bachelor of Arts in Music with **three majors**: Music (Contemporary and Integrative Performance), Music, and Music Industry

- Bachelor of Music with **eight majors**: Music Composition; Music Education; Performance - Instrumental; Performance - Piano with Areas of Emphasis in Traditional, Coaching/Accompanying, Jazz, and Pedagogy; Performance - Voice; Performance - Woodwinds; Performance - Jazz Studies; and Music Therapy

Mission

The School of Music, as part of WVU's College of Creative Arts, offers professional preparation for careers in composition, performance, music education, music therapy and music industry as well as the opportunity to study music within a liberal arts curriculum. Its nationally accredited programs, strengthened by creative activity and research, provide an educational environment for the exploration and understanding of music. The music faculty fosters this mission through performances, presentations, recruitment, and service. The School is supported by the resources of a comprehensive land-grant university, supplemented by grants and private donations.

Career Prospects

When you complete an undergraduate degree in music from WVU, you will have a variety of occupations from which to choose. In preparing for those, depending upon your interests and aspirations, you may pursue one of two degree programs: the bachelor of music (B.M.) or the bachelor of arts (B.A.).

The B.M. program offers students several specialized courses of study. Those concentrating in music education are prepared to teach vocal, instrumental, and general music in grades pre-K through adult, as well as to pursue graduate study in the same field. Those majoring in performance are prepared for careers as performers or for graduate study to further increase their artistry. Those who earn the degree in music therapy are qualified to take the national board certification exam offered by the Certification Board for Music Therapists before entering the field. Upon completing a major in composition, graduates may either begin careers as composers or continue their studies at the graduate level.

The B.A. program is designed for those seeking a broad liberal arts education while majoring in music. Depending upon the courses chosen, one can prepare for graduate study in music or in another field.

In addition to the undergraduate program, the School of Music offers courses that lead to the following graduate degrees:

- Master of Music
- Master of Arts
- Doctor of Philosophy
- Doctor of Musical Arts

Music Scholarship Resources

The College of Creative Arts and the School of Music offers a limited number of special College-based awards for freshman and current students enrolled in its programs. College-based awards are granted on the demonstration of outstanding talent, academic achievement, and the demonstration of future potential for success in the Music program. Information regarding University, College of Creative Arts and School of Music scholarships can be found at <http://ccarts.wvu.edu/academics/scholarships>.

Performing Ensembles

One of the hallmarks of the School of Music is its commitment to the study and performance of high-quality and historically significant music from many styles and genres. WVU music faculty continue to present highly praised performances, both on and off campus. Faculty performing groups include the Laureate Wind Quintet, the Faculty Jazz Ensemble, and the WVU Chamber Players. WVU student performing groups include a wide range of opportunities in a variety of musical traditions and styles.

The student and community performing groups are open to all qualified WVU students by audition. All groups must be taken for credit unless noted below.

In exceptional cases, high school seniors may perform at a director's discretion in an ensemble for credit, provided the requirements as specified in this catalog are met. Qualified high school and junior high students may participate in select WVU student performing ensembles as part of the Community Music Honors Ensemble Program with the permission of the director of the Community Music Program and the ensemble director. For information contact the director of the Community Music Program at (304) 293-6946.

- The *Wind Symphony* is a select group of the finest wind and percussion performers in the University. Membership is earned through competitive auditions. The ensemble presents at least four concerts per year comprising the finest classical and contemporary wind literature.
- The *Symphonic Band* is a wind band ensemble open to both music and non-music majors. Membership is earned through audition. Emphasis is placed on learning and performing standard and modern concert literature. This ensemble rehearses two days per week and performs at least one concert a semester.

- The *Concert Band* is open to any student in the University who wishes to continue his/her musical experience. Membership does not require an audition. This ensemble meets during the spring semester only and rehearses one day each week. Concerts include music by some of today's top wind band composers and arrangers.
- The award-winning *Mountaineer Marching Band* ("The Pride of West Virginia") of over 350 members is open by audition to all qualified students in the University. Its activities are confined to the first semester, during which it presents exciting shows at football games and other special occasions throughout the state and the country.
- The fifty-member *Pep Band* is open by audition to all qualified WVU students. It performs at men's and women's home basketball games and also travels to various tournaments.
- The award-winning University *Symphony Orchestra* is open by audition to all qualified WVU students who are proficient in the playing of an orchestral instrument. The repertoire is that of the standard orchestra, with special emphasis on contemporary American music.
- The *University Choir* is the flagship choral ensemble, numbering thirty-five to forty vocalists selected by audition. This choir studies and performs challenging repertoire from all stylistic genres, accompanied and a capella. The choir has premiered the music of student composers, participated in several recording projects, and presented major concerts both regionally and internationally.
- The *University Choral Union*, a choir of approximately 100 voices, studies and performs choral masterworks and other music for large choirs. University students and adult community members may participate; no audition is required. Adult community members need not register.
- The *Men's Chorus* and the *Women's Chorus* are vocal chamber ensembles open by audition to the University.
-
- The *Opera Theatre* mounts fully staged productions of standard operatic repertoire and also presents programs of opera scenes each season.
- Chamber ensembles feature combinations of woodwinds, brass, percussion, and string instruments and include a variety of large and small jazz ensembles, percussion ensembles, world music ensembles, chamber winds, and a new music ensemble.

FACULTY

INTERIM DIRECTOR

- Michael Ibrahim - D.M.A. (Manhattan School of Music)
Saxophone

DIRECTOR OF GRADUATE STUDIES

- Cynthia Anderson - M.M. (Manhattan School of Music)
Oboe, Theory

PROFESSORS

- Peter Amstutz - D.M.A. (Peabody Conservatory)
Coordinator of keyboard instruments, Piano
- Andrew Kohn - Ph.D. (University of Pittsburgh)
Coordinator of Theory and Composition, Double Bass, Theory
- Mikylah McTeer - D.M.A. (University of Houston)
Coordinator of String Instruments, Violin, Chamber Music
- David Taddie - Ph.D. (Harvard)
Music Theory, Electronic Music
- Molly Weaver - Ph.D. (University of Michigan)
Research Faculty
- John F. Weigand - D.M.A. (Florida State University)
Coordinator of woodwinds, Clarinet, Chamber Music
- Cecil B. Wilson - Ph.D. (Case Western Reserve University)
Associate Provost, Musicology, Nineteenth century music, Orchestration
- John Winkler - D.M.A. (Northwestern University)
Coordinator of brass instruments, Trumpet, Chamber music

ASSOCIATE PROFESSORS

- Mitchell Arnold - D.M.A. (Northwestern University)
Director of Orchestral Activities, Conducting
- Nina Assimakopoulos - M.M. (Munchin Academy of Music)

Flute, Chamber Music

- Lynn Hileman - D.M.A. (Eastman School of Music)
Bassoon, Theory
- Hope Koehler - D.M.A. (University of Kentucky)
Coordinator of Voice Studies, Voice
- Lucy Mauro - D.M.A. (Peabody Conservatory)
Piano Pedagogy, Class Piano, Piano, Chamber Music
- Dena Register - Ph.D (Florida State University)
Music Therapy
- Sandra Schwartz - Ph.D. (University of Miami)
Choral Music Education
- Travis D. Stimeling - Ph.D. (University of North Carolina - Chapel Hill)
Musicology
- Michael Vercelli - D.M.A. (University of Arizona)
Director of World Music Performance Center
- George Willis - M.M. (Temple University)
Coordinator of Percussion Studies

ASSISTANT PROFESSORS

- Robert Chafin - M.M. (University of Cincinnati-Conservatory of Music)
Voice
- Erin Ellis - D.M.A. (Eastman School of Music)
Cello, Chamber Music, String Pedagogy
- Matthew Heap - Ph.D. (University of Pittsburgh)
Theory, Composition
- Andrea Houde - M.M. (Peabody Institute)
Viola, String Pedagogy, Chamber Music
- Ching-Wen Hsiao - D.M.A. (Juilliard School)
Piano
- Laura Very Knoop - M.M. (Yale University)
Voice - Visiting
- Evan MacCarthy - Ph.D. (Harvard University)
Musicology
- James Kenon Mitchell - M.M. (Westminster Choir College)
Opera, Vocal Coaching - Visiting
- Angela Munroe - M.M.E. (Northwestern University)
General Music Education
- Kym Scott - D.M.A (University of Southern California)
Director of Choral Activities
- Jared Sims - D.M.A. (Boston University)
Director of Jazz Studies
- Jonas Thoms - M.M. (University of Cincinnati-College Conservatory of Music)
Horn, Chamber Music
- Scott C. Tobias - D.M.A. (The University of Georgia)
Director of Bands
- Darko Velichkovski - M.A. (City University of New York)
Director of Music Industry
- Lindsey Williams - Ph.D. (Florida State University)
Music Education - Visiting

FACULTY EQUIVALENT ACADEMIC PROFESSIONAL

- Mark Benincosa - M.S. (West Virginia University)
Recording Technology
- Sun Jung Lee - D.M.A. (West Virginia University)
Accompanying, Piano, Chamber Music

LECTURERS

- Clifford Barnes
Jazz Piano
- Scott Elliott - M.M. (Duquesne University)
Guitar
- William Koehler - D.M.A. (University of Minnesota)
Voice
- Rebecca Kreider - M.M. (Indiana University)
General Education Courses
- Diana B. Love - Ed.D. (Virginia Polytechnic Institute and State University)
Music Education
- Christine Mazza - M.M. (Cleveland Institute of Music)
Harp
- Carson McTeer - B.A. (Rice University)
Tuba, Euphonium, Chamber Music
- Adam Osmianski - M.M. (West Virginia University)
General Education Courses
- Brian Plitnik - D.M.A. (West Virginia University)
Trombone, Euphonium, Chamber Music
- Kathleen Shannon - D.M.A. (University of Miami)
General Education Courses
- Brian Wolfe - B.M. (West Virginia University)
Drum Set, Percussion, Jazz
- Renee Wyatt - M.M. (West Virginia University)
Music Education

PROFESSORS EMERITI

- John Beall
- James W. Benner
- Thomas S. Brown
- Philip J. Faini
- Mary Ferer
- William Haller
- Barton Hudson
- Leo Horacek, Jr.
- Christine B. Kefferstan
- Gerald Lefkoff
- James E. Miltenberger
- Janet Robbins
- William Skidmore
- Connie Arau Sturm
- Robert Thieme
- Virginia Thompson
- Gilbert Trythall
- Don G. Wilcox
- Christopher Wilkinson

ASSOCIATE PROFESSORS EMERITI

- Joyce A. Catalfano
- Rose M. Crain
- John E. Crotty
- June D. Swartwout

Admission into Program

Acceptance into an undergraduate music degree program is contingent upon both admission to WVU as an undergraduate student and a successful performance audition. Auditions are held from late fall through the early spring semester. For maximum scholarship consideration students are encouraged to complete the application (including audition) before March 1. Dates for auditions and details concerning them are available from the School of Music and on the website (<http://music.wvu.edu/>). Special accommodations may be made by contacting the School of Music at (304) 293-4532 or Music@mail.wvu.edu.

The audition is a preliminary assessment of a student's potential for success in the program. Students must audition at a performance level three or above to be admitted to most courses of study in music. For the Bachelor of Arts in Music Industry a level two is the admission requirement. For the Bachelor of Arts in Integrative and Contemporary Performance students must audition at a level four. Students must audition at a performance level six or above to be admitted to the B.M. degree programs in performance. If a student is admitted, their standing is confirmed or revised after the first semester of study. Students should own their own instrument under normal circumstances (except for piano) and a portable (folding) music stand. Music majors can change from one music curriculum to another with faculty approval, particularly during the freshman or sophomore years, without great loss of course credit. Students are encouraged to explore and follow the curriculum for which they are best qualified and in which they can expect the greatest success. Evaluation of students' work by the School of Music faculty aids these decisions. If students wish a broader, liberal arts-oriented, non-professional program, they may pursue a bachelor of arts (B.A.) degree.

General Requirements for the Bachelor of Music and Bachelor of Arts

- Proficiency Levels (p. 528)
- Jury Policy (p. 528)
- General Education Foundations (p. 528)
- Music Major Core Courses (p. 529)
- Major Ensemble Requirement (p. 529)
- Chamber Music Requirement (p. 530)
- First-Year Seminar, Music Convocation, and Recital Attendance Policies (p. 530)
- Capstone Requirements (p. 530)
- Completion of Degree Requirements (p. 531)
- Music Theory and History Electives (p. 531)
- Academic Progress (p. 531)
- Course Substitutions, Curricular Waivers, or Credit by Examination (p. 531)

It is possible to complete any music curricula in eight regular semesters with careful planning. Students may elect to take additional courses, lengthening the time spent in their degree program.

PROFICIENCY LEVELS

Before graduation, students must satisfy a proficiency level (specified for each curriculum) in their principal performance area and in piano (if required in their specific curriculum). In addition to fulfilling the proficiency level requirement in piano indicated in the curriculum, students are required to demonstrate proficiency in keyboard harmony and sight-reading by passing a special examination. Music education majors must satisfy additional instrument and voice proficiencies.

Students are required to take applied lessons on their principal performance medium each semester until completing the requirements of their specific program. Proficiency levels in their principal performance medium are awarded at juries, which are usually given at the end of each semester. Jury policies for each principal performance area are provided on the School of Music website and also available from the Director's office or the area coordinator.

JURY POLICY

All music majors, music minors, and non-majors enrolled in Music 121-127, 221-227, 321-327, 328, 421-427, Music 500, or Music 700 in the fall and/or spring semesters must take a jury.

Exceptions will be allowed only in the following cases:

1. When an area jury policy has a provision for a waiver.
2. In the event of illness or injury. Students who miss juries due to illness or injury will receive an incomplete in Applied Study for the semester and must make up the jury prior to mid-term during the subsequent semester.

Students who are unable to make up a missed jury must submit a written petition to the Director of the School of Music by mid-term of the first semester following the semester of the original missed jury. The petition must include a complete justification for missing the make-up jury and a written statement of support from the applied faculty member.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

MUSIC MAJOR CORE COURSES

Courses listed below are required for most majors in the School of Music. However, the BA degree in Music Industry, the BA degree in Contemporary and Integrative Performance, and the BM in Music Therapy exclude some of these courses.

MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 189	Music Convocation	0
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1	3
MUSC 271	History of Western Musical Traditions 2	3
Total Hours		23

MAJOR ENSEMBLE REQUIREMENT

Courses listed below may fulfill the major ensemble requirement; however, some majors and areas of emphasis may exclude or require specific ensembles as part of their requirements.

MUSC 300	Band: Wind Symphony	0-2
MUSC 300A	Band: Symphonic	0-2
MUSC 300B	Band: Marching	0-2
MUSC 302	University Choral Union	0-1
MUSC 303	Orchestra	0-2
MUSC 305	University Choir	0-2
MUSC 305A	University Choir: Concert	0-2
MUSC 353	Chamber Music: Large Jazz Ensemble 1	0-1
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	0-1

If a student is a scholarship recipient, they may be called upon to render special service (as a participant in particular organizations or ensembles, as a piano accompanist, etc.) as designated by the School Director. Students whose major performance medium is percussion must, in addition to a major ensemble, register for Freshman Percussion Ensemble, Second Percussion Ensemble, or Percussion 2000 each semester in residence. Students whose major performance medium is guitar must take guitar ensemble as a major ensemble. Students whose major performance medium is piano: traditional have flexibility fulfilling the major ensemble and chamber music requirements: 8 total credits are needed (2-4 major ensemble and 4-6 chamber music).

CHAMBER MUSIC REQUIREMENT

Courses listed below may fulfill the chamber music requirement; however, some majors and areas of emphasis may exclude or require specific chamber music courses as part of their requirements.

MUSC 340	Chamber Music: Brass	0-1
MUSC 341	Chamber Music: Guitar	0-1
MUSC 342	Chamber Music: Piano-4 Hand	0-1
MUSC 343	Chamber Music: Strings	0-1
MUSC 344	Chamber Music: Woodwind	0-1
MUSC 345	Chamber Music: Vocal	0-1
MUSC 346	Chamber Music: Mixed Ensemble	0-1
MUSC 347	Chamber Music: Mountaineer Singers	0-1
MUSC 348	Chamber Music: New Music	0-1
MUSC 349	Chamber Music: Other	0-1
MUSC 351	Chamber Music: Percussion 1	0-1
MUSC 352	Chamber Music: Percussion 2	0-1
MUSC 353B	Chamber Music: Jazz Small Group	0-1
MUSC 353C	Chamber Music: Jazz Small Group 2	0-1
MUSC 353E	Chamber Music: Jazz and Ethnic	0-1
MUSC 353G	Chamber Music: Jazz Vocal Ensemble	0-1
MUSC 353H	Chamber Music: Jazz Other	0-1
MUSC 354	Chamber Music: Gamelan	0-1
MUSC 355	Chamber Music: Steel Band 1	0-1
MUSC 356	Chamber Music: African	1
MUSC 357	Chamber Music: Brazilian	1
MUSC 358	Chamber Music: Ethnic	0-1
MUSC 359	Chamber Music: Taiko	1

FIRST-YEAR SEMINAR, MUSIC CONVOCATION, AND RECITAL ATTENDANCE POLICIES

Entering freshman are required to register for First-Year Seminar MUSC 191. Full-time undergraduate music majors beyond first semester freshman are expected to register for Music Convocation MUSC 189 and to attend five recitals or concerts and five convocation sessions per semester until completing the requirements of their specific curriculum. This requirement may be adjusted for transfer students. B.A. students are required to take MUSC 189 for two semesters.

CAPSTONE REQUIREMENTS

Senior-level capstone courses are required for all degree programs in the School of Music. The required courses are as follows:

- MUSC 492 for the B.A.,
- MUSC 467 and MUSC 488 for the B.M. in composition,
- MUSC 487 for the B.M. in music education,
- MUSC 435 for the B.M. in performance voice,
- MUSC 435A for the B.M. in performance piano,
- MUSC 488 for the B.M. in performance instrumental, and
- MUSC 488 and MUSC 422 for the B.M. in jazz studies.

Details about capstone courses in music may be obtained from the instructors of capstone courses.

COMPLETION OF DEGREE REQUIREMENTS

Students are responsible for being aware of and correctly fulfilling all graduation requirements. Students should review the curriculum requirements both before and after every registration period so that errors or omissions will be detected and corrected immediately. Transfer students must establish transfer credit from other institutions as early as possible in their WVU study—preferably during the first semester of residence. The degree of Bachelor of Music or Bachelor of Arts is conferred if they comply with the general regulations of the University concerning degrees, satisfy School of Music requirements (including expected proficiency levels), and complete an appropriate curriculum with a minimum overall grade point average of 2.0 (C). Music education majors must attain a 2.75 grade point average for graduation and certification.

Students who receive a grade of A in MUSC 163 may elect to take an honors section of MUSC 263 (offered in the fall) in place of MUSC 261 and MUSC 263. If students achieve a grade of A in MUSC 262, they may elect an upper-division theory analysis course (MUSC 463 or MUSC 464) in place of the MUSC 264 requirement. If they achieve a grade of A in MUSC 261, they may elect an upper-division theory elective in place of the MUSC 263 requirement.

MUSIC THEORY AND HISTORY ELECTIVES

Unless specified as a degree requirement, upper-division theory electives are:

MUSC 265	Instrumentation	2
MUSC 266	Orchestration and Band Arranging	2
MUSC 311	Introduction to Jazz Improvisation	2
MUSC 313	Advanced Jazz Improvisation	2
MUSC 360	Composition	2
MUSC 362	Instrumentation and Orchestration	3
MUSC 461	Counterpoint	2
MUSC 462	Counterpoint	2
MUSC 463	Analysis of Eighteenth and Nineteenth Century Music	3
MUSC 464	Analysis of Twentieth Century Art Music	3
MUSC 465	Electronic Music	2
MUSC 466	Electronic Music-Digital Audio	2
MUSC 468	Jazz Harmony	2
MUSC 480	Arranging for Small Jazz Ensemble	2
MUSC 481	Arranging for Large Jazz Ensemble	2

Unless specified as a degree requirement, upper-division history electives are:

MUSC 470	European Music before 1500	3
MUSC 471	Music of the Sixteenth and Seventeenth Centuries	3
MUSC 472	Music of the Eighteenth Century	3
MUSC 473	Music of the Nineteenth Century	3
MUSC 474	Twentieth and Twenty-First Century Music	3
MUSC 475	History of Jazz	3
MUSC 477	Music of Africa	3

ACADEMIC PROGRESS

If in the judgment of the faculty, Director, and Dean it will be impossible for students to complete graduation requirements in a reasonable amount of time, their enrollment in the School of Music will be terminated. If students are admitted conditionally, they must make up deficiencies as soon as possible. Further information regarding academic progress policies can be obtained from their advisor, the school director's office, or http://music.wvu.edu/current_students/academic_progress_policy.

COURSE SUBSTITUTIONS, CURRICULAR WAIVERS, OR CREDIT BY EXAMINATION

Requests for course substitutions, curricular waivers, or credit by examination must be made in writing to the Director of the School of Music. If the Director endorses the request, it will be forwarded to the Dean of the College of Creative Arts for final approval.

For further information, refer to the undergraduate student resources page on the School of Music website http://music.wvu.edu/current_students or at the office of the School Director.

Minors:

- General Musicianship (p. 532)

- Jazz Studies (p. 533)
- Music Industry (p. 533)
- Music Performance (p. 534)
- Music Technology (p. 535)
- World Music (p. 536)

GENERAL MUSICIANSHIP MINOR

MINOR CODE - U037

The minor is designed for the student who wants the broadest possible musical experience. Courses in applied music, music history, and music theory are equally balanced in this program. This option is intended for students who desire a traditional music minor that includes a balance of applied study, ensembles, history and literature, and theory.

A successful audition with the School of Music is required for entrance into the program.

A minimum GPA of 2.5 is required in all minor courses

Applied Music		4
MUSC 328	Applied Lessons for Minors (Audition Required)	
Music Ensembles		
Select from the following:		4
MUSC 101A	Band: Varsity	
MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 304	Introduction To Opera Theatre	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 340	Chamber Music: Brass	
MUSC 341	Chamber Music: Guitar	
MUSC 342	Chamber Music: Piano-4 Hand	
MUSC 343	Chamber Music: Strings	
MUSC 344	Chamber Music: Woodwind	
MUSC 345	Chamber Music: Vocal	
MUSC 346	Chamber Music: Mixed Ensemble	
MUSC 347	Chamber Music: Mountaineer Singers	
MUSC 348	Chamber Music: New Music	
MUSC 349	Chamber Music: Other	
MUSC 349A	Chamber Music: Brass Choir	
MUSC 349B	Chamber Music: Other	
MUSC 349C	Chamber Music: Other-Vocal Accompaniment	
MUSC 349D	Chamber Music: Other	
MUSC 351	Chamber Music: Percussion 1	
MUSC 352	Chamber Music: Percussion 2	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
MUSC 353B	Chamber Music: Jazz Small Group	
MUSC 353C	Chamber Music: Jazz Small Group 2	
MUSC 353E	Chamber Music: Jazz and Ethnic	
MUSC 353G	Chamber Music: Jazz Vocal Ensemble	
MUSC 353H	Chamber Music: Jazz Other	
MUSC 353I	Chamber Music: Jazz Vocal Ensemble	
MUSC 354	Chamber Music: Gamelan	

MUSC 355	Chamber Music: Steel Band 1	
MUSC 356	Chamber Music: African	
MUSC 357	Chamber Music: Brazilian	
MUSC 358	Chamber Music: Ethnic	
MUSC 359	Chamber Music: Taiko	
Music Theory *		4
MUSC 161	Aural Theory 1	
MUSC 162	Written Theory 1	
Music History **		3-4
MUSC 270	History of Western Musical Traditions 1	
MUSC 271	History of Western Musical Traditions 2	
Music Electives		4-6
Total Hours		19-22

* Choice determined by diagnostic test or teacher consent.

** MUSC 177 is the normal prerequisite for MUSC 270 or MUSC 271. MUSC 111 qualifies as the non-major prerequisite for MUSC 270 or MUSC 271. Although MUSC 111 is not part of the music minor curriculum, it satisfies GEC objectives 4 and 5. If the student does not complete MUSC 111, MUSC 177 must be taken.

JAZZ STUDIES MINOR

MINOR CODE - U107

The Minor in Jazz Studies is intended for students with a background in jazz or improvised music. All aspects of jazz are studied, from the early music to the most recent developments in creative improvised music. A variety of performance opportunities are available for students. The many small jazz ensembles perform styles ranging from Bebop, Fusion, Salsa, and vocal jazz, to the avant-garde. The large ensembles perform original student compositions, and the music of contemporary composers, in addition to traditional big band literature.

A successful audition with the School of Music is required for entrance into the program.

Applied Music		4
MUSC 328	Applied Lessons for Minors	
Music Ensembles		8
Hours from the following courses: (may be repeated for credit/audition or consent required for placement):		
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
MUSC 353B	Chamber Music: Jazz Small Group	
MUSC 353E	Chamber Music: Jazz and Ethnic	
MUSC 353C	Chamber Music: Jazz Small Group 2	
Jazz Theory and/or History		4
MUSC 115	Introduction to History of Jazz	
MUSC 311	Introduction to Jazz Improvisation	
MUSC 313	Advanced Jazz Improvisation	
MUSC 480	Arranging for Small Jazz Ensemble	
MUSC 481	Arranging for Large Jazz Ensemble	
Music Electives		2
Total Hours		18

MUSIC INDUSTRY MINOR

MINOR CODE - U134

The Music Industry minor provides a strategic core course of study for students interested in pursuing music industry as a secondary field of study. Its curriculum is designed to equip students with the fundamental analytical and creative knowledge and skills necessary for commercial practice in the music industry. The curriculum consists of [online](#) courses, representing a cohesive academic core, covering all the fundamental, interrelated and interdependent segments of the music industry through methodical study of its foundations, commerce, management and operations.

REQUIRED COURSES

Minimum grade of C or higher required in all courses

MUSC 411	Intellectual Property in Music Industry	3
MUSC 412	Music Product Development and Placement	3
MUSC 413	Live Music Industry	3
MUSC 414	Recording Industry	3
MUSC 415	Music Publishing	3
Total Hours		15

MUSIC PERFORMANCE MINOR

MINOR CODE - U133

This minor in Performance is intended for the student who has a particular interest in preparing for performing or teaching a particular instrument or voice. The minor focuses on making music with special emphasis on applied lessons and ensemble experiences. The increased interest of society today in the arts is creating many new opportunities for the professional musician and for the private music teacher. Performance areas include: band or orchestra instrument, guitar, flute, oboe, clarinet, saxophone, bassoon, horn, trumpet, trombone, euphonium, tuba, percussion, violin, viola, cello, double bass, piano, and voice.

A successful audition with the School of Music is required for entrance into the program.

Applied Music 8 hours from the following (audition or consent required for placement)	8
MUSC 328 Applied Lessons for Minors	
Music Ensembles 4 hours from the following courses: (audition or consent required for placement)	4
MUSC 300 Band: Wind Symphony	
MUSC 300A Band: Symphonic	
MUSC 302 University Choral Union	
MUSC 303 Orchestra	
MUSC 304 Introduction To Opera Theatre	
MUSC 305 University Choir	
MUSC 305A University Choir: Concert	
MUSC 340 Chamber Music: Brass	
MUSC 342 Chamber Music: Piano-4 Hand	
MUSC 344 Chamber Music: Woodwind	
MUSC 345 Chamber Music: Vocal	
MUSC 346 Chamber Music: Mixed Ensemble	
MUSC 347 Chamber Music: Mountaineer Singers	
MUSC 348 Chamber Music: New Music	
MUSC 349 Chamber Music: Other	
MUSC 349A Chamber Music: Brass Choir	
MUSC 349B Chamber Music: Other	
MUSC 349C Chamber Music: Other-Vocal Accompaniment	
MUSC 349D Chamber Music: Other	
MUSC 349E Chamber Music: Other	
MUSC 349F Chamber Music: Other	
MUSC 349G Chamber Music: Other	
MUSC 349H Chamber Music: Other	
MUSC 349I Chamber Music: Other	
MUSC 349J Chamber Music: Other	
MUSC 349K Chamber Music: Other	
MUSC 349L Chamber Music: Other	
MUSC 349M Chamber Music: Other	
MUSC 349N Chamber Music: Other	
MUSC 349O Chamber Music: Other	
MUSC 349P Chamber Music: Other	

MUSC 349Q	Chamber Music: Other	
MUSC 349R	Chamber Music: Other	
MUSC 349S	Chamber Music: Other	
MUSC 349T	Chamber Music: Other	
MUSC 349U	Chamber Music: Other	
MUSC 349V	Chamber Music: Other	
MUSC 349W	Chamber Music: Other	
MUSC 349X	Chamber Music: Other	
MUSC 349Y	Chamber Music: Other	
MUSC 349Z	Collegium Musicum	
MUSC 351	Chamber Music: Percussion 1	
MUSC 352	Chamber Music: Percussion 2	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
MUSC 353B	Chamber Music: Jazz Small Group	
MUSC 353C	Chamber Music: Jazz Small Group 2	
MUSC 353E	Chamber Music: Jazz and Ethnic	
MUSC 353G	Chamber Music: Jazz Vocal Ensemble	
MUSC 353H	Chamber Music: Jazz Other	
MUSC 353I	Chamber Music: Jazz Vocal Ensemble	
MUSC 354	Chamber Music: Gamelan	
MUSC 355	Chamber Music: Steel Band 1	
MUSC 356	Chamber Music: African	
MUSC 357	Chamber Music: Brazilian	
MUSC 358	Chamber Music: Ethnic	
MUSC 359	Chamber Music: Taiko	
Music Theory and/or Music History/Literature 4 hours from the following courses:		4
MUSC 110	Fundamentals of Music	
MUSC 111	Introduction to Music	
MUSC 112	Great Composers in Performance	
MUSC 113	Twentieth Century American Pop Music	
MUSC 114	Music in the Modern Age	
MUSC 115	Introduction to History of Jazz	
MUSC 116	Music in World Cultures	
MUSC 177	Introduction to Music Listening	
MUSC 161	Aural Theory 1	
MUSC 162	Written Theory 1	
MUSC 163	Aural Theory 2	
MUSC 164	Written Theory 2	
MUSC 270	History of Western Musical Traditions 1	
MUSC 311	Introduction to Jazz Improvisation	
MUSC 313	Advanced Jazz Improvisation	
MUSC 477	Music of Africa	
Music Electives		2
Total Hours		18

MUSIC TECHNOLOGY MINOR

MINOR CODE - U109

The Minor in Music Technology is intended for students with a background or interest in recording, creating, or producing audio for music or visual media. There are two tracks available to suit composers, producers/recording engineers, or both. This minor gives students the opportunity to study and apply the theories and techniques required for successful audio production using a digital audio workstation as well as composition, sound design, audio in multimedia applications, and programming using various software and hardware tools.

Select 1 of either Track 1 or Track 2 (listed below)	8-9
Track 1: Electronic Music Composition-Required Courses	
MUSC 236	Introduction to Recording Technology
MUSC 460A	Electronic Music Composition
MUSC 465	Electronic Music
MUSC 466	Electronic Music-Digital Audio
Track 2: Production/Recording Engineering-Required Courses	
MUSC 236	Introduction to Recording Technology
MUSC 336	Introduction to Digital Audio Workstation
MUSC 437	Practicum-Recording Technology
Recording Technology Electives (both Track 1 and II) - Select from the following courses:	6
MUSC 336	Introduction to Digital Audio Workstation
MUSC 337	Digital Audio Workstation Alternative
MUSC 338	Sound-Games/Visual Media
MUSC 436	Advanced Digital Audio Workstation Technology
MUSC 437	Practicum-Recording Technology
MUSC 460A	Electronic Music Composition
MUSC 465	Electronic Music
MUSC 466	Electronic Music-Digital Audio
Music Electives (both Track 1 and II) - Select from the following courses:	3
MUSC 110	Fundamentals of Music
MUSC 111	Introduction to Music
MUSC 112	Great Composers in Performance
MUSC 113	Twentieth Century American Pop Music
MUSC 114	Music in the Modern Age
MUSC 115	Introduction to History of Jazz
MUSC 177	Introduction to Music Listening
MUSC 495	Independent Study
PHYS 107	Physics of Music
Total Hours	17-18

WORLD MUSIC MINOR

MINOR CODE - U108

The minor in World Music is intended for students with a musical interest outside of Western art music. The required courses focus on the relationship between music and culture and support WVU's vision of diversity and the advancement of international activity and global engagement. Students may participate in the School of Music's World Music ensembles, including steel drums, African music and dance, Balinese and Javanese gamelans, Japanese taiko drums, and more. Optional study abroad programs include a summer music program in Ghana and an exchange program with universities in Brazil.

A minimum GPA of 2.0 is required in all minor courses.

Required Courses	6
MUSC 116	Music in World Cultures
MUSC 477	Music of Africa
Music Ensembles and/or Chamber-6 Hours (May be repeated for additional credit)	
MUSC 354	Chamber Music: Gamelan
MUSC 355	Chamber Music: Steel Band 1
MUSC 356	Chamber Music: African
MUSC 357	Chamber Music: Brazilian
MUSC 358	Chamber Music: Ethnic
MUSC 359	Chamber Music: Taiko
Music Electives - 6 hours from the following courses:	6
MUSC 110	Fundamentals of Music

MUSC 112	Great Composers in Performance	
MUSC 111	Introduction to Music	
MUSC 113	Twentieth Century American Pop Music	
MUSC 114	Music in the Modern Age	
MUSC 115	Introduction to History of Jazz	
MUSC 161	Aural Theory 1	
MUSC 162	Written Theory 1	
MUSC 164	Written Theory 2	
MUSC 177	Introduction to Music Listening	
MUSC 236	Introduction to Recording Technology	
MUSC 311	Introduction to Jazz Improvisation	
MUSC 328	Applied Lessons for Minors	
MUSC 499	Global Service Learning	
Total Hours		18

Music (Contemporary and Integrative Performance)

Bachelor of Arts in Music (Contemporary and Integrative Performance)

The Bachelor of Arts in Integrative and Contemporary Performance is a program for students to focus on the study of contemporary music performance within a curriculum that emphasizes cross-disciplinary study between the arts. Students will engage in their studies with the added focus of contemporary music — music post-1970 — and within an integrative curriculum, tailor their coursework to include electives from the areas of art, theatre, dance, industry, and philosophy. Such integration aims to develop skills, advance understanding, further interpretive performance, and support creativity as a holistic means to growth. This specialization serves our mission to develop students' ability to think critically about their role as musicians in today's changing landscape, and to impart a learning experience with outcomes relevant to creative musical practices and professional culture of the 21st century.

Click here to view the Suggested Plan of Study (p. 539)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Minimum grade of C- is required in all MUSC courses

Minimum GPA of 2.5 in all MUSC courses

GEF Requirements

Foreign Language Requirement (In same language - May fulfill GEF 7 & 8)	12
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Music Core Courses

MUSC 191	First-Year Seminar - Creative Arts	2
MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1 (may fulfill GEF 6)	3
MUSC 271	History of Western Musical Traditions 2	3
MUSC 360	Composition	2

Applied or Jazz Lessons

Applied Music 100 level (MUSC 121-127D) - 2 semesters	4
Applied Music 200 level (MUSC 221-227D) - 2 semesters	4
Applied Music 300 level (MUSC 321-327D) - 2 semesters	4
Applied Music 400 level (MUSC 421-427D) - semester	2

Music Ensembles (at least 1 per semester)

9

MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
ICP Ensemble*		

*May include New Music Ensemble, Jazz Ensemble(s), World Music Ensemble(s), Bluegrass Ensemble, Chamber Ensemble(s), or other approved faculty-guided ensembles of a collaborative, innovative, and/or multi-disciplinary nature.

Music Convocation (taken five semesters)

MUSC 189	Music Convocation	
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Keyboard Competency

MUSC 130	Piano Class Level 0	1
MUSC 131	Piano Class Level 1/2	1
MUSC 132	Piano Class Level 1	1
MUSC 133	Piano Class Level 1 1/2	1

Integrative & Contemporary Performance Courses

16

ART 111	Drawing 1	
ART 112	Drawing 2	
ART 121	Visual Foundations 1	
ART 122	Visual Foundations 2	
ART 315	Arts Administration	
BUSA 101	Introduction to Business	
BUSA 330	Survey of Marketing	
COUN 230	Life Choices	
COUN 305	Wellness and Self-Care	
CSAD 270	Effective Public Speaking	
DANC 110	Fundamentals of Ballet	

DANC 130	Fundamentals of Jazz	
DANC 140	Fundamentals of Tap	
DANC 170	Introduction to Dance	
DANC 220	Intermediate Modern	
DANC 251	World Dance	
DANC 252	African Dance	
ENTR 300	Creativity and Idea Generation	
ENTR 340	Survey of Entrepreneurship	
ENTR 380	Survey of Business Planning	
JRL 458	Interactive Media and Audience Building	
LDR 201	Principles of Leadership	
LDR 393F	Leadership and the Arts (Leadership and the Arts)	
MUSC 116	Music in World Cultures	
MUSC 129	Music Technology 1: GarageBand	
MUSC 236	Introduction to Recording Technology	
MUSC 265	Instrumentation	
MUSC 311	Introduction to Jazz Improvisation	
MUSC 313	Advanced Jazz Improvisation	
MUSC 336	Introduction to Digital Audio Workstation	
MUSC 384	Music Arranging for Public School Groups	
MUSC 393A	Special Topics (Electro-Acoustic Sound)	
MUSC 410	Introduction to Music Industry	
MUSC 411	Intellectual Property in Music Industry	
MUSC 464	Analysis of Twentieth Century Art Music	
MUSC 465	Electronic Music	
MUSC 466	Electronic Music-Digital Audio	
MUSC 474	Twentieth and Twenty-First Century Music	
MUSC 475	History of Jazz	
MUSC 477	Music of Africa	
PE 203	Yoga for Health and Wellness	
PHIL 100	Problems of Philosophy	
PHIL 120	Introduction to Ethics	
PHIL 130	Current Moral Problems	
PHIL 170	Introduction to Critical Reasoning	
THET 101	Introduction to the Theatre	
THET 102	Acting	
THET 144	Fundamentals of Acting	
THET 170	World Theatre and Drama	
Independent Study (taken twice)		2
MUSC 495	Independent Study	
Capstone Experience		
MUSC 495	Independent Study (Portfolio)	1
Electives		16
Total Hours		120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 130	1 MUSC 131	1
MUSC 191	2 MUSC 177	1

MUSC 121-127 Applied Lesson	2 MUSC 189	0
Major Ensemble	1 MUSC 121-127 Applied Lesson	2
ENGL 101 (GEF 1)	3 Major Ensemble	1
	ENGL 102 (GEF 1)	3
	GEF 3	3
	13	15
Second Year		
Fall	Hours Spring	Hours
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 132	1 MUSC 133	1
MUSC 189	0 MUSC 189	0
MUSC 270 (GEF 6)	3 MUSC 271	3
MUSC 221-227 Applied Lesson	2 MUSC 221-227 Applied Lesson	2
Major Ensemble	1 Major Ensemble	1
ICP Ensemble	1 ICP Ensemble	1
GEF 4	3 GEF 2	4
	15	16
Third Year		
Fall	Hours Spring	Hours
MUSC 189	0 MUSC 189	0
MUSC 360	2 MUSC 495	1
MUSC 321-327 Applied Lesson	2 MUSC 321-327 Applied Lesson	2
ICP Ensemble	1 ICP Ensemble	1
ICP Elective	3 ICP Elective	3
ICP Elective	3 Foreign Language (GEF 8)	3
Foreign Language (GEF 7)	3 GEF 5	3
Elective	3 Elective	3
	17	16
Fourth Year		
Fall	Hours Spring	Hours
MUSC 421-427 Applied Lesson	2 MUSC 495 (Portfolio)	1
ICP Ensemble	1 MUSC 495	1
ICP Elective	3 ICP Elective	4
Foreign Language (GEF 8)	3 Foreign Language (GEF 8)	3
Elective	3 Elective	3
Elective	2 Elective	2
	14	14

Total credit hours: 120

Major Learning Goals

MUSIC (CONTEMPORARY AND INTEGRATIVE PERFORMANCE)

Students who earn the Bachelor of Arts in Music (Contemporary and Integrative Performance) will develop:

- An understanding of compositional processes, aesthetic properties of style, and the ways these shape and are shaped by artistic and cultural forces.
- An acquaintance with a wide selection of musical literature, the principal eras, genres, and cultural sources.
- The ability to develop and defend musical judgments.

Music - BA

Bachelor of Arts in Music

The bachelor of arts in music provides students with the opportunity to major in music while pursuing a broad liberal arts education. Depending upon the courses taken beyond those required for the major, one may prepare for a variety of careers, not just those associated with music. To enter this program, in addition to being admitted to WVU, students must meet audition requirements on one of the following: a band or orchestral instrument, guitar, piano, or voice. Unless otherwise specified, general College of Creative Arts and WVU regulations apply.

Click here to view the Suggested Plan of Study (p. 542)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

A minimum GPA of 2.0 is required in all courses

GEF Requirements		19
MUSC 191	First-Year Seminar - Creative Arts	2
Music Core Courses		
MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 189	Music Convocation (Two semesters)	0
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1	3
MUSC 271	History of Western Musical Traditions 2 (May be used to fulfill GEF 6)	3
MUSC 492	Directed Study (Capstone)	2
Foreign Language (May be used to fulfill GEF 7 & 8) *		12
Non-Major Electives		34
Upper-Level Music Electives (in Music Theory or Music History)		4
8 semesters of Major Ensemble, selected from the following: **		8

MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
Major Performance Area (MUSC 121-127, 221-227, 321-327, 421-427)		16
Proficiency Level		
Total Hours		120

* Foreign language study, consisting of 12 credits in a single language, may be used to fulfill GEF 7 and 8 coursework.

** Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major Ensemble requirement. MUSC 302 may not be used to satisfy the Major Ensemble requirement.

Performance Proficiency

Students must attain a proficiency in their major performance area suitable for public performance (at least level seven). Secondary piano proficiency is not required. Two solo upper-level appearances and two semesters of are required. If the student does not make satisfactory progress in achieving the expected performance proficiency, the student will be discontinued.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 121-127D Applied Music	2 MUSC 121-127D Applied Music	2
MUSC 161	2 MUSC 163	2
MUSC 162	2 GEF	3
MUSC 191	2 Non-MUSC Elective	3
ENGL 101 (GEF 1)	3 MUSC 164	2
GEF	3 MUSC 177	1
Non-MUSC Elective	3 MUSC 189	0
	18	14

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 221-227D Applied Music	2 MUSC 221-227D Applied Music	2
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
ENGL 102 (GEF 1)	3 GEF	3
Non-MUSC Elective	3 Foreign Language 1 (GEF 7)	3
	16	16

Third Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 321-327D Applied Music	2 MUSC 321-327D Applied Music	2
MUSC 189	0 MUSC 189	0
MUSC History or Theory Electives	2 MUSC History or Theory Electives	2
GEF 2	4 Foreign Language 3 (GEF 8)	3
Foreign Language 2 (GEF 8)	3 Non-MUSC Elective	6

Non-MUSC Elective	3	
	15	14
Fourth Year		
Fall	Hours	Spring
MUSC Major Ensemble	1	MUSC Major Ensemble
MUSC 421-427D Applied Music	2	MUSC 421-427D Applied Music
Non-MUSC Elective	8	8 Non-MUSC Electives
Foreign Language 4 (GEF 8)	3	MUSC 492
	14	13

Total credit hours: 120

Major Learning Goals

MUSIC - BA

Students graduating with the Bachelor of Arts degree in Music will develop:

1. The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency, and rhetorical force.
2. An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences; with the main forms of analysis and the historical and quantitative techniques needed for investigating the workings and developments of modern society.
3. An ability to address culture and history from a variety of perspectives.
4. Understanding of, and experience in thinking about, moral and ethical problems.
5. The ability to respect, understand, and evaluate work in a variety of disciplines.
6. The capacity to explain and defend views effectively and rationally.
7. Understanding of and experience in one or more art forms other than music

Music Composition

Bachelor of Music in Music Composition

The composition curriculum is especially designed for students wishing to prepare themselves as composers in both acoustic and electronic styles. The increased interest of society today in the arts is creating many new opportunities for the professional composer and teacher.

Click here to view the Suggested Plan of Study (p. 545)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

A minimum GPA of 2.0 is required in all major courses

GEF Requirements		19
MUSC 191	First-Year Seminar - Creative Arts	2
Music Core Courses		
MUSC 161	Aural Theory 1 (Minimum grade of B-)	2
MUSC 162	Written Theory 1 (Minimum grade of B-)	2
MUSC 163	Aural Theory 2 (Minimum grade of B-)	2
MUSC 164	Written Theory 2 (Minimum grade of B-)	2
MUSC 177	Introduction to Music Listening	1
MUSC 189	Music Convocation (Five Semesters)	0
MUSC 261	Aural Theory 3 (Minimum grade of B-)	2
MUSC 262	Written Theory 3 (Minimum grade of B-)	2
MUSC 263	Aural Theory 4 (Minimum grade of B-)	2
MUSC 264	Written Theory 4 (Minimum grade of B-)	2
MUSC 270	History of Western Musical Traditions 1 (May fulfill GEF 8)	3
MUSC 271	History of Western Musical Traditions 2 (May fulfill GEF 6)	3
MUSC 488	Recital (Capstone)	2
Composition Courses		
Music Composition		4
MUSC 160	Introduction to Music Composition (Repeated)	
MUSC 362	Instrumentation and Orchestration	3
Upper Division Composition		8
MUSC 460	Upper Division Composition (Repeated)	
MUSC 461	Counterpoint	2
MUSC 462	Counterpoint	2
Select one of the following:		3
MUSC 463	Analysis of Eighteenth and Nineteenth Century Music	
MUSC 464	Analysis of Twentieth Century Art Music	
Choose six hours from the following:		6
MUSC 460A	Electronic Music Composition	
MUSC 465	Electronic Music	
MUSC 466	Electronic Music-Digital Audio	
Music Supportive Courses		
MUSC 200	Fundamentals of Conducting	2
If piano is not principal		4
MUSC 130	Piano Class Level 0	
MUSC 131	Piano Class Level 1/2	
MUSC 132	Piano Class Level 1	
MUSC 133	Piano Class Level 1 1/2	
MUSC 134	Piano Class Level 2-2 1/2	
8 semesters of Major Ensemble, selected from the following: *		8
MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
4 semesters of Chamber Music, selected from the following: *		4

MUSC 340	Chamber Music: Brass
MUSC 341	Chamber Music: Guitar
MUSC 342	Chamber Music: Piano-4 Hand
MUSC 343	Chamber Music: Strings
MUSC 344	Chamber Music: Woodwind
MUSC 345	Chamber Music: Vocal
MUSC 346	Chamber Music: Mixed Ensemble
MUSC 347	Chamber Music: Mountaineer Singers
MUSC 348	Chamber Music: New Music
MUSC 349	Chamber Music: Other
MUSC 353	Chamber Music: Large Jazz Ensemble 1
MUSC 353A	Chamber Music: Large Jazz Ensemble 2
MUSC 353B	Chamber Music: Jazz Small Group
MUSC 353C	Chamber Music: Jazz Small Group 2
MUSC 353E	Chamber Music: Jazz and Ethnic
MUSC 353G	Chamber Music: Jazz Vocal Ensemble
MUSC 353H	Chamber Music: Jazz Other
MUSC 353I	Chamber Music: Jazz Vocal Ensemble

Principal Performance Studies

Select sixteen hours from the following:

Applied Music 100 level (MUSC 121-127) - 2 semesters	4
Applied Music 200 level (MUSC 221-227) - 2 semesters	4
Applied Music 300 level (MUSC 321-327) - 2 semesters	4
Applied Music 400 level (MUSC 421-427) - 2 semesters	4
Foreign Language (in one language - May fulfill GEF 7 & 8)	6
MUSC 474 Twentieth and Twenty-First Century Music	3
Music History Elective - selected from the following:	3
MUSC 470 European Music before 1500	
MUSC 471 Music of the Sixteenth and Seventeenth Centuries	
MUSC 472 Music of the Eighteenth Century	
MUSC 473 Music of the Nineteenth Century	
MUSC 475 History of Jazz (May fulfill GEF 8)	

Proficiency Level Piano

Proficiency Level

Total Hours 120

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major and Chamber Ensemble requirements.

** Foreign language courses may also be used towards satisfying GEF 7 & 8 requirements.

Performance Proficiency

A music major with an emphasis in composition should enter as a freshman having achieved proficiency level four on the major instrument, and must complete proficiency level eight on that instrument before graduation. If piano is not the major instrument, the student must achieve a level four on piano. The student must reach level four before earning four credits: the remaining credits are treated as free electives. Piano majors reduce total curricular credits by four.

Solo Performance Requirement

Majors in this curriculum must present two solo performances on the major instrument in upper-level recitals before graduation.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1

MUSC 122-127D Applied Music	2 MUSC 121-127D Applied Music	2
MUSC 160	2 MUSC 160	2
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 134	MUSC 134	
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 191	2 MUSC 177	1
ENGL 101 (GEF 1)	3 MUSC 189	0
	GEF 2	4
	GEF	3
	15	18

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 221-227D Applied Music	2 MUSC 221-227D Applied Music	2
MUSC 460	2 MUSC 460	2
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 134	MUSC 134	
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
ENGL 102 (GEF 1)	3 GEF	3
	16	16

Third Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC Chamber Ensemble	1 MUSC 321-327D Applied Music	2
MUSC 321-327D Applied Music	2 MUSC Chamber Ensemble	1
MUSC 465	2 MUSC 466	2
MUSC 189	0 MUSC 474	3
MUSC 461	2 MUSC 189	0
GEF	3 MUSC 462	2
Foreign Language (GEF 7)	3 Foreign Language (GEF 8)	3
	14	14

Fourth Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC Chamber Ensemble	1 MUSC Chamber Ensemble	1
MUSC 421-427D Applied Music	2 MUSC 421-427D Applied Music	2
MUSC 200	2 MUSC 362	3
MUSC 460	2 MUSC 460	2
MUSC 460A	2 MUSC 475 (MUSC History - GEF 8)	3
Select one of the following:	3 MUSC 488	2

MUSC 463

MUSC 464

13

14

Total credit hours: 120

Major Learning Goals

MUSIC COMPOSITION

Students who earn the Bachelor of Music in Composition will develop:

- Achievement of the highest possible level of skill in the use of basic concepts, tools, techniques, and procedures to develop a composition from concept to finished product. This involves the competency to work with both electronic and acoustic media; work with a variety of forms, styles, and notations; and apply principles of scoring appropriate to particular compositions.
- Fluency in the use of tools needed by composers. This includes keyboard skills, spoken and written language, conducting and rehearsal skills, analytical techniques, and applicable technologies.
- Opportunities to hear fully realized performances of the student's original compositions. Public presentation and critical assessment is an essential experience.

Music Education

Bachelor of Music in Music Education

Students successfully completing the music education curriculum and all tests required by the West Virginia Department of Education will be qualified for a professional certificate, grades birth through adult, which allows them to teach instrumental, vocal, and general music in West Virginia public schools.

Click here to view the Suggested Plan of Study (p. 550)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

A cumulative GPA of 2.75 is required.

A minimum GPA of 2.75 is required in all major requirements.

GEF Requirements		25
MUSC 191	First-Year Seminar - Creative Arts	2
MUSC 189	Music Convocation (Five Semesters)	0

Music Core Courses

Minimum GPA of 2.75.

MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 200	Fundamentals of Conducting	2
MUSC 201	Conducting and Score Interpretation	2
MUSC 202	Conducting and Rehearsing	2
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1 (GEF 8)	3
MUSC 271	History of Western Musical Traditions 2 (GEF 6)	3

Professional Education Courses

Minimum Grade of C- required. Minimum GPA of 2.75.

MUSC 138	Voice Class 1 (Taken if voice is not principal.)	2
MUSC 180	Introduction to Music Education	1
MUSC 280	Woodwind Instrument Pedagogy	2
MUSC 281	Brass Instrument Pedagogy	2
MUSC 282	String Instrument Pedagogy	2
MUSC 283	Percussion Instrument Pedagogy	2
MUSC 284	Vocal Pedagogy	2
MUSC 380	Instrumental Methods and Technology Applications	3
MUSC 381	Choral Music Methods and Technology Applications	3
MUSC 382	General Music Methods and Technology Applications *	3
MUSC 384	Music Arranging for Public School Groups	2
EDUC 301	Learning in Educational Settings	3
SPED 304	Special Education in Contemporary Society (GEF 4)	3
SPED 360	Differentiation of Instruction for Students with Special Needs	3
RDNG 422	Reading in the Content Areas	3
MUSC 487	Student Teaching Seminar (Capstone)	2
MUSC 491	Professional Field Experience	10
C&I 491	Professional Field Experience	4

Studies in Music

Class Piano (if piano is not principal)

MUSC 130	Piano Class Level 0	1
MUSC 131	Piano Class Level 1/2	1
MUSC 132	Piano Class Level 1	1
MUSC 133	Piano Class Level 1 1/2	1

7 semesters of Major Ensemble, selected from the following: **

MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	

1 semester of Chamber Music, selected from the following: **	1
MUSC 340	Chamber Music: Brass
MUSC 341	Chamber Music: Guitar
MUSC 342	Chamber Music: Piano-4 Hand
MUSC 343	Chamber Music: Strings
MUSC 344	Chamber Music: Woodwind
MUSC 345	Chamber Music: Vocal
MUSC 346	Chamber Music: Mixed Ensemble
MUSC 347	Chamber Music: Mountaineer Singers
MUSC 348	Chamber Music: New Music
MUSC 349	Chamber Music: Other
MUSC 351	Chamber Music: Percussion 1
MUSC 352	Chamber Music: Percussion 2
MUSC 353B	Chamber Music: Jazz Small Group
MUSC 353C	Chamber Music: Jazz Small Group 2
MUSC 353E	Chamber Music: Jazz and Ethnic
MUSC 353G	Chamber Music: Jazz Vocal Ensemble
MUSC 353H	Chamber Music: Jazz Other
MUSC 354	Chamber Music: Gamelan
MUSC 355	Chamber Music: Steel Band 1
MUSC 356	Chamber Music: African
MUSC 357	Chamber Music: Brazilian
MUSC 358	Chamber Music: Ethnic
MUSC 359	Chamber Music: Taiko
Select 14 hours from the following:	
Applied Music 100 level (MUSC 121-127D) - 2 semesters	4
Applied Music 200 level (MUSC 221-227D) - 2 semesters	4
Applied Music 300 level (MUSC 321-327D) - 2 semesters	4
Applied Music 400 level (MUSC 421-427D) - 1 semester	2
Proficiency Level Piano	
Proficiency Level	
Recital	
Total Hours	134

- * Before enrolling in MUSC 382, students must pass the Praxis I Pre-Professional Skills Test (PPST) and meet the following GPA requirements:
1. An overall GPA of 2.75 in all courses taken at WVU and at any other institution (this includes courses taken at other institutions that are not accepted by WVU)
 2. A GPA of 2.75 in all music core courses
 3. A GPA of 2.75 in professional education courses and meeting the minimum grade requirements noted above.
 4. A cumulative GPA of 2.75 is required
- ** Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major and Chamber Ensemble requirements.

Proficiency Level

Music education students should begin as freshmen at proficiency level three on their principal performance medium (instrument or voice) and must complete proficiency level seven on the medium to be eligible for student teaching. Students must present two solo performances on the major instrument or voice in upper-level recitals before the semester in which they student teach.

Pre-Professional Requirements

In addition to the general pre-professional requirements indicated above, pre-professional requirements for specific music education methods courses are:

- MUSC 380, MUSC 280 (minimum of two woodwind instrument proficiencies) and recorder proficiency, and MUSC 281 (minimum of two brass instrument proficiencies) and guitar proficiency

- MUSC 381 and MUSC 284 and at least one of the following: MUSC 280 (minimum of two woodwind instrument proficiencies) and recorder proficiency; or MUSC 281 (minimum of two brass instrument proficiencies) and guitar proficiency; or (minimum of two string instrument proficiencies); or MUSC 283 (minimum of four percussion instrument proficiencies) and the world music module
- MUSC 382, MUSC 280 (minimum of two woodwind instrument proficiencies) and recorder proficiency, and MUSC 281 (minimum of two brass instrument proficiencies) and guitar proficiency

Student Teaching

Students must pass all proficiency examinations prior to the semester in which they student teach. In addition to the piano, recorder, world music, and guitar proficiencies listed above, students must pass proficiencies on voice and selected woodwind, brass, string, and percussion instruments. For the piano proficiency, all undergraduate music education majors (non-piano principals) are required to successfully complete MUSC 133 or its equivalent (level two) as a minimum proficiency in piano. All music education students, including piano principals, must pass a proficiency examination in keyboard harmony and sight-reading.

To be eligible to student teach, students must pass the Praxis Series subject area test in music (Music: Content Knowledge [0113]) and meet the following GPA requirements

- An overall GPA of 2.75 in all courses taken at WVU and at any other institution (this includes courses taken at other institutions that are not accepted by WVU);
- A GPA of 2.75 in all music (content area) courses
- A GPA of 2.75 in professional education courses and music education methods courses with no D's or F's in these courses:

Certification

To be recommended for certification, students must pass one of the three following professional education tests: Principles of Learning and Teaching K–6, Principles of Learning and Teaching 5-9, or Principles of Learning and Teaching 7–12.

Combined Performance/Music Education Curriculum

An optional program can be arranged for outstanding students who desire to meet the requirements of majors in both performance and music education. Admission to this rigorous program is by written consent of the coordinator of the appropriate performance area and the coordinator of music education after the student has completed two semesters. This curriculum satisfies the course requirements of the professional certificate for birth through adult. The numerous possible combinations of performance with music education cannot be listed separately here. When students become a candidate for this degree, their advisors designate the specific courses that must be taken to satisfy the requirements for both a bachelor's in performance and a bachelor's in music education. By attending summer sessions, if appropriate courses are available, it may be possible to complete the combined curriculum in four calendar years, although it usually takes longer.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 121-127D Applied Music	2 MUSC 121-127D Applied Music	2
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 138	2 MUSC 163	2
MUSC 161	2 MUSC 164	2
MUSC 162	2 MUSC 177	1
ENGL 101 (GEF 1)	3 MUSC 180	1
MUSC 191	2 MUSC 189	0
GEF	3 Select one of the following:	2
	MUSC 280	
	MUSC 281	
	MUSC 284	
	MUSC Chamber Music	1
	SPED 304 (GEF 4)	3

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 221-227D Applied Music	2 MUSC 221-227D Applied Music	2
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 189	0 MUSC 189	0
MUSC 200	2 MUSC 201	2
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
Select one of the following:	2 Select one of the following:	2
MUSC 280	MUSC 280	
MUSC 281	MUSC 281	
MUSC 284	MUSC 284	
ENGL 102 (GEF 1)	3 GEF	3
	18	18

Third Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Majors Ensemble	1
MUSC 321-327D Applied Music	2 MUSC 321-327D Applied Music	2
MUSC 189	0 MUSC 189	0
MUSC 202	2 Select one of the following:	2
Select one of the following:	2 MUSC 282	
MUSC 282	MUSC 283	
MUSC 283	Select one of the following:	3
Select one of the following:	3 MUSC 380	
MUSC 380	MUSC 381	
MUSC 381	MUSC 382	
MUSC 382	GEF	3
EDUC 301	3 SPED 360	3
GEF 2	4	
	17	14

Fourth Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC 491	10
MUSC 421-427D Applied Music	2 MUSC 487	2
Select one of the following:	3 C&I 491	4
MUSC 380		
MUSC 381		
MUSC 382		
MUSC 384	2	
GEF	3	
GEF	3	
RDNG 422	3	
	17	16

Total credit hours: 134

Major Learning Goals

MUSIC EDUCATION

In addition to the common core of musicianship and general studies, the musician electing a career in school-based teaching will develop competencies in professional education and in specific areas of musicianship. Professional education components will be learned in a practical context, relating the learning of educational principles to the student's day-by-day work in music. Students are provided opportunities for various types of observation and teaching.

Within the curricular guidelines, attention is given to breadth in general studies, attitudes relating to human, personal considerations, and social, economic, and cultural components that give individual communities their identity.

Students who earn the Bachelor of Music in Music Education will develop musical abilities in:

- Conducting and Musical Leadership
- Arranging
- Functional Performance
- Analysis/History/Literature

Students who earn the Bachelor of Music in Music Education will develop:

- Knowledge and skills sufficient to teach beginning students on instruments and/or in voice as appropriate to the chosen areas of specialization.
- Knowledge of content, methodologies, philosophies, materials, technologies, and curriculum development in music education.
- Experiences in solo vocal or instrumental performance.
- Experiences in ensembles. Ensembles should be varied both in size and nature.
- The ability to lead performance-based instruction in a variety of settings.
- Laboratory experience in teaching beginning students in a variety of specializations.

Music Industry

Bachelor of Arts in Music Industry

Music industry is a vibrant, multi-billion dollar global industry, vast in scope and reach, offering a product that is deeply ingrained into the fabric of every country and culture, across social strata, around the world. As such, it offers extensive professional opportunities to those who are trained, knowledgeable, and versed in its systems, methods, and practices.

The Music Industry Program at the College of Creative Arts' School of Music offers such knowledge and training by providing an engaging, systematic, and rigorous course of study leading to analytical, creative, regulatory, and entrepreneurial understanding and skills necessary to succeed in today's complex and challenging music industry field.

The full course of study that includes courses in music, music industry, and business, combined with the University's General Education Foundations curriculum, is designed in line with the College of Creative Arts' mission of educating artists, teachers, and scholars through an experiential, student-centered approach to learning. The music industry program includes courses in intellectual property in music industry, music publishing, live music industry, recording industry, music product development and placement, recording technology, etc.

Click here to view the Suggested Plan of Study (p. 554)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3

F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Minimum grade of C- is required in all MUSC courses

Minimum GPA of 2.5 in all MUSC courses

GEF Requirements 16

Foreign Language Requirement (In same language - May fulfill GEF 7 & 8) 12

Business Courses

BUSA 201	Survey of Economics (may fulfill GEF 4)	3
BUSA 202	Survey of Accounting	3
BUSA 330	Survey of Marketing	3
BUSA 320	Survey of Management	3
or BUSA 340	Survey of Finance	

Music Courses

MUSC 191	First-Year Seminar - Creative Arts	2
MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 270	History of Western Musical Traditions 1 (May fulfill GEF 6)	3
or MUSC 271	History of Western Musical Traditions 2	

Applied Lessons

Applied Music 100 Level (MUSC 121-127)	4
Applied Music 200 Level (MUSC 221-227)	4
Applied Music 300 Level (MUSC 321-327)	4

4 Semesters of Music Ensemble, selected from the following: 4

MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	

Music Convocation

MUSC 189	Music Convocation (taken twice)	0
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Music Industry Courses

MUSC 410	Introduction to Music Industry	3
MUSC 411	Intellectual Property in Music Industry	3
MUSC 412	Music Product Development and Placement	3
MUSC 413	Live Music Industry	3
MUSC 414	Recording Industry	3
MUSC 415	Music Publishing	3

MUSC 491	Professional Field Experience	3
Music Industry Electives:		6
MUSC 236	Introduction to Recording Technology	
MUSC 336	Introduction to Digital Audio Workstation	
MUSC 460A	Electronic Music Composition	
MUSC 466	Electronic Music-Digital Audio	
MUSC 495	Independent Study ((in Music Industry))	
Capstone		
MUSC 492	Directed Study	3
Music Electives (any MUSC courses)		4
Free Electives		12
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 189	0 MUSC 177	1
MUSC 191	2 MUSC 189	0
MUSC 410	3 MUSC 121-127 Applied Lesson	2
MUSC 121-127 Applied Lesson	2 ENGL 102 (GEF 1)	3
ENGL 101 (GEF 1)	3 Foreign Language (GEF 6)	3
Foreign Language (GEF 7)	3 GEF 3	3
	17	16

Second Year

Fall	Hours Spring	Hours
MUSC 261	2 MUSC 415	3
MUSC 262	2 MUSC 221-227 Applied Lesson	2
MUSC 411	3 Music Ensemble	1
MUSC 221-227 Applied Lesson	2 BUSA 202	3
Music Ensemble	1 Foreign Language (GEF 8)	3
BUSA 201	3 GEF 2	4
Foreign Language (GEF 8)	3	
	16	16

Third Year

Fall	Hours Spring	Hours
MUSC 270 or 271 (GEF 6)	3 MUSC 414	3
MUSC 413	3 MUSC 321-327 Applied Lesson	2
MUSC 321-327 Applied Lesson	2 Music Ensemble	1
Music Ensemble	1 Music Industry Elective	2
Music Elective	2 GEF 5	3
BUSA 330	3 Electives	3
	14	14

Fourth Year

Fall	Hours Spring	Hours
MUSC 412	3 MUSC 491	3
Music Industry Elective	2 MUSC 492 (Capstone)	3
BUSA 320 or 340	3 Music Industry Elective	2
Electives	6 Music Elective	2

Electives

3

14

13

Total credit hours: 120

Major Learning Goals

B.A. - MUSIC INDUSTRY

Students who earn the Bachelor of Arts in Music Industry will develop:

- The ability to integrate knowledge and skills in music, music industry, and business, to address issues, projects, and problems in the music industry.
- Make independent, logical evaluations and judgements associated with the work of one or more sectors of the music industry.
- The capacity to pose, analyze, and solve problems with an understanding of the interrelationships and interdependencies of various interests and influences on the music industry.
- Knowledge and skills in various aspects of the music industry and business more generally through study and personal experience.

Music Performance: Instrumental

Bachelor of Music in Music Performance: Instrumental

The performance curricula are especially designed for students wishing to prepare themselves as performers or as teachers of a particular instrument or voice. The increased interest of society today in the arts is creating many new opportunities for the professional musician and for the private music teacher.

Instruments include:

- Flute
- Oboe
- Clarinet
- Saxophone
- Bassoon
- Horn
- Trumpet
- Trombone
- Euphonium
- Tuba
- Percussion
- Violin
- Viola
- Cello
- Double Bass
- Guitar

Proficiency levels of ten and three solo appearances on upper-level recitals are required for graduation.

[Click here to view the Suggested Plan of Study \(p. 558\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

3-6

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing
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F2A/F2B - Science & Technology	4-6
F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

GEF Requirements		28
MUSC 191	First-Year Seminar - Creative Arts	2
Music Core Courses		
MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 189	Music Convocation (Five Semesters)	0
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1 (GEF 8)	3
MUSC 271	History of Western Musical Traditions 2 (GEF 6)	3
MUSC 121-127, 221-227, 321-327, 421-427	Applied Music in a band, orchestra instrument, or guitar	32
MUSC 432 & MUSC 433	Methods and Pedagogy and Methods and Pedagogy	4
MUSC 488	Recital (Capstone)	2
8 Semesters of Major Ensemble, selected from the following: *		8
MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 303	Orchestra	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
4 Semesters of Chamber Music, selected from the following: *		4
MUSC 340	Chamber Music: Brass	
MUSC 341	Chamber Music: Guitar	
MUSC 342	Chamber Music: Piano-4 Hand	
MUSC 343	Chamber Music: Strings	
MUSC 344	Chamber Music: Woodwind	
MUSC 348	Chamber Music: New Music	
MUSC 349	Chamber Music: Other	
MUSC 351	Chamber Music: Percussion 1	
MUSC 352	Chamber Music: Percussion 2	
MUSC 353B	Chamber Music: Jazz Small Group	
MUSC 353C	Chamber Music: Jazz Small Group 2	
MUSC 353E	Chamber Music: Jazz and Ethnic	
MUSC 353G	Chamber Music: Jazz Vocal Ensemble	

MUSC 353H	Chamber Music: Jazz Other	
MUSC 354	Chamber Music: Gamelan	
MUSC 355	Chamber Music: Steel Band 1	
MUSC 356	Chamber Music: African	
MUSC 357	Chamber Music: Brazilian	
MUSC 358	Chamber Music: Ethnic	
MUSC 359	Chamber Music: Taiko	
Music Supportive Courses		
MUSC 200	Fundamentals of Conducting	2
MUSC 130	Piano Class Level 0	1
MUSC 131	Piano Class Level 1/2	1
MUSC 132	Piano Class Level 1	1
MUSC 133	Piano Class Level 1 1/2	1
Music Electives		
Music Electives (any area)		4
Music Theory		5
Selected from the following:		
MUSC 265	Instrumentation	
MUSC 266	Orchestration and Band Arranging	
MUSC 311	Introduction to Jazz Improvisation	
MUSC 313	Advanced Jazz Improvisation	
MUSC 360	Composition	
MUSC 362	Instrumentation and Orchestration (Instrumentation and Orchestration)	
MUSC 461	Counterpoint	
MUSC 462	Counterpoint	
MUSC 463	Analysis of Eighteenth and Nineteenth Century Music	
MUSC 464	Analysis of Twentieth Century Art Music	
MUSC 465	Electronic Music	
MUSC 466	Electronic Music-Digital Audio	
MUSC 468	Jazz Harmony	
MUSC 480	Arranging for Small Jazz Ensemble	
MUSC 481	Arranging for Large Jazz Ensemble	
Music History		3
Selected from the following:		
MUSC 470	European Music before 1500	
MUSC 471	Music of the Sixteenth and Seventeenth Centuries	
MUSC 472	Music of the Eighteenth Century	
MUSC 473	Music of the Nineteenth Century	
MUSC 474	Twentieth and Twenty-First Century Music	
MUSC 475	History of Jazz	
Select one of the following:		2
MUSC 236	Introduction to Recording Technology	
MUSC 410	Introduction to Music Industry	
Proficiency Level Piano		
Proficiency Level		
Total Hours		123

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major Ensemble and Chamber Ensemble requirements.

Proficiency Level

A student in a performance curriculum, if entering as a freshman, should achieve proficiency level six in the principal performance area at the time of audition, and must complete proficiency level ten in that area to be eligible for graduation. In addition to presentation of a senior recital, performance majors also must make three solo appearances on the major instrument in upper-level student recitals or convocations.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 121-127D Applied Music	4 MUSC 121-127D Applied Music	4
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 191	2 MUSC 177	1
ENGL 101 (GEF 1)	3 MUSC 189	0
GEF	3 GEF	3
	18	14

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 221-227D Applied Music	4 MUSC 221-227D Applied Music	4
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
MUSC Chamber Music	1 GEF	3
ENGL 102 (GEF 1)	3	
	17	16

Third Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 321-327D Applied Music	4 MUSC 321-327D Applied Music	4
MUSC 189	0 MUSC 189	0
MUSC Chamber Music	1 MUSC Chamber Music	1
MUSC 432	2 MUSC 433	2
MUSC History or Theory Electives	2 MUSC History or Theory Electives	3
GEF 2	4 GEF	3
MUSC Elective	1 MUSC Elective	1
	15	15

Fourth Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 421-427D Applied Music	4 MUSC 421-427D Applied Music	4

MUSC Chamber Music	1 MUSC History or Theory Electives	3
MUSC 200	2 GEF	3
GEF	3 MUSC Electives	1
MUSC Elective	1 MUSC 488	2
MUSC 236 or 410	2	
<hr/>		
		14
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		14

Total credit hours: 123

Major Learning Goals

MUSIC PERFORMANCE: INSTRUMENTAL

Students who earn the Bachelor of Music in Performance: Instrumental will develop:

- Comprehensive capabilities in the major performing medium including the ability to work independently to prepare performances at the highest possible level; knowledge of applicable solo and ensemble literature; and orientation to and experience with the fundamentals of pedagogy.
- Solo and ensemble performance abilities in a variety of formal and informal settings.

Music Performance: Jazz Studies

Bachelor of Music in Music Performance: Jazz Studies

The performance curricula are especially designed for students wishing to prepare themselves as performers or as teachers of a particular instrument or voice. The increased interest of society today in the arts is creating many new opportunities for the professional musician and for the private music teacher.

Click here to view the Suggested Plan of Study (p. 561)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
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Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

A minimum GPA of 2.0 is required in all MUSC courses

GEF Requirements		28
MUSC 191	First-Year Seminar - Creative Arts	2
Music Core Courses		
MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2

MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 189	Music Convocation (One Semester)	0
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1 (GEF 8)	3
MUSC 271	History of Western Musical Traditions 2 (GEF 6)	3

Jazz Studies

Select 32 hours from the following:

Applied Music 100 level (MUSC 121-127D) - 2 semesters	8	
Applied Music 200 level (MUSC 221-227D) - 2 semesters	8	
Applied Music 300 level (MUSC 321-327D) - 2 semesters	8	
Applied Music 400 level (MUSC 421-427D) - 2 semesters	8	
MUSC 311	Introduction to Jazz Improvisation	2
MUSC 313	Advanced Jazz Improvisation	2
MUSC 468	Jazz Harmony	2
MUSC 475	History of Jazz	3
MUSC 480	Arranging for Small Jazz Ensemble	2
MUSC 481	Arranging for Large Jazz Ensemble	2
MUSC 488	Recital (Capstone)	2

Select 8 hours from the following (A minimum of 3 credits must be from Major Ensemble): *

MUSC 300	Band: Wind Symphony	8
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
MUSC 353B	Chamber Music: Jazz Small Group	
MUSC 353C	Chamber Music: Jazz Small Group 2	
MUSC 353E	Chamber Music: Jazz and Ethnic	
MUSC 353H	Chamber Music: Jazz Other	
MUSC 353I	Chamber Music: Jazz Vocal Ensemble	

Music Supportive Courses

MUSC 200	Fundamentals of Conducting	2
MUSC 410	Introduction to Music Industry	3
Not required for keyboard performers		1
MUSC 130	Piano Class Level 0	
MUSC 131	Piano Class Level 1/2	
MUSC 132	Piano Class Level 1	
MUSC 133	Piano Class Level 1 1/2	
Music Electives (in any area)		8
Proficiency Level Piano		
Proficiency Level		
Proficiency Level Applied Jazz		

Total Hours

122

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major Ensemble and Chamber Ensemble requirement.

Proficiency Level

A student in a performance curriculum, if entering as a freshman, should achieve proficiency level six in the principal performance area at the time of audition, and must complete proficiency level ten in that area to be eligible for graduation. In addition to presentation of a senior recital, performance majors also must make three solo appearances on the major instrument in upper-level student recitals or convocations. Proficiency level ten in jazz performance and level five in classical performance are required for graduation.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 121-127D Applied Music	4 MUSC 121-127D Applied Music	4
MUSC 161	2 Select one of the following:	1
MUSC 162	2 MUSC 130	
MUSC 191	2 MUSC 131	
ENGL 101 (GEF 1)	3 MUSC 132	
MUSC Elective	1 MUSC 133	
	MUSC 163	2
	MUSC 164	2
	MUSC 177	1
	MUSC 189	0
	GEF	3
	MUSC Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 221-227D Applied Music	4 MUSC 221-227D Applied Music	4
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
ENGL 102 (GEF 1)	3 GEF	3
	15	15

Third Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 321-327D Applied Music	4 MUSC 321-327D Applied Music	4
MUSC 189	0 MUSC 189	0
MUSC 311	2 MUSC 313	2
GEF	3 MUSC 480	2
GEF 2	4 GEF	3
MUSC Elective	1 GEF	3
	MUSC Elective	1
	15	16

Fourth Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 421-427D Applied Music	4 MUSC 421-427D Applied Music	4
MUSC 200	2 MUSC 475	3

MUSC 410	3 GEF	3
MUSC 468	2 MUSC Elective	3
MUSC 481	2 MUSC 488	2
MUSC Elective	1	
<hr/>		
	15	16

Total credit hours: 122

Major Learning Goals

MUSIC PERFORMANCE: JAZZ STUDIES

Students who earn the Bachelor of Music in Performance: Jazz Studies will develop:

- Comprehensive capabilities in various jazz idioms, including the ability to perform, improvise, compose, arrange, and score; and knowledge of jazz history and literature, including the cultural sources and influences of jazz.
- Ability to work as a performer and composer/arranger with a variety of jazz and studio music idioms in various settings and with various sizes and types of ensembles, including the ability to produce the appropriate expressive style of the music being created or presented. Independent studies, internships, field work, and similar experiences are strongly encouraged.
- Opportunities to hear fully realized performances of the student's original compositions and/or arrangements; public presentation is an essential experience.
- Solo and ensemble abilities in a variety of settings.

Music Performance: Piano

Bachelor of Music in Music Performance: Piano

AREAS OF EMPHASIS INCLUDE:

- Traditional
- Coaching/Accompanying
- Jazz
- Pedagogy

The performance curricula are especially designed for students wishing to prepare themselves as performers or as teachers of a particular instrument or voice. The increased interest of society today in the arts is creating many new opportunities for the professional musician and for the private music teacher.

Click the link below to view the corresponding AOE requirements and Suggested Plans of Study.

- Coaching/Accompanying (p. 563)
- Jazz (p. 565)
- Pedagogy (p. 567)
- Traditional (p. 569)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3

F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

GEF Requirements	28	
MUSC 191	First-Year Seminar - Creative Arts	2
Music Core Courses		
MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 189	Music Convocation (Five Semesters)	0
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1 (GEF 8)	3
MUSC 271	History of Western Musical Traditions 2 (GEF 6)	3
Major Courses		
MUSC 200	Fundamentals of Conducting	2
Applied Piano		32
If selecting the Coaching/Accompanying, Pedagogy, or Traditional AOE, complete 32 credits from the following:		
MUSC 123B	Applied Music: Piano	
MUSC 223B	Applied Music: Piano	
MUSC 323B	Applied Music: Piano	
MUSC 423B	Applied Music: Piano	
If selecting the Jazz AOE, complete 24 credits from those above and 8 credits from the following:		
MUSC 122	Applied Music: Jazz	
MUSC 222	Applied Music: Jazz	
MUSC 322	Applied Music: Jazz	
MUSC 422	Applied Music: Jazz	
MUSC 488	Recital	2
Select 1 Area of Emphasis		29
Electives (To reach minimum 120 credits for degree)		2
Proficiency Level		
Total Hours		120

Proficiency Levels

A student in a performance curriculum, if entering as a freshman, should achieve proficiency level six in the principal performance area at the time of audition, and must complete proficiency level ten in that area to be eligible for graduation. Students in the Jazz Emphasis must reach level 10 in applied piano and 9 in applied jazz. In addition to presentation of a senior recital, performance majors also must make three solo appearances on the major instrument in upper-level student recitals or convocations.

COACHING/ACCOMPANYING AREA OF EMPHASIS REQUIREMENTS

MUSC 432 & MUSC 433	Methods and Pedagogy and Methods and Pedagogy	4
MUSC 434 & MUSC 435	Repertoire and Repertoire:Voice	4

Opera Theatre (taken twice in separate semesters):	2
MUSC 304 Introduction To Opera Theatre	
MUSC 169-169D Diction for Singers	8
2 Semesters of Major Ensemble *	2
MUSC 300 Band: Wind Symphony	
MUSC 300A Band: Symphonic	
MUSC 300B Band: Marching	
MUSC 302 University Choral Union	
MUSC 303 Orchestra	
MUSC 305 University Choir	
MUSC 305A University Choir: Concert	
MUSC 353 Chamber Music: Large Jazz Ensemble 1	
MUSC 353A Chamber Music: Large Jazz Ensemble 2	
Chamber Music (must be performed on a keyboard instrument.) *	6
Complete 4 semesters as an accompanist and 2 semesters from the following:	
MUSC 342 Chamber Music: Piano-4 Hand	
MUSC 343 Chamber Music: Strings	
MUSC 344 Chamber Music: Woodwind	
MUSC 346 Chamber Music: Mixed Ensemble	
MUSC 348 Chamber Music: New Music	
MUSC 349 Chamber Music: Other	
MUSC 353B Chamber Music: Jazz Small Group	
MUSC 353C Chamber Music: Jazz Small Group 2	
MUSC 353E Chamber Music: Jazz and Ethnic	
MUSC 353G Chamber Music: Jazz Vocal Ensemble	
MUSC 353H Chamber Music: Jazz Other	
MUSC 357 Chamber Music: Brazilian	
Music Theory Electives, selected from the following:	5
MUSC 265 Instrumentation	
MUSC 266 Orchestration and Band Arranging	
MUSC 311 Introduction to Jazz Improvisation	
MUSC 313 Advanced Jazz Improvisation	
MUSC 360 Composition	
MUSC 461 Counterpoint	
MUSC 462 Counterpoint	
MUSC 463 Analysis of Eighteenth and Nineteenth Century Music	
MUSC 464 Analysis of Twentieth Century Art Music	
MUSC 465 Electronic Music	
MUSC 466 Electronic Music-Digital Audio	
MUSC 468 Jazz Harmony	
MUSC 480 Arranging for Small Jazz Ensemble	
MUSC 481 Arranging for Large Jazz Ensemble	
Music History Elective, selected from the following:	3
MUSC 470 European Music before 1500	
MUSC 471 Music of the Sixteenth and Seventeenth Centuries	
MUSC 472 Music of the Eighteenth Century	
MUSC 473 Music of the Nineteenth Century	
MUSC 474 Twentieth and Twenty-First Century Music	
MUSC 475 History of Jazz	
Total Hours	34

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major Ensemble requirement.

ADDITIONAL GRADUATION REQUIREMENTS:

- Coach and accompany under supervision, two full voice recitals, one string recital, and one recital of another instrument (clarinet, flute, oboe, horn, etc.).
- Coach, prepare musically, and accompany in performance two scenes from standard-repertory operas in their original languages (scenes should involve a minimum of two people and have some dramatic development).

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 123B Applied Music	4 MUSC 123B Applied Music	4
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 191	2 MUSC 177	1
ENGL 101 (GEF 1)	3 MUSC 189	0
GEF	3 GEF	3
	17	13

Second Year

Fall	Hours Spring	Hours
MUSC 223B Applied Music	4 MUSC 223B Applied Music	4
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
MUSC Chamber Music	1 MUSC Chamber Music	1
ENGL 102 (GEF 1)	3 GEF	3
	15	15

Third Year

Fall	Hours Spring	Hours
MUSC 323B Applied Music	4 MUSC 323B Applied Music	4
MUSC 169D Diction for Singers	2 MUSC 169D Diction for Singers	2
MUSC 189	0 MUSC 189	0
MUSC Chamber Music	1 MUSC Chamber Music	1
MUSC 432	2 MUSC 433	2
GEF 2	4 MUSC Theory Electives	3
GEF	3 GEF	3
	16	15

Fourth Year

Fall	Hours Spring	Hours
MUSC 423B Applied Music	4 MUSC 423B Applied Music	4
MUSC 169D Diction for Singers	2 MUSC 169D Diction for Singers	2
MUSC Chamber Music	1 MUSC Chamber Music	1
MUSC 200	2 MUSC History Electives	3
MUSC Theory Electives	2 MUSC 304	1
MUSC 304	1 MUSC 435	2
MUSC 434	2 MUSC 488	2
	GEF	3
	14	18

Total credit hours: 123

JAZZ AREA OF EMPHASIS REQUIREMENTS

MUSC 311	Introduction to Jazz Improvisation	2
MUSC 313	Advanced Jazz Improvisation	2
MUSC 468	Jazz Harmony	2
MUSC 475	History of Jazz	3
MUSC 480	Arranging for Small Jazz Ensemble	2
MUSC 481	Arranging for Large Jazz Ensemble	2
Select 8 hours from the following:		8
Major Ensemble, selected from the following: *		
MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
Chamber Music, selected from the following: *		
MUSC 340	Chamber Music: Brass	
MUSC 341	Chamber Music: Guitar	
MUSC 342	Chamber Music: Piano-4 Hand	
MUSC 343	Chamber Music: Strings	
MUSC 344	Chamber Music: Woodwind	
MUSC 345	Chamber Music: Vocal	
MUSC 346	Chamber Music: Mixed Ensemble	
MUSC 347	Chamber Music: Mountaineer Singers	
MUSC 348	Chamber Music: New Music	
MUSC 349	Chamber Music: Other	
MUSC 351	Chamber Music: Percussion 1	
MUSC 352	Chamber Music: Percussion 2	
MUSC 353B	Chamber Music: Jazz Small Group	
MUSC 353C	Chamber Music: Jazz Small Group 2	
MUSC 353E	Chamber Music: Jazz and Ethnic	
MUSC 353G	Chamber Music: Jazz Vocal Ensemble	
MUSC 353H	Chamber Music: Jazz Other	
MUSC 354	Chamber Music: Gamelan	
MUSC 355	Chamber Music: Steel Band 1	
MUSC 356	Chamber Music: African	
MUSC 357	Chamber Music: Brazilian	
MUSC 358	Chamber Music: Ethnic	
MUSC 359	Chamber Music: Taiko	
Music Electives (in any area)		8
Proficiency Level - Applied Jazz		
Total Hours		29

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major Ensemble requirement.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1

MUSC 123B Applied Music	4 MUSC 123B Applied Music	4
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 191	2 MUSC 177	1
ENGL 101 (GEF 1)	3 MUSC 189	0
GEF	3 GEF	3
	MUSC Elective	1
	17	14

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 223B Applied Music	4 MUSC 223B Applied Music	4
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
ENGL 102 (GEF 1)	3 GEF	3
	15	15

Third Year

Fall	Hours Spring	Hours
MUSC Chamber Music	1 MUSC Chamber Music	1
MUSC 323B Applied Music	4 MUSC 323B Applied Music	4
MUSC 189	0 MUSC 189	0
MUSC 311	2 MUSC 313	2
MUSC Elective	2 GEF	3
GEF 2	4 GEF	3
GEF	3 MUSC Elective	2
	16	15

Fourth Year

Fall	Hours Spring	Hours
MUSC Chamber Music	1 MUSC Chamber Music	1
MUSC 423B Applied Music	4 MUSC 423B Applied Music	4
MUSC 200	2 MUSC 475	3
MUSC 468	2 MUSC 481	2
MUSC 480	2 MUSC 488	2
MUSC Elective	3 Elective	2
	14	14

Total credit hours: 120

PEDAGOGY AREA OF EMPHASIS REQUIREMENTS

2 Semesters of Major Ensemble *		2
MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	

6 Semesters of Chamber Music, at least 2 semesters performed on a keyboard instrument. Select from the following: 6

MUSC 342	Chamber Music: Piano-4 Hand	
MUSC 343	Chamber Music: Strings	
MUSC 344	Chamber Music: Woodwind	
MUSC 346	Chamber Music: Mixed Ensemble	
MUSC 348	Chamber Music: New Music	
MUSC 349	Chamber Music: Other	
MUSC 353B	Chamber Music: Jazz Small Group	
MUSC 353C	Chamber Music: Jazz Small Group 2	
MUSC 353E	Chamber Music: Jazz and Ethnic	
MUSC 353G	Chamber Music: Jazz Vocal Ensemble	
MUSC 353H	Chamber Music: Jazz Other	
MUSC 357	Chamber Music: Brazilian	
MUSC 430	Piano Class Methods and Materials	3
MUSC 431	History of Keyboard Pedagogy and Technique	3
MUSC 432 & MUSC 433	Methods and Pedagogy and Methods and Pedagogy	4
MUSC 434 & MUSC 435A	Repertoire and Repertoire: Piano	4
MUSC 492	Directed Study	2
Music Theory Electives, selected from the following:		5
MUSC 265	Instrumentation	
MUSC 266	Orchestration and Band Arranging	
MUSC 311	Introduction to Jazz Improvisation	
MUSC 313	Advanced Jazz Improvisation	
MUSC 360	Composition	
MUSC 461	Counterpoint	
MUSC 462	Counterpoint	
MUSC 463	Analysis of Eighteenth and Nineteenth Century Music	
MUSC 464	Analysis of Twentieth Century Art Music	
MUSC 465	Electronic Music	
MUSC 466	Electronic Music-Digital Audio	
MUSC 468	Jazz Harmony	
MUSC 480	Arranging for Small Jazz Ensemble	
MUSC 481	Arranging for Large Jazz Ensemble	
Music History Elective, selected from the following:		3
MUSC 470	European Music before 1500	
MUSC 471	Music of the Sixteenth and Seventeenth Centuries	
MUSC 472	Music of the Eighteenth Century	
MUSC 473	Music of the Nineteenth Century	
MUSC 474	Twentieth and Twenty-First Century Music	
MUSC 475	History of Jazz	

Total Hours

32

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major and Chamber Ensemble requirements.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 123B Applied Music	4 MUSC 123B Applied Music	4
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2

MUSC 191	2 MUSC 177	1
ENGL 101 (GEF 1)	3 MUSC 189	0
GEF	3 GEF	3
	17	13

Second Year

Fall	Hours Spring	Hours
MUSC 223B Applied Music	4 MUSC 223B Applied Music	4
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
MUSC Chamber Music	1 MUSC Chamber Music	1
ENGL 102 (GEF 1)	3 GEF	3
	15	15

Third Year

Fall	Hours Spring	Hours
MUSC 323B Applied Music	4 MUSC 323B Applied Music	4
MUSC 189	0 MUSC 189	0
MUSC Chamber Music	1 MUSC Chamber Music	1
MUSC 432	2 MUSC 433	2
GEF 2	4 MUSC History Electives	3
GEF	3 GEF	3
	GEF	3
	14	16

Fourth Year

Fall	Hours Spring	Hours
MUSC 423B Applied Music	4 MUSC 423B Applied Music	4
MUSC Chamber Music	1 MUSC Chamber Music	1
MUSC 200	2 MUSC Theory Electives	2
MUSC Theory Electives	3 MUSC 431	3
MUSC 430	3 MUSC 435A	2
MUSC 434	2 MUSC 488	2
	MUSC 492	2
	15	16

Total credit hours: 121

TRADITIONAL AREA OF EMPHASIS REQUIREMENTS

MUSC 432 & MUSC 433	Methods and Pedagogy and Methods and Pedagogy	4
MUSC 434 & MUSC 435A	Repertoire and Repertoire: Piano	4
4 Semesters of Major Ensemble, selected from the following: *		6
MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	
MUSC 300B	Band: Marching	
MUSC 302	University Choral Union	
MUSC 303	Orchestra	
MUSC 305	University Choir	
MUSC 305A	University Choir: Concert	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2 *	

4 Semesters of Chamber Music - must be performed on a keyboard instrument. Selected from the following: * 7

MUSC 342	Chamber Music: Piano-4 Hand
MUSC 343	Chamber Music: Strings
MUSC 344	Chamber Music: Woodwind
MUSC 346	Chamber Music: Mixed Ensemble
MUSC 348	Chamber Music: New Music
MUSC 349	Chamber Music: Other
MUSC 353B	Chamber Music: Jazz Small Group
MUSC 353C	Chamber Music: Jazz Small Group 2
MUSC 353E	Chamber Music: Jazz and Ethnic
MUSC 353G	Chamber Music: Jazz Vocal Ensemble
MUSC 353H	Chamber Music: Jazz Other
MUSC 357	Chamber Music: Brazilian

Electives

MUSC History or Theory Electives, selected from the following: 8

Music Theory:	
MUSC 265	Instrumentation
MUSC 266	Orchestration and Band Arranging
MUSC 311	Introduction to Jazz Improvisation
MUSC 313	Advanced Jazz Improvisation
MUSC 360	Composition
MUSC 461	Counterpoint
MUSC 462	Counterpoint
MUSC 463	Analysis of Eighteenth and Nineteenth Century Music
MUSC 464	Analysis of Twentieth Century Art Music
MUSC 465	Electronic Music
MUSC 466	Electronic Music-Digital Audio
MUSC 468	Jazz Harmony
MUSC 480	Arranging for Small Jazz Ensemble
MUSC 481	Arranging for Large Jazz Ensemble
Music History:	
MUSC 470	European Music before 1500
MUSC 471	Music of the Sixteenth and Seventeenth Centuries
MUSC 472	Music of the Eighteenth Century
MUSC 473	Music of the Nineteenth Century
MUSC 474	Twentieth and Twenty-First Century Music
MUSC 475	History of Jazz

Music Electives (from any area) 6

Total Hours 35

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies regarding fulfilling the Major and Chamber Ensemble requirements.

** Students whose major performance medium is piano: traditional have flexibility fulfilling the major ensemble and chamber music requirements: 8 total credits are needed (2-4 major ensemble and 4-6 chamber music).

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	2 MUSC Major Ensemble	2
MUSC 123B Applied Music	4 MUSC 123B Applied Music	4
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 191	2 MUSC 177	1

ENGL 101 (GEF 1)	3 MUSC 189	0
GEF	3 MUSC Elective	1
	GEF	3
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	18	15

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 223B Applied Music	4 MUSC 223B Applied Music	4
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
ENGL 102 (GEF 1)	3 GEF	3
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	15	15

Third Year

Fall	Hours Spring	Hours
MUSC 323B Applied Music	4 MUSC 323B Applied Music	4
MUSC 189	0 MUSC 189	0
MUSC Chamber Music	2 MUSC Chamber Music	2
MUSC 432	2 MUSC 433	2
GEF 2	4 MUSC History or Theory Electives	3
GEF	3 GEF	3
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	15	14

Fourth Year

Fall	Hours Spring	Hours
MUSC 423B Applied Music	4 MUSC 423B Applied Music	4
MUSC Chamber Music	1 MUSC Chamber Music	2
MUSC 200	2 MUSC History or Theory Electives	2
MUSC History or Theory Electives	3 MUSC 435A Repertoire: Piano	2
MUSC 434	2 MUSC Elective	3
GEF	3 MUSC 488	2
MUSC Elective	2	
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	17	15

Total credit hours: 124

Major Learning Goals

MUSIC PERFORMANCE: PIANO

Students who earn the Bachelor of Music in Performance: Piano will develop:

- Comprehensive capabilities in the major performing medium including the ability to work independently to prepare performances at the highest possible level; knowledge of applicable solo and ensemble literature; and orientation to and experience with the fundamentals of pedagogy.
- Solo and ensemble performance abilities in a variety of formal and informal settings.

Music Performance: Voice

Bachelor of Music in Music Performance: Voice

The performance curricula are especially designed for students wishing to prepare themselves as performers or as teachers of a particular instrument or voice. The increased interest of society today in the arts is creating many new opportunities for the professional musician and for the private music teacher.

Proficiency levels of ten and three solo appearances on upper-level recitals are required for graduation.

[Click here to view the Suggested Plan of Study \(p. 574\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

A minimum GPA of 2.0 is required in all major requirements

GEF Requirements		22
MUSC 191	First-Year Seminar - Creative Arts	2
Foreign Language (May fulfill GEF 8)		6
Select one of the following:		
FRCH 101 & FRCH 102	Elementary French 1 and Elementary French 2	
GER 101 & GER 102	Introduction to German Language and Culture 1 and Introduction to German Language and Culture 2	
ITAL 101 & ITAL 102	Elementary Italian 1 and Elementary Italian 2	
Music Core Courses		
MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 189	Music Convocation (Five Semesters)	0
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1 (May fulfill GEF 8)	3
MUSC 271	History of Western Musical Traditions 2 (May fulfill GEF 6)	3
Voice		
Complete the following:		
MUSC 126	Applied Music: Voice	16
MUSC 226	Applied Music: Voice	
MUSC 326	Applied Music: Voice	
MUSC 426	Applied Music: Voice	

MUSC 269A	Diction for Singers: English and Italian	3
MUSC 269B	Diction for Singers: German and French	3
Opera Practicum		4
MUSC 404	Opera Practicum (Opera Practicum)	
MUSC 432	Methods and Pedagogy	2
MUSC 433	Methods and Pedagogy	2
MUSC 434	Repertoire (Capstone)	2
MUSC 438	Operatic Styles and Repertory (Operatic Styles and Repertory)	3
Coaching		4
MUSC 478	Coaching for Singers (Coaching for Singers)	
MUSC 488	Recital	2
Music Supportive Courses		
MUSC 200	Fundamentals of Conducting	2
Select 4 semesters from the following:		4
MUSC 130	Piano Class Level 0	
MUSC 131	Piano Class Level 1/2	
MUSC 132	Piano Class Level 1	
MUSC 133	Piano Class Level 1 1/2	
MUSC History or Theory Electives, selected from the following:		
Music Theory:		5
MUSC 265	Instrumentation	
MUSC 266	Orchestration and Band Arranging	
MUSC 311	Introduction to Jazz Improvisation	
MUSC 313	Advanced Jazz Improvisation	
MUSC 360	Composition	
MUSC 362	Instrumentation and Orchestration	
MUSC 461	Counterpoint	
MUSC 462	Counterpoint	
MUSC 463	Analysis of Eighteenth and Nineteenth Century Music	
MUSC 464	Analysis of Twentieth Century Art Music	
MUSC 465	Electronic Music	
MUSC 466	Electronic Music-Digital Audio	
MUSC 468	Jazz Harmony	
MUSC 480	Arranging for Small Jazz Ensemble	
MUSC 481	Arranging for Large Jazz Ensemble	
Music History:		3
MUSC 470	European Music before 1500	
MUSC 471	Music of the Sixteenth and Seventeenth Centuries	
MUSC 472	Music of the Eighteenth Century	
MUSC 473	Music of the Nineteenth Century	
MUSC 474	Twentieth and Twenty-First Century Music	
MUSC 475	History of Jazz	
Select 8 hours from the following:		8
Major Ensemble *		
MUSC 302	University Choral Union	
MUSC 305	University Choir	
Opera Theatre Requirement		2
MUSC 304	Introduction To Opera Theatre	
Choose one of the following:		2
MUSC 236	Introduction to Recording Technology	
MUSC 410	Introduction to Music Industry	
Proficiency Level		

Proficiency Level Piano

Total Hours

120

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major Ensemble and Chamber Ensemble requirements.

Proficiency Level & Additional Requirements

A student in a performance curriculum, if entering as a freshman, should achieve proficiency level six in the principal performance area at the time of audition, and must complete proficiency level ten in that area to be eligible for graduation. In addition to presentation of a senior recital, performance majors also must make three solo appearances on the major instrument in upper-level student recitals or convocations.

In addition to the required proficiency level ten in voice, a student completing this curriculum must also achieve proficiency level three in piano before graduation. Three solo upper-level recitals are required. Students can take Opera Theatre for credit only during the junior and senior years. Other policies related to this degree program can be found in the *Vocal Student Handbook*.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 126	2 MUSC 126	2
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 191	2 MUSC 177	1
ENGL 101 (GEF 1)	3 MUSC 189	0
	GEF	3
	13	12

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 226	2 MUSC 226	2
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 269A	3
MUSC 189	0 MUSC 271 (GEF 6)	3
ENGL 102 (GEF 1)	3 MUSC 189	0
	14	14

Third Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 189	0 MUSC 189	0
MUSC 269B	3 MUSC 304	1
MUSC 304	1 MUSC 326	2
MUSC 326	2 MUSC 404	1
MUSC 404	1 MUSC 433	2

MUSC 432	2 MUSC 478	1
MUSC 478	1 MUSC History or Theory Electives	3
GEF 2	4 GEF	3
Foreign Language (GEF 8)	3 Foreign Language (GEF 8)	3
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	18	17

Fourth Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 404	1 MUSC 404	1
MUSC 426	2 MUSC 426	2
MUSC 200	2 MUSC 438	3
MUSC 434	2 MUSC 478	1
MUSC 478	1 MUSC 488	2
MUSC History or Theory Electives	3 MUSC 236 or 410	2
GEF	3 MUSC History or Theory Electives	2
	GEF	3
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	15	17

Total credit hours: 120

Major Learning Goals**MUSIC PERFORMANCE: VOICE**

Students who earn the Bachelor of Music in Performance: Voice will develop:

- Comprehensive capabilities in the major performing medium including the ability to work independently to prepare performances at the highest possible level; knowledge of applicable solo and ensemble literature; and orientation to and experience with the fundamentals of pedagogy.
- The ability to use foreign languages with proper diction.
- Solo and ensemble performance abilities in a variety of formal and informal settings.

Music Performance: Woodwinds**Bachelor of Music in Music Performance: Woodwinds**

The performance curricula are especially designed for students wishing to prepare themselves as performers or as teachers of a particular instrument or voice. The increased interest of society today in the arts is creating many new opportunities for the professional musician and for the private music teacher.

If a student is a performance major whose major instrument is in the woodwind family and s/he shows strong performance ability on another woodwind instrument, the student may qualify for the performance curriculum in woodwinds. Approval for admission to this curriculum will not be given by the woodwind faculty until after the first year of study, at which time the student must achieve an appropriate level on three of the five woodwind instruments.

Click here to view the Suggested Plan of Study (p. 578)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3

F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

GEF Requirements		28
MUSC 191	First-Year Seminar - Creative Arts	2
Music Core Courses		
MUSC 161	Aural Theory 1	2
MUSC 162	Written Theory 1	2
MUSC 163	Aural Theory 2	2
MUSC 164	Written Theory 2	2
MUSC 177	Introduction to Music Listening	1
MUSC 189	Music Convocation (Five Semesters)	0
MUSC 261	Aural Theory 3	2
MUSC 262	Written Theory 3	2
MUSC 263	Aural Theory 4	2
MUSC 264	Written Theory 4	2
MUSC 270	History of Western Musical Traditions 1 (GEF 8)	3
MUSC 271	History of Western Musical Traditions 2 (GEF 6)	3
Woodwinds		
Select 32 hours from the following (Credits must be spread across five instruments):		32
MUSC 127	Applied Music: Bassoon	
MUSC 127A	Applied Music: Clarinet	
MUSC 127B	Applied Music: Flute	
MUSC 127C	Applied Music: Oboe	
MUSC 127D	Applied Music: Saxophone	
MUSC 227	Applied Music: Bassoon	
MUSC 227A	Applied Music: Clarinet	
MUSC 227B	Applied Music: Flute	
MUSC 227C	Applied Music: Oboe	
MUSC 227D	Applied Music: Saxophone	
MUSC 327	Applied Music: Bassoon	
MUSC 327A	Applied Music: Clarinet	
MUSC 327B	Applied Music: Flute	
MUSC 327C	Applied Music: Oboe	
MUSC 327D	Applied Music: Saxophone	
MUSC 427	Applied Music: Bassoon	
MUSC 427A	Applied Music: Clarinet	
MUSC 427B	Applied Music: Flute	
MUSC 427C	Applied Music: Oboe	
MUSC 427D	Applied Music: Saxophone	
MUSC 432	Methods and Pedagogy	2
MUSC 433	Methods and Pedagogy	2
MUSC 488	Recital	2
8 Semesters of Major Ensemble, selected from the following: *		8
MUSC 300	Band: Wind Symphony	
MUSC 300A	Band: Symphonic	

MUSC 300B	Band: Marching	
MUSC 303	Orchestra	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
4 Semesters of Chamber Ensemble, selected from the following: *		4
MUSC 344	Chamber Music: Woodwind	
MUSC 346	Chamber Music: Mixed Ensemble	
MUSC 348	Chamber Music: New Music	
MUSC 349	Chamber Music: Other	
MUSC 353	Chamber Music: Large Jazz Ensemble 1	
MUSC 353A	Chamber Music: Large Jazz Ensemble 2	
MUSC 353B	Chamber Music: Jazz Small Group	
MUSC 353C	Chamber Music: Jazz Small Group 2	
MUSC 353E	Chamber Music: Jazz and Ethnic	
MUSC 353G	Chamber Music: Jazz Vocal Ensemble	
MUSC 353H	Chamber Music: Jazz Other	
MUSC 353I	Chamber Music: Jazz Vocal Ensemble	
Music Supportive Courses		
MUSC 200	Fundamentals of Conducting	2
Select 4 Semesters from the following:		4
MUSC 130	Piano Class Level 0	
MUSC 131	Piano Class Level 1/2	
MUSC 132	Piano Class Level 1	
MUSC 133	Piano Class Level 1 1/2	
MUSC History or Theory Electives, selected from the following:		8
Music Theory:		
MUSC 265	Instrumentation	
MUSC 266	Orchestration and Band Arranging	
MUSC 311	Introduction to Jazz Improvisation	
MUSC 313	Advanced Jazz Improvisation	
MUSC 360	Composition	
MUSC 362	Instrumentation and Orchestration (Instrumentation and Orchestration)	
MUSC 461	Counterpoint	
MUSC 462	Counterpoint	
MUSC 463	Analysis of Eighteenth and Nineteenth Century Music	
MUSC 464	Analysis of Twentieth Century Art Music	
MUSC 465	Electronic Music	
MUSC 466	Electronic Music-Digital Audio	
MUSC 468	Jazz Harmony	
MUSC 480	Arranging for Small Jazz Ensemble	
MUSC 481	Arranging for Large Jazz Ensemble	
Music History:		
MUSC 470	European Music before 1500	
MUSC 471	Music of the Sixteenth and Seventeenth Centuries	
MUSC 472	Music of the Eighteenth Century	
MUSC 473	Music of the Nineteenth Century	
MUSC 474	Twentieth and Twenty-First Century Music	
MUSC 475	History of Jazz	
MUSC 410	Introduction to Music Industry	3
Proficiency Level Piano		
Proficiency Level Primary Instrument		
Proficiency Level Secondary Instrument		

Proficiency Level Secondary Instrument	
Proficiency Level Minor Instrument	
Proficiency Level Minor Instrument	
Total Hours	120

* Credits may vary. Refer to the School of Music Requirements (p. 523) for policies related to fulfilling the Major and Chamber Ensemble requirements.

PROFICIENCY LEVEL

A student in a performance curriculum, if entering as a freshman, should achieve proficiency level six in the principal performance area at the time of audition, and must complete proficiency level ten in that area to be eligible for graduation. In addition to presentation of a senior recital (which may be given on more than one instrument), the student must present three solo upper-level student recital performances, one on each of the three major instruments. Proficiency level requirements for this curriculum are:

- A primary major woodwind instrument—proficiency level nine.
- Two secondary major woodwind instruments—proficiency level seven.
- Two minor woodwind instruments—proficiency level four.
- Piano—proficiency level two.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 127A-127D Applied Music	4 MUSC 127A-127D Applied Music	4
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 191	2 MUSC 177	1
ENGL 101 (GEF 1)	3 MUSC 189	0
GEF	3 MUSC Chamber Ensemble	1
	GEF	3
	18	15

Second Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 227A-227D Applied Music	4 MUSC 227A-227D Applied Music	4
Select one of the following:	1 Select one of the following:	1
MUSC 130	MUSC 130	
MUSC 131	MUSC 131	
MUSC 132	MUSC 132	
MUSC 133	MUSC 133	
MUSC 261	2 MUSC 263	2
MUSC 262	2 MUSC 264	2
MUSC 270 (GEF 8)	3 MUSC 271 (GEF 6)	3
MUSC 189	0 MUSC 189	0
MUSC Chamber Ensemble	1 MUSC Chamber Ensemble	1
ENGL 102 (GEF 1)	3 GEF	3
	17	17

Third Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 327A-327D Applied Music	4 MUSC 327A-327D Applied Music	4
MUSC 189	0 MUSC 189	0
MUSC 432	2 MUSC 433	2
MUSC History or Theory Electives	3 GEF	3
MUSC Chamber Ensemble	1 GEF	3
GEF 2	4	
	15	13

Fourth Year

Fall	Hours Spring	Hours
MUSC Major Ensemble	1 MUSC Major Ensemble	1
MUSC 427A-427D Applied Music	4 MUSC 427A-427D Applied Music	4
MUSC 200	2 MUSC History or Theory Electives	5
GEF	3 MUSC 488	2
MUSC 410	3	
	13	12

Total credit hours: 120

Major Learning Goals**MUSIC PERFORMANCE: WOODWINDS**

Students who earn the Bachelor of Music in Performance: Woodwinds will develop:

- Comprehensive capabilities in the major performing medium including the ability to work independently to prepare performances at the highest possible level; knowledge of applicable solo and ensemble literature; and orientation to and experience with the fundamentals of pedagogy.
- Solo and ensemble performance abilities in a variety of formal and informal settings.

Music Therapy**Bachelor of Music in Music Therapy**

Music Therapy is the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program. Through a course of study focused on the disciplines of music, human development, and music therapy combined with the University's General Education Foundations, the BM in Music Therapy imparts essential competencies in three main areas: musical foundations, clinical foundations, and music therapy foundations.

Upon successful completion of the bachelor's degree, graduates are eligible to sit for the national board certification exam to obtain the credential MT-BC (Music Therapist Board Certified), which is required for professional practice in the United States.

Click here to view the Suggested Plan of Study (p. 581)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3

F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Minimum cumulative GPA of 2.75 is required.

Minimum GPA of 2.75 is required in all MUSC courses.

Minimum grade of C- is required in all MUSC major courses.

GEF Requirements 13

MUSC 191 First-Year Seminar - Creative Arts 2

Applied Lessons

MUSC 125A Applied Music: Guitar 1

Major Instrument 12

Applied Music 100 Level (MUSC 121-127)

Applied Music 200 Level (MUSC 221-227)

Applied Music 300 Level (MUSC 321-327)

Class Piano (MUSC 130-132) 3

8 Semesters of Music Ensemble (At least 1 Vocal and 1 World Music) 8

MUSC 300 Band: Wind Symphony

MUSC 300A Band: Symphonic

MUSC 300B Band: Marching

MUSC 302 University Choral Union

MUSC 303 Orchestra

MUSC 305 University Choir

MUSC 305A University Choir: Concert

MUSC 353 Chamber Music: Large Jazz Ensemble 1

MUSC 353A Chamber Music: Large Jazz Ensemble 2

MUSC 356 Chamber Music: African

MUSC 357 Chamber Music: Brazilian

Music Convocation

MUSC 189 Music Convocation (Four Semesters)

Musical Foundations

MUSC 113 Twentieth Century American Pop Music 3

or MUSC 116 Music in World Cultures

MUSC 129 Music Technology 1: GarageBand 1

MUSC 136 Guitar Class 1 1

MUSC 138 Voice Class 1 2

MUSC 161 Aural Theory 1 2

MUSC 162 Written Theory 1 2

MUSC 163 Aural Theory 2 2

MUSC 164 Written Theory 2 2

MUSC 177 Introduction to Music Listening 1

MUSC 200 Fundamentals of Conducting 2

MUSC 261 Aural Theory 3 2

MUSC 262 Written Theory 3 2

MUSC 263 Aural Theory 4 2

MUSC 264 Written Theory 4 2

MUSC 270 History of Western Musical Traditions 1 (May fulfill GEF 6) 3

or MUSC 271 History of Western Musical Traditions 2

MUSC 284	Vocal Pedagogy	2
Music Therapy Courses		
MUSC 185	Introduction to Music Therapy	3
MUSC 205	Clinical Foundations of Music Therapy	3
MUSC 230	Music Therapy Interventions for Children	2
MUSC 231	Music Therapy Interventions for Adults	2
MUSC 330	Prin. & Pract. of MT	3
MUSC 331	Adv. Prin. & Pract. of MT	3
MUSC 444	Psychological Foundation of Music	3
MUSC 445	Evidence Based Practice in Music Therapy	3
MUSC 239	Music Therapy Practicum 1	1
MUSC 239A	Music Therapy Practicum 2	1
MUSC 339	Practicum 3	1
MUSC 339A	Music Therapy Practicum 4	1
MUSC 440	Practicum 5	2
MUSC 440A	Practicum 6	2
MUSC 485	Clinical Internship	9
Clinical Foundations		
NBAN 205	Introduction to Human Anatomy	3
NBAN 206	Human Anatomy Laboratory	1
PSYC 101	Introduction to Psychology (May fulfill GEF 8)	3
PSYC 241	Introduction to Human Development (May fulfill GEF 8)	3
PSYC 281	Introduction to Abnormal Psychology (May fulfill GEF 8)	3
SOWK 147	Human Diversity (May fulfill GEF 7)	3
SPED 304	Special Education in Contemporary Society (May fulfill GEF 4)	3
STAT 111	Understanding Statistics (May fulfill GEF 3)	3
MUSC Electives		
		2
Total Hours		133

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
Ensemble	1 Vocal Ensemble	1
MUSC 121-127 Applied Lesson	2 MUSC 121-127 Applied Lesson	2
MUSC 129	1 MUSC 131	1
MUSC 130	1 MUSC 138	2
MUSC 161	2 MUSC 163	2
MUSC 162	2 MUSC 164	2
MUSC 185	3 MUSC 189	0
MUSC 189	0 MUSC 205	3
ENGL 101 (GEF 1)	3 ENGL 102 (GEF 1)	3
MUSC 191	2	
	17	16

Second Year

Fall	Hours Spring	Hours
African Drum & Dance Ensemble	1 Small Ensemble	1
MUSC 221-227 Applied Lesson	2 MUSC 221-227 Applied Lesson	2
MUSC 125A	1 MUSC 136	1
MUSC 132	1 MUSC 177	1

MUSC 261	2 MUSC 189	0	
MUSC 262	2 MUSC 231	2	
MUSC 189	0 MUSC 239A	1	
MUSC 230	2 MUSC 263	2	
MUSC 239	1 MUSC 264	2	
PSYC 101 (GEF 8)	3 PSYC 241 (GEF 8)	3	
	15	15	
Third Year			
Fall	Hours Spring	Hours	
Ensemble	1 World Music Ensemble Elective	1	
MUSC 321-327 Applied Lesson	2 MUSC 321-327 Applied Lesson	2	
MUSC 200	2 MUSC 116 or 113	3	
MUSC 270 or 271 (GEF 6)	3 MUSC 284	2	
MUSC 330	3 MUSC 331	3	
MUSC 339	1 MUSC 339A	1	
PSYC 281 (GEF 8)	3 SPED 304 (GEF 4)	3	
	15	15	
Fourth Year			
Fall	Hours Spring	Hours Summer	Hours
Ensemble	1 Ensemble	1 MUSC 485	9
MUSC 440	2 MUSC 440A	2	
MUSC 444	3 MUSC 445	3	
NBAN 205 & NBAN 206	4 BIOL 102 & BIOL 104 (GEF 2)	4	
SOWK 147 (GEF 7)	3 STAT 111 (GEF 3)	3	
GEF 5	3 MUSC Elective	2	
	16	15	9

Total credit hours: 133

Major Learning Goals

MUSIC THERAPY

Learning goals for this degree are directly related to the essential competencies, experiences, and opportunities stated by the National Association of Schools of Music and the American Music Therapy Association. They include:

- Advanced keyboard skills, including the ability to play at sight, accompany, transpose, and improvise.
- Ability to sight-sing and take aural dictation.
- Skills in voice, especially as related to group singing. Ability to communicate using a basic repertory of traditional, folk, and popular songs.
- Guitar skills sufficient to accompany self and ensembles. Ability to perform a basic repertory of traditional, folk, and popular songs in several keys, with or without printed music.
- Knowledge of and performance ability on percussion and other instruments sufficient to facilitate rhythm-based musical experiences for individuals and groups.
- Conducting skills adequate to the therapist's needs in providing repertory and leadership to small and large vocal/instrumental ensembles.
- Composition and arranging skills sufficient to compose songs with simple accompaniment; and to arrange, transpose, and simplify music compositions for small vocal and non-symphonic instrumental ensembles.
- Movement skills to direct and move expressively in structured rhythmic and improvisatory movement experiences.
- Knowledge of the basic principles of normal human development, exceptionality and psychopathology, principles of therapy, and the therapeutic relationship.
- Knowledge of the basic foundations and principles of music therapy, including history and philosophy; the psychological, physiological, and sociological bases for the use of music as therapy; music therapy methods, techniques and materials with their appropriate applications to various client populations.

- Knowledge of various client populations; client assessment; treatment planning; therapy implementation and evaluation; clinical documentation (both oral and written) and termination/discharge planning.
- Knowledge of professional standards of clinical practice; professional role and ethics; interdisciplinary collaboration in designing and implementing treatment programs; supervision and administration.
- Knowledge of research methods to be able to interpret information, demonstrate basic knowledge of historical, quantitative, and qualitative research, and to apply research findings to clinical practice in music therapy.

School of Theatre and Dance

- Degrees Offered (p. 583)
- Accreditation (p. 583)
- Nature of the Program (p. 583)
- Mission Statement (p. 583)
- Performances (p. 583)
- Career Opportunities (p. 584)
- Scholarships (p. 584)

Degrees Offered

BACHELOR OF ARTS

- Dance
- Theatre

BACHELOR OF FINE ARTS

- Acting
- Musical Theatre
- Puppetry
- Theatre Design & Technology

MINORS

- Theatre
- Technical Production
- Dance

Accreditation

All theatre degree programs at West Virginia University are accredited by the National Association of Schools of Theatre (NAST).

Nature of Program

The School of Theatre & Dance offers a competitive training program for the student who seeks artistic growth and development. The School trains students in modern, state-of-the-art facilities with an emphasis on experiential learning in either a B.A. or B.F.A. degree program. We offer intensive training by professionals in the industry with small classes and one-on-one mentoring.

Mission Statement

We, the faculty and staff, educate students in the diverse traditions and practices of theatre and dance. We challenge each student to engage and confront—vigorously, honestly, and innovatively—the many processes of collaborative theatre and dance. We exemplify to our students the role of creative artists to develop, to explore, and to contribute meaningfully to the world they inhabit.

Performances

The School annually produces five to seven major productions in three major performance spaces: the Gladys G. Davis Theatre, Lyell B. Clay Concert Theatre, and the Vivien Davis Michael Laboratory Theatre, all in the Creative Arts Center. The School also occasionally produces in the historic Metropolitan Theatre in downtown Morgantown. These productions provide practical experience for all theatre students and serve the community audience with a balance of classic and contemporary drama, dance, opera, and musical theatre.

Career Opportunities

Graduates of the School of Theatre & Dance are employed in professional theatre, radio, television, and film. Others have chosen careers in fashion design, commercial sales, makeup, lighting design and installation, law, and positions in the public arena. Undergraduates are frequently offered graduate student positions with leading university training programs offering M.F.A. study.

Scholarships

The College of Creative Arts offers a limited number of special College-based scholarship awards for freshman and current students enrolled in its programs. College-based awards are granted on the demonstration of outstanding talent, academic achievement, and the demonstration of future potential for success in the Theatre & Dance program.

Information regarding both University, College of Creative Arts, and Theatre & Dance scholarships can be found at <http://ccarts.wvu.edu/academics/scholarships>

FACULTY

DIRECTOR

- Joshua B. Williamson - M.F.A. (University of Wisconsin - Madison)
Associate Professor, Lighting & Sound Design

PROFESSORS

- Mary McClung - M.F.A. (West Virginia University)
Costume Design & Technology
- Jerry McGonigle - M.F.A. (American Conservatory Theatre)
Acting & Directing

ASSOCIATE PROFESSORS

- Jessica Morgan Bishop - M.F.A. (The Ohio State University)
Stage Movement
- Lee Blair - M.F.A. (University of Florida)
Acting/Directing
- Cornel Gabara - M.F.A. (Columbia University)
Acting
- Laura Hitt - M.A. (Trinity Repertory Conservatory/Rhode Island College)
Voice and Dialect
- Yoav Kaddar - Ph.D. (State University of New York - Albany) and M.F.A. (University of Washington Seattle)
Dance
- Robert Klingelhofer
Scene Design
- Jay Malarcher - Ph.D. (Louisiana State University)
Theatre History, Literature, & Criticism

ASSISTANT PROFESSORS

- Radhica Ganapathy - Ph.D. (Texas Tech University)
Theatre History, Literature, & Criticism
- General Hambrick - M.F.A. (Texas Christian University)
Dance

CLINICAL ASSOCIATE PROFESSORS

- Alan McEwen - M.F.A. (University of Oregon)
Lighting & Sound Design
- Steven Neuenschwander - M.F.A. (Yale School of Drama)
Technical Direction and Production Management

CLINICAL ASSISTANT PROFESSOR

- Tiffany Delligatti - M.F.A. (University of Connecticut)
Costuming

TEACHING ASSOCIATE PROFESSOR

- Cathy O'Dell - M.F.A. (West Virginia University)
Theatre, Introduction to Theatre, Acting

TEACHING ASSISTANT PROFESSOR

- Irene Alby - M.F.A. (Columbia University)
Acting

PART-TIME INSTRUCTORS

- Maureen Kaddar - M.F.A. (University of Wisconsin - Milwaukee)
Dance

PROFESSORS EMERITI

- Charles Neel - Ph.D.
Theatre
- Joann Spencer Siegrist - M.F.A.
Puppetry
- M. Kathryn Weidebusch
Dance
- John C. Whitty - Ph.D.
Theatre History

ASSOCIATE PROFESSORS EMERITI

- James D. Held - M.F.A. (University of Washington)
Theatre History, World Drama

Admission Requirements

Auditions or interviews are required for admission into the B.F.A. programs and the B.A. dance program. Additionally, all students must meet the University's criteria for undergraduate admission. Auditions are required for acting, musical theatre, and dance. Interviews and portfolio reviews are required for theatre design and technology and puppetry. The B.A. in theatre does not require an audition/interview but applicants must still meet undergraduate admissions requirements.

Upon entrance, students must comply with the general regulations of the University concerning degrees, satisfy all entrance and divisional requirements, and complete one of the curricula of the School of Theatre & Dance with a 2.0 (C) grade point average. Students are required to successfully complete a semesterly review with the faculty which may include an interview, scene work, audition piece, or other type of jury.

For admission to the junior year of the School of Theatre & Dance, a student must have established an overall 2.0 (C) grade point average. Transfer students must establish transfer credit from other institutions during the first semester in which they are enrolled in the School of Theatre & Dance.

Students are responsible for correctly fulfilling all requirements. Each student should review the course requirements both before and after every registration period so that errors or omissions will be detected immediately.

Dance

Degree Offered

- Bachelor of Arts in Dance

The Dance program offers a four-year undergraduate program leading to a Bachelor of Arts (B.A.) degree. Students have the opportunity to develop and hone dance technique that offers both experiential and theoretical dance education. A variety of dance genres and subjects are at the core of the degree, presenting students with the opportunity to study Ballet, Modern, Jazz, and Tap as well as World Dance, Choreography, Dance History, and Dance Criticism.

While emphasis is on technique and theory, performance and production opportunities, on and off campus, allow students to fully immerse themselves and experience the creative process that Dance has to offer.

The program works to enrich the overall dance education of the student instilling the importance and contributions that Dance has to offer and its place within our culture and society.

Performance Opportunities

The School of Theatre & Dance presents a dance concert at the end of each semester that showcases student work. Participation/casting in these recitals is by audition.

The School also presents a fully produced annual dance concert, *Dance Now!*, in the spring semester. Featuring a blend of professional and student dancers and choreographers, *Dance Now!* is the School's premier dance concert for the year.

The Dance Program also participates annually in the Morgantown Dance Festival, West Virginia Dance Festival, and the American College Dance Associations' Festival.

Students may receive credit through Dance 200/300/400 for participating in these performance opportunities.

Admission into Program

Students must meet all WVU Undergraduate Admissions entrance requirements. Prior to admission into the program, applicants must successfully pass an audition. The School of Theatre & Dance will administer auditions each semester for entrance into the program. Applicants must contact the School of Theatre & Dance at 304-293-2020 or visit the office in room 305A in the Creative Arts Center to schedule an audition. Typically, auditions will be held in November and February in the Creative Arts Center. Additional auditions may also be scheduled. For more information, please visit our website: <http://theatre.wvu.edu>.

Click here to view the Suggested Plan of Study (p. 587)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric	3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing
F2A/F2B - Science & Technology	4-6
F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

DANCE STUDIES	23
THET 191	First-Year Seminar - Creative Arts
ATTR 219	Gross Anatomy
DANC 170	Introduction to Dance (Fulfills GEF 6)
DANC 260	Fundamentals of Choreography
DANC 370	Dance History (Fulfills Writing and Communication Skills Requirement)
HN&F 200	Nutrition/Activity/Health
MUSC 111 or MUSC 112	Introduction to Music Great Composers in Performance
THET 401	Capstone Experience (Capstone)
PRODUCTION (one of the following):	3
THET 103 & THET 104	Stagecraft and Stagecraft Lab
THET 105 & THET 106	Costuming and Costuming Lab
THET 220	Fundamentals of Lighting

THET 221	Theatre Makeup	
DANCE TECHNIQUE (16 credits from the following):		16
Note: The level and frequency of repeated courses shall be determined by the student's advisor and the section's instructor to ensure satisfactory progression of technique.		
Fundamental Technique Courses:		
DANC 100	Fundamentals of Dance Techniques	
DANC 110	Fundamentals of Ballet (may be repeated 2 times)	
DANC 130	Fundamentals of Jazz (may be repeated 2 times)	
Intermediate Technique Courses:		
DANC 210	Intermediate Ballet (may be repeated 2 times)	
DANC 220	Intermediate Modern (may be repeated 3 times)	
DANC 230	Intermediate Jazz (may be repeated 3 times)	
Advanced Technique Courses:		
DANC 310	Advanced Ballet (may be repeated 4 times)	
DANC 320	Advanced Modern (may be repeated 3 times)	
DANC 330	Advanced Jazz (may be repeated 3 times)	
PRACTICUM (4 credits from the following):		4
DANC 200	Dance Practicum (may be repeated 2 times)	
DANC 300	Dance Practicum (may be repeated 2 times)	
DANC 400	Choreography Practicum	
THET 200	Production Practicum (may be repeated 2 times)	
THET 213	Stage Management Practicum	
DANC ELECTIVES		16
Non-DANC Electives		12
REQUIRED MINOR		15
WORLD LANGUAGES		12
FRCH 101	Elementary French 1 (Fulfills GEF 7)	
FRCH 102	Elementary French 2	
Additional 6 credits in any 1 additional language		
Skills Assessment		
University GEF Requirements		19
Total Hours		120

SKILLS ASSESSMENT

Each student dance major shall successfully complete a skills assessment/review at the end of each semester of their sophomore, junior, and senior years. These reviews serve to monitor and record the student's progress toward the completion of the degree. The reviews will be administered by the Director of Dance and shall include feedback from the entire dance faculty. At the discretion of the Director of Dance, students who do not successfully pass the skills assessment/review will be either put on probationary status or removed from the program.

MINOR REQUIREMENT

Students are also required to complete a minor (fifteen credit hours) for the degree. Please see the following link for a full list of minors (<http://catalog.wvu.edu/undergraduate/minors>). Students are encouraged to meet with their academic advisors prior to declaring a minor. (Students who complete a second major or dual degree are not required to complete a minor.)

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
THET 191	2 DANC 210	2
DANC 170 (GEF 6)	3 DANC 220	2
DANC 110	2 FRCH 102	3
GEF 3	3 ENGL 101 (GEF 1)	3
MUSC 111 or 112	3 Minor course	3

FRCH 101 (GEF 7)	3 Production Course	3
	16	16
Second Year		
Fall	Hours Spring	Hours
DANC 260	3 ATTR 219	3
DANC 230	2 DANC 200	1
Dance Technique course	2 World Language course	3
ENGL 102 (GEF 1)	3 DANC Elective	2
World Language course	3 GEF 2B Science	4
	Minor course	3
	13	16
Third Year		
Fall	Hours Spring	Hours
HN&F 200	3 DANC 370	3
Dance Technique courses	4 DANC 300	1
DANC Elective	3 DANC Elective	2
Minor course	3 Non-DANC Electives	6
GEF 4	3 Minor Course	3
	16	15
Fourth Year		
Fall	Hours Spring	Hours
DANC 310	2 THET 401	3
DANC 400	2 Non-DANC Elective	3
Minor Course	3 Non-DANC Elective	3
DANC Electives	4 DANC Elective	3
GEF 5	3 DANC Elective	2
	14	14

Total credit hours: 120

Major Learning Goals

DANCE

Upon completion of the BA in Dance, students will be able to:

- Identify and work conceptually with the elements of dance in a variety of dance genres
- Understand the choreographic processes, aesthetic properties of style, and the ways these shape and are shaped by artistic and cultural ideas and contexts
- Appreciate a wide selection of dance repertory, the principal eras, genres, and cultural sources
- Develop and defend critical evaluations
- Demonstrate a fundamental knowledge of the body and of kinesiology as applicable to work in dance
- Show an understanding of procedures for realizing a variety of dance styles
- Perform basic through advanced dance techniques within the student's area of interest
- Exhibit knowledge and/or skills in one or more areas of dance beyond basic coursework and performance appropriate to the individual's needs and interests, and be consistent with the goals and objectives of the specific liberal arts degree program being followed
- Understand the place of dance as an art form and educational tool within a social context, globally and on the national level

MINOR IN DANCE

The dance minor does not require an audition to declare the minor. Please contact the School of Theatre & Dance to declare the minor at 304-293-2020.

MINOR CODE - U042

Courses required for the minor in Dance include a variety of dance techniques and composition, as well as choreography, stage movement, dance history and philosophy, and theatre production. There are many performance opportunities for students on and off campus, including annual formal concerts, informal concerts (works in progress), participation in regional and national dance festivals, conferences, community, concerts, and touring.

Dance Technique (Select two of the following):		4
DANC 100	Fundamentals of Dance Techniques	
DANC 110	Fundamentals of Ballet	
DANC 130	Fundamentals of Jazz	
DANC 210	Intermediate Ballet	
DANC 220	Intermediate Modern	
DANC 230	Intermediate Jazz	
Technical Production (Select one of the following):		3
THET 105	Costuming	
THET 220	Fundamentals of Lighting	
THET 221	Theatre Makeup	
History/Criticism (Select one of the following)		3
DANC 370	Dance History	
DANC 372	Dance Criticism	
Choreography		
DANC 260	Fundamentals of Choreography	3
Electives		6
DANC 300	Dance Practicum	
DANC 310	Advanced Ballet	
DANC 320	Advanced Modern	
DANC 330	Advanced Jazz	
DANC 350	Modern and Ballet Partnering	
DANC 360	Advanced Choreography	
DANC 371	Creative Dance for Educators	
DANC 372	Dance Criticism	
DANC 400	Choreography Practicum	
DANC 410	Ballet Repertory	
DANC 420	Modern Repertory	
Total Hours		19

A student must declare his or her intention to complete a minor in theatre and/or dance at the College of Creative Arts Records Office or at the Division of Theatre and Dance offices. It is the responsibility of the student to obtain information about the minor and to complete all of the required courses. Minors are welcome to audition for and participate in all division productions.

At the time of application for graduation, the student must indicate that he or she wishes to be certified as a minor. Successful completion of the minor will be submitted to the University Registrar's Office by the student's major degree program to be recorded on the student's official transcript.

Theatre

Degrees Offered

- Bachelor of Arts in Theatre
- Bachelor of Fine Arts in Acting, Musical Theatre, Theatre Design & Technology, Puppetry

Minors Offered

- Theatre
- Theatre Production

Admission into Program

Auditions or interviews are required for admission into the B.F.A. programs. Additionally, all students must meet the University's criteria for undergraduate admission. Auditions are required for acting and musical theatre. Interviews and portfolio reviews are required for theatre design and technology and puppetry. The B.A. in theatre does not require an audition/interview but applicants must still meet undergraduate admissions requirements.

Upon entrance, students must comply with the general regulations of the University concerning degrees, satisfy all entrance and divisional requirements, and complete one of the curricula of the School of Theatre & Dance with a 2.0 (C) grade point average. Students are required to successfully complete a semesterly review with the faculty which may include an interview, scene work, audition piece, or other type of jury.

For admission to the junior year of the School of Theatre & Dance, a student must have established an overall 2.0 (C) grade point average. Transfer students must establish transfer credit from other institutions during the first semester in which they are enrolled in the School of Theatre & Dance.

Students are responsible for correctly fulfilling all requirements. Each student should review the course requirements both before and after every registration period so that errors or omissions will be detected immediately.

To Declare a Theatre Minor

Please visit the School of Theatre & Dance main office to complete an Intent to Declare a Minor form. The office is located in suite 305A in the Creative Arts Center. Call 304-293-2020 for more information.

A student must declare his or her intention to complete a minor in theatre at the School of Theatre & Dance offices. It is the responsibility of the student to obtain information about the minor and to complete all of the required courses. Minors are welcome to audition for and participate in all School productions.

At the time of application for graduation, the student must indicate that he or she wishes to be certified as a minor. Successful completion of the minor will be submitted to the University Registrars Office by the student's major degree program to be recorded on the student's official transcript.

THEATRE MINOR

MINOR CODE - U043

By focusing on three broad areas—history and theory, performance, and production—the minor in Theatre provides students with an overview of the profession and the opportunity to complete elective courses in areas where they have the greatest interest, such as acting, directing, stage design, voice, stage movement, playwriting, and puppetry. Performance opportunities may also be available for students pursuing the Theatre minor. A minimum GPA of 2.0 is required in all minor courses.

History and Theory (6 credits)

Select one of the following:		3
THET 101	Introduction to the Theatre	
THET 160	Theatre Fundamentals	
THET 301	History of Western Theatre	3

Production (3-4 Credits):

Select from the following:		3-4
THET 103	Stagecraft	
THET 104	Stagecraft Lab (Optional - with THET 103)	
THET 105	Costuming	
THET 106	Costuming Lab (Optional - with THET 105)	
THET 220	Fundamentals of Lighting	

Performance (3 credits):

Select one of the following:		3
THET 102	Acting	
THET 144	Fundamentals of Acting	

Advanced Study (6 credits):

Select from the following:		6
THET 302	Directing	
THET 321	Stage Properties	
THET 327	History of Costume and Decoration 1	
THET 330	Rendering Techniques	
THET 346	Actor's Craft	

THET 365	Traditions of Dramatic Literature
THET 370	Production Dramaturgy
THET 400	Advanced Production Practicum
THET 402	Repertory Theatre
THET 461	Creative Dramatics
THET 423	Costume Crafts
THET 425	Advanced Costume Construction
THET 427	Lighting Technology
THET 428	Scene Painting
THET 429	Sound Seminar
THET 460	Contemporary Drama
THET 461	Creative Dramatics
THET 462	Puppetry
THET 463	Puppetry for Educators
THET 464	Children's Theatre

Total Hours

18-19

THEATRE PRODUCTION MINOR

MINOR CODE - U125

The minor in Theatre Production is intended for any WVU undergraduate student who has an interest in the study of basic theatrical production. A student must declare his or her intention to complete a minor in theatre production at the School of Theatre & Dance main office located in room 305A in the Creative Arts Center. It is the responsibility of the student to obtain information about the minor and to complete all of the required courses. A minimum GPA of 2.0 is required in all minor courses.

FOUNDATION IN PRODUCTION (4 Credits) - Choose from the following:

4

THET 103 & THET 104	Stagecraft and Stagecraft Lab
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-or-

THET 105 & THET 106	Costuming and Costuming Lab
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STAGE MANAGEMENT (1 Credit):

1

THET 113	Stage Management Principles
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INTERMEDIATE TECH. PRODUCTION* (3 Credits) - Choose ONE of the following:

3

THET 219	Intermediate Costume Construction
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THET 220	Fundamentals of Lighting
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THET 221	Theatre Makeup
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THET 222	Drafting for the Stage
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PRACTICUM (4 Credits):

4

THET 200	Production Practicum
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THET 400	Advanced Production Practicum
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THET 400	Advanced Production Practicum
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THET 400	Advanced Production Practicum
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ADVANCED TECHNICAL PRODUCTION* (6 Credits) - Choose TWO of the following:

6

THET 310	Stagecraft 2
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THET 312	Theatrical Rigging
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THET 321	Stage Properties
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THET 423	Costume Crafts
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THET 424	Advanced Technical Production
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THET 425	Advanced Costume Construction
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THET 427	Lighting Technology
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THET 428	Scene Painting
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THET 429	Sound Seminar
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THET 435	Theatre Health and Safety	
Total Hours		18

* Please note that many classes have pre-requisites. See below for some suggested tracks that follow the correct pre-requisites. Please meet with a theatre faculty member for assistance in choosing your courses.

Scenery Construction Track:

THET 103	Stagecraft	3
THET 104	Stagecraft Lab	1
THET 113	Stage Management Principles	1
THET 222	Drafting for the Stage	3
THET 310	Stagecraft 2	3
THET 424	Advanced Technical Production	3
THET 200	Production Practicum	1
THET 400	Advanced Production Practicum	1
THET 400	Advanced Production Practicum	1
THET 400	Advanced Production Practicum	1
Total Hours		18

Costume Construction Track:

THET 105	Costuming	3
THET 106	Costuming Lab	1
THET 113	Stage Management Principles	1
THET 219 or THET 221	Intermediate Costume Construction Theatre Makeup	3
THET 423	Costume Crafts	3
THET 425	Advanced Costume Construction	3
THET 200	Production Practicum	1
THET 400	Advanced Production Practicum	1
THET 400	Advanced Production Practicum	1
THET 400	Advanced Production Practicum	1
Total Hours		18

Lighting Technology Track:

THET 103	Stagecraft	3
THET 104	Stagecraft Lab	1
THET 113	Stage Management Principles	1
THET 220	Fundamentals of Lighting	3
THET 427	Lighting Technology	3
THET 429	Sound Seminar	3
THET 200	Production Practicum	1
THET 400	Advanced Production Practicum	1
THET 400	Advanced Production Practicum	1
THET 400	Advanced Production Practicum	1
Total Hours		18

Acting

Bachelor of Fine Arts (BFA) in Acting

The Bachelor of Fine Arts in Acting (BFA) program in the School of Theatre & Dance is competitive with the best university acting programs in the country, both in intensity and in class time devoted to professional training. Throughout four years of study, students will progress through a well-coordinated series of core theatre studies covering theatre history, dramatic theory, text analysis, directing, stagecraft, costuming and special topics as well as their performance studies in acting, musical theatre and audition techniques.

Freshmen and sophomore students receive four to six hours of acting instruction per week. Beginning in the sophomore year, students also receive an additional four hours per week in stage movement and in voice and speech. These first two years are set against the backdrop of a rigorous and wide range of liberal arts course work.

Acting Studio Program

The junior and senior years for the BFA in Acting are known as the Studio Acting Program and continue work in movement, voice and speech, and acting with twenty hours a week dedicated to actor training. This conservatory-style training within an academic setting allows the Studio faculty to elevate and intensify the actor training with a select group of students (*see Student Assessment below*). The Studio Acting Program also includes graduate students in the Master of Fine Arts Acting degree program.

The junior year is grounded in contemporary American realism, early Modern realism and non-realistic European drama with method study primarily in Meisner Technique. The senior year is dedicated to classical work in Shakespeare and Comedic Styles (Commedia, Restoration, Comedy of Manners) as well as Acting for the Camera and Musical Theatre. Other topics of study include Suzuki, movement composition, Laban efforts, stage combat, fencing, masks, Fitzmaurice, Linklater, Roy Hart, dialects, voice-overs, performance art, improvisation, clowning and audition techniques.

The BFA Acting students along with our MFA Acting students and the BFA students in the Musical Theatre Studio are the core of the School's casting pool for five to six main stage productions as well as 10-12 workshop and second stage productions opportunities per year.

Student Assessment

Routine assessment is vital to the continued growth and success of the Studio Acting Program. This assessment includes and occurs with daily in-class critiques, faculty reviews, end-of-semester evaluations as well as rehearsals and public performances. These types of assessment, both formal and informal, monitor the development of the BFA student's technique and process development, their artistic growth and commitment, and application of the craft and study of Acting to the other liberal arts.

Examples of student assessment and progress within the BFA in Acting include:

- Audition for entry into the program
 - Requirements for auditioning and specific dates for our Audition/Portfolio Days may be found on the College of Creative Arts website (<http://ccarts.wvu.edu/>).
- Auditions for credit-bearing performance opportunities (THET 200/300/400)
 - Acting majors will participate in a number of opportunities designed to incorporate classroom and process skills into public performance.
 - At the completion of each of these productions, the students will receive an evaluation of their participation.
- End-of-sophomore year assessment for continuation in the BFA in Acting and advancement to the Studio Acting Program
 - After two years of actor training and study, there is an assessment process for students to move on to the Studio Acting Program and their junior year of study. This process allows the Studio faculty to ascertain a student's potential for professional development as an actor. This assessment includes review of a student's GPA, credit hours, an essay of professional goals, attendance, class participation as well as an audition of material and genres covered within the first two years of study.
 - Students seen as having professional potential and a good academic standing will proceed into their junior year and the Studio Acting Program.
 - Students seen within this assessment as not having professional potential or with academic issues are not invited to continue to the Studio Acting Program. These students may be advised to consider different degree programs within or outside the School of Theatre & Dance. They may also be advised to continue their studies in Theatre and Acting, improve their academic standing and re-audition for the Studio Acting program in the following year.
- End-of-semester evaluations for students in the Studio Acting Program.
 - At the end of each semester, each Studio Acting student will take part in an evaluation that consists of a discussion of the student's progress in the areas of talent, trainability, demeanor, professional discipline and potential as well as the demonstrated acquisition of the identified learning goals.
 - These evaluations serve to monitor and record the student's progress toward the completion of the degree.
 - The evaluations will be administered by the Area Coordinator of Performance and shall include participation and feedback from Studio Acting Program faculty.
 - Written evaluation forms will be used to indicate areas of strength and weakness. The written evaluation form will be shared with each student, and a copy will be placed in the student's advising file to be used as part of the ongoing assessment of the student's progress in the Studio Acting Program.
 - At the discretion of the Area Coordinator of Performance, students who do not successfully pass this evaluative review will be either put on probationary status or removed from the Studio Acting Program.

[Click here to view the Suggested Plan of Study \(p. 595\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Theatre Studies

THET 191	First-Year Seminar - Creative Arts	2
THET 103 & THET 104	Stagecraft and Stagecraft Lab	4
THET 105 & THET 106	Costuming and Costuming Lab	4
THET 160	Theatre Fundamentals	3
THET 170	World Theatre and Drama (GEF 8)	3
THET 221	Theatre Makeup	3
THET 230	Text Analysis	3
THET 301	History of Western Theatre (GEF 8)	3
THET 302	Directing	3
THET 365	Traditions of Dramatic Literature (Fulfills Writing and Communication Skills Requirement)	3
THET 460	Contemporary Drama	3

Acting

DANC 100	Fundamentals of Dance Techniques	2
THET 143	Freshman Directing Workshop	1
THET 144	Fundamentals of Acting (GEF 6)	3
THET 240	Fundamental Vocal Techniques	2
THET 242	Fundamentals of Movement	2
THET 244	Intermediate Acting	3
THET 340	Intermediate Vocal Techniques 1	2
THET 341	Intermediate Vocal Techniques 2	2
THET 342	Stage Movement 1	2
THET 343	Stage Movement 2	2
THET 344	Acting Studio	3
THET 345	Acting Studio	3
THET 440	Advanced Vocal Techniques	2
THET 441	Advanced Vocal Techniques 2	2
THET 442	Advanced Stage Movement 1	2

THET 443	Advanced Stage Movement 2	2
THET 444	Advanced Acting Studio	3
THET 445	Advanced Acting Studio	3
Studio Scene Study		4
THET 348	Studio Scene Study 1 (Repeat twice for a total of 2 credit hours)	
THET 447	Studio Scene Study 2 (Repeat twice for a total of 2 credit hours)	
Practicum Courses		4
THET 200	Production Practicum (Repeat twice for a total of 2 credit hours)	
THET 400	Advanced Production Practicum (Repeat twice for a total of 2 credit hours)	
THET 401	Capstone Experience	3
Open Electives		9
University GEF Requirements		25
Total Hours		120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
THET 191	2 THET 105 & THET 106	4
THET 160	3 ENGL 101 (GEF 1)	3
THET 103 & THET 104	4 THET 143 & DANC 100	3
THET 144 (GEF 6)	3 GEF 3	3
THET 170 (GEF 8)	3 GEF 4	3
	15	16

Second Year

Fall	Hours Spring	Hours
THET 200	1 THET 200	1
THET 240 & THET 242	4 THET 244	3
THET 230	3 THET 221	3
ENGL 102 (GEF 1)	3 THET 301 (GEF 8)	3
GEF 2	4 GEF 5 Elective	3 3
	15	16

Third Year

Fall	Hours Spring	Hours
THET 340	2 THET 341	2
THET 342	2 THET 343	2
THET 344	3 THET 345	3
THET 348	1 THET 348	1
THET 400	1 THET 365	3
GEF 7	3 THET 400	1
Elective	3 GEF 8	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
THET 460	3 THET 302	3
THET 401	3 THET 441	2
THET 440	2 THET 443	2
THET 442	2 THET 445	3
THET 444	3 THET 447	1

THET 447	1 Elective	3
	14	14

Total credit hours: 120

Major Learning Goals

ACTING

Common Body of Knowledge and Skills for B.F.A. Theatre students

Students must acquire:

Technical skills requisite for artistic self-expression in at least one major area of production (for example, acting, design/technology, playwriting, musical theatre) and those skills must be progressively developed to the highest level appropriate to the particular area of concentration.

1. An overview understanding of the major aspects, techniques, and directions in the area of concentration.
2. Fundamental, comprehensive understanding of the various elements and basic interrelated processes of creation, interpretation, performance, and production.
3. Fundamental, conceptual understanding of the expressive possibilities of theatre.
4. Knowledge and skills sufficient to work in both collaborative and individual roles in matters of theatre interpretation.
5. Growth in artistry, technical skills, collaborative competence, and knowledge of repertory through regular performance and production experiences. Students must have such experiences throughout the degree program.
6. Repertory. Students must acquire:
 - a. Familiarity with theatre literature of various historical periods, cultural sources, and modes of presentation.
 - b. Experience with specific repertories and comparative standards of production quality through performance, academic study, and attendance at productions.
7. Theoretical and Historical Studies
 - a. Students must acquire:
 - i The ability to analyze plays perceptively and to evaluate them critically.
 - ii An understanding of the common elements and vocabulary of theatre and of the interaction of these elements, and be able to employ this knowledge in analysis, including analyses of their productions.
 - iii The ability to place works of theatre in historical and stylistic contexts and have some understanding of the cultural milieu in which they were created.
 - iv The ability to develop and defend informed judgments about theatre.
 - b. Technology. Students must acquire a working knowledge of technologies and equipment applicable to their area(s) of specialization.
8. Synthesis. While synthesis is a lifetime process, by the end of undergraduate studies students should be able to work independently on a variety of professional problems by combining, as appropriate to the issue, their capabilities in performance, repertory, theory, history, and technology, as well as other fields they have studied.

Upon completion of any B.F.A. professional undergraduate degree program:

1. Students must demonstrate achievement of professional, entry-level competence in the area of specialization including significant technical mastery, the capability to produce work and solve professional problems independently, and a coherent set of artistic/intellectual goals that are evident in their work.
2. Students must demonstrate their competence by developing a body of work for evaluation in the major area of study. A senior project or presentation in the major area is required in many concentrations, and strongly recommended for all others.
3. Students must have the ability to communicate ideas, concepts, and requirements to theatre professionals and laypersons related to the practice of the major field. Such communication may involve oral, written, visual, and musical media.

Bachelor of Fine Arts in Acting

Essential Competencies, Experiences, and Opportunities:

1. Demonstrated ability to act (i.e., to project one's self believably in word and action into imaginary circumstances, evoked through improvisation or text).
2. Demonstrated ability to engage effectively in improvisations both by oneself and in an ensemble.
3. Demonstrated ability to create characters convincingly from plays drawn from different genres and styles in an ensemble relationship with other actors.
4. A developed technique for analyzing the specific tasks required in performing varied characters from written plays.
5. Understanding of the specific demands of the acting styles for major periods and genres of dramatic literature.
6. Clear, articulate, and expressive speech, normally with demonstrated ability to use appropriate tools and systems to learn and perform dialects, and the ability to perform effectively in verse plays.
7. A flexible, strong, and controlled voice with trained breath support; appropriate vocal range and freedom from vocal and postural tension in rehearsal and performance; demonstrated ability to use the voice effectively as an instrument for characterization together with the ability to project the voice effectively in theatre spaces of varying sizes and in media productions.
8. A flexible, relaxed, and controlled body trained in basic stage movement disciplines, including dance and mime; demonstrated ability to use the body effectively on stage as an instrument for characterization and to be responsive to changing time/rhythm demands and spatial relationships.
9. An overview understanding of makeup materials and techniques.
10. Demonstrated comprehension of the basic business procedures of the actor's profession, including audition procedures, résumés, agents, and so forth.
11. Solo and ensemble performance experience in a variety of formal and informal settings shall be provided throughout the degree program including the opportunity for a significant role in a major production no later than the senior year.

Musical Theatre

Bachelor of Fine Arts (BFA) in Musical Theatre

The School of Theatre & Dance and the School of Music offer a Bachelor of Fine Arts (BFA) in Musical Theatre with the goal to train students for successful careers in musical and stage performance in the competitive entertainment industry. Over the four-year course of study, musical theatre majors will take classes in acting, voice, dance, choreography, theatre history, stage production, music theory, musical theatre literature, and other special topics.

Freshmen and sophomore students receive four to six hours of acting instruction per week as well as beginning work in music, voice and dance. In the sophomore year, students receive an additional four hours per week in stage movement and in voice and speech. These first two years of performance study coincide with a rigorous and wide-ranging liberal arts course work.

Musical Theatre Studio

The junior and senior years for the BFA in Musical Theatre are known as the Musical Theatre Studio and continue the student's work in voice, dance and acting with twenty hours a week dedicated to actor training.

This conservatory-style training within an academic setting allows the Musical Theatre Studio faculty to elevate and intensify the training with a select group of students (*see Student Assessment below*). The students in Musical Theatre Studio will also have opportunities to train with faculty within our Studio Acting Program with potential classes in Meisner training, Shakespeare, Comedic Styles and Auditioning.

The BFA students in the Musical Theatre Studio along with our MFA Acting students and the BFA students in the Studio Acting Program are the core of the School's casting pool. Students will have the opportunity to perform in one to two major musical or opera productions along with four to five other main stage offerings as well as 10-12 workshop and second stage opportunities per year.

Student Assessment

Routine assessment is vital to the continued growth and success of the BFA in Musical Theatre. This assessment includes and occurs with daily in-class critiques, faculty reviews, end-of-semester evaluations as well as rehearsals and public performances. These types of assessment, both formal

and informal, monitor the development of the BFA student's technique and process development, their artistic growth and commitment, and application of the craft and study of Musical Theatre to the other liberal arts.

Examples of student assessment and progress within the BFA in Musical Theatre include:

1. Audition for entry into the program.
 - Requirements for auditioning and specific dates for our Audition/Portfolio Days may be found on the College of Creative Arts website (<http://ccarts.wvu.edu/>).
2. Auditions for credit-bearing performance opportunities (THET 200/300/400):
 - Musical Theatre majors will participate in a number of opportunities designed to incorporate classroom and process skills into a public performance.
 - At the completion of each of these productions, the students will receive an evaluation of their participation.
3. End-of-sophomore year assessment for continuation in the BFA in Musical Theatre and advancement to the Musical Theatre Studio.
 - After two years of actor training and study, there is an assessment process for students to move on to the Musical Theatre Studio and their junior year of study. This process allows the Musical Theatre faculty to ascertain a student's potential for professional development as an actor. This assessment includes review of a student's GPA, credit hours, an essay of professional goals, attendance, class participation as well as an audition of material and genres covered within the first two years of study.
 - Students seen as having professional potential and a good academic standing will proceed into their junior year and the Musical Theatre Studio.
 - Students seen within this assessment as not having professional potential or with academic issues are not invited to continue to the Musical Theatre Studio. These students may be advised to consider different degree programs within or outside the School of Theatre & Dance. They may also be advised to continue their studies in Theatre and Acting, improve their academic standing and re-audition for the Musical Theatre Studio in the following year.
4. End-of-semester jury reviews for continuation in the program:
 - At the end of each semester, each Musical Theatre Studio student will take part in an evaluation that consists of a discussion of the student's progress in the areas of talent, trainability, demeanor, professional discipline and potential as well as the demonstrated acquisition of the identified learning goals.
 - These evaluations serve to monitor and record the student's progress toward the completion of the degree.
 - The reviews will be administered by the Area Coordinator for Performance and shall include participation and feedback from theatre, music, and dance faculty.
 - Evaluation of the students in the Musical Theatre Studio include voice juries (a requirement in the curriculum for Voice) and consultation with the Dance faculty on student proficiency.
 - Written evaluations will be used to indicate areas of strength and weakness. The written evaluation will be shared with each student, and a copy will be placed in the student's advising file to be used as part of the on-going assessment of the student's progress in the program.
5. At the discretion of the Area Coordinator for Performance, students who do not successfully pass the evaluation will be either put on probationary status or removed from the program.

Prior to admission into the program, applicants must successfully pass an audition to assess their talent level and potential for success in the major.

- The School of Theatre & Dance in conjunction with the School of Music will administer auditions each semester for entrance into the program.
- Applicants must schedule their audition directly with the School of Theatre & Dance. Typically, auditions will be held in November and February in the Creative Arts Center. Additional auditions may also be scheduled.
- Audition information can be found on the College's website at <http://ccarts.wvu.edu>.

Prior to beginning their course of study, all musical theatre students will be assessed to determine their proficiency in the area of piano and music theory.

- Students who do not score a "Level 1" or higher on a juried piano exam will be required to complete remedial piano studies in addition to the stated coursework in the curriculum.
- Students who do not achieve a minimum passing score on a basic music theory exam will be required to complete and pass a remedial music theory course in addition to the stated coursework in the curriculum.

[Click here to view the Suggested Plan of Study \(p. 600\)](#)

Bachelor of Fine Arts in Musical Theatre

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

THET 191	First-Year Seminar - Creative Arts	2
History/Literature Courses		
THET 160	Theatre Fundamentals	3
THET 301	History of Western Theatre (Fulfills GEF 8)	3
THET 365	Traditions of Dramatic Literature (Fulfills Writing and Communication Skills Requirement)	3
MUSC 120	History of Musical Theatre (Fulfills GEF 8)	3
Production		
THET 221	Theatre Makeup	7
Select 1 of the following pairs:		
THET 103 & THET 104	Stagecraft and Stagecraft Lab	
THET 105 & THET 106	Costuming and Costuming Lab	
Theatre Performance		
THET 144	Fundamentals of Acting (Fulfills GEF 6)	3
THET 240	Fundamental Vocal Techniques	2
THET 242	Fundamentals of Movement	2
THET 244	Intermediate Acting	3
THET 348	Studio Scene Study 1 (Repeated twice for a total of 2 credits)	1
THET 348	Studio Scene Study 1	1
THET 447	Studio Scene Study 2 (Repeated twice for a total of 2 credits)	1
THET 447	Studio Scene Study 2	1
Studio Courses		
THET 355	Musical Theatre Studio (Repeated twice for a total of 6 credits)	3
THET 355	Musical Theatre Studio	3
THET 455	Advanced Musical Theatre Studio	3
THET 455	Advanced Musical Theatre Studio (Repeated twice for a total of 6 credits)	3
Dance		
DANC 110 or DANC 210	Fundamentals of Ballet *	
DANC 130 or DANC 230	Fundamentals of Jazz *	
DANC 140 or DANC 240	Fundamentals of Tap *	
DANC 255	Dance Styles for Musical Theatre (Repeated twice for 1 hour each)	

Select one of the following:

DANC 210 or DANC 310	Intermediate Ballet * Advanced Ballet	
DANC 220 or DANC 320	Intermediate Modern * Advanced Modern	
DANC 230 or DANC 330	Intermediate Jazz * Advanced Jazz	
DANC 240	Intermediate Tap *	
Music Performance		18
MUSC 139	Voice Class 2 (Repeated twice for 1 hour each)	
MUSC 166	Theory for Music Theatre 1	
MUSC 167	Theory for Music Theatre 2	
MUSC 226	Applied Music: Voice (Repeated twice for 2 hours each)	
MUSC 326	Applied Music: Voice (Repeated twice for 2 hours each)	
MUSC 426	Applied Music: Voice (Repeated twice for 2 hours each)	
Practicum		4
THET 200	Production Practicum	
THET 400	Advanced Production Practicum (Repeated twice for a total of 2 credits)	
Capstone		3
THET 401 or THET 450	Capstone Experience The Complete Performer	
Electives		14
University Requirements		25
GEF Requirements		
Total Hours		121

* Courses listed as the secondary option are by permission only.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
THET 191	2 THET 144 (GEF 6)	3
MUSC 166	2 MUSC 139	1
MUSC 139	1 MUSC 167	2
THET 160	3 ENGL 101 (GEF 1)	3
THET 103 & THET 104	4 DANC 130	2
DANC 110	2 GEF 3	3
	14	14

Second Year

Fall	Hours Spring	Hours
MUSC 226	2 THET 221	3
THET 200	1 THET 240	2
THET 242	2 THET 301 (GEF 8)	3
THET 244	3 MUSC 226	2
DANC 140	2 GEF 5	3
ENGL 102 (GEF 1)	3	
GEF 4	3	
	16	13

Third Year

Fall	Hours Spring	Hours
THET 355	3 THET 400	1

THET 348	1 THET 355	3
MUSC 326	2 THET 348	1
DANC 255	1 MUSC 326	2
THET 365	3 MUSC 120 (GEF 8)	3
GEF 2B Science	4 DANC 210, 220, 230, or 240	2
GEF 7	3 Elective	6

17 18

Fourth Year

Fall	Hours Spring	Hours
THET 455	3 MUSC 426	2
THET 447	1 THET 455	3
DANC 255	1 THET 447	1
THET 400	1 THET 401 or 450	3
MUSC 426	2 Electives	6
GEF 8	3	
Elective	3	

14 15

Total credit hours: 121

Major Learning Goals

MUSICAL THEATRE

Common Body of Knowledge and Skills for B.F.A. Theatre students

Students must acquire:

Technical skills requisite for artistic self-expression in at least one major area of production (for example, acting, design/technology, playwriting, musical theatre) and those skills must be progressively developed to the highest level appropriate to the particular area of concentration.

1. An overview understanding of the major aspects, techniques, and directions in the area of concentration.
2. Fundamental, comprehensive understanding of the various elements and basic interrelated processes of creation, interpretation, performance, and production.
3. Fundamental, conceptual understanding of the expressive possibilities of theatre.
4. Knowledge and skills sufficient to work in both collaborative and individual roles in matters of theatre interpretation.
5. Growth in artistry, technical skills, collaborative competence, and knowledge of repertory through regular performance and production experiences. Students must have such experiences throughout the degree program.
6. Repertory. Students must acquire:
 - a. Familiarity with theatre literature of various historical periods, cultural sources, and modes of presentation.
 - b. Experience with specific repertories and comparative standards of production quality through performance, academic study, and attendance at productions.
7. Theoretical and Historical Studies
 - a. Students must acquire:
 - i The ability to analyze plays perceptively and to evaluate them critically.
 - ii An understanding of the common elements and vocabulary of theatre and of the interaction of these elements, and be able to employ this knowledge in analysis, including analyses of their productions.
 - iii The ability to place works of theatre in historical and stylistic contexts and have some understanding of the cultural milieu in which they were created.
 - iv The ability to develop and defend informed judgments about theatre.

- b. Technology. Students must acquire a working knowledge of technologies and equipment applicable to their area(s) of specialization.
8. Synthesis. While synthesis is a lifetime process, by the end of undergraduate studies students should be able to work independently on a variety of professional problems by combining, as appropriate to the issue, their capabilities in performance, repertory, theory, history, and technology, as well as other fields they have studied.

Upon completion of any B.F.A. professional undergraduate degree program:

1. Students must demonstrate achievement of professional, entry-level competence in the area of specialization including significant technical mastery, the capability to produce work and solve professional problems independently, and a coherent set of artistic/intellectual goals that are evident in their work.
2. Students must demonstrate their competence by developing a body of work for evaluation in the major area of study. A senior project or presentation in the major area is required in many concentrations, and strongly recommended for all others.
3. Students must have the ability to communicate ideas, concepts, and requirements to theatre professionals and laypersons related to the practice of the major field. Such communication may involve oral, written, visual, and musical media.

Bachelor of Fine Arts in Musical Theatre

1. Essential Competencies, Experiences, and Opportunities (in addition to those stated for all B.F.A. degree programs above)
 - a. Achievement of the highest possible level of performance as an actor-singer. Studies in acting shall continue throughout the entire degree program.
 - b. Thorough development of skills in acting and skills in dance as appropriate to musical theatre.
 - c. Thorough development in basic musical skills including voice performance, musicianship, and music theory. Studies in voice should continue throughout the degree program.
 - d. Opportunities to develop a high level of skill in sight-singing.
 - e. Opportunities for performance in workshops and full productions of musical theatre in a variety of formal and informal settings. Performance of a significant role in at least one full production during advanced study is regarded as an essential experience.
 - f. Opportunities for developing repertory and techniques for auditions.

Puppetry

B.F.A. in Puppetry

The B.F.A. course work includes intensive study in children's theatre, the practice of puppetry as a theatrical art form, and educational and creative dramatic activity as methods of learning and self-development for children. In addition to a broad-based curriculum in theatre studies, students work under the direction of a faculty member to operate a complete puppetry theatre with comprehensive study in a variety of construction, manipulation, historical study, and performance techniques. The School's Puppet Mobile tours the region while children's theatre productions provide hands-on experience and performance opportunities.

Puppetry graduates work for the following prestigious companies: Walt Disney, Grey Seal Puppet Company, Little Who Productions, Puppet Pizzazz, Houston Children's Festival, Theatre West Virginia, The Pittsburgh Children's Museum, Holden Puppets, Kids on the Block, and Nashville Sesame Street Live Touring.

Click here to view the Suggested Plan of Study (p. 604)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Theatre Studies

THET 191	First-Year Seminar - Creative Arts	2
THET 160	Theatre Fundamentals	3
THET 170	World Theatre and Drama (GEF 8)	3
THET 230	Text Analysis	3
THET 301	History of Western Theatre (GEF 8)	3
THET 302	Directing	3
THET 365	Traditions of Dramatic Literature (Fulfills Writing and Communication Skills Requirement)	3
THET 404	Playwriting	3
THET 460	Contemporary Drama	3

Design & Technical

THET 103	Stagecraft	3
THET 104	Stagecraft Lab	1
THET 105	Costuming	3
THET 106	Costuming Lab	1
THET 113	Stage Management Principles	1
THET 220	Fundamentals of Lighting	3
THET 221	Theatre Makeup	3
THET 225	Introduction to Stage Design 1	3
THET 226	Introduction to Stage Design 2	3
THET 321	Stage Properties	3
THET 422	Advanced Stage Makeup	3
THET 423	Costume Crafts	3

Puppetry and Performance

THET 144	Fundamentals of Acting (GEF 6)	3
THET 240	Fundamental Vocal Techniques	2
THET 242	Fundamentals of Movement	2
THET 375	Puppet Construction	3
THET 461	Creative Dramatics	3
THET 462	Puppetry	3
THET 464	Children's Theatre	3

Practicum

THET 200	Production Practicum (Repeat two times for 2 credit hours total)	5
THET 400	Advanced Production Practicum (Repeat three times for 3 credit hours total)	

Capstone

THET 401	Capstone Experience	3
Open Electives		12

University GEF Requirements	25
Total Hours	120

* Actual number of credits will be determined by the number and level of the elected GEF courses.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
THET 191	2 THET 144 (GEF 6)	3
THET 103 & THET 104	4 THET 105 & THET 106	4
THET 160	3 ENGL 101 (GEF 1)	3
THET 113	1 THET 220	3
THET 170 (GEF 8)	3 GEF 4	3
GEF 3	3	
	16	16

Second Year

Fall	Hours Spring	Hours
THET 200	1 THET 200	1
THET 240	2 THET 242	2
THET 225	3 THET 226	3
THET 230	3 THET 221	3
ENGL 102 (GEF 1)	3 THET 301 (GEF 8)	3
GEF 2	4 GEF 5	3
	16	15

Third Year

Fall	Hours Spring	Hours
THET 302	3 THET 375	3
THET 365	3 THET 462	3
THET 461	3 THET 404	3
THET 400	1 THET 400	1
Elective	3 Elective GEF 7	3 3
	13	16

Fourth Year

Fall	Hours Spring	Hours
THET 400	1 THET 321	3
THET 423	3 THET 401	3
THET 460	3 THET 464	3
Electives	6 THET 422 GEF 8	3 3
	13	15

Total credit hours: 120

Major Learning Goals

PUPPETRY

Common Body of Knowledge and Skills for B.F.A. Theatre students

Students must acquire:

Technical skills requisite for artistic self-expression in at least one major area of production (for example, acting, design/technology, playwriting, musical theatre) and those skills must be progressively developed to the highest level appropriate to the particular area of concentration.

1. An overview understanding of the major aspects, techniques, and directions in the area of concentration.
2. Fundamental, comprehensive understanding of the various elements and basic interrelated processes of creation, interpretation, performance, and production.
3. Fundamental, conceptual understanding of the expressive possibilities of theatre.
4. Knowledge and skills sufficient to work in both collaborative and individual roles in matters of theatre interpretation.
5. Growth in artistry, technical skills, collaborative competence, and knowledge of repertory through regular performance and production experiences. Students must have such experiences throughout the degree program.
6. Repertory. Students must acquire:
 - a. Familiarity with theatre literature of various historical periods, cultural sources, and modes of presentation.
 - b. Experience with specific repertories and comparative standards of production quality through performance, academic study, and attendance at productions.
7. Theoretical and Historical Studies
 - a. Students must acquire:
 - i The ability to analyze plays perceptively and to evaluate them critically.
 - ii An understanding of the common elements and vocabulary of theatre and of the interaction of these elements, and be able to employ this knowledge in analysis, including analyses of their productions.
 - iii The ability to place works of theatre in historical and stylistic contexts and have some understanding of the cultural milieu in which they were created.
 - iv The ability to develop and defend informed judgments about theatre.
 - b. Technology. Students must acquire a working knowledge of technologies and equipment applicable to their area(s) of specialization.
8. Synthesis. While synthesis is a lifetime process, by the end of undergraduate studies students should be able to work independently on a variety of professional problems by combining, as appropriate to the issue, their capabilities in performance, repertory, theory, history, and technology, as well as other fields they have studied.

Upon completion of any B.F.A. professional undergraduate degree program:

1. Students must demonstrate achievement of professional, entry-level competence in the area of specialization including significant technical mastery, the capability to produce work and solve professional problems independently, and a coherent set of artistic/intellectual goals that are evident in their work.
2. Students must demonstrate their competence by developing a body of work for evaluation in the major area of study. A senior project or presentation in the major area is required in many concentrations, and strongly recommended for all others.
3. Students must have the ability to communicate ideas, concepts, and requirements to theatre professionals and laypersons related to the practice of the major field. Such communication may involve oral, written, visual, and musical media.

Theatre

Bachelor of Arts in Theatre

The Bachelor of Arts degree offers a broad-based program of study combining a liberal arts education with a general theatre curriculum.

The B.A. meshes perfectly with minors, and especially double majors, potentially increasing interest from future graduate schools or employers. Typically, the B.A. student in Theatre is one who chooses not to specialize in any one area of the art form, but prefers instead to keep as many educational and career options open as possible. The B.A. program is also well-suited for students looking to explore multiple areas of study within the theatre discipline, such as stage management, directing, or producing.

[Click here to view the Suggested Plan of Study \(p. 607\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Theatre Studies:

THET 191	First-Year Seminar - Creative Arts	2
THET 113	Stage Management Principles	1
THET 160	Theatre Fundamentals	3
THET 230	Text Analysis	3
THET 302	Directing	3
THET 401	Capstone Experience	3

Theatre History:

THET 170	World Theatre and Drama (Fulfills GEF 8)	3
THET 301	History of Western Theatre	3
THET 365	Traditions of Dramatic Literature (Fulfills Writing and Communication Skills Requirement)	3
THET 460	Contemporary Drama	3

Production:

Select one of the following sequences:		4
THET 103 & THET 104	Stagecraft and Stagecraft Lab	
THET 105 & THET 106	Costuming and Costuming Lab	

Performance:

DANC 100	Fundamentals of Dance Techniques	2
THET 144	Fundamentals of Acting (Fulfills GEF 6)	3
Select one of the following:		3
THET 461	Creative Dramatics	
THET 462	Puppetry	

Practicum:

Select 5 credits from the following:		5
THET 200	Production Practicum (may be repeated up to two credits)	
THET 213	Stage Management Practicum	
THET 300	Practicum (may be repeated up to two credits)	
THET 400	Advanced Production Practicum (may be repeated up to three credits)	

Theatre Electives (THET)	18
Non-THET Electives	18
Foreign Language Courses (up to 2 languages)	12
University GEF Requirements	28
Total Hours	120

SUGGESTED PLAN OF STUDY BA IN THEATRE

First Year

Fall	Hours Spring	Hours
Select one of the following:	4 THET 144 (GEF 6)	3
THET 103 & THET 104	DANC 100	2
THET 105 & THET 106	ENGL 101 (GEF 1)	3
THET 160	3 GEF 3	3
THET 113	1 GEF 5	3
THET 191	2	
THET 170 (GEF 8)	3	
GEF 4	3	
	16	14

Second Year

Fall	Hours Spring	Hours
THET 200	1 THET 200	1
THET 230	3 THET 301	3
ENGL 102 (GEF 1)	3 World Language	3
World Language	3 THET Elective	3
GEF 2	4 GEF 7	3
Non-THET Elective	3	
	17	13

Third Year

Fall	Hours Spring	Hours
THET 302	3 THET 365	3
THET 400	1 THET 400	1
THET 461 or 462	3 THET Electives	6
THET Elective	3 GEF 8	3
World Language	3 Non-THET Elective	3
GEF 8	3	
	16	16

Fourth Year

Fall	Hours Spring	Hours
THET 460	3 THET 401	3
THET 400	1 Non-THET Electives	9
Non-THET Elective	3 THET Elective	3
World Language	3	
THET Elective	3	
	13	15

Total credit hours: 120

Major Learning Goals

B.A. THEATRE

ESSENTIAL CONTENT AND COMPETENCIES

General Education

1. Competencies. Specific competency expectations are determined by the institution. Normally, students graduating with liberal arts degrees have:
 - The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency, and rhetorical force.
 - An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and the historical and quantitative techniques needed for investigating the workings and developments of modern society.
 - An ability to address culture and history from a variety of perspectives.
 - Understanding of, and experience in thinking about, moral and ethical problems.
 - The ability to respect, understand, and evaluate work in a variety of disciplines.
 - The capacity to explain and defend views effectively and rationally.
 - Understanding of and experience in one or more art forms other than theatre.
2. Operational Guidelines. These competencies are usually developed through studies in English composition and literature; foreign languages; history, social studies, and philosophy; visual and performing arts; natural science; technology; and mathematics. Precollegiate study, regular testing and counseling, and flexibility in course requirements are elements in achieving these competencies.

Theatre Studies

1. Competencies. Students holding undergraduate liberal arts degrees must have:
 - The ability to develop and defend informed judgments about theatre.
 - An acquaintance with a wide selection of theatre repertory including the principal eras, genres, and cultural sources.
 - An understanding of playwriting and production processes, aesthetic properties of style, and the way these shape and are shaped by artistic and cultural forces.
 - The ability to think conceptually and critically about text, performance, and production.
2. Operational Guidelines. Objectives of this type are ordinarily emphasized in courses such as acting, speech, play analysis, design technology, history and literature of the theatre, and through regular practical and intimate contact with living theatre.

Performance and Theatre Electives

1. Competencies. Students holding undergraduate liberal arts degrees must have:
 - Ability in areas of performance and production or playwriting appropriate to individual needs and interests, consistent with the goals and objectives of the specific liberal arts degree program being followed.
 - An understanding of procedures and approaches for realizing a variety of theatrical styles.
 - Intermediate to advanced competence in one or more theatre specializations in creation, performance, scholarship, or teaching.
2. Operational Guidelines:
 - The work in this area includes acting, design/technology, other aspects of participation in theatre productions, and studies in scholarly or pedagogical aspects of theatre.
 - In addition to electives in general education, further studies in theatre, including performance, should be possible through a selection of additional courses.
 - Institutions have various policies concerning the granting of credit for performance and production in liberal arts curricula, including the relegation of performance to extracurricular activity. Such policies are taken into account when curricular proportions are considered.

Theatre Design and Technology

B.F.A. in Theatre Design and Technology

The B.F.A. in Theatre Design & Technology introduces the student to all aspects of the theatre and is coupled with an extensive breadth of liberal arts requirements drawing from many other disciplines throughout the University. The program is designed for the student who intends to pursue further graduate study in theatre, a professional theatre career, or who may choose to enter a related profession where design and technology skills are highly desirable.

There are no areas of specialization in design or technical production at the B.F.A. level; rather, students are exposed to all facets of design and technology through selected coursework taken in all of the areas. Throughout the course of study, students must demonstrate a talent and ability in more than one area of the art form. Training also involves active participation in the production program and the opportunity to design fully-produced mainstage productions. Emphasis on "hands-on" learning in the theatre and laboratories with state-of-the-art equipment is at the core of the Design & Technology Program.

In addition to completing the required coursework, students enrolled in the design and technology program must participate in a portfolio review at the end of each semester of their sophomore and junior years. Furthermore, additional mid-term assessments may be required at the discretion of the Director or the Design & Technology Program Director. Students must successfully complete these assessments to be allowed to continue in the program.

Click here to view the Suggested Plan of Study (p. 610)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Theatre Studies

THET 191	First-Year Seminar - Creative Arts	2
THET 144 or THET 102	Fundamentals of Acting (Fulfills GEF 6) Acting	3
THET 160	Theatre Fundamentals	3
THET 170	World Theatre and Drama (Fulfills GEF 8)	3
THET 301	History of Western Theatre (Fulfills GEF 8)	3
THET 302	Directing	3
THET 327	History of Costume and Decoration 1	3
THET 328	History of Costume and Decoration 2	3
THET 365	Traditions of Dramatic Literature (Fulfills Writing and Communication Skills Requirement)	3

Design & Technology

Foundation		
THET 103	Stagecraft	3
THET 104	Stagecraft Lab	1
THET 105	Costuming	3
THET 106	Costuming Lab	1
THET 113	Stage Management Principles	1
THET 220	Fundamentals of Lighting	3

THET 222	Drafting for the Stage	3
THET 225	Introduction to Stage Design 1	3
THET 226	Introduction to Stage Design 2	3
THET 315	Portfolio Development	3
Intermediate Technical		
Select three from the following:		9
THET 219	Intermediate Costume Construction	
THET 221	Theatre Makeup	
THET 310	Stagecraft 2	
THET 312	Theatrical Rigging	
THET 321	Stage Properties	
THET 329	Computer Assisted Design for the Stage	
THET 330	Rendering Techniques	
THET 375	Puppet Construction	
THET 433	Model Building	
Advanced Technical		
Select three of the following:		9
THET 422	Advanced Stage Makeup	
THET 423	Costume Crafts	
THET 424	Advanced Technical Production	
THET 425	Advanced Costume Construction	
THET 426	Automation	
THET 427	Lighting Technology	
THET 428	Scene Painting	
THET 429	Sound Seminar	
THET 435	Theatre Health and Safety	
Design		
Select three of the following:		9
THET 322	Scene Design	
THET 323	Advanced Scene Design	
THET 324	Costume Design 1	
THET 325	Lighting Design	
THET 326	Advanced Costume Design	
THET 421	Lighting Design 2	
Practicum		
Practicum Courses		5
THET 200	Production Practicum (Repeat twice for 2 credit hours total)	
THET 400	Advanced Production Practicum (Repeat three times for 3 credits hours total)	
Capstone		
THET 401	Capstone Experience	3
Open Electives		12
University GEF Requirements		25
Total Hours		122

* Actual number of credits will be determined by the number and level of the elected GEF courses.

SUGGESTED PLAN OF STUDY DESIGN/TECHNOLOGY EMPHASIS

First Year

Fall	Hours Spring	Hours
THET 103 & THET 104	4 THET 105 & THET 106	4
THET 160	3 ENGL 101 (GEF 1)	3
THET 113	1 GEF 3	3

THET 191	2 GEF 5	3
THET 170 (GEF 8)	3 THET 144 or 102 (GEF 6)	3
GEF 4	3	
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	16	16

Second Year

Fall	Hours Spring	Hours
THET 200	1 THET 200	1
THET 220	3 THET 226	3
THET 222	3 THET 301 (GEF 8)	3
THET 225	3 Intermediate Tech Course 2	3
ENGL 102 (GEF 1)	3 GEF 2	4
Intermediate Tech Course 1	3 Elective	3
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	16	17

Third Year

Fall	Hours Spring	Hours
THET 302	3 Select one of the following:	3
Intermediate Tech Course 3	3 THET 323	
Select one of the following:	3 THET 326	
THET 322	THET 421	
THET 324	THET 400	1
THET 325	THET 328	3
THET 327	3 Advanced Tech Course 1	3
THET 400	1 Elective	3
GEF 7	3	
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	16	13

Fourth Year

Fall	Hours Spring	Hours
THET 365	3 THET 315	3
Advanced Tech Course 2	3 Advanced Tech Course 3	3
THET 400	1 THET 401	3
Select one of the following:	3 Elective	3
THET 322	GEF 8	3
THET 323		
THET 325		
Elective	3	
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	13	15

Total credit hours: 122

Major Learning Goals

THEATRE DESIGN AND TECHNOLOGY

Common Body of Knowledge and Skills for B.F.A. Theatre students

Students must acquire:

Technical skills requisite for artistic self-expression in at least one major area of production (for example, acting, design/technology, playwriting, musical theatre) and those skills must be progressively developed to the highest level appropriate to the particular area of concentration.

1. An overview understanding of the major aspects, techniques, and directions in the area of concentration.
2. Fundamental, comprehensive understanding of the various elements and basic interrelated processes of creation, interpretation, performance, and production.
3. Fundamental, conceptual understanding of the expressive possibilities of theatre.

4. Knowledge and skills sufficient to work in both collaborative and individual roles in matters of theatre interpretation.
5. Growth in artistry, technical skills, collaborative competence, and knowledge of repertory through regular performance and production experiences. Students must have such experiences throughout the degree program.
6. Repertory. Students must acquire:
 - a. Familiarity with theatre literature of various historical periods, cultural sources, and modes of presentation.
 - b. Experience with specific repertories and comparative standards of production quality through performance, academic study, and attendance at productions.
7. Theoretical and Historical Studies
 - a. Students must acquire:
 - i. The ability to analyze plays perceptively and to evaluate them critically.
 - ii. An understanding of the common elements and vocabulary of theatre and of the interaction of these elements, and be able to employ this knowledge in analysis, including analyses of their productions.
 - iii. The ability to place works of theatre in historical and stylistic contexts and have some understanding of the cultural milieu in which they were created.
 - iv. The ability to develop and defend informed judgments about theatre.
 - b. Technology. Students must acquire a working knowledge of technologies and equipment applicable to their area(s) of specialization.
8. Synthesis. While synthesis is a lifetime process, by the end of undergraduate studies students should be able to work independently on a variety of professional problems by combining, as appropriate to the issue, their capabilities in performance, repertory, theory, history, and technology, as well as other fields they have studied.

Upon completion of any B.F.A. professional undergraduate degree program:

1. Students must demonstrate achievement of professional, entry-level competence in the area of specialization including significant technical mastery, the capability to produce work and solve professional problems independently, and a coherent set of artistic/intellectual goals that are evident in their work.
2. Students must demonstrate their competence by developing a body of work for evaluation in the major area of study. A senior project or presentation in the major area is required in many concentrations, and strongly recommended for all others.
3. Students must have the ability to communicate ideas, concepts, and requirements to theatre professionals and laypersons related to the practice of the major field. Such communication may involve oral, written, visual, and musical media.

Bachelor of Fine Arts in Design & Technology

Essential Competencies, Experiences, and Opportunities (in addition to those stated for all degree programs above)

1. Ability to conceptualize and realize a design aesthetic consistent with the overall artistic concepts of a production.
2. Ability to understand and articulate basic elements and principles of design theory.
3. Ability to understand and articulate basic elements and principles of composition related to line, shape, color, texture, and sound
4. Understanding of the aesthetic use of color.
5. Understanding of the aesthetic use of sound.
6. Ability to communicate design ideas and realities to other personnel involved in the production, including directors, other designers, stage managers, and actors.
7. Ability to produce and communicate design ideas with freehand drawings.
8. Ability to provide formalized, accurate production models and drawings by hand and/or through the use of current industry standard software programs.
9. Fundamental knowledge of the total design process, including the progression of raw materials through multiple design "shops" and the roles that various craftspeople play in the creation of a finished product.
10. Fundamental knowledge of décor, architecture, furniture, dress, crafts, and art as they relate to various historical periods.

11. Ability to demonstrate an understanding of basic engineering principles (electrical, mechanical, and/or structural) as they relate to chosen design specializations.
12. Knowledge of federal, state, and local health and safety codes, best practices, and industry standards as they relate to theatrical venues and production elements.
13. Preparation and presentation of a professional résumé and a portfolio of design- and technology-related work that demonstrate one's abilities, strengths, processes, and experiences.
14. Opportunities for experience in the design/technology aspects of theatre in a variety of formal and informal settings throughout the entire degree program, including an opportunity to design and/or create the technology for at least one fully realized production that will be presented before an audience prior to graduation.

Bachelor of Multidisciplinary Studies

The College of Creative Arts' Multidisciplinary Studies (MDS) program enables students to earn a Bachelor of Multidisciplinary Studies (B.MdS.) degree by following an individualized course of study based on their own academic interests and goals in the Arts. Combined with the University's General Education Foundations, the degree allows students to choose three different academic minors to create their own educational plan. At least two of the three minors must be from programs within the College of Creative Arts. The third minor can be from the College of Creative Arts or from one of the other minor programs available at West Virginia University. Students who decide to have all three minors from the College of Creative Arts can only have two from the same School.

Each MDS course of study culminates with a "capstone" project where MDS students demonstrate what they have learned during their time at West Virginia University. The capstone must be selected from one of the capstone opportunities offered by the College of Creative Arts where the student has completed a minor.

As a member of the College's MDS program, students are welcome to participate in the many performance, exhibition, internship and study-abroad opportunities offered by the College. Participation may require the completion of certain coursework and/or a successful audition/review process.

Scholarships and Financial Aid

The College of Creative Arts offers a limited number of special College-based scholarship awards for freshman and current students enrolled in its programs. College-based awards are granted on the demonstration of outstanding talent, academic achievement, and the demonstration of future potential for success in the MDS program.

Information regarding both University and College of Creative Arts Scholarships can be found at <http://ccarts.wvu.edu/academics/scholarships>.

For more information about the College of Creative Arts MDS program, please contact:

James Froemel, Recruitment Coordinator
 College of Creative Arts
 West Virginia University
 P.O. Box 6111
 Morgantown, WV 26506-6111
 Phone: (304) 293-4339
 Email: ccarecruitment@mail.wvu.edu

Admission into Program

Acceptance into the College of Creative Arts' MDS program is contingent upon admission to WVU as an undergraduate student. Some minors require that the student must also complete a successful audition/review process in order to enroll and/or complete the course of study. When required, the audition/review is a preliminary assessment of a student's potential for success in the program.

Students should check the requirements for each minor. Minor requirements are listed under the individual programs in this catalog.

[Click here to view the Suggested Plan of Study \(p. 615\)](#)

Program Requirements

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

BACHELOR OF MULTIDISCIPLINARY STUDIES DEGREE REQUIREMENTS

Minimum GPA of 2.0

GEF Requirements *		34
Select 1 of the following:		2
ART 191	First-Year Seminar - Creative Arts	
MUSC 191	First-Year Seminar - Creative Arts	
THET 191	First-Year Seminar - Creative Arts	

Minor Requirements

A grade of C- or better is required in all minor coursework

Minimum GPA of 2.0 in each minor or the GPA required for the specific minor (whichever is higher)

None of the courses required in the minors can be used to satisfy GEF requirements

If a course fulfills a requirement in more than one minor, an additional course from one of the minor's list of recommended electives or advanced study courses must be completed.

At least 60 credit hours of 200-400 level coursework is required

College of Creative Arts Minor 1	18
College of Creative Arts Minor 2	18
Minor 3 (any University minor)	18

College of Creative Arts Capstone	2-3
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To be chosen from a School in the College of Creative Arts where a minor is completed

Grade of C- or higher is required

School of Arts and Design Capstone Courses:

ARHS 401	Senior Project-Capstone
ART 413	Senior Projects in Painting
ART 425	Graphic Design: Senior Project
ART 426	Senior Projects in Sculpture
ART 430	Senior Projects in Printmaking
ART 440	Senior Projects in Ceramics
ART 470	Senior Projects in Intermedia

School of Music Capstone Courses:

MUSC 435	Repertoire:Voice
MUSC 467	Major Project in Theory, Composition, or Music History
MUSC 487	Student Teaching Seminar
MUSC 488	Recital
MUSC 492	Directed Study
MUSC 435A	Repertoire: Piano

School of Theatre & Dance Capstone Courses:

THET 401	Capstone Experience
THET 450	The Complete Performer

Electives (including a University Writing course) *	28
Total Hours	120

* Used to reach 120 minimum credit hours for the degree. The total credit hours for the degree may vary depending upon the requirements of the individual minors selected, as well as courses selected in the GEF.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 GEF 3	3
Select one of the following:	2 Minor 1 Course	3
ART 191	Minor 2 Course	3
MUSC 191	Minor 3 Course	3
THET 191	Elective	3
Minor 1 Course	3	
Minor 2 Course	3	
Elective	3	
	14	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF 5	3
GEF 4	3 GEF 2	4
Minor 1 Course	3 Minor 2 Course	3
Minor 3 Course	3 Minor 3 Course	3
Elective	3 Elective	3
	15	16

Third Year

Fall	Hours Spring	Hours
GEF 6	3 GEF 7	3
Minor 1 Course	3 GEF 8	3
Minor 2 Course	3 Minor 1 Course	3
Minor 3 Courses	3 Minor 2 Course	3
Elective	3 Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
GEF 8	3 GEF 8	3
Elective	3 Elective	3
Capstone Course	3 Minor 2 Course	3
Minor 1 Course	3 Minor 3 Course	3
Minor 3 Course	3 Elective	3
	15	15

Total credit hours: 120

Major Learning Goals

BACHELOR OF MULTIDISCIPLINARY STUDIES IN THE ARTS

The Bachelor of Multidisciplinary Studies in the Arts (BMdS) allows students to follow an individualized course of study based on their own academic interests in the Arts.

- Demonstration of knowledge and/or skills in two or more areas of study (minors) within the College beyond basic coursework and performance appropriate to the individual's needs and interests.
- The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency, and rhetorical force.

- An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences, and with the main forms of analysis of the historical and quantitative techniques needed for investigating the workings and developments of modern society.
- An ability to address culture and history from a variety of perspectives.
- Understanding of, and experience in thinking about, moral and ethical problems.
- The ability to respect, understand and evaluate work in a variety of disciplines and particularly in one or more aspects of the Arts.
- The capacity to explain and defend views effectively and rationally.
- The ability to conceive, create and practice one or more specific areas of the Arts.
- Understanding the similarities, differences and relationships among the various forms of Art.
- A demonstration of the conceptual and practical relationship between at least two areas of the Arts combined with a third area related to the student's specific academic and personal interests and goals.

School of Dentistry

Degrees Offered

- Bachelor of Science in Dental Hygiene
- Master of Science in Dental Hygiene

The Profession

Dental hygiene is an exciting profession with many rewarding and challenging career opportunities which include clinical/patient care, administration, education, research, and sales/marketing. Dental hygienists are employed in diverse settings such as private dental practices; clinics; hospitals; long-term care facilities/rehabilitation centers; dental hygiene education; national, state, and local government agencies; and private business/industry. As a licensed health professional and oral health educator, the dental hygienist has an important role in the overall health and welfare of the public. The dental hygienist is an integral part of the dental team, providing direct patient care based on the prevention of disease. The duties and responsibilities of dental hygienists vary from state to state but may include oral prophylaxis (removing stains and deposits from teeth); root debridement; exposing radiographs; application of preventive and therapeutic agents; local delivery of antimicrobial agents; nutritional counseling; oral, head, and neck cancer screenings; monitoring nitrous oxide sedation; and administration of local anesthesia. The educational background of a dental hygienist provides the knowledge, attitudes, and skill necessary to be successful in a wide variety of careers. From providing clinical care to research to public administration, dental hygiene opens the door to many successful career options. For more information concerning licensure, please visit: <http://dentistry.hsc.wvu.edu/education/programs/dental-hygiene-programs/licensure/>.

Nature of the Program

The establishment of the integrated baccalaureate degree program in dental hygiene at West Virginia University in September 1961 was a milestone in dental hygiene education. The program stands out as one of the top dental hygiene programs nationally as shown by the students' commitment to excellence. With the addition of the degree completion program in 1987 and the master of science program in 1989, the Department of Dental Hygiene provides graduates the opportunity to further their education. The integrated curriculum in dental hygiene combines the advantages of both liberal arts and the professional aspects of education. Graduates from the program are awarded a bachelor of science degree in dental hygiene, with the option to obtain a master of science degree with the completion of a minimum of one additional year.

The dental hygiene curriculum is rigorous and provides excellent preparation for the practice of dental hygiene in numerous practice settings. The curriculum requires successful completion of a total of 136 hours and was constructed in accordance with the standards specified for a school of dental hygiene by the American Dental Association Commission on Dental Accreditation. The program has been fully accredited by this organization since 1965.

The dental hygiene program has a strong commitment to providing care and educational programs to residents of West Virginia, which is demonstrated by the required 125 hours of service learning and clinical care courses. To provide students in dental hygiene program with the necessary clinical experience that is required, the School of Dentistry maintains and operates dental clinics in the Robert C. Byrd Health Sciences Center School of Dentistry. Through the West Virginia University Institute for Community and Rural Health (WVUICRH), students are required to provide direct patient care for the citizens of West Virginia at a rural site during the summer session between their junior and senior year. Please visit <http://dentistry.hsc.wvu.edu/education/programs/dental-hygiene-programs/> for more information.

The dental hygiene program has an excellent reputation for producing outstanding clinicians and many faculty members as well as graduates are recognized as leaders in dental education and organized dentistry. Please visit <http://dentistry.hsc.wvu.edu/education/programs/dental-hygiene-programs/program-of-excellence/> for more information.

Academic and Professional Standards

The Dental Hygiene Academic and Professional Standards, including the Student Rights and Responsibilities, are available at: <http://dentistry.hsc.wvu.edu/education/programs/dental-hygiene-programs/academic-professional-standards/>

FACULTY

CHAIR

- Amy D. Funk - MSDH
(WVU)

ASSOCIATE PROFESSORS

- M. Suann Gaydos - MSDH
(WVU)
- Alcinda K. T. Shockey - BSDH, MA, DHSc

(NOVA Southeastern University)

ASSISTANT PROFESSORS

- Kristafer L. Adkins - MSDH (WVU)
- Lisa E. Lisacukis - MSDH (WVU)
- Rhonda J. Soberdash - CDA, EFDA, RDH, MA (Indiana University of PA)
- Ashlee B. Sowards - MSDH (WVU)

CLINICAL INSTRUCTOR

- Julie A. Blanco - RDH, BS, MEd (Frostburg State University)

Degree Designation Learning Goals

BACHELOR OF SCIENCE IN DENTAL HYGIENE (BSDH)

Program Goals:

1. Provide a high quality program of instruction that prepares dental hygienists to:
 - Possess a heightened awareness of social and cultural diversity, ethics and professionalism.
 - Apply critical thinking to integrate current scientific principles/technology with the provision of evidenced-based, comprehensive health care.
 - Perform to the level of clinical competency those legally approved oral health services as defined by the West Virginia State Board of Dental Examiners and the WVU School of Dentistry.
 - Perform to the level of laboratory competency those legally approved oral health services (beyond the scope of the West Virginia practice act) stipulated in the practice acts of other states, districts, or territories of the United States.
 - Coordinate and administer oral health services for a variety of populations in diverse settings (public health agencies, hospitals, school systems, etc.).
 - Engage in intra and interprofessional collaborative activities with community leaders and health care professionals to manage the oral health needs of rural West Virginia.
 - Provide didactic and clinical instruction in allied dental education programs.
 - Pursue professional development through self-study, continuing education, research and advanced studies at the masters and doctoral levels.
2. Recruit, admit and retain students with the potential to succeed within the dental hygiene program.
3. Create an environment conducive to faculty promotion, retention, and satisfaction.

Program Competencies:

1. Apply the concepts of professionalism, ethics, law, and regulation to the provision and/or support of oral health care services.
2. Demonstrate an awareness of social/cultural diversity issues.
3. Apply basic, dental hygiene, and dental science concepts to the provision and/or support of oral health care services.
4. Provide the dental hygiene process of care which includes assessment, planning, implementation, and evaluation components that are both evidence-based and patient-centered.
5. Provide dental hygiene care to children, adolescents, adults, geriatrics, special needs patients, and persons with medically compromising conditions.
6. Implement evidence-based tobacco cessation strategies utilizing the 5 A's (Ask, Advise, Assess, Assist, & Arrange) for all tobacco using patients.
7. Provide dental hygiene care for all types of classifications of periodontal disease, including patients who exhibit moderate to severe periodontal disease.
8. Provide dental hygiene/dental supportive treatment that is both evidence-based and patient-centered.
9. Provide appropriate life support measures for any medical emergencies that may be encountered in dental hygiene practice.
10. Assess, plan, implement, and evaluate community-based oral health programs to promote health and prevent disease among a variety of population groups in diverse settings.
11. Demonstrate interpersonal and group communications skills to effectively interact with diverse population groups.
12. Apply biostatistical principles in the analysis of scientific literature and the design and interpretation of a student-based research project.
13. Design courses, provide didactic and clinical instruction, and implement evaluation strategies in allied dental education programs.
14. Identify career options within the dental hygiene profession.
15. Participate in activities that promote life long learning and professional growth.
16. Engage in intra and interprofessional team building activities that foster collaborative learning.

ADMISSION

To apply to the program, please go to <http://dentistry.hsc.wvu.edu/education/programs/dental-hygiene-programs/bachelor-of-science/apply-now/> and follow the directions provided. You do not need to complete a separate application for WVU, you must choose Dental Hygiene in the WVU on-line application to be considered for the Program. Additionally, all applicants, regardless of admission type, **must** complete the following before your application will be reviewed by the Dental Hygiene Admissions Committee. Please send the documents electronically to Ms. Lori Groover at lgroover@hsc.wvu.edu.

1. Shadowing forms (minimum of eight hours, although more are recommended - shadowing forms must be saved and upload as one single PDF document)
Forms may be found at <http://dentistry.hsc.wvu.edu/media/1366/dental-hygiene-applicant-shadowing-form.jpeg>
2. Shadowing essay – describe what you experienced, watched, learned, etc. while shadowing a dental hygienist
3. Personal essay – one page essay outlining why you want to be a dental hygienist

The Dental Hygiene Admissions committee reviews all applications and pays particular attention to scholastic achievement in science courses as well as overall grade point average and involvement in community service activities. Physical strength with the ability to sit and stand is required, fine precision bilateral manipulative hand/motor skills, adequate visual acuity, eye/hand/foot coordination, and emotional stability are essential characteristics for individuals who wish to enter and continue in the dental hygiene program. Applicants must meet other medical qualifications as required. Reasonable accommodations will be considered for students with special needs.

Competition for admission is intense. If you are among the most qualified, you will be invited to the campus for a personal interview. You must confirm via email, your receipt of the email message from the Division of Dental Hygiene (via lgroover@hsc.wvu.edu) that you will be attending your scheduled interview session. If you do not respond within 14 working days from the date of the aforementioned email, you will not be considered for the upcoming class. The personal interview with the Dental Hygiene Committee will be conducted in a question / answer format. After the interview, if for any reason the Committee does not feel you will be an acceptable candidate in the Program, you will not be offered admission to the Program.

Following the interview with the Dental Hygiene Admissions Committee, students who have been offered provisional acceptance will receive an email via their MIX account from the Dental Hygiene Admissions Committee which outlines the new student requirements Please see <http://dentistry.hsc.wvu.edu/education/programs/dental-hygiene-programs/bachelor-of-science/new-student-requirements/> for more information. Final acceptance to the Department of Dental Hygiene at West Virginia University is contingent on successful completion of new student requirements and of the following:

1. Successful completion of all courses currently enrolled and submit all final transcripts.
2. Complete the Criminal Background document. Scan and email this document to lgroover@hsc.wvu.edu as soon as possible to ensure the Committee will have your report prior to the interview.
3. Complete required health evaluation forms by August 1, 2018.
4. Attend WVU New Student Orientation on one of the dates provided by the Dental Hygiene program.
5. Attend the Dental Hygiene Orientation picnic.

If you are not offered a position in the Dental Hygiene Program, you may still be accepted into WVU. Please visit <http://admissions.wvu.edu/admissions/university-requirements> for more information.

Direct Admission (First Time Freshman Entry)

Applicants that will be first time freshman are considered for direct admission. As an integrated four year program, there are no prerequisite college courses required for first time freshman entry, but additional science courses on the high school level are recommended. Applications for the 2017 fall semester are available from July 1, 2017 to February 1, 2018. Direct admission is based on the above mentioned criteria plus a minimum high school grade point average of 3.7 and a composite score on ACT 24 or total combined critical reading and math score on SAT 1210. Additionally, applicants must meet all the University admission requirements which are available at <http://admissions.wvu.edu/how-to-apply/first-time-freshmen>. To be eligible for enrollment, the applicant must be a graduate of an accredited high school or preparatory school that is acceptable for college entrance. Please visit the West Virginia University website for more information: <http://admissions.wvu.edu/admissions/university-requirements>.

If you do not meet the minimum requirements for direct admission, you will be placed in Undergraduate Studies/Pre-Dental Hygiene. Applicants in Undergraduate Studies still may be considered for admission into the Dental Hygiene Program (first time freshman entry) provided there are remaining openings in the class.

Advanced Standing Admission

Applicants may be eligible to enter the program as a spring semester freshman or an advanced standing sophomore. Admission is limited by class size and successful completion of college courses **does not guarantee** advanced standing admission. You **must contact the Department** directly to request consideration and be granted approval to apply for either spring or advanced standing sophomore admission.

Spring admission:

To be considered for Spring admission, Freshman year, applications are due by October 1st of the preceding fall semester. Admission is based on a minimum cumulative and science grade point average of 3.0 and successful completion (with a grade of C or better) of Chemistry 111 or a higher level Chemistry course and additional courses as prescribed in the first semester of the Dental Hygiene Curriculum Plan.

Advanced standing sophomore admission:

To be considered as an advanced standing sophomore, applications are due by February 1st of the preceding spring semester. Admission is based on a minimum cumulative and science grade point average of 3.0 and successful completion (with a grade of C or better) of all science courses prescribed in the first semester of the Dental Hygiene Curriculum Plan.

Degree Completion Program

If you are a registered dental hygienist, you can be admitted directly to the Division of Dental Hygiene as a full-time or a part-time student. You **must contact the Department** directly to request consideration and be granted approval to apply for the degree completion program. Admission is limited by class size and successful completion of a certificate or associate's degree from an accredited dental hygiene program in the United States or Canada does not guarantee entrance into the Program. You can transfer lower-division credits (see "Suggested Dental Hygiene Curriculum"). In addition to your application, to be considered for the program, you must have successfully completed both national and clinical board exams, have a minimum of 3.0 overall and science grade point averages, and a personal essay on why you want to complete your baccalaureate degree in Dental Hygiene.

When you apply, we ask you to include complete records of previous study. An official transcript needs to be mailed to us by the registrar of your previous school. Include catalog descriptions of the courses taken. If you are currently enrolled in a certificate or associate's degree program, include your program of study. You are responsible for the submission of a complete record package. Applications can be obtained after July 1st of the year preceding application to the program. Please contact the Dental Hygiene office for complete information about this program in dental hygiene.

Click here to view the Suggested Plan of Study (p. 622)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Program Requirements

A minimum GPA of 2.5 is required		
GEF Requirements 1, 6 & 7		12
BIOL 102	General Biology	3
BIOL 104	General Biology Laboratory	1
CHEM 111	Survey of Chemistry (GEF 2B)	4
CHEM 112	Survey of Chemistry	4
COMM 104	Public Communication (GEF 5)	3
HN&F 171	Introduction to Human Nutrition (GEF 8)	3
Select one of the following (GEF 3):		3

MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
MICB 200	Medical Microbiology	3
NBAN 107	Introduction to Human Anatomy and Physiology	4
NBAN 207	Human Anatomy and Physiology 2	4
NBAN 309	Oral Histology	2
PATH 300	Introduction to Pathology	3
PATH 302	Oral Pathology	3
PCOL 260	Pharmacology	3
PSYC 101	Introduction to Psychology (GEF 4)	3
PSYC 241	Introduction to Human Development (GEF 8)	3
SOCA 101	Introduction to Sociology (GEF 8)	3
DTHY 100	Health Care Terminology	1
DTHY 101	Introduction to Dental Hygiene	2
DTHY 185	Oral Anatomy	2
DTHY 186	Dental Anatomy	2
DTHY 205	Theory and Practice of Prevention	2
DTHY 210	Dental Radiology	2
DTHY 211	Dental Radiology	1
DTHY 220	Dental Nursing Techniques	2
DTHY 225	Dental Hygiene Techniques	4
DTHY 226	Clinical Dental Hygiene	1
DTHY 300	Anesthesia for Dental Hygiene	1
DTHY 350	Public Health	2
DTHY 351	Dental Health Education (Fulfills Writing and Communication Skills Requirement)	3
DTHY 360	Dental Materials	3
DTHY 361	Expanded Functions	2
DTHY 363	Periodontics 1	1
DTHY 364	Periodontics 2	2
DTHY 366	Technical Expression and Dental Literature	1
DTHY 370	Dental Hygiene Clinical Methods	2
DTHY 372	Clinical Dental Hygiene 1	2
DTHY 374	Clinical Dental Hygiene 2	3
DTHY 378	Dental Hygiene Teaching Methods	2
DTHY 402	Dental Hygiene Ethics and Practice	1
DTHY 405	Advanced Clinical Dental Hygiene 1	4
DTHY 406	Advanced Clinical Dental Hygiene 2	3
DTHY 407	Advanced Dental Hygiene Methods 2	2
DTHY 440	Senior Integration Seminar	1
DTHY 445	Applied Pharmacology	1
DTHY 450	Dental Health Education 2	2
DTHY 451	Dental Health Education 3	2
DTHY 478	Clinical Evaluation	1
DTHY 490	Teaching Practicum	2
DTHY 491	Professional Field Experience	4
DTHY 495	Independent Study	2
Community Service Requirement (Please see advisor)		

Total Hours

132

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
CHEM 111 (GEF 2B)	4 BIOL 102	3
DTHY 101	2 BIOL 104	1
COMM 104 (GEF 5)	3 CHEM 112	4
ENGL 101 (GEF 1)	3 DTHY 100	1
HN&F 171 (GEF 8)	3 NBAN 107	4
Choose one of the following: (GEF 3)	3 PSYC 101 (GEF 4)	3
MATH 126A		
MATH 126B		
MATH 126C		

18

16

Second Year

Fall	Hours Spring	Hours Summer	Hours
DTHY 185	2 DTHY 186	2 DTHY 226	1
DTHY 205	2 DTHY 211	1 PCOL 260 (Web)	3
DTHY 210	2 DTHY 220	2	
NBAN 207	4 DTHY 225	4	
MICB 200	3 ENGL 102 (GEF 1)	3	
PSYC 241 (GEF 8)	3 SOCA 101 (GEF 8)	3	
	NBAN 309	2	

16

17

4

Third Year

Fall	Hours Spring	Hours Summer	Hours
DTHY 350	2 DTHY 300	1 DTHY 491	4
DTHY 360	3 DTHY 351	3	
DTHY 363	1 DTHY 361	2	
DTHY 366	1 DTHY 364	2	
DTHY 370	2 DTHY 374	3	
DTHY 372	2 DTHY 378	2	
PATH 300	3 PATH 302	3	
GEF	3		

17

16

4

Fourth Year

Fall	Hours Spring	Hours
DTHY 402	1 DTHY 406	3
DTHY 405	4 DTHY 407	2
DTHY 440	1 DTHY 451	2
DTHY 445	1 DTHY 490	2
DTHY 450	2 or DTHY Elective	
DTHY 478	1 GEF	3
DTHY 495	2	

12

12

Total credit hours: 132

College of Education and Human Services

Degrees Offered

- Bachelor of Arts in Elementary Education
- Bachelor of Multidisciplinary Studies
- Bachelor of Science in Child Development and Family Studies
- Bachelor of Science in Speech Pathology and Audiology
- Five-Year Integrated Baccalaureate/M.A. in Elementary Education
- Five-Year Integrated Baccalaureate/M.A. in Secondary Education
- Regents Bachelor of Arts

Nature of Programs

The College of Education and Human Services (CEHS) is divided into five academic departments: Counseling, Rehabilitation Counseling, and Counseling Psychology; Curriculum and Instruction/Literacy Studies; Learning Sciences and Human Development; Special Education; and Communication Sciences and Disorders. The college's faculty and staff are located in Allen Hall on the Evansdale campus.

Undergraduate programs in the College of Education and Human Services (CEHS) focus on preparing professionals whose efforts serve the needs of families in schools, homes, clinics, agencies, and other community settings. The college offers undergraduate programs in child development and family studies and in speech-language pathology. The college offers a four-year undergraduate program in elementary education and a multidisciplinary program in human services. CEHS also offers a BMDS undergraduate and master's, five-year teacher preparation program in elementary and science education and the five-year program in secondary education. Students in secondary education who wish to teach English, mathematics, social studies, or world languages earn a baccalaureate degree from the Eberly College of Arts and Sciences in their content area and a master of arts in secondary education from CEHS. All programs integrate liberal studies, coursework in the content area, and clinical experiences in a professional school/setting. CEHS cooperates with other schools and colleges at WVU to prepare teachers in agriculture, art, music, and physical education. The degree programs that prepare students to teach in these areas are housed in the Davis College of Agriculture, Natural Resources, and Design; the College of Creative Arts; and the College of Physical Activity and Sports Sciences.

Other resources in the colleges are: the International Center for Disability Information, the Center for Teaching and Learning Technologies, the Speech and Hearing Clinics, the Center for Democracy and Citizenship Education; the Office of Diversity and Global Initiatives; the Center for Student Advising and Records; the Student Ambassador program, and the Reading Clinic.

Accreditation

West Virginia University is fully accredited for the preparation of teachers by the National Council for the Accreditation of Teacher Education (NCATE, now CAEP), and programs are approved by the West Virginia State Department of Education. The Ed.D. and Ph.D. are the highest degrees approved and offered. Students in elementary and secondary education must meet University requirements for admission, retention, and graduation, and West Virginia Department of Education requirements for teacher certification in West Virginia.

The Child Development and Family Studies Area of Emphasis in Early Childhood Education is fully accredited by the National Association for the Education of Young Children (NAEYC).

Graduation/Certification Requirements

To be eligible for graduation, students must do the following:

- Comply with the general regulations of the University concerning entrance, advanced standing, classification, examination, grades, grade points, testing, and other requirements, policies and procedures listed in the undergraduate and graduate catalogs.
- Complete required courses and other CEHS program requirements.
- Adhere to CEHS general policies and procedures.
- Apply for graduation.

GENERAL REQUIREMENTS FOR PROFESSIONAL CERTIFICATION

Individual candidates must be recommended to the State of West Virginia Department of Education for professional certification by the Certification Officer, Michael Sekula. To be eligible to receive a professional license, the WVU applicant must have done the following:

- Met the minimum State requirements.
- Met the University and college program degree requirements.
- Achieved a grade point average of at least 2.75 on the total of college credits earned and on the hours earned in professional education, and 2.5 in each subject specialization.

- Demonstrated competence in supervised practicum and internship.
- Complied with the West Virginia Board of Education regulations for Teacher Certification.
- Be recommended for certification by the Certification Officer in the College of Education and Human Services..

RECIPROCAL CERTIFICATION AGREEMENTS

West Virginia, at the time of this publication, has reciprocal agreements with most other states for teacher certification. Inquiries about reciprocity should be directed to the Center for Student Advising and Records, 710 Allen Hall.

CALCULATION OF GRADE POINT AVERAGES

The West Virginia State Department of Education system of calculating grade point averages for certification purposes differs in some respects from the WVU system. For certification, all coursework attempted at WVU and at other institutions of collegiate rank will be considered. If a student earns a grade of D, F, or U in any course taken no later than the term when he or she has attempted a total of sixty hours, and the student repeats this course, the second grade earned will be used in determining the grade point average. The first grade will be disregarded.

The teacher education program uses the West Virginia State Department of Education system of calculating grade point averages only for admission to teacher education programs and professional internships, and for assessing teaching field and education averages. Academic performance and eligibility for graduation are assessed by the system used by WVU and other institutions governed by the West Virginia Higher Education Policy Commission.

ADMINISTRATION

DEAN

- Gypsy Denzine - Ph.D.
Dean

ASSOCIATE DEAN FOR ACADEMIC AFFAIRS

- Dale Niederhauser - Ph.D.

ASSOCIATE DEAN FOR RESEARCH AND GRADUATE EDUCATION

- M Cecil Smith - Ph.D.

ASSISTANT DEAN FOR STUDENT SERVICES

- Laura Porter - Ph.D.

Degree Designation Learning Goals

BACHELOR OF ARTS (BA)

Bachelor of Arts (BA) in Teacher Education

A primary mission of both the BA in Elementary Education program and BMDS, as part of the 5 year teacher education program, is to prepare individuals for a changing teaching profession. Teachers influence many facets of education including students, parents, school policies and procedures, curriculum design, instructional materials, and classroom environment. Educational issues must be grounded in current research on best practices and deep reflection on ways to implement them in teaching practice. In response, pre-service teacher candidates develop the following:

- Skills in assessing classroom dynamics and finding solutions to classroom issues from diverse perspectives
- Ability to construct an effective learning environment, in which all children have opportunities to learn
- Knowledge of current, best practices in education
- Ability to reflect on one's own actions and how those actions affect others
- Practice-based research skills that inform the teacher about student learning
- Knowledge of how to incorporate inquiry-informed instructional design into teaching practice

BACHELOR OF SCIENCE (BS)

Bachelor of Science (BS) in Speech Pathology and Audiology

The Bachelor of Science degree program in Speech Pathology and Audiology develops and integrates

- Knowledge and skills of central principles, practices, facts, concepts, theories, and tools within discipline of Communication Sciences and Disorders
- Skills in communication in a variety of modalities including writing, speaking, reading, listening, and viewing
- Practice in analyzing problems, proposing alternatives, drawing inferences, developing imaginative approaches, constructing predictions, and making reasoned decisions using appropriate information resources and analytical tools
- Application of scientific and statistical principles to problem solving

- Opportunities for defining relationships between the student's degree program and future professional goals

BACHELOR OF SCIENCE (BS)

Bachelor of Science (BS) in Child Development and Family Studies

The BS degree in Child Development and Family Studies offers two curriculum options: birth through pre-kindergarten and family and youth.

Students in the birth through pre-kindergarten option of Child Development and Family Studies will acquire:

- Knowledge of the social, emotional, intellectual, and physical development of young children in the family and preschool contexts.
- Skills in implementing appropriate curricula as well as developmental and performance assessments.
- Ability to construct positive and enriched early childhood environments where the young have the opportunity to develop skills for lifelong learning.
- Knowledge of current best practices that prepare young children to be competent, independent learners.
- Ability to reflect on one's knowledge and skills of teaching and interacting with young children.
- Knowledge of how young children learn in order to prepare educational activities in inclusive environments.
- Extensive field experiences with various ages of young children--infants, toddlers and preschoolers and young school age.

Students in the family and youth option of Child Development and Family Studies will acquire:

- Knowledge in human growth and development, adolescent development, human sexuality, family issues and interaction, youth concerns and issues, and related topics.
- Understanding of the various social contextual influences on adolescent development and family functioning and the interactive relationships between families and other societal institutions such as schools.
- Various strategies for working with adolescents and families in various social service and community-based context.
- Hands-on experience working with children, adolescents, and/or families at community agencies.
- Awareness of the multiple career paths for students in this area of study along with options and opportunities for graduate studies.

BACHELOR OF MULTIDISCIPLINARY STUDIES (BMDS)

The Bachelor of Multidisciplinary Studies in Human Services/Education degree integrates the following:

- Knowledge of and aptitude with principles, practices, facts, concepts, theories and tools in three minor areas of concentration, two of which must be from CEHS
- Breadth of knowledge and cross-disciplinary communication
- Flexibility and problem solving.
- Analysis of problems from divergent perspectives.
- Application of multidisciplinary techniques to communicate the strengths of their self-chosen course of study.C
- Practices derived from specialized knowledge in individual disciplines to analyze problems from divergent perspectives, recognize ambiguities, propose alternatives, draw inferences, develop imaginative approaches, construct predictions, and make reasoned decisions using appropriate information resources and analytical tools
- Multidisciplinary techniques fostering students' ability to communicate strengths of their self-chosen course of study
- Opportunities for defining relationships between the student's degree program and post-baccalaureate goals

Admission

Admission, curriculum, and degree requirements of the various degree programs of the College of Education and Human Services are provided in each program section in this catalog. It is the responsibility of the student to take steps to insure that he or she is properly informed of the degree requirements and/or the certification standards being sought. Since certification requirements are changed periodically by the West Virginia Department of Education, the fulfillment of certification requirements as presented in this catalog cannot guarantee compliance with the most recent requirements. Students are, therefore, encouraged to seek the counsel of members of the faculty, their advisors, and the college certification officer on matters pertaining to degree and certification requirements.

College of Human Resources and Education offers seven minors:

- Child Development and Family Studies (p. 626)
- Disability Studies (p. 626)
- Early Intervention (p. 626)
- Family and Youth (p. 627)
- Human Services (p. 627)
- Infant and Toddler (p. 627)

- Special Education (p. 628)

CHILD DEVELOPMENT AND FAMILY STUDIES

A cumulative college GPA of at least 2.5 is required for admission to the minor. CDFS minors take their courses online through Extended Learning. Minors in CDFS must earn grades of C or better in all courses with the CDFS course designator.

MINOR CODE - U081

CDFS 110	Families Across the Life Span	3
Select two of the following:		6
CDFS 210	Introduction to Parenting	
CDFS 211	Infant Development	
CDFS 212	Early Childhood Development	
Select three of the following:		9
CDFS 316	Child Development Practicum	
CDFS 412	Adolescent Development	
CDFS 413	Contemporary Issues in Family Relations	
CDFS 414	Adolescent Problems and Disorders	
CDFS 415	Family Interaction and Communication	
CDFS 421	Child Care Center Administration	
CDFS 422	Business of Child Care	
CDFS 430	Best Practices in Pre-K Movement	
Total Hours		18

DISABILITY STUDIES MINOR

MINOR CODE - U093

A cumulative GPA of 2.5 with no grade below a C- in all minor coursework is required to earn this minor.

DISB 304	Special Education in Contemporary Society (B- or better) *	3
DISB 380	Disability and the Family (B- or better) **	3
DISB 381	Lifespan Disability Policy (B- or better)	3
DISB 385	Disability and Society (B- or better)	3
DISB 482	Disability in the Community (C- or better)	2
DISB 486	Capstone Portfolio: Disability (C- or better)	1
Total Hours		15

* SPED 304 may be substituted for DISB 304; SPED 304 has been approved to satisfy WVU General Education Foundation area 4.

** DISB 380 and DISB 385 have been approved to satisfy WVU General Education Foundation area 7.

Special Notes: For additional information about the minor, contact the Program Coordinator at (304) 293-7143 or sped@mail.wvu.edu

EARLY INTERVENTION MINOR

MINOR CODE - U127

To qualify for a minor in early intervention, a student must have earned a minimum GPA of 2.5 across all minor courses with no grade less than C- in any required course.

SPED 311	Developmental Assessment for Young Children with Special Needs	3
SPED 312	Differentiated Instruction for Young Children	3
SPED 315	Home-Based Programs Early Intervention	3
SPED 317	Technology for Young Children with/without Special Needs	3
SPED 491	Professional Field Experience *	3
Total Hours		15

*Students must complete at least 3 content courses prior to enrolling in SPED 491 (3 credits focused on older children and adults)

For additional information about the minor, contact the Program Coordinator at (304) 293-7143 or sped@mail.wvu.edu.

FAMILY AND YOUTH MINOR

MINOR CODE - U103

CDFS 110	Families Across the Life Span	3
CDFS 112	Introduction to Marriage and Family	3
Select one from the following:		
CDFS 210	Introduction to Parenting	3
CDFS 212	Early Childhood Development	3
Select three from the following:		
CDFS 412	Adolescent Development	3
CDFS 413	Contemporary Issues in Family Relations	3
CDFS 414	Adolescent Problems and Disorders	3
CDFS 415	Family Interaction and Communication	3
Total Hours		18

HUMAN SERVICES MINOR

MINOR CODE - U112

People employed in human services agencies are there to help improve the lives of the people they serve. A minor in human services meets the increasing need of public and private sector employers for paraprofessionals. Students who complete a minor in human services may be employed through public agencies, hospitals, government-sponsored housing or clinics, and some criminal justice offices. These jobs can be both personally and professionally rewarding. There are many opportunities for people to gain experience that can lead to graduate education and certification and licensure in counseling and other helping professions.

The fifteen credit hour online program of study for the undergraduate minor will focus on an overview of the human service profession, multiculturalism and diversity, communication skills, career preparation and introductory helping skills. Graduates will be prepared to work in social services, mental health and substance abuse agencies as entry level counselor aides, or in other related paraprofessional positions under the guidance of counselors, psychologists, nurses and social workers.

The minor is designed to develop better interpersonal and intergroup skills. While primarily regarded as a study of organizational, workplace behaviors, the human services field is emerging as a broader study of sociological and emotional motivation.

COUN 303	Introduction to Helping Professions	3
COUN 400	Diversity and Human Relations	3
COUN 405	Career and Lifespan Development	3
COUN 410	Interpersonal Communication Skills	3
COUN 415	Human Services Capstone Experience	3

* Special Notes: To qualify for a minor in human services, a student must have earned a minimum grade of C or better in each of the above required courses. For additional information about the minor, contact Regina Burgess at (304) 293-2186 or Regina.Burgess@mail.wvu.edu.

Total Hours 15

INFANT AND TODDLER MINOR

MINOR CODE - U102

CDFS 110	Families Across the Life Span	3
CDFS 211	Infant Development	4
Select four from the following:		
CDFS 210	Introduction to Parenting	3
CDFS 421	Child Care Center Administration	3
CDFS 430	Best Practices in Pre-K Movement	3
CDFS 431	Infant Toddler Language and Literacy	3
CDFS 432	Early Socio-Emotional Growth	3
CDFS 491A	Professional Field Experience	3
Total Hours		19

SPECIAL EDUCATION MINOR**MINOR CODE - U128**

To qualify for a minor in special education, a student must have earned a minimum GPA of 2.5 across all minor courses with no grade less than C- in any required course.

SPED 304	Special Education in Contemporary Society *	3
SPED 360	Differentiation of Instruction for Students with Special Needs	3
SPED 365	Technology and Universal Design for Learning	3
SPED 366	Transition Planning	3
SPED 491	Professional Field Experience **	3
Total Hours		15

* SPED 304 is approved to satisfy WVU General Education Foundation area 4.

** Students must complete at least 3 content courses prior to enrolling in SPED 491 (3 credits focused on older children and adults)

For additional information about the minor, contact the Program Coordinator at (304) 293-7143 or sped@mail.wvu.edu.

Department of Communication Sciences and Disorders**Degree Offered**

- Bachelor of Science in Speech Pathology and Audiology

The undergraduate program in Speech Pathology and Audiology is committed to the preparation of students interested in understanding the foundations of communication for typical and disordered speech, language and hearing across the lifespan. Leading to the Bachelor of Science (B.S.) degree, this undergraduate program emphasizes education in liberal studies; anatomy and physiology of the speech and hearing mechanisms; development of speech and language skills; awareness of cultural diversity and its relationship to communication; phonetics; and a broad introduction to communication sciences and disorders.

Undergraduates with a B.S. in Speech Pathology and Audiology can work to pursue graduate school in speech-language pathology, audiology, public health care, public policy, education, and special education. Other options after the B.S. program include jobs as speech-language pathology or audiology assistants, hearing aid sales, communications, public affairs and policy, and other health-related jobs. The demand for certified practitioners is continually increasing; consequently, job prospects remain very good. The undergraduate program and subsequent options in graduate study enable graduates to seek employment in a variety of settings and work with individuals of all ages as well as to pursue academic and research careers in the discipline of communication sciences and disorders.

FACULTY**CHAIR**

- Jayne M. Brandel - Ph.D. (University of Kansas)

PROFESSORS

- Carolyn Peluso Atkins - Ed.D. (West Virginia University)
Speech-language pathology, Speech improvement, Public speaking, Effective communication
- Mary Ellen Tekieli Koay - Ph.D. (University of Oklahoma)
Speech-language pathology, Neurophysiology, Neuropathologies
- Norman J. Lass - Ph.D. (Purdue University)
Speech and hearing science
- Vishakha W. Rawool - Ph.D. (Purdue University)
Audiology, Auditory electrophysiology, Otoacoustic emissions, Auditory processing disorders, Noise-induced hearing loss
- Dennis M. Ruscello - Ph.D. (University of Arizona)
Speech-language pathology, Language, Articulation, Cleft Palate-Craniofacial disorders, Clinical supervision
- Kenneth O. St. Louis - Ph.D. (University of Minnesota)
Speech-language pathology, Fluency disorders

ASSOCIATE PROFESSOR

- Jayne M. Brandel - Ph.D. (University of Kansas)
Speech-language pathology, Child language development and disorders

TEACHING ASSOCIATE PROFESSORS

- Karen B. Haines - M.S. (West Virginia University)
Speech-language pathology, Augmentative and alternative communication, Clinical supervision
- Gayle B. Neldon - Ed.D. (West Virginia University)
Audiology, Amplification, Clinical supervision

ASSISTANT PROFESSORS

- Jeremy J. Donai - Ph.D. (Texas Tech University)
Audiology, Psychoacoustics, Amplification, Hearing aids
- Derek Headley - Ph.D. (Florida State University)
Speech-language pathology; Adult Swallowing and Swallowing Disorders; Adult Neurogenic Cognitive and Communication Disorders; Motor Speech; Voice
- Kimberly M. Meigh - Ph.D. (University of Pittsburgh)
Speech-language pathology; Motor speech disorders, Motor learning, Diagnostics, Adult neurogenic communication disorders
- Michelle W. Moore - Ph.D. (University of Pittsburgh)
Speech-language pathology, Child language disorders, Literacy, Phonological disorders

TEACHING ASSISTANT PROFESSOR

- Ashleigh J. Callahan - Ph.D. (James Madison University)
Audiology, Vestibular evaluation/rehabilitation, Hearing conservation

CLINICAL INSTRUCTOR

- Leslie C. Graebe - M.S. (West Virginia University)
Speech-language pathology, Clinical practice, Clinical supervision

TEACHING INSTRUCTOR

- Janet J. Petite - M.S. (West Virginia University)
Audiology, Hearing aids, Clinical supervision

PROFESSOR EMERITUS

- Charles M. Woodford - Ph.D.

ASSOCIATE PROFESSOR EMERITUS

- Conrad Lundeen - Ph.D.

ASSISTANT PROFESSORS EMERITAE

- Lynn R. Cartwright - Ed.D.
- Cheryl L. Prichard - Ed.D.

Pre-Speech Pathology and Audiology

ADMISSION

Normally, students are first admitted to the pre-Speech Pathology and Audiology (Pre-SPA) program of study and matriculate as such during their freshman and sophomore years. Pre-SPA students are advised in the College of Education and Human Services within the Office of Student Services. To qualify for Pre-SPA admission, incoming freshmen must present an overall high school GPA of 3.0 or higher, 1050 or higher on the SAT, or 23 on the ACT.

Students who transfer into pre-SPA during the freshman or sophomore year from either another major at WVU or from another university must present a grade point average of 3.0 for all undergraduate coursework taken prior to the time of transfer.

REQUIREMENTS

Students are considered pre-SPA until they have met the requirements specified below and have applied and been accepted into the SPA degree program. The following are the minimum requirements for all Pre-SPA students applying for the SPA major:

1. Completion of at least fifty-eight academic hours, including a letter grade of C or better in each of the following courses:
 - ENGL 101 & 102 (or equivalent ENGL 103)
 - LING 101
 - MATH 126 (or higher)
 - STAT 211 (or ECON 225)
 - PSYC 101
 - BIOL 101 & 103 (or BIOL 102 & 104)

- *Physical Science* (Physics, Physical Science or Chemistry course)
 - *Human Inquiry & The Past* (GEF 5 (<http://registrar.wvu.edu/gef>))
2. Successful completion of CSAD 199, Orientation to Speech Pathology and Audiology (for students declaring Pre-SPA as an incoming freshman);
 3. A letter grade of 'B' or better in CSAD 200, Introduction to Communication Disorders;
 4. A letter grade of 'B' or better in CSAD 222, Phonetics and Phonology;
 5. A letter grade of 'B' or better in CSAD 234, Anatomy and Physiology of the Speech and Hearing Mechanism;
 6. A letter grade of 'B' or better in CSAD 236, Language Science;
 7. A letter grade of 'B' or better in CSAD 270, Effective Public Speaking;
 8. A score of 80% or higher on the SPA Qualifying Examination (administered in CSAD 200); and
 9. An overall GPA of at least 3.00 (A=4.0).

These requirements are subject to change. Interested students should contact the Department of Communication Sciences and Disorders or <http://csd.wvu.edu> for information on current requirements.

B.S. Degree Program in Speech Pathology and Audiology

ADMISSION

After completing all pre-SPA requirements listed above, a student must apply for admission to the degree program by completing an online application form accessed at <http://csd.wvu.edu/undergrad/pre-spa>. It is the student's responsibility to complete and submit online to the Department of Communication Sciences and Disorders online between the deadline dates of February 15 and March 1. *No applications will be accepted after March 1.*

After the application has been reviewed and verified, the student will receive a letter summarizing the department's admission decision. Students will be ranked according to their overall GPA for all undergraduate coursework. Students who are not admitted should consult their advisor to plan their next steps.

Following admission to the degree program, the student must continue to meet GPA standards set by the department in order to continue in the program and graduate with a degree in speech pathology and audiology.

[Click here to view the Suggested Plan of Study \(p. 633\)](#)

Speech Pathology and Audiology

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

DEPARTMENTAL REQUIREMENTS

A minimum grade of C- is required for all courses counting toward the major, except where noted. A minimum cumulative GPA of 3.0 is required. A minimum score of 80% on the CSD Qualifying Examination (administered in CSAD 200) is required.

A minimum grade of C- is required for GEF courses, except where noted.

GEF Requirements 5, 6 & 7		9
CSAD 199	Orientation to Speech Pathology and Audiology	1
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research (GEF 1)	6
Select one of the following (GEF 2):		4
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory	
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory	
BIOL 115	Principles of Biology	
Select one of the following (GEF 3):		3
STAT 211	Elementary Statistical Inference	
ECON 225	Elementary Business and Economics Statistics	
PSYC 101	Introduction to Psychology (GEF 4)	3
CS 101	Intro to Computer Applications (GEF 8)	4
CSAD 270	Effective Public Speaking (GEF 8)	3
LING 101	Introduction to Language (GEF 8)	3
MATH 126 College Algebra or higher (prerequisite for STAT 211 or ECON 225)		3
Chemistry or Physics (select one of the following):		3
PHSC 102	Introductory Physical Science 2	
PHYS 101	Introductory Physics	
PHYS 102	Introductory Physics	
PHYS 105	Conceptual Physics	
PHYS 108	Light, Vision and Color	
PHYS 111	General Physics	
PHYS 112	General Physics	
CHEM 111	Survey of Chemistry	
CHEM 112	Survey of Chemistry	
CHEM 115	Fundamentals of Chemistry	
CHEM 116	Fundamentals of Chemistry	
CHEM 117	Principles of Chemistry	
CHEM 118	Principles of Chemistry	
Normal Human Development (select two from the following):		6
CDFS 110	Families Across the Life Span	
CDFS 210	Introduction to Parenting	
CDFS 211	Infant Development	
CDFS 212	Early Childhood Development	
CDFS 412	Adolescent Development	
CDFS 413	Contemporary Issues in Family Relations	
CDFS 414	Adolescent Problems and Disorders	
CDFS 415	Family Interaction and Communication	
CDFS 430	Best Practices in Pre-K Movement	
COUN 303	Introduction to Helping Professions	
LING 411	Phonology	
LING 412	Syntax	
OTH 201	Medical Terminology for Occupational Therapy	
PSYC 241	Introduction to Human Development	
PSYC 332	Multiculturalism in Psychology	
PSYC 342	Prenatal and Infant Development	
PSYC 343	Child and Adolescent Development	
PSYC 345	Adulthood and Aging	

SOCA 101	Introduction to Sociology	
SOCA 221	Families and Society	
SOCA 223	Death and Dying	
SOWK 330	Human Behavior in the Social Environment 1	
SOWK 350	Human Behavior in the Social Environment 2	
Abnormal Human Development (select one of the following):		3
CHPR 170	Health of the Individual	
CHPR 172	First Aid and Emergency Care	
COMM 308	Nonverbal Communication	
COMM 317	Communication and Aging	
DISB 380	Disability and the Family	
DISB 385	Disability and Society	
PHIL 331	Health Care Ethics	
PSYC 202	Research Methods in Psychology	
PSYC 232	Sex Roles and Behavior	
PSYC 251	Introduction to Social Psychology	
PSYC 281	Introduction to Abnormal Psychology	
PSYC 302	Behavior Principles	
PSYC 351	Topics in Social Psychology	
PSYC 364	Psychology of Adjustment	
PSYC 382	Exceptional Children	
PSYC 423	Cognition and Memory	
PSYC 424	Learning and Behavior Theory	
PSYC 425	Perception	
PSYC 474	Applied Behavior Analysis	
SOWK 147	Human Diversity	
SOWK 151	Introduction to Social Work	
SOWK 300	Social Welfare Policy and Services 1	
SOCA 360	Women and Men in Society	
SPED 304	Special Education in Contemporary Society	
Major Area Courses		
CSAD 200	Introduction to Communication Disorders	3
CSAD 222	Phonetics and Phonology	3
CSAD 234	Anatomy and Physiology of Speech and Hearing	4
CSAD 236	Language Science	3
CSAD 320	Speech Science	3
CSAD 336	Language Acquisition 1	3
CSAD 340	Hearing Science	3
CSAD 426	Introduction to Speech Disorders	3
CSAD 442	Aural Rehabilitation	3
CSAD 342	Introduction To Audiology	3
CSAD 485	Professional Applications in Communication Sciences and Disorders	3
or CSAD 496	Senior Thesis	
Content/Practica Electives		9
CSAD 274	Manual Communication	
CSAD 276	Intermed Manual Communication	
CSAD 280	Communication Disorder in Film	
CSAD 424	Language Disorders	
CSAD 436	Language Acquisition 2	
CSAD 440	Audiological Assessment	
CSAD 480	Speech and Language Assisting	
CSAD 482	Speech and Language Practicum	

CSAD 483	Audiology Practicum	
Electives		26
Total Hours		120

Students must complete minimum requirements.

SENIOR CAPSTONE

All students in the B.S. in Communication Sciences and Disorders program must complete a capstone experience before graduation. Majors will engage in a variety of written, oral, and analytical activities related to the field and will develop an oral/PowerPoint presentation which will be graded by faculty members.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
CSAD 199	1 CSAD 200	3
ENGL 101 (GEF 1)	3 LING 101 (GEF 8)	3
MATH 126A (or higher)	3 CS 101 (GEF 8)	4
PSYC 101 (GEF 4)	3 GEF 6	3
BIOL Requirement (GEF 2)	4 Normal Human Development 2	3
Normal Human Development 1	3	
	17	16

Second Year

Fall	Hours Spring	Hours
CSAD 270 (GEF 8)	3 CSAD 234	4
CSAD 236	3 CSAD 222	3
STAT 211 or ECON 225 (GEF 3)	3 Abnormal Human Development	3
ENGL 102 (GEF 1)	3 GEF 5	3
CHEM, PHYS, or PHY SCI	3 GEF 7	3
	15	16

Third Year

Fall	Hours Spring	Hours
CSAD 320	3 CSAD 336	3
CSAD 342	3 CSAD 340	3
Elective	3 Elective	3
Elective	3 Elective	3
Elective	3 Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
CSAD 426	3 CSAD 442	3
CSAD 485	3 Elective	3
Elective	3 Elective	3
Elective	3 Elective	3
Elective	2	
	14	12

Total credit hours: 120

Major Learning Goals

SPEECH PATHOLOGY AND AUDIOLOGY

The Department of Communication Sciences and Disorders is committed to the preparation of students interested in graduate study and eventual careers as a speech-language pathologist, audiologist, or as a researcher/teacher-scholar within the discipline of communication sciences and disorders. To those ends, the program has established the following learning goals, which are linked to the department's mission:

- Prepare students for subsequent graduate study in audiology, speech-language pathology, or communication sciences and disorders.
- Provide broad knowledge relating to theory and practice within the discipline of communication sciences and disorders.
- Provide learning and outreach opportunities to support students' interests in diverse populations and cultures.
- Develop communication skills, phonetic transcription skills, and awareness of cultural diversity and its relationship to communication.

Department of Curriculum and Instruction

Program Description

The Department of Curriculum & Instruction/Literacy Studies offers opportunities for undergraduate study, leading to a degree in Elementary Education. In addition, our program is designed for educators and other professionals with educational leadership responsibilities. The program will provide increased knowledge, skills, research, and professional competencies for licenses related to Elementary Education. Faculty in our department work with national accreditation standards for this program, and contribute to the profession at university, state, and national levels of professional involvement. The experiences available through our program involve exploration of technology, diversity, global initiatives, and culturally responsive teaching, facilitated by faculty who are leaders in research, teaching, and service.

ELEMENTARY EDUCATION (K-6):

- Four-Year BA in Elementary Education - <http://cils.wvu.edu/elementary-ed>

THE FIVE-YEAR PROGRAM IS NO LONGER AVAILABLE FOR STUDENTS (INCOMING FALL 2017 AND BEYOND). YOU ARE ENCOURAGED TO PURSUE THE 4-YEAR, BA IN ELEMENTARY EDUCATION PROGRAM. PLEASE VISIT OUR WEB SITE <HTTP://CILS.WVU.EDU/ELEMENTARY-ED>.

SECONDARY EDUCATION (5-ADULT):

- **Five Year** BA or BMDS/ MA in Secondary Education

THE FIVE-YEAR PROGRAM IS NO LONGER AVAILABLE FOR STUDENTS (INCOMING FALL 2017 AND BEYOND). YOU ARE ENCOURAGED TO PURSUE WVUTEACH (FOR SECONDARY MATH AND SCIENCE). <HTTP://WVUTEACH.WVU.EDU/>

General Requirements for Professional Certification

Individual candidates apply for professional certification. To teach in the public schools of West Virginia, one must hold a professional teaching license issued by the West Virginia Department of Education. Individual candidates must be recommended by the Certification Officer in CEHS, Michael Sekula, to the State of West Virginia for a professional teaching license. To be eligible to be recommended to the State, students must do the following:

- Meet the minimum State requirements
- Meet the University degree requirements
- Successfully complete program coursework
- Achieve a grade point average of at least 2.75 on the total of college credits earned, on the hours earned in professional education, and 2.5 in each subject specialization.
- Demonstrate competence in supervised practicum and internship.
- Comply with the West Virginia Board of Education regulations for teacher certification.
- Be recommended for certification by the dean of the College of Education and Human Services.

Reciprocal Certification Agreements

West Virginia, at the time of this publication, has reciprocal agreements with certain other states for teacher certification. Inquiries about reciprocity should be directed to the Office of Student Success, 710 Allen Hall. <http://cehs.wvu.edu/advising>

Calculation of Grade Point Averages

The West Virginia State Department of Education system of calculating grade point averages for certification purposes differs in some respects from the WVU system. For certification, all coursework attempted at WVU and at other institutions of collegiate rank will be considered. If a student earns a grade of D, F, or U in any course taken no later than the term when he or she has attempted a total of sixty hours, and the student repeats this course, the second grade earned will be used in determining the grade point average. The first grade will be disregarded.

The teacher education program uses the West Virginia State Department of Education system of calculating grade point averages only for admission to teacher education programs and professional internships, and for assessing teaching field and education averages. Academic performance and eligibility for graduation are assessed by the system used by WVU and other institutions governed by the West Virginia Higher Education Policy Commission.

FACULTY

CHAIR

- Samuel F. Stack, Jr. - Ph.D. (University of South Carolina)
Social Foundations of Education

PROFESSORS

- Helen Hazi - Ph.D. (University of Pittsburgh)
Educational Leadership Studies, Public Education Administration
- Dale S. Niederhauser - Ph.D. (University of Utah)
Foundations of Education, Educational Technology, Elementary Education: Early Childhood
- James Rye - Ph.D. (Pennsylvania State University)
Science Concept Learning: Science/Technology/Society Education, Human Nutrition and Health Education

ASSOCIATE PROFESSORS

- Johnna J. Bolyard - Ph.D. (George Mason University)
Mathematics Education, Mathematics Teacher Development, Use of Representation in Mathematics Teaching
- Jeffrey Carver - Ed.D. (Illinois State University)
Science Education, Organic Chemistry, Physics
- Allison Swan Dagen - Ph.D. (University of Pittsburgh)
Instructional and Learning Reading
- Sharon Hayes - Ph.D. (University of Florida)
Elementary Education, Action Research, Professional Development & Literacy
- Aimee L. Morewood - Ph.D. (University of Pittsburgh)
Reading Education, Professional Development, Effective Teaching Strategies
- Charline J. Barnes Rowland - Ed.D. (Virginia Polytechnic Institute and State University)
Literacy Education, Teacher Education
- Sarah Selmer - Ed.D. (West Virginia University)
Mathematics Education
- Robert A. Waterson - Ph.D. (Purdue University)
Social Studies History, Democracy and Citizenship Education, Multicultural Education

ASSISTANT PROFESSORS

- Malayna Bernstein - Ph.D. (Northwestern University)
English Education
- Mathew P. Campbell - Ph.D. (Oregon State University)
Mathematics Education
- Rodney Hughes - Ph.D. (Pennsylvania State University)
Higher Education and Economics
- Denise Lindstrom - Ph.D. (Iowa State University)
Technology and Teacher Education, New Literacies Studies, Digital Media
- Melissa Luna - Ph.D. (Northwestern University)
Learning Sciences, Environmental Education, Science Education, Elementary Education
- Melissa Sherfinski - Ph.D. (University of Wisconsin-Madison)
Curriculum Theory and Research, Research Methodology
- Audra Slocum - Ph.D. (Ohio State University)
Appalachian Education, Multicultural Teacher Education, Adolescent Literacies
- Erin McHenry Sorber - Ph.D. (Pennsylvania State University)
Educational Policy Studies, Administrative, Planning, and Social Policy
- Nathan Sorber - Ph.D. (Pennsylvania State University)
Higher Education
- Keri D. Valentine - Ph.D. (University of Georgia)
STEM Education (Mathematics), Learning, Design, & Technology, Science Education

TEACHING ASSOCIATE PROFESSOR

- Ashley Dawn Atkins Martucci - Ed.D. (West Virginia University)
Early Childhood Education, Child Development

CLINICAL ASSOCIATE PROFESSOR

- Stephanie Morris Lorenze - Ed.D. (West Virginia University)
Secondary Education

TEACHING ASSISTANT PROFESSORS

- Heiko Everwien ter Haseborg - Ph.D. (West Virginia University)
Curriculum, Literacy, & Cultural Studies, Secondary Education, Foreign Languages
- Beth B. Satterfield - M.S. (West Virginia University)
Early Childhood Education, Child Development

CLINICAL ASSOCIATE INSTRUCTOR

- Sylvia Berryhill - M.A. (Pennsylvania State University)
Principal Certification, Reading Specialist

PROFESSORS EMERITI

- John L. Carline - Ph.D.
- Boyd D. Holtan - Ed.D.
- Ronald V. Iannone - Ed.D.
- C. Kenneth Murray - Ph.D.
- Patricia K. Smith - Ed.D.

ASSOCIATE PROFESSORS EMERITI

- Ardeth M. Deay - Ph.D.
- Perry D. Phillips - Ed.D.

ASSISTANT PROFESSORS EMERITI

- Jane S. Cardi - Ed.D.
- Michael A. Caruso - M.A.
- Barbara Mertins - M.S.L.S.

Admission to Pre-Education

Program Description

High school students interested in teaching careers should seek admission to the pre-education program when applying to the University. Students may also seek admission to pre-education at any point between entry and successful completion of 59 hours of approved University coursework. To be admitted to pre-education, a student must have an ACT score of 22, an SAT math and verbal combined score of 1030, or a high school GPA of 3.0. Students transferring into teacher education must also have an acceptable University GPA. Since formal admission into teacher education cannot occur until 59 hours have been completed, those students admitted to education are designated pre-education students; the general admission requirements for teacher education are described below.

Admission Process

Applications for admission to teacher education are accepted and reviewed in the spring semester. Students are normally admitted to teacher education in the fourth semester. The credentials of qualified pre-education students from WVU and WVU Potomac State College will be reviewed by the Admissions Committee, and students are admitted to the specialization of their choice in order of decreasing portfolio scores until the specialization reaches its capacity. If space is not available in the preferred specialization, students may elect to be considered for another specialization or compete for admission in the following year. Minority students may be given special consideration for admission to the major.

Remediation Options

Students who do not meet the skill-proficiency requirements listed under General Requirements for Admission may avail themselves of the numerous remediation options on campus, including the Reading and Study Skills Laboratory and the Teaching and Learning Technologies Center.

Work Taken at Other Institutions

Required professional education courses must ordinarily be taken at WVU. Students who wish to take required courses at other NCATE accredited institutions must have their courses approved by the department chairperson before registering at another institution.

Admission Process

Students interested in pursuing a teaching certification in **Elementary Education**, may apply online or download the application at <http://cils.wvu.edu/4yrba>. Students must first be accepted to West Virginia University before completing the application to the BA program. If you have not already done so, please fill out the West Virginia University Admissions Application which may be found at <http://apply.wvu.edu/applyNow>.

Students interested in pursuing a teaching certification in **Secondary Education Math and Science** should check out **WVUTeach** <http://wvuteach.wvu.edu/>.

4-Year Elementary Education

BA Elementary Education Program Description

The BA in Elementary Education program is a traditional, 4 year program on-campus at West Virginia University that prepares students to earn a teaching certification in multi-subjects grades K-6 upon graduation. As part of the program, students complete work in local, public school placements for 4 semesters before the final, student teaching semester. This field and clinical experience totals over 600 hours in the classroom. The BA in Elementary Education program values the learning that happens not only in the WVU classrooms, but also in the application of these lessons in the field. This is why students graduate with hundreds of hours of practice and experience teaching.

In addition to an emphasis on experience in local schools, the BA in Elementary Education program is committed to high academic standards at the state and national levels. Program faculty work with national accreditation standards and contribute to the profession at university, state, and national levels. This work involves exploration of technology, diversity, global initiatives, and culturally responsive teaching, facilitated by faculty who are leaders in research, teaching, and service.

The BA in Elementary Education program also allows the space for students to find their individual areas of interest, for which many pursue a Master's degree. Students in the BA in Elementary Education program can begin working as a classroom teacher after graduation while simultaneously earning their graduate degree. Many of our Master's degrees are offered online, like Special Education, Literacy Education, School Counseling, Advanced Elementary Education, and more.

Bachelor of Arts in Elementary Education Program

Program Description

High school and other students interested in a career in elementary education can apply and be directly admitted to the BA Elementary Education program. As part of this program, students complete course work that makes them eligible for West Virginia teacher certification, multi-subjects grades K-6. By the time students graduate, they will have spent over 600 hours in the field.

Admission Requirements:

DIRECT ADMISSION: INCOMING FRESHMEN

3.0 GPA (High school)

AND

26 ACT

OR

SAT Math and Critical Reading total of 1170 (pre-March 2016 test sitting)

OR

SAT Evidence Based Reading/Writing and Math Section 1240 (post-March 2016 test sitting)

OR

Passing scores on all three sections of the Praxis CORE test.

More information about the Praxis CORE can be found at <https://www.ets.org/praxis/about/core/>. Any student seeking teacher licensure is required to take this test.

PRE-ELEMENTARY EDUCATION ADMISSION: INCOMING FRESHMEN

If you do not meet the direct admission requirements, above, you can begin applicable course work as a Pre-Elementary Education student, if you meet the following requirements:

2.75 GPA (High School)

AND

22 ACT

OR

SAT Math and Critical Reading total of 1040 (pre-March 2016 test sitting)

OR

SAT Evidence based Reading/Writing and Math Section 1110 (post-March 2016 test sitting)

Once admitted as a Pre-Elementary Education student, successful completion of the following will allow the student to advance into the Bachelor of Arts in Elementary Education program.

- Pass the EDUC 100 course with a grade of "B" or better; and
- Cumulative WVU GPA of 2.75; and
- Pass all three sections (Reading, Writing, Math) of Praxis CORE by April 1 of Freshman year.

ADMISSION REQUIREMENTS: TRANSFER STUDENTS

This population includes transfers from outside of WVU as well as major transfers from within WVU.

2.75 GPA (Undergraduate)

AND

26 ACT

OR

SAT Math and Critical Reading total of 1170 (pre-March 2016 test sitting)

OR

SAT Evidence Based Reading/Writing and Math Section 1240 (post-March 2016 test sitting)

OR

Passing scores on all three sections of the Praxis CORE test.

Existing undergraduate students (transfer students) may apply to the program by a) completing the [program application](#) or b) submitting a Departmental Decision Form to the program coordinator through the Office of Admissions. Applications submitted by transfer students will be reviewed twice annually (see deadlines above). These students will be admitted based on admission criteria as well as available spaces in the program.

Admission Process

Students may apply online or download the application at <http://cils.wvu.edu/4yrba>. Students must first be accepted to West Virginia University before completing the application to the BA program. If you have not already done so, please fill out the West Virginia University Admissions Application which may be found at <http://apply.wvu.edu/applyNow>.

APPLICATION DEADLINES

Incoming freshmen are welcome to apply at any time prior to their first semester at WVU.

For existing undergraduate students (including transfers), program applications will be reviewed twice annually.

April 1 – Application deadline for admission into Fall semester.

November 1 – Application deadline for admission into Spring Semester.

Program Coordinator for the BA Elementary Education

The Coordinator for the BA Elementary Education program, Dr. Stephanie Lorenze, oversees all matters related to the implementation of the program both at West Virginia University and with the P-12 public school partners. Dr. Stephanie Lorenze, 606G Allen Hall, 293-6723, stephanie.lorenze@mail.wvu.edu

Advisers for the program are: Beth Lefevre, BGLefevre@mail.wvu.edu, 304-293-2162 and Allyson Pierce, sapierce@mail.wvu.edu (lauren.stein@mail.wvu.edu), 304 293-2705.

[Click here to view the Suggested Plan of Study \(p. 640\)](#)

BA in Elementary Education

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (http://registrar.wvu.edu/current_students/general_education_curriculum)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Curriculum Requirements

UNIVERSITY REQUIREMENTS

WVUE 191	First Year Seminar	1
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GENERAL EDUCATION FOUNDATIONS CURRICULUM REQUIREMENTS

Choose one of the following (GEF 1):		6
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ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research
ENGL 103	Accelerated Academic Writing

GEF 2B Science & Technology (choose one of the following biology courses with laboratory):		4
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BIOL 101 & BIOL 103	General Biology and General Biology Laboratory
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory
BIOL 105 & BIOL 106	Environmental Biology and Environmental Biology Laboratory

Choose one of the following (GEF 3):		3
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MATH 126A	College Algebra 5-Day
MATH 126B	College Algebra 4-Day
MATH 126C	College Algebra 3-Day

PSYC 101	Introduction to Psychology (GEF 4)	3
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Choose one of the following (GEF 5):		3
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HIST 152	Growth of the American Nation to 1865
HIST 153	Making of Modern America: 1865 to the Present

GEF 6 ENGL course in World Literature		3
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Choose one of the following (GEF 7):		3
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SOCA 105	Introduction to Anthropology (GEF 7)
POLS 103	Global Political Issues

GEF 8 Focus Coursework (three courses, including):		10
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Choose one of the following:

HIST 179	World History to 1500
HIST 180	World History Since 1500

And choose two of the following:

ASTR 106	Descriptive Astronomy
CHEM 111	Survey of Chemistry
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory

PHYS 105	Conceptual Physics	
CERTIFICATION REQUIREMENTS		
CDFS 110	Families Across the Life Span	3
GEOG 102	World Regions	3
MATH 232	Number and Algebra for Teachers	3
or C&I 293	Special Topics	
MATH 233	Measurement and Geometry for Teachers	3
or C&I 293	Special Topics	
SHED 300	Health Education for Elementary School Teachers	2
Choose two of the following courses:		6
ART 103	Materials and Procedures	
MUSC 182	Music in the Elementary School	
C&I 365	Dance and Movement in PK-12 Schools	
PROFESSIONAL EDUCATION REQUIREMENTS		
EDUC 100	Education Colloquium	1
EDUC 200	Professional Inquiry in Education (fulfills Writing and Communication Skills requirement)	3
EDUC 301	Learning in Educational Settings	3
EDUC 311	Practicum 1/Technology Application	1
EDUC 312	Practicum 2/Technology Application	1
EDUC 400	Instructional Design and Evaluation	3
EDUC 401	Managing and Organizing Learning Environments	3
EDUC 410	Practicum 3/Technology Application	2
EDUC 411	Practicum 4: Technology Application	4
EDUC 430	Mathematical Methods - Elementary Teacher	3
EDUC 440	Elementary-Early Childhood Science Methods	3
EDUC 450	Issues and Methods for Teaching Elementary Social Studies	3
EDUC 460	Foundations of Language and Literacy	3
EDUC 461	Promoting Literacy Connections	3
C&I 414	Creative Experiences in Early Childhood	3
C&I 426	Teaching Rational Number/Proportional in K-9	3
C&I 491	Professional Field Experience	9
C&I 497	Research	6
RDNG 422	Reading in the Content Areas	3
RDNG 403	Literature for Children	3
SPED 304	Special Education in Contemporary Society	3
SPED 460	Differential Elementary Instruction	3
Total Hours		125

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 102 (GEF 1)	3
SOCA 105 or POLS 103 (GEF 7)	3 MATH 126A (GEF 3)	3
PSYC 101 (GEF 4)	3 HIST 179 or 180 (GEF 8)	3
ENGL 101 (GEF 1)	3 GEF 6	3
GEOG 102	3 GEF 8	3
Choose one of the following (GEF 2):	4	
BIOL 101 & BIOL 103		
BIOL 102 & BIOL 104		

BIOL 105
& BIOL 106

17 15

Second Year

Fall	Hours Spring	Hours
HIST 152 or 153 (GEF 5)	3 ART 103, MUSC 182, or CI 365	2-3
CDFS 110	3 MATH 233 or CI 293	3
MATH 232 or CI 293	3 EDUC 200	3
EDUC 100	1 EDUC 311	1
EDUC 301	3 SPED 304	3
GEF 8	4 RDNG 403	3
	17	15-16

Third Year

Fall	Hours Spring	Hours
ART 103, MUSC 182, or CI 365	2-3 EDUC 401	3
SHED 300	2 EDUC 410	2
EDUC 312	1 EDUC 440	3
EDUC 400	3 EDUC 450	3
EDUC 430	3 EDUC 460	3
C&I 414	3 C&I 426	3
	14-15	17

Fourth Year

Fall	Hours Spring	Hours
EDUC 411	4 C&I 497	3
EDUC 461	3 C&I 491	9
SPED 460	3	
RDNG 422	3	
C&I 497	3	
	16	12

Total credit hours: 123-125

TESTING REQUIREMENTS:**WV State Certification Requirements:**

- Praxis Core [NOTE: Praxis Core tests are waived if you have already completed a master's degree OR if you scored 26 on the ACT OR if you scored 1170 on the SAT (Math and Verbal).]
- Praxis II/Elementary Education test [NOTE: Successful completion of this assessment is required prior to student teaching; scores must be received prior to the first day of the internship.]
- edTPA, Teacher Performance Assessment: Required as part of the Student Teaching semester. [NOTE: Successful completion of this assessment is required prior to applying for a WV teaching license and for WVU program completion.]

Disclaimer: State Board of Education requirements may change testing and program requirements.

Major Learning Goals**4-YEAR ELEMENTARY EDUCATION**

The learning goals for the WVU Four-Year Elementary Teacher Education Program are to prepare students who:

- Have commitment and skills to engage in life-long learning.
- Are effective communicators.
- Recognize that teaching is a professional, moral, and ethical enterprise with well-developed ethical frameworks which facilitate effective teaching.
- Will serve as a facilitator of learning for all students.
- Possess in-depth knowledge of both pedagogy and content, and the relationships between them.
- Are reflective practitioners.
- Are aware of, and have respect for, human diversity.

- Value and integrate knowledge from a wide variety of fields, are creative and open to new ideas, and are able to act constructively in a world characterized by technological, cultural, and societal diversity and change.

Teacher Education Matriculation Policies

- Students must earn at least a grade of "C-" in all professional education courses to remain in the BA Elementary Education program. Earning a grade less than a "C-" may result in the student being removed from the program. In this event, the student must contact an advisor immediately.
- Students who arrange to receive a grade of "I" (incomplete) must complete all requirements to change the incomplete to a grade prior to the beginning of the next semester. If the student does NOT get the grade of "I" changed to a passing grade, the student will NOT be able to matriculate to the next semester of courses. In this event, the student must contact an advisor immediately.
- Students must maintain at least a 2.75 grade point average in order to remain in the BA Elementary Education program. If the GPA falls below 2.75, the student will be permitted to continue on a probationary status for ONE semester. At the end of that semester of probation, the student's overall GPA must be at least a 2.75 in order to be eligible to continue in the program. A student is permitted only one probationary semester in the program. Should the student's GPA fall below a 2.75 a second time, that student will not be eligible to matriculate. In this event, the student must contact an advisor immediately.

Program Benchmarks

Students must show evidence of a passing score on the Praxis II Content Test prior to student teaching.

5-Year Elementary Education

Five-Year Teacher Education Program

This program is no longer available for students (incoming Fall 2017 and beyond). You are encouraged to pursue the 4-Year, BA in Elementary Education program. Please visit our web site <http://cils.wvu.edu/elementary-ed>.

This program is no longer available for students (incoming Fall 2017 and beyond). You are encouraged to pursue the 4-Year, BA in Elementary Education program.

BMDS In Elementary Education

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (http://registrar.wvu.edu/current_students/general_education_curriculum)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Curriculum Requirements

UNIVERSITY REQUIREMENTS

WVUE 191	First Year Seminar	1
GENERAL EDUCATION FOUNDATIONS CURRICULUM REQUIREMENTS		
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research (GEF 1)	6

GEF 2B Science & Technology		4
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory	
Choose one of the following (GEF 3):		3
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
PSYC 101	Introduction to Psychology (GEF 4)	3
HIST 152	Growth of the American Nation to 1865 (GEF 5)	3
Literature Course (GEF 6)		3
SOCA 105	Introduction to Anthropology (GEF 7)	3
GEF 8 Focus Coursework:		9
GEOG 102	World Regions	
STAT 111	Understanding Statistics	
HIST 153	Making of Modern America: 1865 to the Present	
ADDITIONAL CERTIFICATION REQUIREMENTS		
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory	4
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory	4
PHYS 105	Conceptual Physics	4
CHEM 111 or CHEM 115	Survey of Chemistry Fundamentals of Chemistry	4
MUSC 182 or ART 103	Music in the Elementary School Materials and Procedures	3
MATH 232 or C&I 293	Number and Algebra for Teachers Special Topics	3
MATH 233 or C&I 293	Measurement and Geometry for Teachers Special Topics	3
PSYC 241	Introduction to Human Development	3
SHED 401	Elementary School Health Program	4
RDNG 403	Literature for Children	3
PROFESSIONAL EDUCATION COURSES		
EDUC 100	Education Colloquium	1
EDUC 200	Professional Inquiry in Education (fulfills Writing and Communication Skills requirement)	3
EDUC 301	Learning in Educational Settings	3
EDUC 311	Practicum 1/Technology Application	1
EDUC 312	Practicum 2/Technology Application	1
EDUC 400	Instructional Design and Evaluation	3
EDUC 401	Managing and Organizing Learning Environments	3
EDUC 410	Practicum 3/Technology Application	2
EDUC 411	Practicum 4: Technology Application	4
EDUC 414	Promoting Creative Expression in Elementary Classrooms	3
EDUC 430	Mathematical Methods - Elementary Teacher	3
EDUC 440	Elementary-Early Childhood Science Methods	3
EDUC 450	Issues and Methods for Teaching Elementary Social Studies	3
EDUC 460	Foundations of Language and Literacy	3
EDUC 461	Promoting Literacy Connections	3
RDNG 422	Reading in the Content Areas	3
SPED 304	Special Education in Contemporary Society	3
SPED 460	Differential Elementary Instruction	3

SPECIALIZATION COURSES (See Areas of Emphasis)	12
Total Hours	130

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 102 (GEF 1)	3
EDUC 100	1 SOCA 105 (GEF 7)	3
BIOL 101 & BIOL 103 (GEF 2)	4 MATH 126A, 126B, or 126C (GEF 3)	3
ENGL 101 (GEF 1)	3 HIST 153 (GEF 8)	3
PSYC 101 (GEF 4)	3 BIOL 102 & BIOL 104	4
HIST 152 (GEF 5)	3	
	15	16

Second Year

Fall	Hours Spring	Hours
GEOG 102 (GEF 8)	3 ART 103 or MUSC 182	2-3
PHYS 105	4 EDUC 200	3
PSYC 241	3 CHEM 111	4
SPED 304	3 STAT 111 (GEF 8)	3
World Literature Course (GEF 6)	3 Specialization course	3
	16	15-16

Third Year

Fall	Hours Spring	Hours
MATH 232	3 GEOL 101 & GEOL 102	4
SHED 401	4 MATH 233	3
EDUC 301	3 EDUC 312	1
EDUC 311	1 EDUC 400	3
RDNG 403	3 EDUC 460	3
Specialization course	3 Specialization course	3
	17	17

Fourth Year

Fall	Hours Spring	Hours
EDUC 410	2 EDUC 401	3
EDUC 430	3 EDUC 411	4
EDUC 414	3 EDUC 440	3
EDUC 461	3 EDUC 450	3
SPED 460	3 RDNG 422	3
Specialization course	3	
	17	16

Total credit hours: 129-130

NOTE: See Graduate Catalog for Master's degree requirements (MA in Education, Elementary Education)

Areas of Emphasis

EARLY CHILDHOOD EDUCATION, PREK-K

Early Childhood Specialization (Elementary Education)

C&I 410	Early Childhood Education 1	3
C&I 411	Early Childhood Education 2	3
CDFS 212	Early Childhood Development	3

or CDFS 316	Child Development Practicum	
CDFS 430	Best Practices in Pre-K Movement	3
Total Hours		12

ENGLISH EDUCATION

English Education Specialization (Elementary Education)

Select three from the following:		9
ENGL 131	Poetry and Drama	
ENGL 132	Short Story and Novel	
ENGL 232	Poetry	
ENGL 233	The Short Story	
ENGL 234	Drama	
ENGL 235	Novel	
ENGL 226	Non-Western World Literature *	3
ENGL 241	American Literature 1	3
ENGL 242	American Literature 2	3
C&I 324	Teaching Language Arts: Secondary School	3
Total Hours		21

* A regional, ethnic, or minority literature course may be substituted.

INTEGRATED SCIENCE

INTEGRATED SCIENCE EDUCATION SPECIALIZATION (ELEMENTARY EDUCATION)

C&I 444	Teaching Science: Secondary School	3
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Lower Division Electives

Choose 9 hours from the following courses:		9
BIOL 105	Environmental Biology	
BIOL 106	Environmental Biology Laboratory	
BIOL 124	The Human Environment	
CHEM 112	Survey of Chemistry	
CHEM 116	Fundamentals of Chemistry	
FOR 140	West Virginia's Natural Resources	
GEOG 106	Physical Geography Laboratory	
GEOG 107	Physical Geography	
GEOL 103	Earth Through Time	
GEOL 104	Earth Through Time Laboratory	
HN&F 171	Introduction to Human Nutrition	
PHYS 102	Introductory Physics	
PHYS 107	Physics of Music	
PHYS 108	Light, Vision and Color	

Upper Division Electives

Choose 6 hours from the following:		6
ASTR 106	Descriptive Astronomy	
BIOL 353	Flora of West Virginia	
CHEM 293C	Special Topics	
ENTO 404	Principles of Entomology	
GEOL 203	Physical Oceanography	
GEOG 205	Natural Resources	
GEOG 207	Climate and Environment	

Total Hours		18
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SOCIAL STUDIES

Interdepartmental Studies Specialization (Elementary Education)

EDUC 450	Issues and Methods for Teaching Elementary Social Studies	3
HIST 179	World History to 1500	3
HIST 180	World History Since 1500	3
HIST 250	West Virginia	3
HIST 261	Recent America: The United States since 1918	3
POLS 220	State and Local Government	3

History Electives

Select two from the following: 6

HIST 445	History of American Women	
HIST 452	African-American Since 1900	
Other upper-division HIST courses		

Total Hours 24

MATHEMATICS EDUCATION

Mathematics Education Specialization (Elementary Education)

MATH 128	Plane Trigonometry	3
MATH 155	Calculus 1	4
or MATH 150	Applied Calculus	
or MATH 153	Calculus 1a with Precalculus	
or MATH 154	Calculus 1b with Precalculus	
MATH 218	History of Mathematics	3
C&I 337	Mathematics in the Junior High School and Middle School	3
C&I 426	Teaching Rational Number/Proportional in K-9	3

Total Hours 16

MULTICATEGORICAL SPECIAL EDUCATION, K-6 + 5-ADULT

Multicategorical SPED K-Adult Specialization (Elementary Education)

SPED 364	Individualized Educational Programming	3
SPED 365	Technology and Universal Design for Learning	3
SPED 366	Transition Planning	3
SPED 403	Behavior Support for Students with Special Needs	3
SPED 463	Collaborative-Consultative Inclusion Strategies	3
SPED 667	Elementary Content Methods	3
SPED 668	Secondary Content Methods	3
SPED 513	Internship: Multicategorical Special Education K-6	3
SPED 514	Internship: Multicategorical Special Education 5-Adult	3

Choose additional coursework from one of the following content areas: 3

MATH 128	Plane Trigonometry	
or CS 101	Intro to Computer Applications	
ENGL 131	Poetry and Drama	
or ENGL 132	Short Story and Novel	
or ENGL 241	American Literature 1	
or ENGL 242	American Literature 2	
GEOL 103	Earth Through Time	
or ASTR 106	Descriptive Astronomy	
HIST 179	World History to 1500	
& HIST 250	and West Virginia	
or HIST 180	World History Since 1500	

Total Hours 30

WORLD LANGUAGE EDUCATION

World Language Education Specialization (Elementary Education)

Choose from French or Spanish:

27

French Requirements

FRCH 101	Elementary French 1
FRCH 102	Elementary French 2
FRCH 203	Intermediate French 1
FRCH 204	Intermediate French 2
FRCH 301	Language Through Civilization
FRCH 302	Language Through Culture
FRCH 402	Phonetics and Pronunciation
FRCH 432	Contemporary Culture
LANG 421	The Teaching of Foreign Languages

Spanish Requirements

SPAN 101	Elementary Spanish 1
SPAN 102	Elementary Spanish 2
SPAN 203	Intermediate Spanish 1
SPAN 204	Intermediate Spanish 2
SPAN 311	Readings in Spanish
SPAN 314	Spanish Conversation
SPAN 330	Latin American Culture
SPAN 340	Culture of Spain
LANG 421	The Teaching of Foreign Languages

Total Hours

27

This program is no longer available for students (incoming Fall 2017 and beyond). You are encouraged to pursue the 4-Year, BA in Elementary Education program.

5-Year Secondary Education

This program is no longer available for students (incoming Fall 2017 and beyond). You are encouraged to pursue WVU Teach (for secondary Math and Science). <http://wvuteach.wvu.edu/>

Students seeking programs for secondary English, Social Studies, and World Language are encouraged to earn their undergraduate degree in the specific content area with the College of Arts and Sciences, then pursue a MA with Certification through our MAC program, led by Dr. Denise Lindstrom, in the College of Education and Human Services.

denise.lindstrom@mail.wvu.edu

This program is no longer available for students (incoming Fall 2017 and beyond). You are encouraged to pursue WVU Teach (for secondary Math and Science). <http://wvuteach.wvu.edu/>

Students seeking programs for secondary English, Social Studies, and World Language are encouraged to earn their undergraduate degree in the specific content area with the College of Arts and Sciences, then pursue a MA with Certification through our MAC program, led by Dr. Denise Lindstrom, in the College of Education and Human Services.

denise.lindstrom@mail.wvu.edu

BMDS In Secondary Education Curriculum

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (http://registrar.wvu.edu/current_students/general_education_curriculum)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric	3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing
F2A/F2B - Science & Technology	4-6
F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Curriculum Requirements

UNIVERSITY REQUIREMENTS

WVUE 191	First Year Seminar	1
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GENERAL EDUCATION FOUNDATIONS CURRICULUM REQUIREMENTS	31
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TEACHER EDUCATION REQUIREMENTS

EDUC 100	Education Colloquium	1
EDUC 200	Professional Inquiry in Education (fulfills Writing and Communication Skills requirement)	3
EDUC 301	Learning in Educational Settings	3
EDUC 311	Practicum 1/Technology Application	1
EDUC 312	Practicum 2/Technology Application	1
EDUC 400	Instructional Design and Evaluation	3
EDUC 401	Managing and Organizing Learning Environments	3
EDUC 410	Practicum 3/Technology Application	2
EDUC 411	Practicum 4: Technology Application	4
SPED 304	Special Education in Contemporary Society	3
SPED 461	Differentiated Secondary Instruction	3
RDNG 422	Reading in the Content Areas	3

SPECIALIZATION COURSES (See Areas of Emphasis)	64
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Some specialization courses may be used to satisfy GEF requirements

Total Hours	126
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NOTE: See Graduate Catalog for Master's degree requirements (MA in Education, Secondary Education)

Areas of Emphasis

BIOLOGY & INTEGRATED SCIENCE

*Students must take all Teacher Education Courses along with Specialization Courses

Biology Specialization (Secondary Education)

A minimum GPA of 2.5 is required in all emphasis courses

A minimum GPA of 2.5 is required in BIOL 115, 117, 219, 221, 310 and 436

BIOL 115	Principles of Biology	4
BIOL 117	Introductory Physiology	4
BIOL 219	The Living Cell	4
BIOL 221	Ecology and Evolution	3
BIOL 310	Advanced Cellular/Molecular Biology	3
BIOL 436	General Animal Physiology	3
Upper Division Biology Courses (300 or 400 level)		9
Choose one of the following:		3-4
MATH 150	Applied Calculus	

MATH 155	Calculus 1	
MATH 156	Calculus 2	
GEOL 101	Planet Earth	3
GEOL 102	Planet Earth Laboratory	1
GEOL 103	Earth Through Time	3
GEOL 104	Earth Through Time Laboratory	1
PHYS 101	Introductory Physics	4
PHYS 102	Introductory Physics	4
CHEM 115	Fundamentals of Chemistry	4
CHEM 116	Fundamentals of Chemistry	4
Choose from one of the following:		4
CHEM 231	Organic Chemistry: Brief Course	
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	
ASTR 106	Descriptive Astronomy	3
Total Hours		64-65

CHEMISTRY & INTEGRATED SCIENCE

Chemistry Specialization (Secondary Education)

A minimum GPA of 2.5 is required in all emphasis courses

A minimum GPA of 2.5 is required in MATH, CHEM 115, 116, 215, 233, 234, 235, 236, 341, and 342

Choose from one of the following:		4-8
MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2	4
CHEM 115	Fundamentals of Chemistry	4
CHEM 116	Fundamentals of Chemistry	4
CHEM 215	Introductory Analytical Chemistry	4
CHEM 233	Organic Chemistry	3
CHEM 234	Organic Chemistry	3
CHEM 235	Organic Chemistry Laboratory	1
CHEM 236	Organic Chemistry Laboratory	1
CHEM 341	Physical Chemistry: Brief Course	3
CHEM 342	Experimental Physical Chemistry	1
Chemistry Electives (300 or 400 level)		9
BIOL 115	Principles of Biology	4
BIOL 117	Introductory Physiology	4
BIOL 219	The Living Cell	4
BIOL 221	Ecology and Evolution	3
GEOL 101	Planet Earth	3
GEOL 102	Planet Earth Laboratory	1
GEOL 103	Earth Through Time	3
GEOL 104	Earth Through Time Laboratory	1
PHYS 101	Introductory Physics	4
PHYS 102	Introductory Physics	4
ASTR 106	Descriptive Astronomy	3
Total Hours		75-79

PHYSICS & INTEGRATED SCIENCE

Physics Specialization (Secondary Education)

A minimum GPA of 2.5 is required in all emphasis courses

A minimum GPA of 2.5 is required in MATH, PHYS 111, 112, 314, 331, and 341

Choose from one of the following:		4-8
MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics	4
PHYS 112	General Physics	4
PHYS 314	Introductory Modern Physics	4
PHYS 331	Theoretical Mechanics 1	3
PHYS 341	Advanced Laboratory	1-3
Physics Electives		12
BIOL 115	Principles of Biology	4
BIOL 117	Introductory Physiology	4
BIOL 219	The Living Cell	4
BIOL 221	Ecology and Evolution	3
GEOL 101	Planet Earth	3
GEOL 102	Planet Earth Laboratory	1
GEOL 103	Earth Through Time	3
GEOL 104	Earth Through Time Laboratory	1
CHEM 115	Fundamentals of Chemistry	4
CHEM 116	Fundamentals of Chemistry	4
Choose from one of the following:		4
CHEM 231	Organic Chemistry: Brief Course	
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	
ASTR 106	Descriptive Astronomy	3
Total Hours		82-88

This program is no longer available for students (incoming Fall 2017 and beyond). You are encouraged to pursue WVU Teach (for secondary Math and Science). <http://wvuteach.wvu.edu/>

Students seeking programs for secondary English, Social Studies, and World Language are encouraged to earn their undergraduate degree in the specific content area with the College of Arts and Sciences, then pursue a MA with Certification through our MAC program, led by Dr. Denise Lindstrom, in the College of Education and Human Services.

denise.lindstrom@mail.wvu.edu

Department of Learning Sciences and Human Development

The Department of Learning Sciences and Human Development offers two undergraduate majors: Child Development and Family Studies (CDFS) and Regents Bachelor of Arts (RBA) degree programs. Both of these degree programs have options to flexibly serve students who prefer solely campus-based, solely online, or a blend of both campus-based and online learning opportunities. More information on each of these programs is available by clicking the links to the right.

The undergraduate program in Child Development and Family Studies (CDFS) leads to a Bachelor of Science degree in which students choose from four curriculum options: Birth through 5/Pre-K certification with an endorsement in Pre-K-K special needs, Birth through 5/Pre-K certification, Birth through 5/Pre-K non-certification, or Family and Youth studies. In addition, online options for the Birth through 5/Pre-K certification and Birth through 5/Pre-K non-certification are also available.

The Regents Bachelor of Arts (RBA) is an innovative degree program designed to meet the unique needs of the adult student. Specifically, this program provides students with a comprehensive general education based on individualized skills and learning outcomes. Moreover, eligible students may acquire college credits based on their professional experiences in select subject areas and earned certifications. This option may provide a more cost effective way of completing their education in a timely manner.

FACULTY

CHAIR

- Reagan Curtis - Ph.D. (University of California, Santa Barbara)

ASSISTANT CHAIR

- Amy Root - Ph.D. (University of Maryland)

PROFESSORS

- William Beasley - Ed.D. (University of Georgia)
Instructional Design, Academic Affairs
- Reagan Curtis - Ph.D. (University of California, Santa Barbara)
Learning Sciences, Educational Psychology
- Gypsy M. Denzine - Ph.D. (University of Northern Colorado)
Dean, College of Education and Human Services
- Carol Markstrom - Ph.D. (Utah State University)
Adolescent Development, Identity and Ethnic Identity Formation, American Indian Adolescents, Involvement in Adult-sponsored Activities
- Neal Shambaugh - Ph.D. (Virginia Polytechnic Institute and State University)
Instructional Systems Design
- M Cecil Smith - Ph.D. (University of Wisconsin-Madison)
Associate Dean for Research and Graduate Education
- Barbara Warash - Ed.D. (West Virginia University)
Director of the WVU Nursery School, Childhood Education, Reggio Emilia

ASSOCIATE PROFESSORS

- Terence C. Ahern - Ph.D. (Pennsylvania State University)
Instructional Design and Technology
- Ugur Kale - Ph.D. (Indiana University)
Instructional Design and Technology, Multimedia in Education
- Kristin Moilanen - Ph.D. (University of Nebraska)
Adolescent Development, Self Regulation, Risk Behavior, Family Relationships
- Amy Root - Ph.D. (University of Maryland)
Child Development and Family Studies (Coordinator); Parenting and the Development of Emotional Competence, Individual Differences, Development of Shy/Wary Behavior
- Jessica Troilo - Ph.D. (University of Missouri)
Cultural Conceptions of Fathers, Divorced Fatherhood, Influence of Social Media on Relationships

ASSISTANT PROFESSORS

- Sara Anderson - Ph.D. (Tufts University)
Long term pre-K effects, Pre-K quality among diverse populations, Neighborhood effects, Residential mobility
- Suzanne Walraff-Hartman - Ph.D. (George Mason University)
Three to Five-Year Child Development and Learning, Childcare Preschool Environmental Factors, At-risk Child Populations
- Paul R. Hernandez - Ph.D. (University of Connecticut)
Director, Program Evaluation and Research Center (PERC), Educational Measurement, Evaluation, and Assessment; Academic persistence of underrepresented group in STEM
- Melissa M. Patchan - Ph.D. (University of Pittsburgh)
Mechanisms of Peer Assessment of Writing, Effectiveness and Validity of Peer Feedback, Issues of Measurement, Multiple Sources, and Validity of Peer Ratings
- Karen E. Rambo-Hernandez - Ph.D. (University of Connecticut)
Educational Measurement, Evaluation, and Assessment; Schools and Gifted Learners
- Jiangmei (May) Yuan - Ph.D. (University of Georgia)
Learning, Design, and Technology; Formative Assessment, Feedback Design, and Learner Engagement in Online Learning Environments; Robotics in STEM Teacher Education

TEACHING ASSISTANT PROFESSORS

- Patricia Haught - Ed.D. (West Virginia University)
Learning Strategies, Educational Psychology, Adult Learning and Development
- Nancy Taylor - Ph.D. (West Virginia University)
CDFS Online Major Coordinator; Parenting Education, Conflict and Crisis Management, Family Therapeutic Interventions

CLINICAL ASSISTANT PROFESSOR

- Gregory Epps - Ed.D. (West Virginia University)
Director, Regents Bachelor of Arts program

CLINICAL INSTRUCTOR

- Nancy Wolfe-Dilgard - M.A. (West Virginia University)
CDFS Undergraduate Major and Minor Coordinator; Infants, Toddlers, and Adolescents

INSTRUCTORS

- Melissa Workman - M.A. (West Virginia University)
Early Childhood Education, Early Childhood Teacher, Associate Director of the WVU Nursery School
- Keri Law - M.A. (West Virginia University)
Early Childhood Education, Early Childhood Teacher

PROFESSORS EMERITI

- Paul W. DeVore - Ph.D.
- Carol Markstrom - Ph.D.
- David L. McCrory - Ph.D.
- Anne H. Nardi - Ph.D.
- Edward C. Pytlik - Ph.D.
- Richard T. Walls - Ph.D.

A cumulative college GPA of at least 2.5 is required for admission to the minor. CDFS minors take their courses online through Extended Learning. Minors in CDFS must earn grades of C or better in all courses with the CDFS course designator.

***NOTE: Students may not pursue all 3 of these minors. May only choose 2 from this group:**

- **Child Development and Family Studies**
- **Family and Youth**
- **Infant and Toddler**

CHILD DEVELOPMENT & FAMILY STUDIES MINOR

MINOR CODE - U081

CDFS 110	Families Across the Life Span	3
Select two of the following:		6
CDFS 210	Introduction to Parenting	
CDFS 211	Infant Development	
CDFS 212	Early Childhood Development	
Select three of the following:		9
CDFS 316	Child Development Practicum	
CDFS 412	Adolescent Development	
CDFS 413	Contemporary Issues in Family Relations	
CDFS 414	Adolescent Problems and Disorders	
CDFS 415	Family Interaction and Communication	
CDFS 421	Child Care Center Administration	
CDFS 422	Business of Child Care	
CDFS 430	Best Practices in Pre-K Movement	

Total Hours

18

FAMILY & YOUTH MINOR**MINOR CODE - U103**

CDFS 110	Families Across the Life Span	3
CDFS 112	Introduction to Marriage and Family	3
Select one from the following:		
CDFS 210	Introduction to Parenting	3
CDFS 212	Early Childhood Development	3
Select three from the following:		
CDFS 412	Adolescent Development	3
CDFS 413	Contemporary Issues in Family Relations	3
CDFS 414	Adolescent Problems and Disorders	3
CDFS 415	Family Interaction and Communication	3
Total Hours		18

INFANT & TODDLER MINOR**MINOR CODE - U102**

CDFS 110	Families Across the Life Span	3
CDFS 211	Infant Development	4
Select four from the following:		12
CDFS 210	Introduction to Parenting	
CDFS 421	Child Care Center Administration	
CDFS 430	Best Practices in Pre-K Movement	
CDFS 431	Infant Toddler Language and Literacy	
CDFS 432	Early Socio-Emotional Growth	
CDFS 491A	Professional Field Experience	
Total Hours		19

Certificate in Infant/Toddler Education**CERTIFICATE CODE - CU06**

The Infant/Toddler Certificate is a specialized curriculum designed for child care teachers and providers, Head Start teachers and WVU students who want to obtain this specific body of knowledge and who need specific written recognition for their ability to work with young children birth through three years of age. The specific body of knowledge in infancy and the toddler years satisfies new state and federal mandates that teachers of very young children must have formal recognition of their training with infants and toddlers to obtain and/or maintain employment. There are 19 hours in the Infant/Toddler Certificate program. This CDFS certificate incorporates the West Virginia core knowledge and core competencies and the West Virginia Early Standards Framework: Infant/Toddler in order to include the most recent requirements set forth by WV agencies responsible for the birth-three years. The certificate is free standing or can be taken with a degree program.

Required Courses

CDFS 110	Families Across the Life Span	3
CDFS 211	Infant Development	4
CDFS 430	Best Practices in Pre-K Movement	3
CDFS 431	Infant Toddler Language and Literacy	3
CDFS 432	Early Socio-Emotional Growth	3
CDFS 491A	Professional Field Experience	3
Total Hours		19

Certificate in Early Childhood Development**CERTIFICATE CODE - CU09**

The Early Childhood Development Certificate is a specialized curriculum designed for those who work in Pre-K classrooms in the public school, Head Start and child care centers who must obtain a specific body of knowledge and need specific written recognition for their ability to work with preschool children.

There are 15 credit hours in the Early Childhood Development certificate program. The certificate program is not attached to a degree in Child Development and Family Studies. Credit hours earned in the Early Childhood Development certificate can be applied to degree requirements for those students who want to pursue a degree. This CDFS certificate will incorporate the West Virginia Core Knowledge and Core Competencies and the West Virginia Early Standards Framework: Early Learning Standards in order to include the most recent requirements set forth by WV agencies responsible for preschool children.

Required Courses

CDFS 110	Families Across the Life Span	3
CDFS 212	Early Childhood Development	3
CDFS 316	Child Development Practicum	3
CDFS 430	Best Practices in Pre-K Movement	3
CDFS 491A	Professional Field Experience	3
Total Hours		15

Child Development and Family Studies

Degree Offered

- Bachelor of Science in Child Development and Family Studies

Program Description

The undergraduate program in Child Development and Family Studies (CDFS) leads to a Bachelor of Science degree in which students choose from four curriculum options: Birth through 5/Pre-K certification with an endorsement in Pre-K-K special needs, Birth through 5/Pre-K certification, Birth through 5/Pre-K non-certification, or Family and Youth studies. In addition, online options for the Birth through 5/Pre-K certification and Birth through 5/Pre-K non-certification are also available.

The learning goals of the Birth through 5/Pre-K certification and non-certification tracks focus on birth through age five with an emphasis on preparing students to work with young children and families. An additional goal of the certification tracks is to prepare students to meet the requirements for licensure of the West Virginia Department of Education. The certification options are best suited for students interested in working in public school programs as a certified teacher or in child care facilities.

The Family and Youth track extends the students preparation to youth and adolescents. Family and youth studies is best suited for students interested in working with older children, adolescents, and/or families in youth development or family development programs in community agencies.

CERTIFICATIONS AND CHILD DEVELOPMENT TRACKS

The Birth through 5/Pre-K certification and non-certification options focus on the social, emotional, cognitive, motor, and physical development of children aged 0 to 5 years. Students plan learning experiences for young children using the State's Early Learning Standards, complete developmental and performance-based assessments, reflect on their own teaching, and interact with young children in developmentally appropriate ways. Students must pass the Core Academic Skills for Educators test (Praxis Core) to be enrolled in the either certification option. Praxis Core may be waived with an ACT composite score or an SAT score meeting a minimum determined by the state of West Virginia (<https://www.ets.org/praxis/wv/requirements>). Students enrolled in the Birth through 5/Pre-K certification with an endorsement in PreK-K special needs option must pass the Praxis Special Education: Preschool/Early Childhood test before taking SPED 419. Students who do not pass the Praxis CORE test will be placed in the Birth through 5/Pre-K non-certification option.

Settings for internship and student teaching experiences include the West Virginia University Child Development Laboratory (Nursery School) for preschool children, Pre-K classrooms, and placements in community childcare centers. Upon graduation, students who successfully complete certification requirements can apply for the West Virginia State Department of Education licensure. The CDFS program also offers an Early Childhood Director's Credential, an Early Childhood Education Certificate, and an Infant Toddler Education certificate.

FAMILY AND YOUTH STUDIES

The emphasis in Family and Youth Studies is designed for students with interests in older children, adolescents, and/or families. Students in this emphasis may be seeking careers working with these segments of the population in such settings as youth or family service agencies. In the Family and Youth Studies emphasis, students complete coursework related to family issues, family interaction, human growth and development, human sexuality, youth concerns, and related topics. All students are required to complete internships at community family- and/or youth-focused agencies. Students in this option may wish to consider completing a certificate in gerontology or disability studies or a minor in women's studies, communication studies, sociology and anthropology, or leadership studies.

ONLINE PROGRAM

The online major in Child Development and Family Studies leads to a B.S. The course and learning requirements noted above regarding the on campus CDFS Birth through 5/PreK major also apply to students in the online major.

The online option is ideal for individuals who must obtain a degree with certification in Birth through 5/Pre-K to maintain employment, or for anyone who wants to enter the field of early childhood education with a four-year degree. The degree satisfies state and federal mandates that require child care workers in preschool programs to have a formal recognition of their training with young children.

Students may choose from two curriculum options: either the Birth through 5/PreK certification option or Birth through 5/PreK non-certification option. The above-noted Praxis requirements apply to students in the online major. Students in the online program are encouraged to complete the Early Childhood Director's Credential to qualify for additional employment opportunities.

FACULTY

CHAIR

- Reagan Curtis - Ph.D.
University of California, Santa Barbara

ADMISSION REQUIREMENTS

To be admitted to an overall GPA of 2.5 or higher is required to enter the CDFS program. For the Birth through 5/Pre-K certification options, students must pass the Praxis CORE. Praxis Core may be waived with an ACT composite score or an SAT score meeting a minimum determined by the state of West Virginia (<https://www.ets.org/praxis/wv/requirements>). For the Birth through 5/Pre-K certification with an endorsement in Pre-K-K special needs, students must have an overall GPA of 3.0 or higher, pass the Praxis CORE, earn a "B" or better in all SPED courses, and must pass the Praxis Special Education: Preschool/Early Childhood test before taking SPED 419.

ONLINE MAJOR ADMISSION REQUIREMENTS

An overall GPA of 2.5 or higher is required to enter the online CDFS program. In addition, students will only be admitted if they graduated high school over four years ago or have completed an associate's degree in early childhood education or related field. For the Birth through 5/Pre-K certification options, students must pass the Praxis Core. Praxis Core may be waived with an ACT composite score or an SAT score meeting a minimum determined by the state of West Virginia (<https://www.ets.org/praxis/wv/requirements>).

Click here to view the Suggested Plan of Study (p. 656)

Child Development and Family Studies

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

DEGREE REQUIREMENTS

UNIVERSITY REQUIREMENTS

FIRST YEAR SEMINAR		
CDFS 101	Introduction to Child Development and Family Studies (Min Grade of C-)*	1
GENERAL EDUCATION FOUNDATIONS CURRICULUM REQUIREMENTS		
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research (GEF 1) Accelerated Academic Writing	6
GEF 2B		4
GEF 3 Mathematics & Quantitative Skills (choose one MATH course from the following):		3-4
MATH 121	Intro Concepts Of Mathematics	
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 150	Applied Calculus	
MATH 155	Calculus 1	
MATH 156	Calculus 2	
CDFS 110	Families Across the Life Span (Fulfills GEF 4; minimum grade of C- required)	3
GEF 5 Human Inquiry and the Past		3
GEF 6 The Arts and Creativity		3
GEF 7 Global Studies and Diversity		3
GEF 8 Focus Coursework (choose 3 approved GEF courses)		9
DEPARTMENTAL REQUIREMENTS		
MAJOR AREA COURSES		
A minimum grade of C- required for all courses with a CDFS designator		
CDFS 112	Introduction to Marriage and Family	3
CDFS 210	Introduction to Parenting	3
CDFS 212	Early Childhood Development	3
CDFS 250	Research Methods and Data Analysis (fulfills Writing and Communication Skills requirement)	3
CDFS 413	Contemporary Issues in Family Relations	3
SPED 304	Special Education in Contemporary Society (minimum grade of C- required)	3
AREA OF EMPHASIS		24-49
ELECTIVES (number of electives may vary depending on Area of Emphasis and GEF overlap; students must earn minimum 120 credits to graduate)		43-17
Total Hours		120

Note: Students must earn grades of C- or better in all courses with the CDFS course designator required in the major and associated areas of emphasis. If a student's overall GPA drops below 2.5, he or she may be subject to academic probation and potentially dismissal from the program.

* CDFS 101 is not required for students with transfer work (of at least 29 hours) or students who have previously taken an approved WVU orientation course.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 ENGL 102 (GEF 1)	3
MATH 121 (GEF 3)	3 CDFS 110 (GEF 4)	3
CDFS 101	1 CDFS 112	3
GEF 5	3 GEF 6	3
GEF 8	3 GEF 7	3
Elective	3	
	16	15

Second Year

Fall	Hours Spring	Hours
CDFS 210	3 CDFS 250	3

CDFS 212	3 GEF 8	3
GEF 2	4 AOE Courses	9
GEF 8	3	
Elective	3	
		<hr/>
		16 15

Third Year

Fall	Hours Spring	Hours
AOE Courses	9 AOE Courses	9
Electives	6 Electives	7
		<hr/>
		15 16

Fourth Year

Fall	Hours Spring	Hours
CDFS 413	3 SPED 304	3
AOE Courses	9 AOE Courses	6
Elective	3 CDFS 491 or 491A	3-6
		<hr/>
		15 12

Total credit hours: 120

CHILD DEVELOPMENT AREA OF EMPHASIS**Child Development Area of Emphasis**

A minimum GPA of 2.5 is required in all emphasis courses

CHILD DEVELOPMENT REQUIREMENTS

CDFS 211	Infant Development	4
CDFS 316	Child Development Practicum	3-4
CDFS 431	Infant Toddler Language and Literacy	3
CDFS 432	Early Socio-Emotional Growth	3
CDFS 491	Professional Field Experience	3
CDFS 491A	Professional Field Experience	3

ADDITIONAL REQUIREMENTS

C&I 410	Early Childhood Education 1	3
C&I 411	Early Childhood Education 2	3
CHPR 172	First Aid and Emergency Care	2
RDNG 423	Literacy and the Young Child	3
SPED 311	Developmental Assessment for Young Children with Special Needs	3
or SPED 312	Differentiated Instruction for Young Children	
or SPED 317	Technology for Young Children with/without Special Needs	

KINDERSKILLS 2-3

Choose one of the following courses:

PET 384	Kinderskills/Gym	
PET 400	Kinderskills/Pool	
CDFS 430	Best Practices in Pre-K Movement	

CLASSROOM CREATIVENESS 2

Choose one of the following courses:

ART 103	Materials and Procedures	
C&I 414	Creative Experiences in Early Childhood	
MUSC 182	Music in the Elementary School	
THET 461	Creative Dramatics	

THE BUSINESS OF CHILD CARE AND EDUCATION 6

Choose two of the following courses:

BUSA 320	Survey of Management	
BUSA 330	Survey of Marketing	
CDFS 420	The Art of Leadership in Early Childhood	

CDFS 421	Child Care Center Administration	
CDFS 422	Business of Child Care	
CDFS 423	External Funding: Early Childhood Programs	
ENTR 340	Survey of Entrepreneurship	
Total Hours		43-45

FAMILY AND YOUTH STUDIES AREA OF EMPHASIS

Family and Youth Studies Area of Emphasis

A minimum GPA of 2.5 is required in all emphasis courses

Child Development Courses

CDFS 412	Adolescent Development	3
CDFS 414	Adolescent Problems and Disorders	3
CDFS 415	Family Interaction and Communication	3
CDFS 491A	Professional Field Experience	6

Additional Requirements

AGEE 220	Group Organization and Leadership	3
BIOL 122	Human Sexuality	3
CHPR 170	Health of the Individual	3
COMM 112	Small Group Communication	3
HN&F 171	Introduction to Human Nutrition	3
PSYC 101	Introduction to Psychology	3
SOCA 303	Juvenile Delinquency	3
SOWK 105	Social Welfare Institutions	3
CSAD 270	Effective Public Speaking	3
WGST 170	Introduction to Women's and Gender Studies	3

Total Hours 45

PRE-SCHOOL EDUCATION, BIRTH-AGE 4 AREA OF EMPHASIS

Birth Through Pre-K CD&FS Area of Emphasis:

A minimum GPA of 2.5 is required in all emphasis courses

CHILD DEVELOPMENT COURSES

CDFS 211	Infant Development	4
CDFS 316	Child Development Practicum	3
CDFS 431	Infant Toddler Language and Literacy	3
CDFS 432	Early Socio-Emotional Growth	3

INTERNSHIP REQUIREMENTS

CDFS 491	Professional Field Experience	3
CDFS 491A	Professional Field Experience	3

ADDITIONAL REQUIREMENTS

CHPR 172	First Aid and Emergency Care	2
C&I 410	Early Childhood Education 1	3
C&I 411	Early Childhood Education 2	3
RDNG 423	Literacy and the Young Child	3
SPED 312	Differentiated Instruction for Young Children	3
SPED 317	Technology for Young Children with/without Special Needs	3

KINDERSKILLS

2-3

Choose one of the following courses:

CDFS 430	Best Practices in Pre-K Movement	
PET 384	Kinderskills/Gym	
PET 400	Kinderskills/Pool	

CLASSROOM CREATIVENESS

2

Choose one of the following courses:

ART 103	Materials and Procedures	
C&I 414	Creative Experiences in Early Childhood	
MUSC 182	Music in the Elementary School	
THET 461	Creative Dramatics	

BUSINESS OF CHILD CARE AND EDUCATION

Choose two of the following courses: 6

BUSA 320	Survey of Management	
BUSA 330	Survey of Marketing	
CDFS 420	The Art of Leadership in Early Childhood	
CDFS 421	Child Care Center Administration	
CDFS 422	Business of Child Care	
ENTR 340	Survey of Entrepreneurship	

Director's Credential (Optional)

CDFS 420	The Art of Leadership in Early Childhood	
CDFS 421	Child Care Center Administration	
CDFS 422	Business of Child Care	
CDFS 423	External Funding: Early Childhood Programs	

Praxis I*

Total Hours 46-47

* The Core Academic Skills Test may be waived with an ACT or SAT score that meets state requirements.

Preschool Special Needs, PreK-K Area of Emphasis**Special Needs Pre-K Endorsement Area of Emphasis**

A minimum GPA of 2.5 is required in all emphasis courses

SPED 311	Developmental Assessment for Young Children with Special Needs	3
SPED 312	Differentiated Instruction for Young Children	3
SPED 314	Center-Based Programs Early Intervention	3
SPED 315	Home-Based Programs Early Intervention	3
SPED 316	Behavior Support Young Children Special Needs	3
SPED 317	Technology for Young Children with/without Special Needs	3
CDFS 491	Professional Field Experience	3
CDFS 491A	Professional Field Experience	3
SPED 419	Internship: Preschool Special Needs	6
Praxis II**		
Praxis I*		

Total Hours 30

* The Core Academic Skills Test may be waived with an ACT or SAT score that meets state requirements.

** Students must have passed the Core Academic Skills for Educators test (Praxis I) within their first 30 undergraduate credits to be enrolled in this certification track. Students who do not pass the Core test will be placed in the non-certification CDFS track.

Major Learning Goals**BACHELOR OF SCIENCE (BS) IN CHILD DEVELOPMENT AND FAMILY STUDIES**

The BS degree in Child Development and Family Studies offers two curriculum options: Birth through 5/Pre-Kindergarten and Family and Youth Studies.

Students in the Birth through 5/Pre-Kindergarten option of Child Development and Family Studies will acquire:

- Knowledge of the social, emotional, intellectual, and physical development of young children in the family and preschool contexts.
- Skills in implementing appropriate curricula as well as developmental and performance assessments.
- Ability to construct positive and enriched early childhood environments where the young have the opportunity to develop skills for lifelong learning.
- Knowledge of current best practices that prepare young children to be competent, independent learners.
- Ability to reflect on one's knowledge and skills of teaching and interacting with young children.

- Knowledge of how young children learn in order to prepare educational activities in inclusive environments.
- Extensive field experiences with various ages of young children--infants, toddlers and preschoolers and young school age.

Students in the family and youth option of Child Development and Family Studies will acquire:

- Knowledge in human growth and development, adolescent development, human sexuality, family issues and interaction, youth concerns and issues, and related topics.
- Understanding of the various social contextual influences on adolescent development and family functioning and the interactive relationships between families and other societal institutions such as schools.
- Various strategies for working with adolescents and families in various social service and community-based context.
- Hands-on experience working with children, adolescents, and/or families at community agencies.
- Awareness of the multiple career paths for students in this area of study along with options and opportunities for graduate studies.

Certificate in Infant/Toddler Education

CERTIFICATE CODE - CU06

The Infant/Toddler Certificate is a specialized curriculum designed for child care teachers and providers, Head Start teachers and WVU students who want to obtain this specific body of knowledge and who need specific written recognition for their ability to work with young children birth through three years of age. The specific body of knowledge in infancy and the toddler years satisfies new state and federal mandates that teachers of very young children must have formal recognition of their training with infants and toddlers to obtain and/or maintain employment. There are 19 hours in the Infant/Toddler Certificate program. This CDFS certificate incorporates the West Virginia core knowledge and core competencies and the West Virginia Early Standards Framework: Infant/Toddler in order to include the most recent requirements set forth by WV agencies responsible for the birth-three years. The certificate is free standing or can be taken with a degree program.

Required Courses

CDFS 110	Families Across the Life Span	3
CDFS 211	Infant Development	4
CDFS 430	Best Practices in Pre-K Movement	3
CDFS 431	Infant Toddler Language and Literacy	3
CDFS 432	Early Socio-Emotional Growth	3
CDFS 491A	Professional Field Experience	3
Total Hours		19

Certificate in Early Childhood Development

CERTIFICATE CODE - CU09

The Early Childhood Development Certificate is a specialized curriculum designed for those who work in Pre-K classrooms in the public school, Head Start and child care centers who must obtain a specific body of knowledge and need specific written recognition for their ability to work with preschool children.

There are 15 credit hours in the Early Childhood Development certificate program. The certificate program is not attached to a degree in Child Development and Family Studies. Credit hours earned in the Early Childhood Development certificate can be applied to degree requirements for those students who want to pursue a degree. This CDFS certificate will incorporate the West Virginia Core Knowledge and Core Competencies and the West Virginia Early Standards Framework: Early Learning Standards in order to include the most recent requirements set forth by WV agencies responsible for preschool children.

Required Courses

CDFS 110	Families Across the Life Span	3
CDFS 212	Early Childhood Development	3
CDFS 316	Child Development Practicum	3
CDFS 430	Best Practices in Pre-K Movement	3
CDFS 491A	Professional Field Experience	3
Total Hours		15

A cumulative college GPA of at least 2.5 is required for admission to the minor. CDFS minors take their courses online through Extended Learning. Minors in CDFS must earn grades of C or better in all courses with the CDFS course designator.

***NOTE: Students may not pursue all 3 of these minors. May only choose 2 from this group:**

- **Child Development and Family Studies**
- **Family and Youth**
- **Infant and Toddler**

CHILD DEVELOPMENT & FAMILY STUDIES MINOR

MINOR CODE - U081

CDFS 110	Families Across the Life Span	3
Select two of the following:		6
CDFS 210	Introduction to Parenting	
CDFS 211	Infant Development	
CDFS 212	Early Childhood Development	
Select three of the following:		9
CDFS 316	Child Development Practicum	
CDFS 412	Adolescent Development	
CDFS 413	Contemporary Issues in Family Relations	
CDFS 414	Adolescent Problems and Disorders	
CDFS 415	Family Interaction and Communication	
CDFS 421	Child Care Center Administration	
CDFS 422	Business of Child Care	
CDFS 430	Best Practices in Pre-K Movement	
Total Hours		18

FAMILY & YOUTH MINOR

MINOR CODE - U103

CDFS 110	Families Across the Life Span	3
CDFS 112	Introduction to Marriage and Family	3
Select one from the following:		
CDFS 210	Introduction to Parenting	3
CDFS 212	Early Childhood Development	3
Select three from the following:		
CDFS 412	Adolescent Development	3
CDFS 413	Contemporary Issues in Family Relations	3
CDFS 414	Adolescent Problems and Disorders	3
CDFS 415	Family Interaction and Communication	3
Total Hours		18

INFANT & TODDLER MINOR

MINOR CODE - U102

CDFS 110	Families Across the Life Span	3
CDFS 211	Infant Development	4
Select four from the following:		12
CDFS 210	Introduction to Parenting	
CDFS 421	Child Care Center Administration	
CDFS 430	Best Practices in Pre-K Movement	
CDFS 431	Infant Toddler Language and Literacy	
CDFS 432	Early Socio-Emotional Growth	
CDFS 491A	Professional Field Experience	
Total Hours		19

Regents Bachelor of Arts

Degree Offered

- Regents Bachelor of Arts

Regents Bachelor of Arts (RBA) Program

West Virginia University, through the College of Education and Human Services (CEHS), offers the Regents Bachelor of Arts (RBA) Program. Since its creation by the West Virginia State Board of Regents in 1975, WVU has granted over 4000 Regents Bachelor of Arts Degrees. Students at WVU's regional campus at Potomac State College earn their Regents BA degree through coordination with the Morgantown campus.

The RBA is an innovative degree program designed to meet the unique needs of the adult student. Specifically, this program provides students with a comprehensive general education based on individualized skills and learning outcomes. Moreover, eligible students may acquire college credits based on their professional experiences in select subject areas and earned certifications. This option may provide a more cost effective way in completing their education in a timely manner.

MISSION

The mission of the RBA program is to provide adult learners with an opportunity to achieve their academic and career goals through a first time Bachelor's degree. This is accomplished by providing the highest quality education, services and resources to promote student learning and academic success.

FEES

RBA tuition and fees are set according to the university and College of Education and Human Services standards.

COURSES

- EDP 102. Orientation to RBA. 1 Hour. For students beginning the Regents Bachelor of Arts degree program. The class provides orientation to the curriculum, policies, benefits, and academic merits of the RBA to help students take advantage of its unique features.
- EDP 401. RBA Portfolio Development. 2 Hours. The class is designed to help prepare RBA students who plan to petition for college equivalent credits through the portfolio option, including course selection, verification and narrative development.

ADDITIONAL INFORMATION IS AVAILABLE FROM:

RBA Degree Program
701 Allen Hall
West Virginia University
Morgantown, WV 26506-6122
Phone: (304) 293-5441
E-mail: rba@mail.wvu.edu
Web: rba.wvu.edu

ADMINISTRATION

DIRECTOR

- Gregory Epps - Ph.D. (West Virginia University)
Education Administration

DEVELOPMENTAL ADVISING SPECIALIST

- Semoa Desousa-Brown - Ph.D. (West Virginia University)
Natural Resource Economics
- Barbara Griffin - M.A. (West Virginia University)
Journalism
- Colton Metzger - M.A. (Wright State University)
Student Affairs in Higher Education

How to Apply to the RBA Program

Students apply to WVU through the Admissions Office. Following admittance, the student will fill out a brief application found on the front page of the WVU Office of Admissions (<http://admissions.wvu.edu>) website (Department code 4571)

To allow time for the student's application and transcripts to be processed through WVU Admissions, the RBA program recommends the following deadlines:

- **Fall Semester – Mid July**
- **Spring Semester – Mid November**
- **Summer Semester – Mid April**

Once the student's application and transcripts have been received and processed by the Admissions Office, this information will be copied and sent to the RBA office for approval. Upon approval, Admissions will send the student an acceptance letter with their Student ID number (WVU no longer uses Social Security Numbers for identification purposes). The student will also receive a MIX account username that gives access to their academic records, secure email systems and links to other information available regarding WVU. Any academic information must be submitted through the student's MIX email account. The Help Desk (304-293-4444) can assist any student with accessing their MIX account.

Students should contact the RBA office regarding deadlines, the application process or obtaining transcripts. Once the student has been admitted, they should contact the RBA office for assistance in registering for classes.

Admission Eligibility

HIGH SCHOOL GRADUATES

In order to be admitted to the RBA degree program a student must have graduated from high school at least four years prior to application.

GED STUDENTS

Students who have passed a high school equivalency examination are eligible for admission four years after their high school class graduated.

TRANSFER STUDENTS

Eligible students may transfer into the RBA program from other regionally accredited institutions or from other majors within WVU. Transfer credits from two-year colleges outside the West Virginia Regional Campus System are limited to 72 hours course credit hours.

RBA "F" FORGIVENESS

The RBA "F" forgiveness policy allows students to remove all failing grades four years prior to entering the RBA program from GPA calculations. This gives eligible students a second chance at completing their RBA degree by helping them meet the minimum GPA requirement. This process is only for first time admission to the RBA program and is not applied to future semesters or readmission to the program. RBA "F" forgiveness only applies to students who remain in the RBA program.

NOTE: Students with accredited baccalaureate degrees are not eligible for the Regents Bachelor of Arts degree. Students cannot double major with the Regents Bachelor of Arts degree.

College Equivalent Credits (CEC) and Fees

PORTFOLIOS

College Equivalent Credit can be awarded to students for selected work and life experiences that can be equated to college course work. Students can petition for credit for specific courses that relate to their work experience through the RBA portfolio option. The portfolio consists of developing:

- A resume that highlights experiences that are relevant to courses being petitioned.
- Narratives connecting work experiences with the learning outcomes of all courses petitioned.
- Relevant supporting documents to help substantiate petition(s).

It is highly recommended students take the portfolio development course or contact the RBA office for instructions. This unique process requires one-on-one in-depth advising and approval to begin developing a portfolio.

STANDARDIZED CREDITS

Certain professional courses and certifications can be awarded college credit through the RBA's Standardized Award process. The RBA program uses several different resources to research credit recommendations for professional courses and certifications. These include the West Virginia state RBA handbook and the American Council on Education (ACE). Courses that do not have a credit recommendation that would make them eligible for Standardized Award may be utilized as supporting documentation in the Portfolio option.

RESTRICTIONS

Students must have been admitted to the WVU RBA degree program in order to submit Portfolios or request Standardized Awards. Portfolio credit cannot be used to meet the residency requirement, but may be used to meet general education and upper division requirements. Portfolio credit may not

duplicate credit already on the student's transcript, and portfolio credit may not be transferred to other degrees. Courses or certifications issued credit via Standardized Award cannot be used as supporting documentation in the Portfolio option.

FEES

Requesting college equivalent credit (through the portfolio option or standardized awards) requires students to pay a standard CEC submission fee of \$300 and an additional \$10 per credit hour awarded through this process. Fees are billed through West Virginia University's Office of Student Accounts.

Degree Requirements

- **General Education:** The Regents Bachelor of Arts (RBA) assists students in developing a set of core competencies as a pillar of this degree. Each competency area requires students to meet specific learning outcomes. Guided by an academic advisor, students take courses in each area that meets the intended learning outcomes. (Minimum of 27 hours)
 - Communication Skills (6 hours) Outcome: Courses in this area must provide the student with skills and knowledge to be able to communicate effectively in a variety of formats.
 - Humanities (6 hours) Outcome: Courses in this area must demonstrate knowledge in the interdisciplinary study and philosophy of diverse cultures.
 - Social Science (6 hours) Outcome: Courses will demonstrate understanding of the development, diversity, and complexity of human behavior and institutions.
 - Natural or Physical Science (6 hours) Outcome: Courses in this area must provide an understanding of the physical world through the scientific method (understanding of the basic facts, principles, theories and methods of science)
 - Mathematics, Statistics, or Computer Science (3 hours)
- **Upper Division:** Upper division courses are those offered at the junior and senior levels and are usually numbered as 300- or 400-level courses. Upper division courses take the place of a major and may be taken in any subject area or a combination of areas as students wish. Areas of Emphasis also allow upper division course specializations. A maximum 12 teaching practicum hours will be accepted toward graduation. (Minimum of 39 hours)
- **Residency:** Students must complete a residency requirement of 24 hours of coursework taken at one or more institutions within West Virginia's public higher education system. Six of the 24 hours must be taken as upper division courses at WVU. (This is not the same as in-state and out-of-state residency and does not help a student obtain in-state residency.)
- **Total Hours:** RBA students must complete a minimum of 120 credit hours to be eligible for graduation. In addition to the coursework listed below, students can earn credit through academic portfolios for prior learning and experiences to reach 120 hours.
- **Grade Point Average:** Students must have a minimum GPA of 2.00 (on a 4-point scale) to be eligible for graduation.
- **Pass/Fail Grading:** Pass/fail grading encourages students to take elective courses not related to their degree concentrations. Pass/fail grading also facilitates grading in competency-based courses that may be an integral part of an academic program. Any full-time student who has completed 15 hours or more and who has maintained a 2.0 grade point average may take a maximum of 4 hours each semester or summer term on a pass/fail basis. Any course taken on a pass/fail basis must be a free elective. Students are limited to a total of 18 hours of pass/fail credit in the collegiate career. For additional information on this policy, visit the Pass/Fail Grading section (p. 28) of this catalog.

For a complete list of RBA Frequently Asked Questions, visit the RBA website: RBA Frequently Asked Questions (<http://rba.wvu.edu/faqs>)

Curriculum Requirements

Minimum GPA of 2.0 required.

Upper Division Course Requirement: 39 of the 120 credits taken must be at the 300 or 400 level.

General Education

Communication Skills	6
Select courses fulfilling GEF 1 or courses fulfilling this outcome and approved by an advisor.	
Humanities	6
Select courses fulfilling GEF 4 or 6, or courses fulfilling this outcome and approved by an advisor.	
Social Science	6
Select courses fulfilling GEF 5 or 7, or courses fulfilling this outcome and approved by an advisor.	
Natural or Physical Science	6
Select courses fulfilling GEF 2, or courses fulfilling this outcome and approved by an advisor.	
Mathematics, Statistics, or Computer Science	3
Select courses fulfilling GEF 3, or courses fulfilling this outcome and approved by an advisor.	
Additional GEF course requirement	9
Select courses fulfilling GEF 2,3,4,5,6 or 7	

Electives	84
Total Hours	120

Areas of Emphasis

Areas of Emphasis (AOE) and/or Minors are an optional feature of the RBA degree. In some curriculum areas the faculty have identified a set of courses that constitute an Area of Emphasis. All AOE's require a minimum of fifteen hours of upper division (300 level or above) course work in some academic area. In some cases lower division prerequisites may also be required. The AOE courses are determined by faculty, not students.

Some departments specify all the courses for the AOE; other departments allow students to select most of the courses. Only regular courses completed with a "C" or better can count toward the AOE and earned AOE's are noted on the student's transcript.

Minors are offered by each college and can be declared by RBA students. There are no limits on how many AOE's or Minors that can be declared. Courses cannot overlap and a student cannot declare an AOE and Minor in the same discipline. AOE's are listed below. Minors offered by individual colleges within WVU are found at <http://catalog.wvu.edu/undergraduate/minors/>.

AREAS OF EMPHASIS OFFERED

- Advertising (p. 665)
- American History (p. 666)
- Business Administration (p. 666)
- Child Development (p. 666)
- Chinese Studies (p. 667)
- Communication Studies (p. 667)
- Creative Writing (p. 667)
- Economics (p. 668)
- Foreign Literature in Translation (p. 668)
- French (p. 668)
- Geology (p. 668)
- German (p. 669)
- History (p. 669)
- International Studies: African & Middle East (p. 670)
- International Studies: Asia (p. 670)
- International Studies: Development Studies (p. 671)
- International Studies: Europe (p. 671)
- International Studies: The Americas (p. 672)
- Italian Studies (p. 672)
- Japanese Studies (p. 673)
- Linguistics (p. 673)
- Literature (p. 674)
- Native American Studies (p. 674)
- Philosophy (p. 675)
- Professional Writing (p. 675)
- Psychology (p. 675)
- Public Relations (p. 675)
- Religious Studies (p. 676)
- Russian Studies (p. 676)
- Sociology (p. 676)
- Spanish (p. 676)
- Teaching English as a Second Language (p. 677)
- Women's Studies (p. 677)

Advertising Requirements

Minimum grade of C- required in all courses.

ADV 215	Principles of Advertising	3
ADV 309	Advertising and Creativity	3
ADV 409	Advertising Research and Media	3
ADV 419	Advertising Strategies	3
One course from the list below:		3
JRL 361	Media Relations In Sport	
JRL 419	Entertainment Reporting	
JRL 432	Social Media Strategy	
JRL 433	Social Media Applications	
JRL 434	Social Media Campaigns	
JRL 450	Writing for Health Promotion	
JRL 452	Applied Health Promotion	
JRL 454	Health Promotion Campaigns	
Total Hours		18

History Requirements

Minimum grade of C required in all courses.

Select 5 courses from the following:		15
HIST 304	History of Sacred Places	
HIST 350	The Aztec, Maya, and Inca	
HIST 353	1920s America	
HIST 412	Introduction to Public History	
HIST 421	Hitler and the Third Reich	
HIST 422	Twentieth-Century Germany from Weimar to Bonn	
HIST 442	Eighteenth Century America	
HIST 453	Civil War and Reconstruction	
HIST 460	World War II in America	
HIST 473	Appalachian Regional History	
HIST 477	Working Class America	
Total Hours		15

Business Administration Requirements

Minimum grade of C required in all courses.

BUSA 202	Survey of Accounting	3
ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
BUSA 310	Survey of Business Law	3
BUSA 320	Survey of Management	3
BUSA 330	Survey of Marketing	3
BUSA 340	Survey of Finance	3
Select 1 additional upper division ECON or ENTR course		3
Total Hours		24

Child Development Requirements

Must have a C- grade or better in all CDFS designated courses

Prerequisite		
CDFS 110	Families Across the Life Span	3
Two of the following courses/pre requisites depending on upper level options		6
CDFS 112	Introduction to Marriage and Family	
CDFS 210	Introduction to Parenting	

CDFS 211	Infant Development	
CDFS 212	Early Childhood Development	
CDFS 250	Research Methods and Data Analysis (writing course recommended for prior support for CDFS 400 level courses)	
Three Courses-upper level:		9
CDFS 316	Child Development Practicum (need 212 prior)	
CDFS 412	Adolescent Development (need 212)	
CDFS 413	Contemporary Issues in Family Relations (need 212)	
CDFS 414	Adolescent Problems and Disorders (need 212)	
CDFS 415	Family Interaction and Communication (need 212)	
CDFS 430	Best Practices in Pre-K Movement (need 211 or 212)	
CDFS 431	Infant Toddler Language and Literacy (need 211 prior)	
CDFS 432	Early Socio-Emotional Growth (Need 211 prior)	
Total Hours		18

Chinese Studies

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493 or credit obtained through credit by examination).

Core Language Courses: 9

Select 3 courses from the following:

CHIN 301	Third Year Chinese 1	
CHIN 302	Third Year Chinese 2	
CHIN 303	Readings in Modern Chinese 1	
CHIN 304	Readings in Modern Chinese 2	
CHIN 461	Business Chinese	
CHIN 465	Chinese Media	

Upper-division Study Abroad Courses

Culture Requirement 3

FCLT 210	Chinese Civilization and Culture	
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Electives 3

Select 1 course from the following:

Alternate Upper-division course in Chinese language		
Alternate FLIT or FCLT courses in Chinese literature or culture.		
Courses from another related field in or outside of the department (with approval of advisor)		

Total Hours 15

Communication Studies Requirements

Select any COMM 300-400 level courses with a grade of 'C-' or higher (Excluding COMM 490 and 491) 15

Creative Writing Requirements

Minimum grade of C required in all courses.

Select two from the following: 6

ENGL 212	Creative Writing: Fiction	
ENGL 213	Creative Writing: Poetry	
ENGL 214	Creative Writing: Non-Fiction	

Select 5 additional courses from the following: 15

ENGL 303	Multimedia Writing	
ENGL 312	Creative Writing Workshop: Fiction	
ENGL 313	Creative Writing Workshop: Poetry	
ENGL 314	Creative Writing Workshop: Non-Fiction	

ENGL 318	Topics in Creative Writing	
Total Hours		21

Economics Requirements

Minimum grade of C required in all courses.

ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
ECON 301	Intermediate Micro-Economic Theory	3
ECON 302	Intermediate Macro-Economic Theory	3
Select 3 upper division courses (Excluding ECON 490 and 491)		9
Total Hours		21

Foreign Literature in Translation Requirements

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493)

A minimum of 9 credits must be earned at the 300 level or above.

National Literature or Culture Group 1: 3-12

Complete at least one course from the following areas:

French: FLIT or FCLT courses 230-239, 330-339, 430-439

Italian: FLIT or FCLT courses 240-249, 340-349, 440-449

Japanese: FLIT or FCLT courses 200-209, 300-309, 400-409

Russian: FLIT or FCLT courses 250-259, 350-359, 450-459

Spanish: FLIT or FCLT courses 260-269, 360-369, 460-469

National Literature or Culture Group 2: 3-12

Complete at least one course from the following areas:

An alternate area from above

Another area: 280-289, 380-389, 480-489

Total Hours		15
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French Requirements

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493 or credit obtained through credit by examination).

Core Language Courses: 6

Select 2 courses from the following:

FRCH 301 Language Through Civilization

FRCH 302 Language Through Culture

FRCH 303 Structure and Communication

FRCH 304 Advanced Readings

Electives 9

3 courses selected from the following:

Alternate 301-304 courses

Additional Upper-division French courses

Up to 3 credits in any FLIT 230-239, 330-330, FCLT 230-230, 330-339, or LING 311.

Total Hours		15
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Geology Requirements

Minimum grade of C required in all courses.

GEOL 101	Planet Earth	3
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GEOL 102	Planet Earth Laboratory	1
GEOL 103	Earth Through Time	3
GEOL 104	Earth Through Time Laboratory	1
Select 12 hours from the following:		12
GEOG 350	Geographic Information Systems and Science	
GEOL 200	Geology for Environmental Scientists	
GEOL 284	Mineralogy	
GEOL 285	Introductory Petrology	
GEOL 300	Geology of West Virginia	
GEOL 302	Geology of the National Parks	
GEOL 311	Stratigraphy and Sedimentation	
GEOL 321	Geomorphology	
GEOL 331	Paleontology	
GEOL 342	Structural Geology for Engineers	
GEOL 365	Environmental Geology	
GEOL 373	Introduction to Petroleum Geology	
GEOL 411	Deep Time Earth Systems	
GEOL 454	Environmental and Exploration of Geophysics 1	
GEOL 455	Introduction to Remote Sensing	
or GEOG 455	Introduction to Remote Sensing	
GEOL 462	Introductory Hydrogeology	
Total Hours		20

German Requirements

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493 or credit obtained through credit by examination).

Core Language Courses: 6

Select 2 courses from the following:

GER 301	Conversations in Context 1: Germany and its Past
GER 302	Conversations in Context 2: Germany Today
GER 303	Communication through Culture: Building the German Nation
GER 304	Stories and Histories: Reading and Writing German- Speaking Culture

Electives 9

3 courses selected from the following:

Alternate 301-304 courses
Additional Upper-division German courses beyond 204
Up to 3 credits in FLIT 220-220, 320-329, FCLT 220-229, 320-329, LING 311, or a course in a directly related area approved by the department.

Total Hours 15

History Requirements

Minimum grade of C required in all courses.

Select 5 courses from the following: 15

HIST 304	History of Sacred Places
HIST 350	The Aztec, Maya, and Inca
HIST 353	1920s America
HIST 412	Introduction to Public History
HIST 421	Hitler and the Third Reich
HIST 422	Twentieth-Century Germany from Weimar to Bonn
HIST 442	Eighteenth Century America

HIST 453	Civil War and Reconstruction	
HIST 460	World War II in America	
HIST 473	Appalachian Regional History	
HIST 477	Working Class America	
Total Hours		15

International Studies: African & Middle East Requirements

Minimum grade of C required in all courses.

Select 1 of the following:		3
ECON 451	International Economics	
ECON 454	Comparative Economic Systems	
GEOG 302	Political Geography	
GEOG 310	Global Issues	
HIST 463	American Foreign Relations to 1941	
HIST 464	American Foreign Relations 1941 to Present	
POLS 364	American Foreign Relations	
POLS 368	Politics of War and Peace	
Select 4 courses from the following, from 3 different departments:		12
ECON 455	Economic Development	
GEOG 243	Geography of Africa	
GEOG 244	Geography of the Middle East	
GEOG 411	Rural and Regional Development	
HIST 427	East Africa to 1895	
HIST 428	East Africa Since 1895	
HIST 433	West Africa to 1885	
HIST 434	West Africa from 1885	
MUSC 477	Music of Africa	
POLS 356	Politics of the Middle East	
POLS 358	Politics of Africa	
SOCA 351	Traditional and Changing Africa	
Total Hours		15

International Studies: Asia Requirements

Minimum grade of C required in all courses.

Select 1 of the following:		3
ECON 451	International Economics	
ECON 454	Comparative Economic Systems	
GEOG 302	Political Geography	
GEOG 310	Global Issues	
HIST 463	American Foreign Relations to 1941	
HIST 464	American Foreign Relations 1941 to Present	
POLS 364	American Foreign Relations	
POLS 368	Politics of War and Peace	
Select 4 courses from the following, from 3 different departments:		12
ECON 455	Economic Development	
GEOG 411	Rural and Regional Development	
HIST 325	Modern China	
HIST 326	Modern Japan	
POLS 350	Government of Japan	
POLS 354	Government of China	

POLS 369	Far East International Affairs	
Total Hours		15

International Studies: Development Studies Requirements

Minimum grade of C required in all courses.

Select 1 of the following:		3
ECON 451	International Economics	
ECON 454	Comparative Economic Systems	
GEOG 302	Political Geography	
GEOG 310	Global Issues	
HIST 463	American Foreign Relations to 1941	
HIST 464	American Foreign Relations 1941 to Present	
POLS 364	American Foreign Relations	
POLS 368	Politics of War and Peace	
Select 4 courses from the following, from 3 different departments:		12
ECON 455	Economic Development	
GEOG 411	Rural and Regional Development	
GEOG 412	Geography of Gender	
HIST 325	Modern China	
HIST 428	East Africa Since 1895	
HIST 433	West Africa to 1885	
HIST 434	West Africa from 1885	
POLS 354	Government of China	
POLS 356	Politics of the Middle East	
POLS 358	Politics of Africa	
SOCA 350	Latin American Culture	
SOCA 351	Traditional and Changing Africa	
Total Hours		15

International Studies: Europe Requirements

Minimum grade of C required in all courses.

Select 1 of the following:		3
ECON 451	International Economics	
ECON 454	Comparative Economic Systems	
GEOG 302	Political Geography	
GEOG 310	Global Issues	
HIST 463	American Foreign Relations to 1941	
HIST 464	American Foreign Relations 1941 to Present	
POLS 364	American Foreign Relations	
POLS 368	Politics of War and Peace	
Select 4 courses from the following, from 3 different departments:		12
FRCH 432	Contemporary Culture	
FRCH 461	Commercial French 1	
GEOG 411	Rural and Regional Development	
GER 440	German Cultural History: 350-1700	
GER 441	German Cultural History Since 1945	
HIST 314	France Since 1815	
HIST 416	The French Wars of Religion	
HIST 417	World War II in Europe	
HIST 419	Revolutionary Russia: 1900-1953	
HIST 416	The French Wars of Religion	

HIST 417	World War II in Europe
HIST 418	Eastern Europe Since 1945
HIST 419	Revolutionary Russia: 1900-1953
HIST 420	USSR and After: 1953 to Present
HIST 421	Hitler and the Third Reich
HIST 422	Twentieth-Century Germany from Weimar to Bonn
HIST 432	Eighteenth Century Britain: 1715-1832
POLS 351	Russian and Post-Soviet Politics
POLS 353	Western Democratic Governments
RUSS 341	Survey of Russian Literature
RUSS 342	Survey of Russian Literature
SPAN 340	Culture of Spain
SPAN 342	Modern Literature of Spain
SPAN 361	Commercial Spanish
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Total Hours	15

International Studies: The Americas Requirements

Minimum grade of C required in all courses.

Select 1 of the following:	3
ECON 451	International Economics
ECON 454	Comparative Economic Systems
GEOG 302	Political Geography
GEOG 310	Global Issues
HIST 463	American Foreign Relations to 1941
HIST 464	American Foreign Relations 1941 to Present
POLS 364	American Foreign Relations
POLS 368	Politics of War and Peace
Select 4 courses from the following, from 3 different departments:	12
ECON 455	Economic Development
GEOG 411	Rural and Regional Development
HIST 441	Seventeenth Century Colonial America
HIST 442	Eighteenth Century America
POLS 355	Governments of Latin America
SPAN 331	Early Spanish American Literature
SPAN 332	Modern Spanish American Literature
SPAN 361	Commercial Spanish
SPAN 431	Caribbean Literature
SOCA 350	Latin American Culture
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Total Hours	15

Italian Studies Requirements

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493 or credit obtained through credit by examination).

Core Language Courses:	6
Select 2 courses from the following:	
ITAL 301	Language Through Culture
ITAL 302	Italian Through Film
ITAL 303	Composition and Conversation
ITAL 304	Advanced Conversation
ITAL 331	Survey of Italian Literature 1

ITAL 332	Survey of Italian Literature 2	
Electives		9
3 courses selected from the following areas:		
1. Unrestricted Electives		
Alternative ITAL courses 301-332		
ITAL 371	L'Italia Dal Vivo	
ITAL 431	Italian Folktales	
ITAL 432	Modern Italian Civilization	
CLAS 231	Greek and Roman Civilization and Culture	
CLAS 232	Greek and Roman Myths	
FCLT 240	Italian-American Experience	
FCLT 340	Italian Cinema 1945 to Present	
LING 311	Introduction to Structural Linguistics	
Select ARHS, HIST, HUM courses available on the World Language website.		
2. Restricted Electives		
Up to 6 hours from ARHS or HIST courses.		
Total Hours		15

Japanese Studies Requirements

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493 or credit obtained through credit by examination).

Core Language Courses:		9
Select 3 courses from the following:		
JAPN 301	Conversation and Composition 1	
JAPN 302	Conversation and Composition 2	
JAPN 303	Advanced Structure	
JAPN 304	Advanced Reading	
JAPN 441	Japanese Culture	
Upper-division JAPN Study Abroad		
Culture Requirement		3
Select 1 from the following:		
FCLT 206	Introduction to Japanese Culture	
FCLT 306	Japanese Culture and Cinema	
Elective		3
Any alternate 300 or 400 level JAPN course		
HIST 326	Modern Japan	
LING 311	Introduction to Structural Linguistics	
POLS 338	Environmental Policy	
POLS 350	Government of Japan	
RELG 231	Religions of China and Japan	
Any alternate FCLT or FLIT courses at the 200 or 300 level		
Total Hours		15

Linguistics Requirements

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493).

Core Language Courses:		9
Select 3 courses from the following:		
LING 311	Introduction to Structural Linguistics	
or LING 101	Introduction to Language	
LING 411	Phonology	

LING 412	Syntax	
Electives		6
2 courses selected from the following:		
ENGL 321	History of the English Language	
ENGL 329	Topics in English Language	
FRCH 402	Phonetics and Pronunciation	
GER 222	German Pronunciation	
LANG 322	Second Language Acquisition	
LANG 421	The Teaching of Foreign Languages	
LING 402	Structure of Modern French	
LING 501	Structure of Spanish	
LING 511	English as a Second Language Linguistics	
LING 514	Sociolinguistics	
SPAN 350	Phonetics and Pronunciation	
Total Hours		15

Literature Requirements

Minimum grade of C required in all courses.

ENGL 200	Foundations of Literary Study	3
Select 1 of the following:		3
ENGL 225	Western World Literature	
ENGL 226	Non-Western World Literature	
ENGL 232	Poetry	
ENGL 233	The Short Story	
ENGL 234	Drama	
ENGL 235	Novel	
ENGL 236	The Bible as Literature	
ENGL 241	American Literature 1	
ENGL 242	American Literature 2	
ENGL 261	British Literature 1	
ENGL 262	British Literature 2	
Select 15 credits of upper division courses (Excluding ENGL 490 and 491)		15
Total Hours		21

Native American Studies Requirements

Minimum grade of C required in all courses.

NAS 200	Introduction: Native American Studies	3
ENGL 156	Literature of Native America	3
HIST 264	American Indian History	3
Select 5 additional courses from the following:		15
NAS 491	Professional Field Experience	
NAS 493	Special Topics	
NAS 495	Independent Study	
ENGL 356	Topics in Native American Literature	
ENGL 387	Topics in Women's Literature	
HIST 441	Seventeenth Century Colonial America	
HIST 442	Eighteenth Century America	
Total Hours		24

Philosophy Requirements

Minimum grade of C required in all courses.

PHIL 130	Current Moral Problems	3
Select 6 credits of lower division PHIL courses.		6
PHIL 323	Social and Political Philosophy	3
PHIL 325	Philosophy of Law	3
Select 9 credits of upper division PHIL courses (Excluding PHIL 490 and 491)		9
Total Hours		24

Professional Writing Requirements

Minimum grade of C required in all courses.

ENGL 101	Introduction to Composition and Rhetoric	3
ENGL 102	Composition, Rhetoric, and Research	3
ENGL 301	Writing Theory and Practice	3
ENGL 302	Editing	3
ENGL 303	Multimedia Writing	3
or ENGL 306	Topics in Humanities Computing	
ENGL 304	Business and Professional Writing	3
or ENGL 305	Technical Writing	
ENGL 491A	Professional Field Experience	3
Total Hours		21

Psychology Requirements

An overall GPA of 2.0 across courses applied toward the AOE is required. Courses taken as P/F do not count toward the total 18 hours of coursework.

PSYC 101	Introduction to Psychology (minimum grade of C-)	3
PSYC 304	Critical Thinking in Psychology	3
Select 12 additional PSYC credits, including 6 at the 300-400 level (in addition to PSYC 304). PSYC 490, 491, 495 may not be applied to the Psychology minor.		12
Total Hours		18

Public Relations Requirements

Minimum grade of C- required in all courses.

JRL 101	Media and Society	3
PR 215	Introduction to Public Relations	3
PR 301	Writing for Public Relations	3
PR 401	Applied Public Relations	3
PR 410	Integrated Marketing Communications for Public Relations	3
One course from the list below:		3
PR 431	Promotion for Entertainment Media	
PR 433	Entertainment Media Campaigns	
PR 437	Event Promotion	
PR 412	IMC for Sport	
PR 436	Event Planning	
PR 438	Event Execution	
PR 432	Entertainment Media Branding	
Total Hours		18

Religious Studies Requirements

Minimum grade of C required in all courses.

RELG 102	Introduction to World Religions	3
RELG 301	Studies in Asian Scriptures	3
RELG 302	Studies in Islamic Scriptures	3
RELG 303	Studies in Christian Scripture	3
RELG 304	Studies in Hebrew Scriptures	3
RELG 305	Biblical History/Archaeology	3
RELG 310	Historical Theology	3
RELG 350	Biblical Ethics/Current Issues	3
RELG 410	Apocalypse	3

Total Hours		27
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Russian Studies Requirements

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493 or credit obtained through credit by examination).

Core Language Courses:		12
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Select 4 courses from the following:

RUSS 301	Conversation and Composition 1	
RUSS 302	Conversation and Composition 2	
RUSS 303	Advanced Structure and Reading 1	
RUSS 304	Advanced Structure and Reading 2	
RUSS 331	The Russian Short Story	
RUSS 332	The Russian Short Story	
RUSS 341	Survey of Russian Literature	
RUSS 342	Survey of Russian Literature	
RUSS 451	Russian Culture	

Elective		3
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1 course selected from the following or with approval of advisor:		3
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Any alternate upper-division courses in Russian		
FCLT 250	Russian Fairy Tales	
FCLT 280	Science Fiction: East and West	
FLIT 256	Russian Literature Translation 1	
FLIT 257	Russian Literature Translation 2	

Total Hours		18
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Sociology Requirements

Minimum grade of C required in all classes.

SOCA 101	Introduction to Sociology	3
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Select 15 credits of Upper-division hours excluding SOCA		15
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Total Hours		18
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Spanish Requirements

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus (exclusive of courses number 493 or credit obtained through credit by examination).

Core Language Courses:		6
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Select 2 courses from the following:

SPAN 311	Readings in Spanish	
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SPAN 312	Writing in the Hispanic World	
SPAN 313	Spanish Through Media	
SPAN 314	Spanish Conversation	
or SPAN 310	Spanish for Heritage Speakers	
Electives		9
3 courses selected from the following:		
Alternate SPAN 310-314 courses		
Additional Upper-division SPAN courses		
Up to 3 credits in FLIT 260-269, 360-369, FCLT 260-269, 360-369, LING 311, or a course in a directly related area approved by the department		
Total Hours		15

Teaching English as a Second Language

Minimum grade of C required in all courses.

At least 6 credits of upper-division courses must be completed on campus on campus (exclusive of courses numbered 493)

LING 311	Introduction to Structural Linguistics	3
LANG 322	Second Language Acquisition	3
LANG 421	The Teaching of Foreign Languages	3
LING 511	English as a Second Language Linguistics	3
LANG 422	Second Language Reading	3
LING 512	Applied Linguistics	3
LING 514	Sociolinguistics	3
Total Hours		21

Women's Studies Requirements

Minimum grade of C required in all courses.

WGST 170	Introduction to Women's and Gender Studies	1-3
WGST 330	Feminist Theory	3
CDFS 413	Contemporary Issues in Family Relations	3
Complete Option 1 or 2 as described below.		12

Option 1:

12 credits of upper division courses (No more than 3 credits of WGST 490)

Option 2

Select 12 credits from the following:

ENGL 385	American Women Writers	
ENGL 386	British Women Writers	
ENGL 388	Topics in Gay/Lesbian Studies	
GEOG 412	Geography of Gender	
HIST 445	History of American Women	
POLS 337	Gender/Politics and Policy	
SOCA 360	Women and Men in Society	
SOCA 405	Class, Status, and Power	

Total Hours		19-21
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Learning Goals

- Develop foundational habits of academic life and cultural literacy; disciplinary ways of knowing and posing questions; conducting inquiry; making arguments; close reading, analysis, critical thinking; numerical analysis and scientific method; effective writing and speaking; academic research; systematic problem solving; rigorous academic study
- Develop and refine skills of Learning Goal 1; encounter and examine issues of multiculturalism, diversity, social justice, and citizenship; refines over-reaching area of emphasis

- Integrate learning; apply knowledge and skills to contemporary problems and ethical quandaries; self-reflective projects and narratives; connect past with future

Department of Special Education

Degree Offered

- Bachelor of Multidisciplinary Studies (BMdS in Education and Human Services)

The Multidisciplinary Studies (MDS) in Education and Human Services (EDHS) degree program in the College of Education and Human Services (CEHS) is designed to provide undergraduates with a broad understanding of their chosen education and human service areas and a set of skills to help them become employable after graduation in careers in education and human services. Some students may organize the major in preparation for graduate work in specific disciplines such as Counseling, Education or Special Education. Other students may select minor areas that will qualify them to specific career opportunities. This program does not confer any professional certification or licensure.

The EDHS Bachelor of Multidisciplinary Studies is comprised of three minors. Two minors must be from within the College of Education and Human Services; the third minor is not limited to any particular college or school, but should be selected to complement the EDHS minors.

The current minors in the College include:

- Child Development and Family Studies*
- Disability Studies
- Early Intervention
- Family and Youth*
- Human Services
- Infants and Toddlers*
- Special Education

*Students are not permitted to complete all three of these minors.

The EDHS/MDS program provides a list of career tracks illustrating how the minors can be combined to provide students with knowledge, skills, and experiences that will enhance their qualifications for specific careers in education or human services occupations. However, a student may also propose a combination of minors but they must demonstrate how the three chosen fields of study work together toward his/her educational and/or career goals. For example, one student may choose the areas of Family and Youth, Human Services, and Business Administration with the goal of a career in the administrative side of an agency that serves a diverse client base. Another student may choose the areas of Disability Studies, early Intervention, and Infants and Toddlers, to prepare for a career as a Developmental Specialist in Birth to Three Services. The combinations and career options provide multiple pathways to a meaningful and satisfying career working with children or adults in education and human services.

Students who earn a degree in the Education and Human Services Multidisciplinary Studies program in the College of Education and Human Services must complete University requirements, College requirements for their specific degree program, and their three minor requirements. At the end of the program, students complete a capstone project that incorporates content from the three minor areas.

Admissions

Admission to the MDS program in Education and Human Services is approved for several groups of students:

- a. incoming freshmen upon regular admission to WVU, if they have a minimum cumulative high school grade point average of at least 3.0.
- b. transfer students from another college or university upon regular admission to WVU, if they have a minimum cumulative undergraduate GPA of at least 2.5
- c. transfer students from another school or college within WVU, if they have a minimum cumulative undergraduate GPA of at least 2.5
- d. transfer students from within the College of Education and Human Services, if they have a minimum cumulative undergraduate GPA of at least 2.5

Once students are admitted to the MDS program, they will be assigned an advisor who will work with them to declare their three minors and plan a program of study.

[Click here to view the Suggested Plan of Study \(p. 680\)](#)

Degree Requirements for Multidisciplinary Studies in Education/Human Services (BMDS)

Students who earn a degree in the undergraduate program in Multidisciplinary Studies in Education and Human Services in the College of Education and Human Services must complete University requirements, College requirements for their specific degree program, and their three minor requirements. A minimum grade of C- is required in all minor area courses and in the capstone course.

GENERAL EDUCATION CURRICULUM

Please use this link to view a list of courses that meet each GEF requirement. (http://registrar.wvu.edu/current_students/general_education_curriculum)

NOTE: Minor course requirements may not be used to fulfill GEF requirements.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

UNIVERSITY REQUIREMENTS

FIRST YEAR SEMINAR

WVUE 191	First Year Seminar	1
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GENERAL EDUCATION FOUNDATIONS CURRICULUM REQUIREMENTS

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research (GEF1) Accelerated Academic Writing	3-6
GEF 2A/B Science and Technology		4-6
GEF 3 Mathematics & Quantitative Skills		3
GEF 4 Society & Connections		3
GEF 5 Human Inquiry & The Past		3
GEF 6 The Arts & Creativity		3
GEF 7 Global Studies & Diversity		3
GEF 8 Focus Coursework (choose any three additional GEF courses)		9

MAJOR REQUIREMENTS

A minimum cumulative GPA of 2.5 required

EDHS 100	Orientation to Multidisciplinary Studies in Education and Human Services	1
EDHS 200	Professional Inquiry in Education and Human Services	3
EDHS 489	Capstone Project: Multidisciplinary Studies in Education and Human Services (fulfills Writing and Communication Skills requirement)	3

A minimum grade of C- in all minor courses required

CEHS MINOR 1		15-19
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CEHS MINOR 2		15-18
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CEHS MINOR 3 OR MINOR OUTSIDE OF CEHS		15-18
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ELECTIVES (number of electives may vary depending on GEF overlap with minors selected) *		36-21
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Total Hours		120
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* A minimum of 30 hours of coursework for the degree must be at the 300 level or higher.

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 102 (GEF 1)	3
ENGL 101 (GEF 1)	3 Minor 1 Course 2	3
GEF 5	3 GEF 4	3
GEF 7	3 GEF 6	3
Minor 1 Course 1	3 General Elective	3
General Elective	3 EDHS 100	1
	16	16

Second Year

Fall	Hours Spring	Hours
MATH 121 or higher (GEF 3)	3 Minor 2 Course 2	3
GEF 2	4 Minor 2 Course 3	3
Minor 1 Course 3	3 GEF 8	3
Minor 2 Course 1	3 General Elective	3
Minor 3 Course 1	3 General Elective	3
	16	15

Third Year

Fall	Hours Spring	Hours
EDHS 200 or equivalent	3 Minor 3 Course 4	3
Minor 1 Course 4	3 Minor 2 Course 4	3
Minor 3 Course 3	3 Minor 1 Course 5	3
Minor 3 Course 4	3 GEF 8	3
GEF 8	3 General Elective or Minor Course	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
Minor 1 Course 5	3 EDHS 489 Capstone Project	3
Minor 2 Course 5	3 Minor 3 Course 5	3
Minor 3 Course 4	3 General Elective	3
General Elective or Minor Course	3 General Elective	3
General Elective or Minor Course	3	
	15	12

Total credit hours: 120

Major Learning Goals**MULTIDISCIPLINARY STUDIES IN EDUCATION/HUMAN SERVICES**

This program has been designed so that program graduates can accomplish the following learning goals:

- Develop knowledge and skills related to content in three minor areas in education and human services and related fields of study.
- Integrate content from minor areas to study a problem of practice in education and human services.
- Prepare and present professional products that identify, discuss and propose solutions for a problem of practice in education and human services.
- Identify career options and pathways to future careers related to education and human services.

CERTIFICATE CODE - CU04

The Certificate in Disability Studies prepares students, as citizens, to cope with the complex economic and social issues related to disabilities by learning directly from persons with disabilities and their families. Students will be trained to enter the workforce with the knowledge, skills, and experience needed to provide state-of-the-art services to persons with disabilities and their families, and to interact with co-workers who have disabilities.

Through the certificate program, students collaborate with, and learn from experts in the disability arena, including pediatric neurologists, geneticists, speech-language pathologists, audiologists, special education leaders, social workers, physical and occupational therapists, and others. These professionals, who are experienced clinicians, researchers, and educators, provide didactic instruction, clinical instruction, and mentorship to students.

Students will also have the opportunity to gain leadership and management skills that prepare them to enter the workforce with increased professional independence. The certificate program exposes students to social justice issues, Appalachian concerns, principles of practice, and cultural diversity while developing their expertise in rural practice environments. As part of the certificate program, students have the opportunity to observe clinics that serve those with disabilities and their families.

At least a B- is required in all certificate coursework.

Required Courses

DISB 380	Disability and the Family	3
DISB 385	Disability and Society	3
Electives (No more than 9 hours from a single subject)*		9
*A project, clinical experience, or research that relates the student's major with persons with disabilities required.		
Capstone Experience		
DISB 486	Capstone Portfolio: Disability	1
Total Hours		16

Benjamin M. Statler College of Engineering and Mineral Resources

Contact Information

Website: <http://www.statler.wvu.edu>

E-mail: statler-info@mail.wvu.edu

Phone: (304) 293-4821

Degrees Offered

- Bachelor of Science in Aerospace Engineering (B.S.A.E.)
- Bachelor of Science in Biomedical Engineering (B.S.Bm.E.)
- Bachelor of Science in Biometric Systems (B.S.B.S.)
- Bachelor of Science in Chemical Engineering (B.S.Ch.E.)
- Bachelor of Science in Civil Engineering (B.S.C.E.)
- Bachelor of Science in Computer Engineering (B.S.Cp.E.)
- Bachelor of Science in Computer Science (B.S.C.S.)
- Bachelor of Science in Electrical Engineering (B.S.E.E.)
- Bachelor of Science in Industrial Engineering (B.S.I.E.)
- Bachelor of Science in Mechanical Engineering (B.S.M.E.)
- Bachelor of Science in Mining Engineering (B.S.Min.E.)
- Bachelor of Science in Petroleum and Natural Gas Engineering (B.S.P.N.G.E.)

Dual Degrees Offered

- Aerospace Engineering and Mechanical Engineering
- Biometric Systems and Computer Engineering
- Biometric Systems and Electrical Engineering
- Civil Engineering and Mining Engineering
- Computer Engineering and Computer Science
- Computer Engineering and Electrical Engineering
- Mining Engineering and Geology

Nature of Program

The Benjamin M. Statler College of Engineering and Mineral Resources (Statler College) undergraduate degree programs are administered through seven academic departments:

- Chemical and Biomedical Engineering
- Civil and Environmental Engineering
- Lane Department of Computer Science and Electrical Engineering
- Industrial and Management Systems Engineering
- Mechanical and Aerospace Engineering
- Mining Engineering
- Petroleum and Natural Gas Engineering

All undergraduate programs are recognized by industry as providing excellent preparation for the engineering profession. They are planned to give students a balanced background in the basic sciences, engineering sciences, engineering analysis, the humanities, and the social sciences. In addition, each curriculum features creative programs in engineering synthesis and design. This blend of science and practice gives students the tools to solve today's problems and the background to develop the expertise needed for their future success in the profession. Our graduates enjoy a multitude of career opportunities in our nation's most vital industries.

The Statler College is committed to providing high-quality educational programs for all undergraduate students, so that graduates of the College will:

- Be proficient in their chosen field
- Develop and maintain professional ethics and understand the comprehensive impact of engineering solutions on a diverse and global society

- Continue in their education on a life-long basis through both formal study and self-directed inquiry

The faculty uses modern teaching techniques including programmed material, guest lectures by visiting authorities, team projects, and in-house industrial assignments to provide a breadth of training experiences. Teaching laboratories are equipped with modern instruments, machines, and tools to improve and enrich the student's understanding of engineering principles and problems. Numerous computer laboratories and facilities are available for classroom work.

College programs are geared to provide graduates with a sound background upon which to enter the industrial workforce or to pursue graduate study in engineering, medicine, law, or business. A number of industries in West Virginia and the region provide meaningful and financially rewarding summer employment for students. These training opportunities often lead to professional positions upon graduation.

Accreditation

ABET is recognized by the U.S. Department of Education and the Council on Post-secondary Accreditation (COPA) as the sole agency responsible for accreditation of educational programs leading to degrees in engineering and computer science. ABET accomplishes its accreditation mission through its commissions, the Engineering Accreditation Commission (EAC) and the Computing Accreditation Commission (CAC). ABET, through its commission, establishes criteria and standards for accreditation of engineering and computer science programs at colleges and universities. The following baccalaureate programs in the Benjamin M. Statler College of Engineering and Mineral Resources are accredited by ABET (<http://www.abet.org>).

- Bachelor of Science in Aerospace Engineering (B.S.A.E.)
- Bachelor of Science in Chemical Engineering (B.S.Ch.E.)
- Bachelor of Science in Civil Engineering (B.S.C.E.)
- Bachelor of Science in Computer Engineering (B.S.Cp.E.)
- Bachelor of Science in Computer Science (B.S.C.S.)
- Bachelor of Science in Electrical Engineering (B.S.E.E.)
- Bachelor of Science in Industrial Engineering (B.S.I.E.)
- Bachelor of Science in Mechanical Engineering (B.S.M.E.)
- Bachelor of Science in Mining Engineering (B.S.Min.E.)
- Bachelor of Science in Petroleum and Natural Gas Engineering (B.S.P.N.G.E.)

Curricula

During the first two years, students acquire fundamental knowledge in mathematics, basic sciences, and introductory engineering topics. Engineering design, computer-based experience, and communication skills are integrated throughout the curriculum. In the third and fourth years, the curriculum builds upon the fundamental engineering concepts toward an integrated educational experience, preparing students to pursue a successful professional career and life-long learning. Technical electives allow students to develop depth in a specialty area or breadth among several fields. Study in the humanities and social sciences play an integral part of our programs, enabling students to understand and appreciate the technological, social, and cultural changes that challenge the world and providing the context of our ethical and responsible duties to society.

Time to Completion of Degree

All undergraduate, single degree programs in the college are structured so that they can be completed in eight semesters of full-time study. However, students who are not prepared to enter MATH 155 in their first semester may not be able to complete an engineering degree within eight semesters. Applicants to the college are strongly urged to take the required prerequisites to calculus and chemistry in the summer before entering WVU or plan on attending summer school after their freshman year in order to avoid delays in their graduation.

Degree Requirements

To be eligible to receive a bachelor's degree, a student is required to complete satisfactorily the number of semester hours of work as specified in the program curriculum. Students must achieve a minimum grade point average of 2.00 for all courses taken at WVU, a major grade point average of 2.00 or better (2.25 in mining engineering, and in petroleum and natural gas engineering) in courses completed within the student's major, and a minimum overall grade point average of 2.00. Courses included in the major GPA calculation and how grades for repeated courses are handled for the GPA calculation are specified by individual program requirements.

Graduating students are expected to complete a survey regarding their academic and professional experiences at WVU, as well as post-graduation job placement or continuing education plans.

Academic Minor

The Statler College offers minors in Chemical Engineering, Computer Science, and Nanosystems to all undergraduate students. A student must consult with his or her major advisor to develop a scheduling plan for courses that satisfy the requirements for these minors. The completed minor will be recorded on the student's permanent transcript.

Cooperative (Co-op) Education and Internship Programs

The co-op opportunity is available to any qualified student interested in pursuing a degree in any engineering major offered by the college or computer science. The five-year professional development experience combines practical on-the-job experience with the classroom education of a four-year engineering curriculum. Internships are arranged with an employer for various work periods and may involve an academic semester or summer term.

International Exchange Programs

Students are strongly encouraged to prepare for their careers through learning abroad. The college participates in numerous international exchange programs for undergraduates, as well as the International Student Exchange Program (ISEP) managed through the WVU International Programs Office. There are short-term classes led by WVU faculty, semester and year-long exchange programs, study abroad programs, and service learning opportunities via Engineers Without Borders. The college strongly encourages students to participate in these unique study abroad opportunities. Individual program details vary, but in general, provide Statler College students the opportunity to take part in a study abroad experience that may be for a summer, semester, or full academic year taking courses that count toward their degree so graduation need not be delayed. The Statler College offers its students the opportunity to earn a Certificate in Global Competency which, if successfully completed, is recorded on the student's transcript. Students are encouraged to visit the International Programs website for more detailed information.

Scholarships

FIRST YEAR STUDENTS

The Statler College awards four-year scholarships to incoming first year students based on academic performance in high school and standardized test scores (ACT/SAT). These scholarships are automatic and students do not need to apply. Requirements can be found at <http://statler.wvu.edu/undergraduate/paying-for-college>. These scholarships would be awarded in conjunction to any other WVU scholarship a student may be receiving.

CONTINUING STUDENTS

The Statler College and its constituent departments offer numerous competitive scholarships to undergraduate students who have been in the college for at least one year. Scholarships are based on several factors including academic performance, financial need, and research involvement. These scholarships require applications to be completed by the end of the fall semester. More information can be found at <http://www.statler.wvu.edu/undergraduate/paying-for-college/scholarships>. These scholarships would be awarded in conjunction to any other WVU scholarship a student may be receiving.

ADMINISTRATION

DEAN

- Eugene V. Cilento - Ph.D. (University of Cincinnati)
Glen H. Hiner Dean

ASSOCIATE DEAN FOR ACADEMIC AFFAIRS

- David A. Wyrick - Ph.D. (University of Missouri-Rolla)

ASSOCIATE DEAN OF RESEARCH

- Pradeep Fulay - Ph.D. (University of Arizona)

ASSISTANT DEAN FOR FRESHMAN EXPERIENCE

- Robin A. M. Hensel - Ed.D. (West Virginia University)

ASSISTANT DEAN FOR ADMINISTRATION

- R. Jason Dean - M.A. (West Virginia University)

Degree Designation Learning Goals

BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING (BSAE)

Upon graduation, all Bachelor of Science students in Aerospace Engineering will have the:

- Ability to apply knowledge of mathematics, science and engineering
- Ability to design and conduct experiments, as well as to analyze data
- Ability to design a system, component or process to meet desired needs
- Ability to function on multidisciplinary teams
- Ability to identify, formulate, and solve engineering problems
- Understanding of professional and ethical responsibility
- Ability to communicate effectively
- A broad education necessary to understand the impact of engineering solutions in a global and societal context

- Recognition of the need for, and an ability to engage in, life-long learning
- Knowledge of contemporary issues
- Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING (BSBME)

Upon graduation, all Bachelors of Science students in Biomedical Engineering will have:

- An ability to apply knowledge of mathematics, science and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

BACHELOR OF SCIENCE IN BIOMETRIC SYSTEMS (BSBS)

Upon graduation, all Bachelor of Science students in Biometric Systems will have:

- Ability to apply knowledge of math, engineering, and science
- Ability to design and conduct experiments on both hardware and software
- Ability to analyze and interpret data
- Ability to design a system, component, or process to meet desired needs, including the planning, specification, detail design, implementation, and evaluation to meet the following needs: cost, environmental, performance, safety, and quality requirements
- Ability to function on multidisciplinary teams
- Ability to identify, formulate, and solve a range of biometrics problems
- Understanding of professional and ethical responsibility
- Ability to communicate effectively, i.e., to convey technical material through formal written papers/reports that satisfy accepted standards for writing style and to convey technical material through oral presentation and interaction with an audience
- A broad education necessary to understand the impact of engineering solutions in a global and societal context
- Recognition of the need for, and ability to engage in, life-long learning
- Knowledge of contemporary issues
- Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice, in the field of biometrics
- Knowledge of the breadth and depth across a range of biometrics and computer engineering topics
- Knowledge of mathematics through differential and integral calculus, basic sciences, computer science, and engineering sciences necessary to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components
- Knowledge of probability and statistics

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING (BSCHE)

Upon graduation, all Bachelors of Science students in Chemical Engineering will:

- Understand and be able to analyze entire chemical processes, including those with life science applications.
- Be proficient in the oral and written communication of their work and ideas.
- Be proficient in the use of computers, recent computer software, and computer-based information systems.
- Have the ability to learn independently but will also be able to participate effectively in groups.
- Be able to design effective laboratory experiments, to perform laboratory experiments, to gather data, to analyze data, and to test theories.
- Be prepared for a lifetime of continuing education.
- Understand the safety and environmental consequences of their work as chemical engineers and will be able to design safe processes.
- Understand their professional and ethical responsibilities.
- Have the broad education necessary to understand the impact of engineering solutions in a global and societal context.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING (BSCE)

Upon graduation, all Bachelor of Science students in Civil Engineering will have:

- An ability to apply knowledge of mathematics, science, and engineering.
- An ability to design and conduct experiments, as well as to analyze and interpret data.
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- An ability to function on multidisciplinary teams.
- An ability to identify, formulate, and solve engineering problems.
- An understanding of professional and ethical responsibility.
- An ability to communicate effectively.
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- A recognition of the need for, and an ability to engage in life-long learning.
- A knowledge of contemporary issues.
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING (BSCPE)

Upon graduation, all Bachelor of Science students in Computer Engineering will have the:

- Ability to apply knowledge of math, science, and engineering
- Ability to design, conduct experiments, analyze and interpret data
- Ability to design a system, component, or process to meet desired needs
- Ability to function on multi-disciplinary teams
- Ability to identify, formulate, and solve engineering problems
- Understanding of professional and ethical responsibility
- Ability to communicate effectively in writing
- Ability to communicate effectively orally
- Understanding of the impact of engineering solutions in a global and societal context
- Ability to engage in life-long learning
- Knowledge of contemporary issues in computer engineering
- Ability to use the techniques, skills, and modern tools in engineering practice
- Knowledge of the breadth and depth across the range of computer engineering topics
- Knowledge of mathematics to analyze and design complex hardware, software, and systems
- Knowledge of probability and statistics
- Knowledge of discrete mathematics

BACHELOR OF SCIENCE IN COMPUTER SCIENCE (BSCS)

Upon graduation, all Bachelor of Science students in Computer Science will:

- Be exposed to a variety of programming languages and systems and will be proficient in programming in at least two languages
- Have knowledge of the basic principles and methods of programming language translation, formal languages, and automata
- Have knowledge of the basic principles of data structures, discrete mathematics and algorithms, and be able to apply this knowledge to problem solving in relevant application areas
- Be familiar with principles of computer organization, operating systems, and networks
- Have knowledge of software engineering principles and be able to design, implement, and analyze moderately complex and robust systems.
- Be able to communicate ideas effectively in writing
- Be able to communicate ideas effectively verbally
- Be able to work and learn effectively as members of a team
- Have knowledge of and a commitment to the social and ethical responsibilities of computing professionals
- Have experienced a well-rounded education in areas outside of the computer science major, with emphasis on the arts, sciences, and humanities
- Be familiar with laboratory procedures and use of the scientific method in at least two different physical or biological sciences
- Be familiar with advanced concepts of some specialized computer science areas
- Have knowledge of mathematics through differential and integral calculus, discrete mathematics, and probability and statistics

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (BSEE)

Upon graduation, all Bachelor of Science students in Electrical Engineering will have:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct engineering and scientific experiments
- An ability to analyze and interpret engineering and scientific data
- An ability to design, including the planning, specification, detail design, implementation, and evaluation of components, processes, or systems to meet performance, cost, safety, and quality requirements
- An ability to function on multi-disciplinary teams
- An ability to identify, formulate, and solve a range of electrical engineering problems
- An understanding of professional and ethical responsibility
- An ability to convey technical material through formal written papers/reports that satisfy accepted standards for writing style
- An ability to convey technical material through oral presentation and interaction with an audience
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context.
- Recognition of the need for, and an ability to engage in, life-long learning
- Knowledge of contemporary social issues necessary to understand the impact of electrical/computer engineering solutions in a global and societal context
- An ability to use modern engineering techniques and tools, including computer based tools, for analysis and design
- Knowledge of electrical engineering fundamental concepts, with advanced knowledge in at least one sub-discipline of electrical engineering
- Knowledge of probability and statistics, including electrical engineering applications
- Knowledge of mathematics through differential and integral calculus, basic sciences, computer science, and engineering sciences necessary to design complex electrical and electronic devices and systems containing hardware and software components
- Knowledge of differential equations and other advanced mathematics such as linear algebra, complex variables, or discrete mathematics

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING (BSIE)

Upon graduation, all Bachelor of Science students in Industrial Engineering will have acquired the:

- Ability to use modern and classical industrial engineering methodologies such as operations research, manufacturing systems, computer programming and simulation, production systems, human factors and ergonomics, engineering statistics and quality control, and engineering economics
- Ability to apply knowledge of math, science, and general engineering
- Ability to design and conduct experiments, analyze and interpret data, develop implementation strategies, and shape recommendations so that results will be achieved and findings will be communicated effectively
- Ability to work individually, in teams, and/or in multi-disciplinary teams to identify, formulate, and solve problems using knowledge, skills, and tools of industrial hygiene, safety, and ergonomics.
- Ability to design and implement or improve integrated systems that include people, materials, information, equipment, and energy using appropriate analytical, computational, and experimental practices
- Broad education necessary to develop and maintain professional ethics and understand the comprehensive impact of their solutions on individuals and the society
- Recognition of the need for and an ability to engage in life-long learning
- Professional characteristics expected of a successful industrial engineer

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING (BSME)

Upon graduation, all Bachelor of Science students in Mechanical Engineering will have:

- Ability to apply knowledge of mathematics, science and engineering.
- Ability to design and conduct experiments, as well as to analyze data.
- Ability to design a system, component or process to meet desired needs.
- Ability to function on multidisciplinary teams.
- Ability to identify, formulate and solve engineering problems.
- Understanding of professional and ethical responsibility.
- Ability to communicate effectively.
- A broad education necessary to understand the impact of engineering solutions in a global and societal context.
- Recognition of the need for, and an ability to engage in, life-long learning.
- Knowledge of contemporary issues.

- Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

BACHELOR OF SCIENCE IN MINING ENGINEERING (BSMINE)

Upon graduation, all Bachelor of Science students in Mining Engineering will:

- Be well prepared in application of mathematics, science, and engineering.
- Be well prepared to design and conduct experiments, as well as to analyze and interpret data.
- Be well prepared to design a system, component, or process to meet desired needs.
- Have an ability to function on multidisciplinary teams.
- Have an ability to identify, formulate, and solve engineering problems.
- Have an understanding of professional and ethical responsibility.
- Have an ability to communicate effectively.
- Have the broad education necessary to understand the impact of engineering solutions in a global and societal context.
- Have recognition of the need for, and an ability to engage in, life-long learning.
- Have knowledge of contemporary issues.
- Have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- Have an understanding of the importance of economics, environmental, health, and safety issues in the operations of modern mines.
- Have an ability to learn independently.

BACHELOR OF SCIENCE IN PETROLEUM AND NATURAL GAS ENGINEERING (BSPNGE)

Upon graduation, all Bachelor of Science students in Petroleum and Natural Gas Engineering will have:

- A thorough understanding of scientific and engineering principles and their application to petroleum and natural gas engineering problems.
- The ability to integrate their scientific and engineering knowledge to design and conduct experiments, and interpret and analyze data.
- The ability to apply scientific and engineering fundamentals to formulate solutions to petroleum and natural gas engineering problems.
- The ability to use techniques, skills, and modern petroleum and natural gas engineering tools.
- The ability to integrate their scientific and engineering knowledge to solve petroleum and natural gas engineering design problems.
- The ability to communicate effectively.
- The ability to function on multidisciplinary teams.
- Recognition of the professional and ethical responsibilities of a petroleum engineer.
- An understanding of the impact of petroleum and natural gas engineering solutions in a societal and global context.
- Recognition of the need to acquire the knowledge of contemporary issues.
- Recognition of the need to engage in life-long learning.

Admission Requirements

The Statler College will admit first year students to study under one of four distinct programs: Computer Science, Engineering Track 1, Engineering Track 2, or Engineering Track 3. Admission is based on high school grade point average and math readiness. The objective of having these individual tracks is to provide a first year curriculum tailored to the level of academic preparation of the student which maximizes the opportunity for success. Each track provides students the coursework necessary to meet the requirements to move into their intended major.

The following summarizes the admission requirements of each track to coincide with placement into the appropriate math, science, and engineering courses. Students must meet all of the criteria listed; these criteria are minimum requirements for admission to the Statler College. Admission to a discipline major is competitive and dependent on enrollment availability. Students must also meet all other WVU admission requirements (<http://adm.wvu.edu>).

COMPUTER SCIENCE

- High School GPA should be at least 3.00
- Math placement of MATH 155
- Students on this track can typically graduate in 4 years

ENGINEERING TRACK 1

- High School GPA should be at least 3.00
- Math placement of MATH 155
- Students on this track can typically graduate in 4 years

ENGINEERING TRACK 2

- High School GPA should be at least 2.50
- Math placement of MATH 129 or MATH 153
- Students on this track can typically graduate in 4 to 4.5 years

ENGINEERING TRACK 3

- High School GPA should be at least 2.50
- Math placement of MATH 126
- Students on this track can typically graduate in 5 years

Transfer Students

TRANSFERRING FROM WITHIN WVU

ENGINEERING

Students wishing to transfer into engineering from another program at WVU must have a GPA of at least a 2.25 in all college coursework attempted. Students with less than 24 credit hours can be admitted based on freshman admissions criteria (shown in table above). Otherwise, students must have completed at least one semester of college coursework and present evidence that they are eligible to enroll in MATH 155. These criteria are minimum requirements for admission into the Statler College, and at times a student's full transcript can be taken into account during the admission process. Students meeting this criteria will be admitted into Engineering Track 2. Admission to a discipline major is competitive and dependent on enrollment availability.

COMPUTER SCIENCE

Students wishing to transfer into computer science from another program at WVU must have a GPA of at least a 2.25 in all college coursework attempted. Students with less than 24 credit hours can be admitted based on freshman admission criteria (shown in table above). Otherwise, students must have completed at least one semester of college coursework, and have completed MATH 154 or 155, ENGR 101, ENGR 199, ENGL 101, and CS 110 all with a C or better. These criteria are minimum requirements for admission into the Statler College, and a student's full transcript can be taken into account during the admission process. Admission to a discipline major is competitive and dependent on enrollment availability.

TRANSFERRING FROM OUTSIDE WVU

ENGINEERING

Students wishing to transfer into engineering or computer science from outside WVU must have a GPA of at least a 2.50 in all college coursework attempted. Students with less than 24 credit hours can be admitted based on freshman admission criteria (shown in table above). Otherwise, students must have completed at least one semester of college coursework and present evidence that they are eligible to enroll in MATH 155. Students meeting this criteria will be admitted into Engineering Track 2.

Students wishing to transfer directly into an engineering discipline must have a GPA of at least a 2.50 and have completed MATH 155, CHEM 115, ENGL 101, ENGR 101, ENGR 102, and ENGR 199 all with a C or better (students transferring in with more than 28 credit hours are exempt from ENGR 199).

If students are sophomore level or above, and have earned a C or better in CHEM 115, MATH 155, MATH 156, and PHYS 111, and have completed at least three credit hours in a discipline specific course, then they may take an approved elective (or approved transfer credit) as a substitute for either ENGR 101 or 102. If the combination of multiple engineering courses transferred to WVU matches the content of ENGR 101 and/or 102, those courses may be approved as a course substitution for ENGR 101 and/or 102. Other transfer courses that are not an exact match may be approved as a technical elective to substitute for ENGR 101 or 102 at the discretion of the Assistant Dean for Fundamentals of Engineering. These criteria are minimum requirements for admissions into the Statler College, and a student's full transcript can be taken into account during the admission process. Admission to a discipline major is competitive and dependent on enrollment availability.

COMPUTER SCIENCE

Students wishing to transfer into computer science from another program at WVU must have a GPA of at least a 2.50 in all college coursework attempted. Students with less than 24 credit hours can be admitted based on freshman admissions criteria (shown in table above). Others must have completed at least one semester of college coursework, and have completed MATH 154 or 155, ENGR 101, ENGR 199, ENGL 101, and CS 110 all with a C or better. These criteria are minimum requirements for admission into the Statler College, and a student's full transcript can be taken into account during the admission process.

Biomedical Engineering Certificate

Please refer to the Chemical Engineering section for information and requirements for the Biomedical Engineering Certificate.

Global Competency Certificate

CERTIFICATE CODE - CU01

OBJECTIVE

To provide students the opportunity to develop global competencies by working effectively across cultural and linguistic barriers while focusing on engineering and computer science issues that transcend their own culture.

LEARNING OUTCOMES

- Students will acquire basic knowledge of other languages and cultures while acquiring or applying engineering or computer science skills consistent with their programs of study.
- Students will develop communication and interpersonal skills to work with people of different backgrounds.
- Students will acquire an appreciation for contemporary issues and of the role of engineering or computer science solutions in a societal context.

GLOBAL COMPETENCIES DEFINED

- The ability to work effectively in different international settings
- An awareness of the major currents of global change and the issues arising from such changes
- Knowledge of global organizations and business activities
- The capacity for effective communication across cultural and linguistic boundaries
- Personal adaptability to diverse cultures

COMPONENTS OF THE CERTIFICATE PROGRAM

- Language and Culture Component: six-nine credit hours completed at either WVU or a foreign academic institution (recognized by WVU's Office of International Programs) in international language, culture, literature, art or history. The courses need to be associated with the host country or region. If the foreign academic institution has a primary language requirement other than English the student can count no more than six credit hours of language in the language of the foreign academic institution toward the certificate. These credit hours can be applied to WVU's GEF requirement as appropriate.
- Engineering or Computer Science Major Coursework Component: six-nine credit hours of engineering or computer science course work completed internationally, either from a foreign academic institution or through a WVU sponsored program applicable to the student's major at WVU. A minimum of six credit hours need to be equivalent to WVU upper division courses (300 and above). The student's course work must include significant mentorship of engineering or computer science learning activity, involving both WVU students and foreign students. At least three credit hours must involve experiential learning activities, which may include an industry based internship, design class, or project with report and presentation or other team based activities, for example. Each individual Statler College department will be responsible for selecting the admissible graded coursework through the respective curriculum committee.
- Social Service Component: one credit hour, minimum of social or civic engagement. This can include participation in Engineers without Borders or participation in activities in professional society student chapters with a social impact. The community service must include oversight at a professional or academic level (in other words, either a faculty member, or engineering or computer science professional should be involved).

After the aforementioned requirements are fulfilled, the Certificate of Global Competencies will only be issued to participating students upon graduation from the degree program involved with the international activity.

COMPLETION OF DEGREE REQUIREMENTS

Individual departments will be responsible for assessing student performance to ensure achievement of ABET accreditation outcomes.

GENERAL COMMENTS

- This is a one-way semester abroad, not a student exchange in engineering or computer science (WVU exchange programs can be used, though).
- International institutions that have an existing agreement with WVU are preferred, however "new" institutions can be considered as well. The responsibility for course evaluation will rest with the individual department, however.
- If a student decides to attend a school that doesn't have a WVU exchange agreement in place, he or she will be responsible for paying the local tuition and fees, housing, etc.

NANOSYSTEMS MINOR

MINOR CODE - U105

Using nano devices and systems as naturally integrative learning vehicles, technical, social, ethical and economic considerations are introduced and developed, enabling students to understand the role of their discipline and the value of others. The Nanosystems Minor culminates with students fulfilling their majors' capstone requirement by engaging in authentic interdisciplinary NSE nanosystems research within host faculty labs. As a result, engineering

and science students grow together as young collaborating professionals using the unique environment afforded by NSE as they at the same time grow and form in their own disciplines.

ENGR 103	Introduction to Nanotechnology Design	3
ENGR 280	Sophomore Nanoscience Seminar	1
ENGR 380	Junior Nanoscience Seminar 1	1
ENGR 381	Junior Nanoscience Seminar 2	1
Project ¹		3
Tech Elective ²		3
Tech Elective ²		3
Total Hours		15

¹ 400 level course, senior rank, eg. Capstone Project, Honors Thesis or Undergraduate research on an authentic research topic (see following definition for clarification).

² 300 level course or above from the student's major which would be required/needed to work in the area of Nanotechnology

Authentic Research Topic

For the purposes of the Nanosystems Minor, an authentic research topic is defined as one that is part of a funded project and/or its results can be published and therefore it is of interest to the scientific community.

Procedures and Guiding Principles for Handling Transfer/Transient Credit

The Statler College strives to manage student transfer/transient credits in a fair, consistent, and uniform manner relative to students in the College who do not seek transfer/transient course credit and to exercise due diligence with meeting ABET prerequisite and curricular requirements for transfer credit. The College has adopted the following procedures/guiding principles to deal with transfer/transient credit issues.

CREDIT TRANSFER PROCEDURE

Chemistry, engineering, geology, math, or physics courses transferred to WVU for consideration of academic credit in the Statler College will be transferred as "Open Credit" (e.g. MATH 000). The "open credit" will be reviewed to determine if it meets the academic requirements of the College and if so, processed by a course substitution action. The only exceptions to this policy will be if a student is transferring into the College:

- Advanced Placement Program (AP) credit
- International Baccalaureate (IB) credit
- College Level Examination Program (CLEP) credit
- Credit based on an approved Transient Approval Form by the dean or his designee before the course was taken
- Credit from a college or university with which Statler College has an approved articulation agreement

GUIDELINES FOR COLLEGE APPROVAL OF REQUESTS FOR TRANSIENT COURSE CREDIT

An Undergraduate Transient Application will typically be approved if:

- The student has met all the requirements (rank, prerequisite/co-requisites, etc.) to take the course at WVU
- The requested course has the same number of credit hours and pre or co-requisites as the WVU course or has otherwise been deemed academically equivalent by Statler College

An Undergraduate Transient Application will not be approved if:

- The student has previously earned a D, F, or W in the equivalent course at WVU
- Any online course fails to have proctored exams.
- The student is currently enrolled at WVU to take coursework in the same term/semester in which they are applying to be a transient student at another institution.

Meeting the guidelines for a transient application does not guarantee approval of the transient application. The associate dean for academic affairs has the right to set conditions more stringent than those set forth in these guidelines, as well as the right to limit transient course credit.

COURSE SUBSTITUTION APPROVAL PROCESS

A course designated as "open credit" can be petitioned for specific course credit through the established course substitution approval process. The student must present sufficient evidence that the course is equivalent to the specified WVU course. A course syllabus and transcript showing the student's grade in that course must be presented with the application for the course to be reviewed to determine equivalency. Since this review process

may take significant time to complete, credit for courses presented for review within two weeks of the beginning of a semester may not be awarded credit in time for the student to register for a subsequent course for which the transfer course is a prerequisite.

Probation, Dismissal and Readmission Policy

UNIVERSITY PROBATION AND SUSPENSION

Students with a cumulative grade point average below 2.00 in all University coursework will be subject to probation and suspension by the University. Please refer to the Undergraduate Academic Probation and Suspension Policy found in the Undergraduate Information section of this catalog for further information on WVU probation and suspension.

STATLER COLLEGE DISMISSAL

Academic program dismissal identifies the status of a student who has failed to meet the minimum academic standards of the college and has been transferred to the Center for Learning, Advising, and Student Success. Dismissal from the Statler College means that a student will not be permitted to register for any classes in the college until the student has been officially reinstated to the college. Students with a major grade point average below 2.00 (2.25 in mining engineering, and in petroleum and natural gas engineering) in their major coursework and/or an overall grade point average of courses taken at WVU below 2.00 receive a notice of academic warning and may be subject to dismissal. Students whose academic major GPA and/or WVU-earned GPA continues below the minimum standards outlined in the following table will be subject to dismissal from the Statler College. If a major course is repeated, only the last grade received is counted in computing the major grade point average and the major credit hours attempted. Students eligible for dismissal are not eligible to transfer to another engineering program in the college. A student who has preregistered for classes and is subsequently dismissed shall have their registration in Statler College courses automatically canceled.

Additionally, a student may be dismissed from the Statler College for violations of the WVU Student Code of Conduct.

The duration of the first dismissal from the Statler College is one academic semester. The duration of subsequent dismissals will be one calendar year for a second dismissal and five years for a third dismissal. If a student appeal of dismissal is granted, the duration of any subsequent dismissal will be at the greater level. A student who has been dismissed from the Statler College, including from the Fundamentals of Engineering program, cannot transfer academic major course work taken at another institution, during the period of dismissal, for credit toward meeting their degree requirements. A student who has been dismissed must petition to be readmitted to the Statler College; the decision to readmit will be on a case-by-case basis.

AEROSPACE ENGINEERING, BIOMEDICAL ENGINEERING, BIOMETRIC SYSTEMS, CHEMICAL ENGINEERING, CIVIL ENGINEERING, COMPUTER ENGINEERING, COMPUTER SCIENCE, ELECTRICAL ENGINEERING, INDUSTRIAL ENGINEERING, AND MECHANICAL ENGINEERING

Total Hours Attempted*	Minimum cumulative GPA*
0 to 9	N/A
10 and more	2.00

MINING ENGINEERING AND PETROLEUM AND NATURAL GAS ENGINEERING

Total Hours Attempted*	Minimum cumulative GPA*
0 to 13	N/A
14 to 29	2.00
30 to 39	2.10
40 and more	2.25

* Attempted departmental credit hours e.g. CE or IENG or MAE.

Graduation Requirements

To be eligible to receive a bachelor's degree, a student is required to complete satisfactorily the number of semester hours of work as specified in the program curriculum. Students must achieve a minimum grade point average of 2.00 for all courses taken at WVU, a major grade point average of 2.00 or better (2.25 in mining engineering, and in petroleum and natural gas engineering) in courses completed within the student's major, and a minimum overall grade point average of 2.00. Courses included in the major GPA calculation and how grades for repeated courses are handled for the GPA calculation are specified by individual program requirements.

Graduating students are expected to complete a survey regarding their academic and professional experiences at WVU, as well as post-graduation job placement or continuing education plans.

Department of Chemical and Biomedical Engineering

E-mail: Statler-CHE@mail.wvu.edu

Degrees Offered

- Bachelor of Science in Biomedical Engineering (B.S.Bm.E.)
- Bachelor of Science in Chemical Engineering (B.S.Ch.E.)

Nature of Programs

The Department of Chemical Engineering offers undergraduate degrees in chemical engineering (ChE) and biomedical engineering (BMEG). Chemical engineers focus on processes that convert raw materials such as crude oil, biomass, coal and natural gas into value-added finished products such as plastics, paints, detergents and pharmaceuticals. Biomedical engineers are trained to work at the interface of engineering and biomedical sciences, and they focus on developing engineering skills and applying them to materials, processes and procedures used in medicine and biology. Both degree programs require a strong background in chemistry, mathematics, and physics.

The chemical engineering curriculum is relatively structured with courses that must be taken in a specific sequence. A unique aspect of the ChE curriculum is its heavy emphasis on design, beginning in the sophomore year. Graduates with a BSChE degree are prepared for positions in production, product and process development, sales and marketing, management and also research. There is a large concentration of chemical industry in the area, and the ChE program benefits from interactions with industrial practitioners.

The biomedical engineering program offers significant flexibility of study through a variety of electives. With the participation of faculty from several engineering departments, students learn about cells and tissues but also topics such as imaging and mechanics. Students are encouraged to do research and work side-by-side with faculty in both engineering and the WVU Health Sciences Center in areas such as tissue engineering and cancer diagnosis. Graduates with a BSBmE degree are prepared for solving the health-related problems and improving the quality of life of the aging population within the state and the nation.

Students in both programs are also prepared for graduate school in engineering and for professional schools in business, law and medicine.

FACULTY

CHAIR

- Rakesh Gupta - Ph.D. (University of Delaware)
Berry Professor and Chair, Professor. Polymer processing, Rheology, Non-Newtonian fluid mechanics, Composite materials

PROFESSORS

- Brian J. Anderson - Ph.D. (Massachusetts Institute of Technology)
Director, Energy Institute; GE Materials Professor. Natural gas hydrates, Sustainable energy development, Molecular dynamics, Quantum chemical calculations
- Eugene V. Cilento - Ph.D. (University of Cincinnati)
Glen H Hiner Dean. Physiological transport phenomena, Biomedical engineering, Image analysis, Mathematical modeling
- Pradeep Fulay - Ph.D. (University of Arizona)
Associate Dean for Research. Advanced electronics, Magnetic materials and devices, Flexible electronics, Synthesis and processing of nanomaterials
- John (Jianli) Hu - Ph.D. (Tsinghua University)
Shale gas utilization, Catalysis in refining processes, Coal and biomass conversion
- Richard Turton - Ph.D. (Oregon State University)
Bolton Professor. P.E. Fluidization, Heat transfer, Particle and powder technology, Chemical process design
- John W. Zondlo - Ph.D. (Carnegie Mellon University)
Coal enhancement and utilization, Carbon science, Environmental remediation

ASSOCIATE PROFESSORS

- Debangsu Bhattacharyya - Ph.D. (Clarkson University)
Integrated gasification combined cycle (IGCC), Chemical looping, Fuel cells (SOFC & PEM), Optimization, Dynamic modeling of process systems, Process control
- Zoica Cerasela Dinu - Ph.D. (Max Planck Inst of Molecular Cell Biology & Genetics & Dresden University of Technology)
Associate Chair, BMEG. Nanomaterials, Bionanotechnology, Biomimetics
- David J. Klinke - Ph.D. (Northwestern University)
Systems biology, Kinetics, Cellular signal transduction pathways, Immunology, Mathematical modeling, Bioengineering
- Charter D. Stinespring - Ph.D. (West Virginia University)
Wide bandgap semiconductor growth and etching, Surface kinetics, Thin films, Electronic materials

ASSISTANT PROFESSORS

- Ahmed E. Ismail - Ph.D. (Massachusetts Institute of Technology)

Biomass and biopolymers, Interfacial phenomena, Multi-scale modeling, Algorithm development

- Fernando V. Lima - Ph.D. (Tufts University)
Process design and operability, Model-based control and optimization, State estimation and process identification, Emerging energy systems, and Sustainable processes
- Jeevan Maddala - Ph.D. (Texas Tech University)
Microfluidics, Cell screening, Nanomaterial synthesis
- Hanjing Tian - Ph.D. (Lehigh University)
Chemical looping combustion, CO₂ capture, Shale gas utilization, Biomass gasification and refinery
- Yong Yang - Ph.D. (The Ohio State University)
Stem cell technology, Polymer micro/nanotechnology, Biomaterials

RESEARCH ASSOCIATE

- Sushant Agarwal - Ph.D. (West Virginia University)
Polymer processing and characterization, Rheology, Nanocomposites, Emulsions, Nanofluids, Suspensions

TEACHING ASSISTANT PROFESSOR

- Robin S Hissam - Ph.D. (University of Delaware)
Biomaterials, Polypeptides, Drug delivery, Bioengineering and materials science

ADJUNCT PROFESSORS

- Deepak Doraiswamy - Ph.D. (University of Delaware)
- Joseph D. Henry - Ph.D. (University of Michigan)
- Charles M. Jaffee - Ph.D. (University of Colorado)
Theoretical Chemistry, Molecular and Atomic Physics, Nonlinear Dynamics, Astrodynamics
- George E. Keller, II - Ph.D. (Pennsylvania State University)
- Mahesh Padmanabhan - Ph.D. (University of Minnesota)
- David L. Walker - Ph.D. (West Virginia University)
- Robert Wildi - B.S. (Fenn College/Cleveland State University)
- Stephen Zitney - Ph.D. (University of Illinois at Urbana-Champaign)
Dynamics, Control and optimization of energy systems; Computational fluid dynamics (CFD) and process co-simulation; Pulverized coal combustion; Oxy-coal Combustion; Integrated gasification combined cycle (IGCC); Chemical looping; Supercritical CO₂ power cycles; CO₂ capture

ADJUNCT ASSOCIATE PROFESSOR

- Bingyun Li - Ph.D. (Chinese Academy of Sciences)
Assoc. Prof. of Orthopedics. Bioengineering and advanced biomedical devices, Nanotechnology sorbents, Coatings and capsules

PROFESSORS EMERITUS

- Eung H. Cho - Ph.D. (University of Utah)
Mineral processing, Leaching, Solvent extraction, Environmental science
- Dady B. Dadyburjor - Ph.D. (Delaware)
Catalysis, Reaction Engineering
- Edwin L. Kugler - Ph.D. (Johns Hopkins)
Catalysis, Adsorption, Coal Liquefaction
- Joseph A. Shaeiwitz - Ph.D. (Carnegie-Mellon)
Design, Design Education, Outcomes Assessment
- Alfred H. Stiller - Ph.D. (University of Cincinnati)
Physical/inorganic/solution chemistry, Coal liquefaction, Carbon science
- Ray Y. K. Yang - Ph.D. (Princeton)
Biochemical and Chemical Engineering, Nonlinear Dynamics

RESEARCH ASSISTANT PROFESSOR

- Nagasaree Garapati - Ph.D. (West Virginia University)
Carbon dioxide capture and storage (CCS) in various geologic media, utilizing carbon dioxide in gas hydrate reservoirs, petroleum reservoirs and geothermal reservoirs for enhanced gas, oil and heat recovery
- Huali Wang - Ph.D. (Wayne State University)
Shale gas, renewable energy, clean energy, energy catalysis, and reaction engineering

BIOMEDICAL ENGINEERING MINOR**MINOR CODE - U142**

The minor is open to all students with the prerequisite coursework, which includes:

Biology: BIOL 115 OR (BIOL 101, BIOL 102, BIOL 103, AND BIOL 104)

Mathematics: MATH 155 and MATH 156. Students must also complete MATH 251 and MATH 261 for completion of minor.

Chemistry: CHEM 115 and CHEM 116

The minor consists of 5-6 courses, totaling 16 hours.

Required Courses:

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BMEG 201	Introduction to Biomedical Engineering	
or EE 425	Bioengineering	
Choose one of the following:		
BIOL 235 & BIOL 236	Human Physiology and Human Physiology: Quantitative Laboratory	
BIOL 117	Introductory Physiology	

Electives:

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Choose three of the following:		
BMEG 310	Biomedical Imaging	
BMEG 311	Biomaterials	
BMEG 340	Biomechanics	
or MAE 473	Bioengineering	
BMEG 480	Cellular Machinery	
BMEG 481	Applied Bio-Molecular Modeling	
BMEG 482	Introduction to Tissue Engineering	

Total Hours

16

CHEMICAL ENGINEERING MINOR**MINOR CODE - U101**

Any student may take a minor in chemical engineering by passing the following courses and maintaining a 2.0 GPA or better in these courses.

Courses must be taken in the following order:

CHE 201	Material and Energy Balances 1	3
CHE 202	Material and Energy Balances 2	3
CHE 320	Chemical Engineering Thermodynamics	3
CHE 312	Separation Processes	3
CHE 325	Chemical Reaction Engineering	3

Total Hours

15

Biomedical Engineering Certificate offered in Chemical Engineering**CERTIFICATE CODE - CU02**

The Department of Chemical Engineering administers a certificate program in biomedical engineering that is open to all students with appropriate prerequisites, which are: basic biology (BIOL 115), mathematics through MATH 261 (differential equations), CHEM 115, and CHEM 116 and a working knowledge of organic chemistry, specifically the naming conventions for, and knowledge of charge distribution in, organic molecules. Currently, the certificate program consists of six required courses listed below. As other courses are added in the biomedical engineering area, more choices of elective courses will be made available.

Required Courses

BIOL 235	Human Physiology	3
BIOL 236	Human Physiology: Quantitative Laboratory	1
BMEG 201	Introduction to Biomedical Engineering	3
BMEG 311	Biomaterials	3

Electives

BMEG 481	Applied Bio-Molecular Modeling	3
BMEG 482	Introduction to Tissue Engineering	3
Total Hours		16

For chemical engineering undergraduates, the certificate program can be completed with the addition of one additional credit hour (134 hours total). Students wishing to attend medical school will have to take CHEM 234/CHEM 236 (four hours) for a total of 138 credit hours.

Biomedical Engineering

Degree Offered

- Bachelor of Science in Biomedical Engineering (B.S.Bm.E.)

Nature of Program

The biomedical engineering discipline is among the fastest growing engineering disciplines due to the rapid advancement of medical technologies and treatment and diagnosis strategies; in fact, many are claiming this century as the one that will revolutionize the biological sciences. These advancements will provide immense benefits for society globally. The biomedical engineering curriculum is designed to give graduates a broad background in the areas of biomedical engineering, including biomaterials, biomechanics and biomedical imaging. Students have the ability to design a set of technical electives based on interest and career aspirations. The goal for these electives is to enhance a student's knowledge in one or more of the focus areas so they can be prepared for graduate school, any professional school, or a job in a specific industry.

The B.S.Bm.E. program is under enrollment management. Admission to the program is described in the Fundamentals of Engineering section (Freshman Engineering tab) of this catalog.

Program Educational Objectives

- Graduates will be successful in their professional careers and/or post graduate training as demonstrated by their abilities to solve important biomedical engineering problems, and to develop and implement new and valuable ideas with potential applications to healthcare.
- Graduates will be able to work competitively in diverse professional environments, as demonstrated by their abilities to work on teams, to work independently, to provide leadership, to mentor junior co-workers, and to communicate effectively.
- Graduates will behave professionally and ethically, pursue lifelong learning opportunities, be committed to responsible safety practices, and articulate the societal impact of their work.

Admissions

Student will only be admitted to the Biomedical Engineering program after they have completed their Freshman year. Admissions will be limited to 40 per year, and these students will be chosen based on their overall GPA. To be considered for the program, students must complete the following courses.

MATH 155	Calculus 1	4
CHEM 115	Fundamentals of Chemistry	4
ENGR 101	Engineering Problem Solving 1	2
ENGR 199	Orientation to Engineering	1
ENGR 102	Engineering Problem-Solving 2	3
ENGL 101	Introduction to Composition and Rhetoric	3

[Click here to view the Suggested Plan of Study \(p. 699\)](#)

Curriculum in Biomedical Engineering

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6

F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a degree of bachelor of science in biomedical engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better in all biomedical engineering courses. If a biomedical engineering course is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Math and Science Requirements

Choose one of the following:		4
BIOL 115	Principles of Biology (GEF 8)	
BIOL 101 & BIOL 102 & BIOL 103 & BIOL 104	General Biology and General Biology and General Biology Laboratory and General Biology Laboratory	
Choose one of the following:		4
BIOL 235 & BIOL 236	Human Physiology and Human Physiology: Quantitative Laboratory	
BIOL 117	Introductory Physiology	
Choose one of the following (GEF 2B):		8
CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry	
CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry	
CHEM 233	Organic Chemistry	3
CHEM 235	Organic Chemistry Laboratory	1
Calculus I (GEF 3):		4
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus (Minimum grade of C- is required)	
MATH 155	Calculus 1 (Minimum grade of C- is required)	
MATH 156	Calculus 2 (GEF 8 - Minimum grade of C- is required)	4
MATH 251	Multivariable Calculus (Minimum grade of C- is required)	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4
PHYS 112	General Physics	4
STAT 215	Introduction to Probability and Statistics	3

Biomedical Engineering Core Requirements

A minimum GPA of 2.0 is required in all courses

BMEG 201	Introduction to Biomedical Engineering	3
BMEG 203	Biomedical Engineering Seminar	1
BMEG 310	Biomedical Imaging	3
BMEG 230	Numerical Methods in Biomedical Engineering	3
BMEG 236	Quantitative Analysis in Human Physiology	2
BMEG 311	Biomaterials	3
BMEG 315	Transport Phenomena in Biological Systems	4
BMEG 340	Biomechanics	3
BMEG 321	Thermodynamics and Kinetics for Biomedical Engineering	3
BMEG 350	Biomedical Engineering Laboratory	2
BMEG 420	Biomedical Instrumentation	3
BMEG 421	Biomedical Engineering Seminar and Journal Club (Must take twice)	1
BMEG 455	Biomedical Senior Design 1 (Fulfills Writing and Communication Skills Requirement)	4
BMEG 456	Biomedical Senior Design 2	3
EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
Technical Electives		18

Science Electives: Choose at least two from the following:

AEM 341	General Microbiology
AEM 445	Food Microbiology
AEM 449	Food Microbiology Lab
AGBI 410	Introductory Biochemistry
AGBI 411	Introductory Biochemistry Laboratory
AGBI 412	Introduction to Biochemistry Wet Laboratory
ATTR 218	Gross Anatomy Lab
ATTR 219	Gross Anatomy
BIOC 339	Introduction to Biochemistry
BIOL 107	Biotechnology and Society
BIOL 219	The Living Cell
BIOL 302	Biometry
BIOL 324	Molecular Genetics
BIOL 325	Molecular Genetics Laboratory
BIOL 348	Neuroscience 1
BIOL 349	Neuroscience 2
BIOS 601	Applied Biostatistics 1
BIOS 602	Applied Biostatistics Lab
CHEM 215	Introductory Analytical Chemistry
CHEM 234	Organic Chemistry
CHEM 236	Organic Chemistry Laboratory
CHEM 310	Instrumental Analysis
CHEM 335	Methods of Structure Determination
CHEM 337	Polymer Chemistry
CHEM 341	Physical Chemistry: Brief Course
CHEM 462	Biochemistry 2
CHEM 464	Biochemistry 2 Laboratory
CHPR 332	Safety Education Principles and Content
CHPR 440	Clinical Research Methods and Practice
FIS 314	Introduction to Microscopy
FIS 450	Computational Forensics
MATH 367	Applied Mathematical Analysis
PHYS 211	Introduction to Mathematical Physics
PHYS 225	Medical Imaging Physics

PHYS 313	Introductory Electronics
PHYS 314	Introductory Modern Physics
PHYS 321	Optics
Engineering Electives: Choose at least three from the following:	
BMEG 480	Cellular Machinery (Cellular Machinery)
BMEG 481	Applied Bio-Molecular Modeling (Applied Bio-Molecular Modeling)
BMEG 482	Introduction to Tissue Engineering (Tissue Engineering)
CE 347	Introduction to Environmental Engineering
CHE 461	Polymer Science and Engineering
CHE 462	Polymer Processing
CHE 471	Biochemical Engineering
CHE 472	Biochemical Separations
CHE 531	Mathematical Methods in Chemical Engineering
CPE 271	Introduction to Digital Logic Design
CS 111	Introduction to Data Structures
EE 223	Electrical Circuits
EE 251	Digital Electronics
EE 327	Signals and Systems 1
EE 328	Signals and Systems Laboratory
EE 329	Signals and Systems 2
EE 455	Introduction to Microfabrication
EE 465	Introduction to Digital Image Processing
EE 528	Biomedical Microdevices
IENG 213	Engineering Statistics
MAE 211	Mechatronics
MAE 241	Statics
MAE 242	Dynamics
MAE 243	Mechanics of Materials
MAE 343	Intermediate Mechanics of Materials

GEF Electives 1, 4, 5, 6, 7 18

Total Hours 131

Suggested Plan of Study

It is important for students to take courses in the order specified in the Plan of Study as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.Bm.E degree program that completes degree requirements in four years is as follows.

First Year

Fall	Hours Spring	Hours
BIOL 115 (GEF 8)	4 CHEM 116	4
CHEM 115 (GEF 2B)	4 ENGL 101 (GEF 1)	3
ENGR 101	2 ENGR 102	3
ENGR 199	1 MATH 156 (GEF 8)	4
MATH 155 (GEF 3)	4 PHYS 111 (GEF 8)	4
	15	18

Second Year

Fall	Hours Spring	Hours
BMEG 201	3 BIOL 235	3
EE 221	3 BMEG 203	1
EE 222	1 BMEG 230	3
ENGL 102 (GEF 1)	3 BMEG 236	2
PHYS 112	4 CHEM 233	3
MATH 251	4 CHEM 235	1

		MATH 261	4
		18	17
Third Year			
Fall	Hours	Spring	Hours
BMEG 310		3 BMEG 315	4
BMEG 311		3 BMEG 340	3
BMEG 321		3 STAT 215	3
BMEG 350		2 GEF Course 5	3
GEF Course 4		3 GEF Course 6	3
		14	16
Fourth Year			
Fall	Hours	Spring	Hours
BMEG 420		3 BMEG 421	1
BMEG 421		1 BMEG 456	3
BMEG 455		4 Science Technical Elective	3
Technical Elective		3 Technical Elective	3
Engineering Technical Elective		3 Two Engineering Technical Electives	6
GEF Course 7		3	
		17	16

Total credit hours: 131

Major Learning Goals

BIOMEDICAL ENGINEERING

Upon graduation, all Bachelors of Science students in Biomedical Engineering will have:

- an ability to apply knowledge of mathematics, science and engineering
- an ability to design and conduct experiments, as well as to analyze and interpret data
- an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- an ability to function on multidisciplinary teams
- an ability to identify, formulate, and solve engineering problems
- an understanding of professional and ethical responsibility
- an ability to communicate effectively
- the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- a recognition of the need for, and an ability to engage in life-long learning
- a knowledge of contemporary issues
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- apply principles of engineering, biology, human physiology, chemistry, calculus-based physics, mathematics (through differential equations) and statistics
- solve bio/biomedical engineering problems, including those associated with the interaction between living and non-living systems
- analyze, model, design, and realize bio/biomedical engineering devices, systems, components, or processes
- make measurements on and interpret data from living systems

These outcomes are achieved via rigorous individual courses in all basic areas of biomedical engineering, the natural and life sciences, mathematics, humanities, and social sciences. A flexible electives program allows specialization in areas such as biochemistry, biomechanics, biomaterials, and bioelectronics.

The Chemical and Biomedical Engineering Department uses an outcomes-assessment plan for continuous program improvement. Course work and design projects, in conjunction with yearly interviews provide the measures of learning outcomes. These outcomes-assessment results provide feedback to the faculty to improve teaching and learning processes.

Academic Policies

1. Students completing the four 200-level courses (BMEG 201, BMEG 203, BMEG 230, BMEG 236) must attain a 2.0 grade-point average in order to enroll in the 300-level core CHE courses. Students with a grade-point average greater than or equal to 1.67 can submit a formal appeal of this restriction

to the department chair for evaluation by the chair, CBE curriculum committee, and CBE academic standards committee. No appeals will be considered for students below a 1.67 grade-point average in the three 200-level courses.

2. Students completing the 300-level core BMEG courses must attain a 2.0 grade-point average in core BMEG courses (BMEG 201, BMEG 203, BMEG 230, BMEG 236, BMEG 310, BMEG 311, BMEG 315, BMEG 321, BMEG 340, and BMEG 350) in order to enroll in 400-level core BMEG courses. No appeals will be considered for students moving from the junior to senior level courses.

3. In order to receive a degree, students must attain a 2.0 grade-point average in all biomedical engineering courses, including biomedical engineering elective and special topics courses. In addition, students may only have a grade of D in three (3) biomedical engineering courses. If a biomedical engineering course is repeated, the last grade received will be used to determine grade-point average and number of D grades on the transcript.

4. A grade of F in any prerequisite course for a core BMEG course disqualifies the student from taking that core course until the F has been removed.

5. Requests to transfer credit for core biomedical engineering courses must be submitted to the CBE Undergraduate Curriculum Committee or faculty advisors for review. The course syllabus has to be submitted with the transfer request. Please see college guidelines for additional restrictions to transfer credit.

Chemical Engineering

Degree Offered

- Bachelor of Science in Chemical Engineering (B.S.Ch.E.)

Nature of Program

The chemical engineering curriculum is designed to give graduates a broad background in chemical engineering processes and to prepare them to become practicing engineers. Graduates are prepared for positions in operations, development, design, construction, and management of chemical plants, environmental processes, life sciences, and materials processing. These industries convert raw materials, such as ethylene and other organic feedstocks, via chemical and physical changes to produce economically desirable products such as plastics, detergents, paints, and adhesives. Students with this background are also prepared for graduate school in engineering and science as well as for any professional school. The chemical engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>.

Program Educational Objectives

- Graduates will be successful in their professional careers and/or post graduate training as demonstrated by their solution of traditional chemical engineering problems, their solution of problems in extended applications of chemical engineering (especially biologically), as well as non-related fields, and their development of new and valuable ideas.
- Graduates will be able to work competitively in diverse professional environments, as demonstrated by successfully working on teams, working independently, providing leadership, mentoring junior co-workers, and communicating effectively.
- Graduates will demonstrate professional character exhibited by their ethical behavior, their pursuit of professional registration, their pursuit of life-long learning opportunities, their commitment to responsible safety practices, and their articulation of the environmental impact of their work.

Practical work on process and product design and synthesis is incorporated into all chemical engineering classes. One element is group design projects that require sophomores and juniors to use their knowledge as it is gained. Another element is the individual design project that require seniors to synthesize their knowledge of chemical engineering, correct any deficiencies in their knowledge of chemical engineering, and which also provide faculty a method of assessing the success of the sophomore and junior years. The third element is a group project in which seniors work under the direction of a student chief engineer on a year-long comprehensive design. In conjunction with these projects, there are required written and oral presentations and required computer applications integrated throughout the curriculum. Completion of these projects also trains students to work in groups of different sizes and gives them experience in self-directed learning. Additionally, in the senior year, elements of professional practice, ethics, and safety are introduced in the classroom.

The chemical engineering curriculum also contains a significant laboratory component aimed at reinforcing the knowledge gained in the classroom. In addition to basic chemistry and physics laboratories, the chemical engineering laboratories include a laboratory course that reinforce material taught in the junior year, followed by a two-semester laboratory sequence in the senior year in which the principles of experimental design, laboratory and safety procedures, data analysis, and report writing are stressed.

Click here to view the Suggested Plan of Study (p. 706)

Curriculum in Chemical Engineering

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a degree of bachelor of science in chemical engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better in all chemical engineering courses. If a chemical engineering course is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Chemical Engineering Core Requirements (Minimum GPA of 2.0 required)

CHE 201	Material and Energy Balances 1	3
CHE 202	Material and Energy Balances 2	3
CHE 230	Numerical Methods for Chemical Engineering	3
CHE 310	Process Fluid Mechanics	3
CHE 311	Process Heat Transfer	3
CHE 312	Separation Processes	3
CHE 315	Chemical Engineering Transport Analysis	3
CHE 320	Chemical Engineering Thermodynamics	3
CHE 325	Chemical Reaction Engineering	3
CHE 326	Reaction Phenomena	3
CHE 351	Chemical Process Lab	2
CHE 355	Process Simulation and Design	2
CHE 435	Chemical Process Control	3
CHE 450	Unit Operations Laboratory 1	2
CHE 451	Unit Operations Laboratory 2 (Fulfills Writing and Communication Skills Requirement)	2
CHE 455	Chemical Process Design 1	4
CHE 456	Chemical Process Design 2	3
CHE 475	Chemical Process Safety	3

Math & Science Requirements (36 Credits)

First Year Chemistry (GEF 2B):		8
CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry	
CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry	
CHEM 233	Organic Chemistry	3
CHEM 235	Organic Chemistry Laboratory	1
Calculus I (GEF 3):		4
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4
PHYS 112	General Physics (GEF 8)	4
Technical Electives		
Engineering Science Electives		6
Advanced Science Electives		7
Advanced Chemistry Elective (3hrs)		
Life Science Elective (4 hrs)		
Other Technical Electives		6
GEF Electives 1, 4, 5, 6, 7		18
Total Hours		130

TECHNICAL ELECTIVES

Engineering Electives		6
BMEG 201	Introduction to Biomedical Engineering	
BMEG 311	Biomaterials	
BMEG 480	Cellular Machinery	
BMEG 481	Applied Bio-Molecular Modeling	
BMEG 482	Introduction to Tissue Engineering	
CE 310	Civil Engineering Materials	
CE 322	Hydrotechnical Engineering	
CE 332	Introduction to Transportation Engineering	
CE 347	Introduction to Environmental Engineering	
CE 351	Introductory Soil Mechanics	
CHE 366	Materials Science	
CHE 414	Coal Conversion Engineering	
CHE 461	Polymer Science and Engineering	
CHE 462	Polymer Processing	
CHE 463	Polymer Composites Processing	
CHE 466	Electronic Materials Processing	
CHE 471	Biochemical Engineering	
CHE 472	Biochemical Separations	
CHE 475	Chemical Process Safety	
CHE 476	Pollution Prevention	
CHE 495	Independent Study	
CHE 496	Senior Thesis	
CHE 498	Honors	
CPE 271	Introduction to Digital Logic Design	
EE 221	Introduction to Electrical Engineering	

EE 222	Introduction to Electrical Engineering Laboratory
EE 224	Electrical Circuits Laboratory
IENG 213	Engineering Statistics
IENG 220	Re-Engineering Management Systems
IENG 461	System Safety Engineering
MAE 211	Mechatronics
MAE 215	Intro to Aerospace Engineering
MAE 241	Statics
MAE 242	Dynamics
MAE 243	Mechanics of Materials
MAE 244	Dynamics and Strength Laboratory
MAE 425	Internal Combustion Engines
MAE 473	Bioengineering
PNGE 200	Introduction to Petroleum Engineering
Advanced Chemistry Electives	
3	
AGBI 410	Introductory Biochemistry
AGBI 411	Introductory Biochemistry Laboratory
AGBI 512	Nutritional Biochemistry
BIOC 339	Introduction to Biochemistry
BMEG 311	Biomaterials
BMEG 480	Cellular Machinery
BMEG 481	Applied Bio-Molecular Modeling
BMEG 482	Introduction to Tissue Engineering
CHE 366	Materials Science
CHE 466	Electronic Materials Processing
CHEM 215	Introductory Analytical Chemistry
CHEM 234	Organic Chemistry
CHEM 236	Organic Chemistry Laboratory
CHEM 310	Instrumental Analysis
CHEM 312	Environmental Chemistry
CHEM 313	Instrumental Analysis Laboratory
CHEM 342	Experimental Physical Chemistry
CHEM 348	Physical Chemistry
Advanced Science Electives	
3	
AEM 341	General Microbiology
AEM 401	Environmental Microbiology
AEM 445	Food Microbiology
AGBI 410	Introductory Biochemistry
AGBI 411	Introductory Biochemistry Laboratory
AGBI 512	Nutritional Biochemistry
BIOC 339	Introduction to Biochemistry
BIOL 117	Introductory Physiology
BIOL 219	The Living Cell
BIOL 221	Ecology and Evolution
BIOL 235	Human Physiology
BIOL 236	Human Physiology: Quantitative Laboratory
CHE 366	Materials Science
CHE 466	Electronic Materials Processing
CHEM 215	Introductory Analytical Chemistry
CHEM 234	Organic Chemistry
CHEM 236	Organic Chemistry Laboratory
CHEM 310	Instrumental Analysis

CHEM 312	Environmental Chemistry
CHEM 313	Instrumental Analysis Laboratory
CHEM 342	Experimental Physical Chemistry
CHEM 348	Physical Chemistry
FDST 200	Food Science and Technology
GEN 371	Principles of Genetics
PHYS 211	Introduction to Mathematical Physics
PHYS 313	Introductory Electronics
PHYS 314	Introductory Modern Physics
PSIO 241	Elementary Physiology
Life Sciences Electives	4
AEM 341	General Microbiology
AEM 401	Environmental Microbiology
BIOL 101 & BIOL 102 & BIOL 103 & BIOL 104	General Biology and General Biology and General Biology Laboratory and General Biology Laboratory
BIOL 115	Principles of Biology
BIOL 117	Introductory Physiology
BIOL 235	Human Physiology
BIOL 236	Human Physiology: Quantitative Laboratory
GEN 371	Principles of Genetics
PSIO 241	Elementary Physiology
Other Technical Electives	3
AEM 341	General Microbiology
AEM 401	Environmental Microbiology
AGBI 410	Introductory Biochemistry
AGBI 411	Introductory Biochemistry Laboratory
AGBI 512	Nutritional Biochemistry
BIOC 339	Introduction to Biochemistry
BIOL 105	Environmental Biology
BIOL 106	Environmental Biology Laboratory
BIOL 115	Principles of Biology
BIOL 117	Introductory Physiology
BIOL 219	The Living Cell
BIOL 221	Ecology and Evolution
BIOL 235	Human Physiology
BIOL 236	Human Physiology: Quantitative Laboratory
BMEG 201	Introduction to Biomedical Engineering
BMEG 311	Biomaterials
BMEG 480	Cellular Machinery
BMEG 481	Applied Bio-Molecular Modeling
BMEG 482	Introduction to Tissue Engineering
CE 310	Civil Engineering Materials
CE 322	Hydrotechnical Engineering
CE 332	Introduction to Transportation Engineering
CE 347	Introduction to Environmental Engineering
CE 351	Introductory Soil Mechanics
CHE 366	Materials Science
CHE 414	Coal Conversion Engineering
CHE 461	Polymer Science and Engineering
CHE 462	Polymer Processing
CHE 463	Polymer Composites Processing

CHE 466	Electronic Materials Processing
CHE 471	Biochemical Engineering
CHE 472	Biochemical Separations
CHE 475	Chemical Process Safety
CHE 476	Pollution Prevention
CHE 495	Independent Study
CHE 496	Senior Thesis
CHE 498	Honors
CHEM 215	Introductory Analytical Chemistry
CHEM 234	Organic Chemistry
CHEM 236	Organic Chemistry Laboratory
CHEM 310	Instrumental Analysis
CHEM 312	Environmental Chemistry
CHEM 313	Instrumental Analysis Laboratory
CHEM 342	Experimental Physical Chemistry
CHEM 348	Physical Chemistry
CPE 271	Introduction to Digital Logic Design
CS 220	Discrete Mathematics
EE 221	Introduction to Electrical Engineering
EE 222	Introduction to Electrical Engineering Laboratory
EE 224	Electrical Circuits Laboratory
ENVP 155	Elements of Environmental Protection
FDST 200	Food Science and Technology
GEN 371	Principles of Genetics
GEOL 101	Planet Earth
GEOL 102	Planet Earth Laboratory
GEOL 110	Environmental Geoscience
GEOL 111	Environmental Geoscience Laboratory
GEOL 203	Physical Oceanography
IENG 213	Engineering Statistics
IENG 220	Re-Engineering Management Systems
IENG 461	System Safety Engineering
MAE 211	Mechatronics
MAE 215	Intro to Aerospace Engineering
MAE 241	Statics
MAE 242	Dynamics
MAE 243	Mechanics of Materials
MAE 244	Dynamics and Strength Laboratory
MAE 425	Internal Combustion Engines
MAE 473	Bioengineering
MATH 283	Introduction to the Concepts of Mathematics
PHYS 211	Introduction to Mathematical Physics
PHYS 313	Introductory Electronics
PHYS 314	Introductory Modern Physics
PSIO 241	Elementary Physiology
STAT 215	Introduction to Probability and Statistics
STAT 217	Industrial Statistics

Total Hours

19

SUGGESTED PLAN OF STUDY

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.Ch.E degree program that completes degree requirements in four years is as follows.

First Year

Fall	Hours Spring	Hours
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4
ENGR 101	2 CHE 102	3
ENGR 199	1 PHYS 111 (GEF 8)	4
CHEM 115 (GEF 2)	4 CHEM 116	4
ENGL 101 (GEF 1)	3 GEF 5	3
GEF 4	3	
	17	18

Second Year

Fall	Hours Spring	Hours
CHE 201	3 CHE 202	3
CHEM 233	3 CHE 230	3
CHEM 235	1 MATH 261	4
MATH 251	4 GEF 6	3
PHYS 112 (GEF 8)	4 GEF 7	3
ENGL 102 (GEF 1)	3	
	18	16

Third Year

Fall	Hours Spring	Hours
CHE 310	3 CHE 312	3
CHE 311	3 CHE 315	3
CHE 320	3 CHE 325	3
Life Science Technical Elective	4 CHE 326	3
CHE 351	2 CHE 355	2
	Engineering Science Elective	3
	15	17

Fourth Year

Fall	Hours Spring	Hours
CHE 435	3 CHE 451	2
CHE 450	2 CHE 456	3
CHE 455	4 CHE 475	3
Advanced Science Elective	3 Engineering Science Elective	3
Technical Elective	3 Technical Elective	3
	15	14

Total credit hours: 130

Major Learning Goals**CHEMICAL ENGINEERING**

Upon graduation, all Bachelors of Science students in Chemical Engineering will:

- Understand and be able to analyze entire chemical processes, including those with life science applications.
- Be proficient in the oral and written communication of their work and ideas.
- Be proficient in the use of computers, recent computer software, and computer-based information systems.
- Have the ability to learn independently but will also be able to participate effectively in groups.
- Be able to design effective laboratory experiments, to perform laboratory experiments, to gather data, to analyze data, and to test theories.
- Be prepared for a lifetime of continuing education.
- Understand the safety and environmental consequences of their work as chemical engineers and will be able to design safe processes.
- Understand their professional and ethical responsibilities.
- Have the broad education necessary to understand the impact of engineering solutions in a global and societal context.

These outcomes are achieved via rigorous individual courses in all basic areas of chemical engineering, the natural and life sciences, mathematics, humanities, and social sciences. A flexible electives program allows specialization in areas such as environment and safety, polymers and materials, biological processes, and energy processes.

The chemical engineering department uses an outcomes-assessment plan for continuous program improvement. The design projects, in conjunction with yearly interviews and questionnaires, provide the measures of learning outcomes. These outcomes-assessment results provide feedback to the faculty to improve teaching and learning processes.

Academic Policies

1. Students completing the three 200-level courses (CHE 201, CHE 202, and CHE 230) must attain a 2.0 grade-point average in order to enroll in the 300-level core CHE courses. Students with a grade-point average greater than or equal to 1.67 can submit a formal appeal of this restriction to the department chair for evaluation by the chair, CHE curriculum committee, and CHE academic standards committee. No appeals will be considered for students below a 1.67 grade-point average in the three 200-level courses.
2. Students completing the 300-level core CHE courses must attain a 2.0 grade-point average in core CHE courses (CHE 201, CHE 202, CHE 230, CHE 310, CHE 311, CHE 312, CHE 320, CHE 325, CHE 326, CHE 351, CHE 355) in order to enroll in 400-level core CHE course. No appeals will be considered for students moving from the junior to senior level courses.
3. In order to receive a degree, students must attain a 2.0 grade-point average in all chemical engineering courses, including chemical engineering elective and special topics courses. In addition, students may only have a grade of D in three (3) chemical engineering courses. If a chemical engineering course is repeated, the last grade received will be used to determine grade-point average and the number of D grades on the transcript.
4. A grade of F in any prerequisite course for a core CHE course disqualifies the student from taking that core course until the F has been removed.
5. Requests to transfer credit for core chemical engineering courses must be submitted to the CBE Undergraduate Curriculum Committee or faculty advisors for review. Consideration will only be made when the courses are offered at ABET accredited institutions and the course syllabus has been submitted. Please see college guidelines for additional restrictions to transfer credit.

Department of Civil and Environmental Engineering

E-mail: Statler-CEE@mail.wvu.edu

Degree Offered

- Bachelor of Science in Civil Engineering (B.S.C.E.)

Civil Engineering

Civil engineering historically encompassed all engineering endeavors needed to provide the infrastructure for society to function. Because of its origin and history, civil engineering still embraces a wide variety of technological areas. These include:

- Construction
- Environmental and Water Resources
- Geotechnical
- Structures
- Transportation

Civil engineers work with problems that directly impact the health and economic vitality of people and communities. These problems include waste disposal, environmental pollution, transportation systems analysis and design, water resource development, and the design, construction, and rehabilitation of constructed facilities such as dams, bridges, buildings, and highways.

Thus, the challenges and opportunities for a civil engineer lie in combining technical competence with a human concern for the applications of technology. To help students to understand their role in the community, to be effective in working with design teams involving other engineers and other professionals, and to be effective in written and spoken communications, the curriculum attempts to give a meaningful educational experience in the humanities, social studies, English, and economics.

The goal of the undergraduate curriculum in civil engineering is to prepare graduate civil engineers to meet the present and the future infrastructural and environmental needs of society. This requires an education based on scientific and engineering fundamentals as well as one that incorporates experience in engineering design using modern technology. Because the systems they design impact the public directly, civil engineers must be aware of the social and environmental consequences of their designs. Graduates must be prepared to work and communicate with other professionals in a variety of associations and organizations. Ethics and life-long learning are essential components in the education of civil engineers.

During the course of study, civil engineering students are given a solid grounding in mathematics, physics, and chemistry. Added to this is extensive development of the fundamentals of materials science, construction, water and environmental, soils, structural, and transportation systems engineering. This broad base of knowledge is provided to assure that civil engineers are educated in all branches of the profession and to permit continuous learning

throughout a professional lifetime. Throughout the program, each student works with an academic advisor in the selection of electives. Specialization in one or more of the branches of civil engineering is possible by selection of a sequence of technical electives during the junior and senior years.

Program Educational Objectives

- The graduates will be successful in their professional careers as civil engineers in industry, public agencies, and/or post-graduate education.
- The graduates will continue to develop professionally and serve in leadership roles.
- The graduates will be successful in demonstrating their obligations to the profession, to their employer, and to society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Civil Engineering will have:

- An ability to apply knowledge of mathematics, science, and engineering.
- An ability to design and conduct experiments, as well as to analyze and interpret data.
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- An ability to function on multidisciplinary teams.
- An ability to identify, formulate, and solve engineering problems.
- An understanding of professional and ethical responsibility.
- An ability to communicate effectively.
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- A recognition of the need for, and an ability to engage in life-long learning.
- A knowledge of contemporary issues.
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

FACULTY

CHAIR

- Hema J. Siriwardane - Ph.D. (Virginia Polytechnic Institute and State University)
Geomechanics/geotechnical engineering, Finite element method, Computer applications

PROFESSORS

- Hung-Liang (Roger) Chen - Ph.D. (Northwestern University)
Structural dynamics, Structural experimentation, Dynamic soil-structure interaction, Damage in reinforced concrete structures, Nondestructive evaluation, Concrete
- Hota GangaRao - Ph.D., P.E. (North Carolina State University)
Maurice A. and Jo Ann Wadsworth Distinguished Professor, Director, Constructed Facilities Center. Director, NSF Center for Integration of Composites into Infrastructure, Mathematical modeling of engineering systems, Bridge engineering, Composite material characterization and implementation
- Udaya B. Halabe - Ph.D. (Massachusetts Institute of Technology)
Nondestructive evaluation and in-situ condition assessment of structures and materials, Elastic and electromagnetic (radar) wave propagation, Structural analysis and design, Structural dynamics and wind/earthquake resistant design
- Lian-Shin Lin - Ph.D. (Purdue University)
Physicochemical and biological treatment, Innovative wastewater technologies, Emerging contaminants, sustainable development, Watershed pollution
- David R. Martinelli - Ph.D. (University of Maryland)
Transportation engineering, Traffic operations, Systems analysis, Infrastructure management
- Radhey Sharma - Ph.D. (Oxford)
Sustainable infrastructure, Geotechnical engineering & geoenvironmental, Energy engineering
- Hema J. Siriwardane - Ph.D. (Virginia Polytechnic Institute and State University)
Geomechanics/geotechnical engineering, Finite element method, Computer applications
- John P. Zaniwski - Ph.D. (University of Texas)
Asphalt Technology Professor, Pavement materials, Design, Construction, Maintenance, Infrastructure management

ASSOCIATE PROFESSORS

- Karl Barth - Ph.D. (Purdue University)
Jack H. Samples Distinguished Professor of Structures, Steel structures, Bridge design and rehabilitation, Connections, Stability analysis, Experimental mechanics

- Leslie Clark Hopkinson - Ph.D. (Virginia Polytechnic Institute and State University)
Surface hydrology, Environmental hydraulics, Ecological engineering, River mechanics
- John D. Quaranta - Ph.D. (West Virginia University)
Geotechnical/geoenvironmental engineering, Soil testing and characterization, Soil and mine waste dewatering, Geosynthetics, Soil and groundwater remediation

ASSISTANT PROFESSORS

- Omar I. Abdul-Aziz - Ph.D. (University of Minnesota, Twin Cities)
Ecological-Water Resources Engineering; Scaling of Hydro-Ecological and Biochemical Variables; Modeling of Stream Water Quality and Ecosystem Carbon; Fluid Mechanics; Hydrology.
- Fei Dai - Ph.D. (Hong Kong Polytechnic University)
Constructions Engineering, Construction Management, Construction Information Technologies
- Kakan Dey - Ph.D. (Clemson University)
Intelligent Transportation Infrastructure Design and Analysis; Connected and Automated Vehicle Technology; Traffic Operations; Big Data Analytics for Transportation Data Management; Artificial Intelligence in Transportation
- SeungHo Hong - Ph.D. (Georgia Institute of Technology)
River Engineering, Fluid Mechanics, Sediment Transport, Experimental Techniques in Engineering
- Antarpreet Jutla - Ph.D. (Tufts University)
Water Resources, Hydrology & human health, Remote sensing, Issues of scales in hydroclimatic processes
- Dimitra Pyrialakou - Ph.D. (Purdue University)
Transportation Engineering, Transportation Planning and Evaluation, Public and Rail Transportation, Airport Operations, Transportation Econometrics, and Transportation Engineering Education
- P.V. Vijay - Ph.D. (West Virginia University)
Concrete Structures; P Composite Structures for Bridges, Buildings, and Pavements; Aging of Structures and Rehabilitation, Recycled Polymers for Infrastructure, Analytical Modeling
- Yoojung Yoon - Ph.D. (Purdue University)
Infrastructure Asset Management, Risk Management in Construction, Project Management and Control, Construction Equipment Management

RESEARCH ASSISTANT PROFESSORS

- Rufieng Liang - Ph.D. (Chinese Academy of Sciences Institute of Chemistry)
Fiber Reinforced Polymer Composites, Engineering Plastics, Green Materials, Sustainable Infrastructure

PROFESSORS EMERITUS

- Ronald W. Eck - Ph.D. (Clemson University)
- Donald Gray - Ph.D. (Purdue University)
- W. Joseph Head - Ph.D. (Purdue University)
- Charles R. Jenkins - Ph.D. (Oklahoma State University)
- Larry D. Luttrell - Ph.D. (Cornell University)
- William A. Sack - Ph.D. (Michigan State University)

ASSOCIATE PROFESSORS EMERITUS

- Robert N. Eli - Ph.D. (University of Iowa)
- Darrell R. Dean Jr. - Ph.D. (Purdue University)

ADJUNCT ASSOCIATE PROFESSOR

- Avinash Unnikrishnan - Ph.D. (University of Texas - Austin)
Network Equilibrium Models, Freight and Logistics, Safety, Traffic Simulation, Operations and control

LECTURER

- LiYaning (Maggie) Tang - Ph.D. (The Hong Kong Polytechnic University)
Public-Private Partnership (PPP), Environmental impact assessment (EIA), Construction sustainability, Carbon emission footprint

Click here to view the Suggested Plan of Study (p.)

Curriculum in Civil Engineering

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a degree of bachelor of science in civil engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a GPA of 2.0 or better in all civil engineering courses. If a civil engineering course is repeated, only the last grade received is used to compute the major GPA, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Undergraduate Student Minimum Performance Policy

All civil and environmental engineering students at WVU, including transfer students and second degree students, must complete each tracking course with a grade of C- or better, with the exception that one D- in a course taken at WVU is permitted. Any tracking course transferred from outside of WVU must be a C- or better. Only the following civil engineering courses may be taken prior to completion of the minimum performance policy: CE 201, CE 210, CE 305, CE 332, CE 347.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Required Tracking Courses (minimum grade of C- required)

Calculus I (GEF 3):		4
MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
CHEM 115	Fundamentals of Chemistry (GEF 2B)	4
PHYS 111	General Physics (GEF 8)	4
MAE 241	Statics	3
MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3

Other Required Courses

CE 201	Introduction to Civil Engineering	1
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CE 210	Introduction to Computer Aided Design and Drafting for Civil Engineers	2
CE 301	Engineering Professional Development	1
CE 321	Fluid Mechanics for Civil Engineers	3
CE 479	Integrated Civil Engineering Design-Capstone	3
ECON 201	Principles of Microeconomics	3
ENGL 305	Technical Writing (Fulfills Writing and Communications Skills Requirement)	3
IENG 377	Engineering Economy	3
STAT 215	Introduction to Probability and Statistics	3
Choose one of the following (GEF 8):		4
PHYS 112	General Physics	
CHEM 116	Fundamentals of Chemistry	
BIOL 115	Principles of Biology	
Civil Engineering Core Courses		
CE 332	Introduction to Transportation Engineering	4
CE 347	Introduction to Environmental Engineering	4
CE 351	Introductory Soil Mechanics	4
CE 361	Structural Analysis 1	4
CE Design Electives		6
Choose two of the following:		
CE 411	Pavement Design	
CE 415	Flexible Pavements	
CE 431	Highway Engineering	
CE 439	Traffic Engineering and Operations	
CE 447	Environmental Engineering Design	
CE 451	Foundation Engineering	
CE 453	Earthwork Design	
CE 462	Reinforced Concrete Design	
CE 463	Steel Design	
CE 464	Timber Design	
CE Open Electives: **		
Choose five of the following:		15
CE 305	Introduction to Geomatics	
CE 310	Civil Engineering Materials	
CE 322	Hydrotechnical Engineering	
CE 413	Construction Methods	
CE 414	Construction Engineering	
CE 416	Advanced Concrete Materials	
CE 420	Computational Fluid Mechanics	
CE 425	Engineering Hydrology	
CE 427	Water Resources Engineering	
CE 433	Urban Transportation Planning and Design	
CE 435	Railway Engineering	
CE 436	Pedestrian/Bike Transportation	
CE 443	Environmental Science and Technology	
CE 445	Properties of Air Pollutants	
CE 461	Structural Analysis 2	
CE 495	Independent Study	
CE 497	Research	
SAFM 470	Managing Construction Safety	
Engineering/Math/Science Electives ***		
Choose three of the following:		9
CHEM 215	Introductory Analytical Chemistry	

CHEM 231	Organic Chemistry: Brief Course
AEM 341	General Microbiology
AEM 401	Environmental Microbiology
GEOG 350	Geographic Information Systems and Science
GEOL 342	Structural Geology for Engineers
GEOL 488	Environmental Geochemistry
IENG 331	Computer Applications in Industrial Engineering
IENG 350	Introduction to Operations Research
IENG 360	Human Factors Engineering
IENG 455	Simulation by Digital Methods
MAE 316	Analysis-Engineering Systems
MAE 320	Thermodynamics
MAE 335	Incompressible Aerodynamics
MAE 423	Heat Transfer
MAE 432	Engineering Acoustics
MAE 446	Mechanics of Composite Materials
MAE 473	Bioengineering
MATH 343	Introduction to Linear Algebra
MATH 375	Applied Modern Algebra
MATH 420	Numerical Analysis 1
MATH 441	Applied Linear Algebra
MATH 456	Complex Variables
MATH 465	Partial Differential Equations
MINE 305	Coal Mining
MINE 306	Mineral Property Evaluation
PHYS 331	Theoretical Mechanics 1
STAT 312	Intermediate Statistical Methods
STAT 313	Introductory Design and Analysis
STAT 331	Sampling Methods

Additional Requirements

General Science Elective (Select One)

3

AGRN 202 & AGRN 203	Principles of Soil Science and Principles of Soil Science Laboratory
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory
BIOL 105	Environmental Biology
BIOL 115	Principles of Biology
BIOL 302	Biometry
BIOL 446	Freshwater Ecology
CHEM 116	Fundamentals of Chemistry
CS 110	Introduction to Computer Science
AEM 341	General Microbiology
AEM 401	Environmental Microbiology
GEOG 350	Geographic Information Systems and Science
GEOG 415	Global Environmental Change
GEOG 455	Introduction to Remote Sensing
GEOL 110	Environmental Geoscience
GEOL 203	Physical Oceanography
GEOL 342	Structural Geology for Engineers

PHYS 112	General Physics	
PHYS 211	Introduction to Mathematical Physics	
PHYS 313	Introductory Electronics	
PHYS 314	Introductory Modern Physics	
PHYS 321	Optics	
PHYS 331	Theoretical Mechanics 1	
PHYS 333	Electricity and Magnetism 1	
Engineering Elective (outside CEE Dept:) Any 200, 300, 400 level Statler College course not otherwise used- except Civil Engineering courses, Computer Science courses and IENG 213.		3
GEF Electives 1, 5, 6, 7		15
Total Hours		132

- * One D- is permitted. Any tracking course transferred from outside of WVU must be a C- or better. When a course is repeated, the last grade earned in that course will be used for determining compliance with this minimum grade standard.
- ** Any CE Design Electives that are not otherwise used can also be used.
- *** Any CE 400 level course not otherwise used can also be used.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 PHYS 111 (GEF 8)	4
CHEM 115 (GEF 2)	4 GEF 6	3
ENGL 101 (GEF 1)	3 GEF 7	3
GEF 5	3	
	17	17

Second Year

Fall	Hours Spring	Hours
MAE 241	3 MAE 243	3
MATH 251	4 MAE 242	3
CE 210	2 MATH 261	4
CE 201	1 ENGL 305	3
ENGL 102 (GEF 1)	3 Select one of the following:	4
Select one of the following (GEF 8):	4 CE 332	
PHYS 112	CE 347	
CHEM 116		
BIOL 115		
	17	17

Third Year

Fall	Hours Spring	Hours
CE 321	3 CE Core Class	4
Two CE Core Classes	8 CE 301	1
STAT 215	3 Two CE Open Electives	6
ECON 201 (GEF 4)	3 CE Design Elective	3
	ENGR/MATH/Science Elective	3
	17	17

Fourth Year

Fall	Hours Spring	Hours
CE Design Elective	3 CE Open Elective	3
Two CE Open Electives	6 CE 479	3
General Science Elective	3 Two ENGR/MATH/Science Electives	6

IENG 377	3 ENGR Elective (outside CEE Dept.)	3
	15	15

Total credit hours: 132

Major Learning Goals

CIVIL ENGINEERING

Program Educational Objectives

- The graduates will be successful in their professional careers as civil engineers in industry, public agencies, and/or post-graduate education.
- The graduates will continue to develop professionally and serve in leadership roles.
- The graduates will be successful in demonstrating their obligations to the profession, to their employer, and to society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Civil Engineering will have:

- An ability to apply knowledge of mathematics, science, and engineering.
- An ability to design and conduct experiments, as well as to analyze and interpret data.
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- An ability to function on multidisciplinary teams.
- An ability to identify, formulate, and solve engineering problems.
- An understanding of professional and ethical responsibility.
- An ability to communicate effectively.
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- A recognition of the need for, and an ability to engage in life-long learning.
- A knowledge of contemporary issues.
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Curriculum for a Dual Degree in Mining Engineering and Civil Engineering

This curriculum allows students to simultaneously pursue B.S. degrees in mining engineering and civil engineering by completing additional courses. A suggested schedule for the dual curriculum in mining engineering and civil engineering is shown below.

To receive the degrees of bachelor of science in mining engineering and bachelor of science in civil engineering, a student must take all of the courses indicated below and achieve a grade point average of 2.0 or better for all civil engineering courses attempted and a grade point average of 2.25 in all mining engineering courses attempted, except for those courses in which a grade of W was received. If a course is repeated, only the last grade received is counted in computing the grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the chosen major.

Undergraduate Student Minimum Performance Policy

All civil engineering students at WVU, including transfer students, second-degree students, and dual degree students must complete each tracking course with a grade of C or better, with the exception that one D among them is permitted (a transfer course(s) with a grade of D does not satisfy the minimum performance requirement). When a course is repeated, the last grade earned in that course will be used for determining compliance with this minimum performance policy. Only the following Civil Engineering courses may be taken prior to completion of the minimum performance policy: CE 201, CE 210, CE 305, CE 332, and CE 347.

Any tracking course transferred from outside of WVU must be a C or better.

All tracking courses must be completed collectively before taking any 300-level or higher civil engineering course. However, as an exception to the collective prerequisite requirement, geomatics (CE 305), environmental engineering (CE 347), and transportation engineering (CE 332) may be taken before completing all tracking courses.

Second-degree students may petition for a waiver to the collective prerequisite requirement for 300-level or higher civil engineering courses but must meet individual course prerequisites. The petition must include a plan for completing the tracking courses and be approved by the student's academic advisor and the department chairman.

It is important for the students take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.Min.E and B.S.C.E. degree program that completes degree requirements in five years is as follows.

Mining/Civil Engineering Curriculum Requirements

Students must complete a minimum of 152 credit hours to graduate - the total at the bottom reflects all possible course combinations.

Tracking Courses		
CHEM 115	Fundamentals of Chemistry (GEF 2)	4
MAE 241	Statics	3
MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3
Select one of the following (GEF 3):		4
MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4
Required Courses		
CE 201	Introduction to Civil Engineering	1
CE 301	Engineering Professional Development	1
CE 321	Fluid Mechanics for Civil Engineers	3
CE 322	Hydrotechnical Engineering	3
CE 479	Integrated Civil Engineering Design-Capstone	3
ECON 201	Principles of Microeconomics (GEF 4)	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
GEOL 101	Planet Earth	3
GEOL 102	Planet Earth Laboratory	1
GEOL 342	Structural Geology for Engineers	3
IENG 377	Engineering Economy	3
MAE 320	Thermodynamics	3
MINE 201	Mine Surveying	3
MINE 205	Underground Mining Systems	3
MINE 206	Surface Mining Systems	4
MINE 261	Engineering Computer Aided Design	2
MINE 306	Mineral Property Evaluation	3
MINE 331	Mine Ventilation	3
MINE 382	Mine Power Systems	3
MINE 411	Rock Mechanics/Ground Control	4
MINE 427	Coal Preparation	4
MINE 471	Mine and Safety Management	3
MINE 480	Multidisciplinary Team Project	1
MINE 483	Mine Design-Exploration Mapping	2
MINE 484	Mine Design-Report Capstone	4
PHYS 112	General Physics (GEF 8)	4
STAT 215	Introduction to Probability and Statistics	3
Civil Engineering Core Courses		

CE 332	Introduction to Transportation Engineering	4
CE 347	Introduction to Environmental Engineering	4
CE 351	Introductory Soil Mechanics	4
CE 361	Structural Analysis 1	4

Civil Engineering Design Electives

Select from the following: 6

CE 411	Pavement Design	
CE 415	Flexible Pavements	
CE 447	Environmental Engineering Design	
CE 451	Foundation Engineering	
CE 453	Earthwork Design	
CE 462	Reinforced Concrete Design	
CE 463	Steel Design	
CE 464	Timber Design	

Civil Engineering Electives

Select from the following: 3

CE 305	Introduction to Geomatics	
CE 310	Civil Engineering Materials	
CE 413	Construction Methods	
CE 414	Construction Engineering	
CE 416	Advanced Concrete Materials	
CE 420	Computational Fluid Mechanics	
CE 425	Engineering Hydrology	
CE 427	Water Resources Engineering	
CE 433	Urban Transportation Planning and Design	
CE 435	Railway Engineering	
CE 436	Pedestrian/Bike Transportation	
CE 443	Environmental Science and Technology	
CE 445	Properties of Air Pollutants	
CE 461	Structural Analysis 2	
CE 493 course (approved by Advisor)		
CE 495	Independent Study	
SAFM 470	Managing Construction Safety	

GEF Electives 1, 5, 6, 7 15

Total Hours 152

MINE and CE Suggested Plan of Study**First Year**

Fall	Hours Spring	Hours
CHEM 115 (GEF 2)	4 ENGR 102	3
ENGL 101 (GEF 1)	3 GEOL 101	3
ENGR 101	2 GEOL 102	1
ENGR 199	1 MATH 156 (GEF 8)	4
MATH 155 (GEF 3)	4 PHYS 111 (GEF 8)	4
	14	15

Second Year

Fall	Hours Spring	Hours
CE 201	1 ENGL 102 (GEF 1)	3
MAE 241	3 MAE 242	3
MATH 251	4 MATH 261	4
MINE 201	3 MINE 206	4
MINE 205	3 PHYS 112 (GEF 8)	4

MINE 261	2		
	16		18
Third Year			
Fall		Hours Spring	Hours
CE 321		3 Two CE Core Courses *	8
GEOL 342		3 MINE 331	3
MAE 243		3 MINE 427	4
MAE 320		3 MINE 480	1
STAT 215		3	
	15		16
Fourth Year			
Fall		Hours Spring	Hours
Two CE Core Courses *		8 CE 301	1
MINE 306		3 Two CE Design Electives **	6
MINE 382		3 CE 322	3
		GEF Elective 6	3
		IENG 377	3
	14		16
Fifth Year			
Fall		Hours Spring	Hours
GEF Elective 5		3 CE Open Elective ***	3
ECON 201 (GEF 4)		3 CE 479	3
MINE 411		4 GEF Elective 7	3
MINE 471		3 MINE 484	4
MINE 483		2	
	15		13

Total credit hours: 152

* CE Core Classes: CE 332, CE 347, CE 351, CE 361

** CE Design Electives—any approved CE 400-level design course. See advisor for approved list

*** CE Open Electives—any approved CE 300 or CE 400-level course. See advisor for approved list.

Notes: Discipline substitutions:

- MINE 306 fulfills requirement of CE Engr/Math/Sci Elective 1.
- MINE 411 fulfills requirement of CE Engr/Math/Sci Elective 2.
- MINE requirement for is fulfilled through CE 322 and CE 351.
- MINE 382 fulfills requirement of CE engineering elective outside CE.
- MINE 461 is fulfilled by CE 322.
- MINE 484 fulfills CE requirement of ENGL 305.
- MINE requirement for STAT 211 is fulfilled by CE requirement of STAT 215.
- CE 321 fulfills MINE requirement for MAE 331.
- MINE technical elective and MINE Eng/Sci technical elective requirements are fulfilled by any two of the following: CE 332, CE 347, or CE 361.
- GEOL 342 fulfills requirement of CE basic science elective.
- MINE 261 substitutes for CE 210.

Lane Department of Computer Science & Electrical Engineering

E-mail: Statler-LCSEE@mail.wvu.edu

Degrees Offered

- Bachelor of Science in Biometric Systems (B.S.B.S.)
- Bachelor of Science in Computer Engineering (B.S.Cp.E.)
- Bachelor of Science in Computer Science (B.S.C.S.)

- Bachelor of Science in Electrical Engineering (B.S.E.E.)

Nature of Program

The Department offers undergraduate degrees in computer science, electrical engineering, computer engineering, and biometric systems. Each of these disciplines deals with the creation and processing of information. Our degree programs provide a strong theoretical background as well as practical experience gained through projects and hands-on research. Our undergraduate programs provide students with the skills required for a broad range of jobs in industry, government, academia, business, and research. We begin with a strong foundation in mathematics and add a wide spectrum of courses on the fundamentals of electronics, computer systems, computer science, and biometric systems. Each of the degree programs provides a broad spectrum of knowledge in its field but also provides the opportunity for specialization through emphasis areas, electives, independent research projects, and directed studies. All four undergraduate degrees include a two semester interdisciplinary capstone design experience in the final year of study. The program also provides a broad general education necessary to put technical knowledge into perspective.

FACULTY

CHAIR

- Brian Woerner - Ph.D. (University of Michigan)
Wireless communication

PROFESSORS

- Donald Adjero - Ph.D. (Chinese University of Hong Kong)
Associate Dept. Chair and Graduate Coordinator for Computer Science. Multimedia information systems (image, video, and audio), Distributed multimedia systems, Data analytics
- Hany Ammar - Ph.D. (University of Notre Dame)
Risk assessment, Software engineering, Biometrics, Performance and dependability analysis, Modeling and evaluation of parallel and distributed systems
- Muhammad Choudhry - Ph.D. (Purdue University)
Graduate coordinator for CpE & EE. Power system control, DC transmission, Stability, Power electronics
- Parviz Famouri - Ph.D. (University of Kentucky)
Associate Dept. Chair, Analysis and control of electrical machines, Motor drives, Power electronics, Electric vehicles.
- Ali Feliachi - Ph.D. (Georgia Tech)
Power systems, Large-scale systems, Control
- Katerina Goseva-Popstojanova - Ph.D. (University Sv. Kiril i Metodij)
Software reliability engineering, Distributed systems, Computer security, Dependability, Performance and performability assessment
- Powsiri Klinkhachorn - Ph.D. (West Virginia University)
Microprocessor applications, Computer architecture, Binary and nonbinary logic
- Dimitris Korakakis - Ph.D. (Boston University)
Semiconductor growth, Nanotechnology, Photonic devices, Biosensors
- Xin Li - Ph.D. (Princeton University)
Image Processing, Computer vision, Pattern recognition
- Nasser Nasrabadi - Ph.D. (Imperial College of Science & Technology)
Image and video processing, biometrics, video analytics
- Afzel Noore - Ph.D. (West Virginia University)
Associate Dept. Chair, VLSI design and testing, Software engineering, Information assurance and biometrics
- Roy Nutter Jr. - Ph.D., P.E. (West Virginia University)
Neural networks, Microprocessor systems, Computer architecture, Computer forensics
- Y. V. Ramana Reddy - Ph.D. (West Virginia University)
Artificial intelligence, Knowledge-based simulation, Computer graphics
- Natalia Schmid - Ph.D. (Washington University, St. Louis)
Detection and Estimation, Statistical Signal and Image Processing, Biometrics, Information Theory, Wireless Sensor Networks, Signal Processing for Radio Astronomy
- K. Subramani - Ph.D. (University of Maryland)
Scheduling, Computational biology, Computational complexity, Polyhedral combinatorics.
- Matthew Valenti - Ph.D., P.E. (Virginia Tech)
Communication theory, Wireless systems, Error control coding

ASSOCIATE PROFESSORS

- Xian-An Cao - Ph.D. (University of Florida)
Nanofabrication, Opto-electronic devices

- Jeremy Dawson - Ph.D. (West Virginia University)
Photonics, Nanofabrication, Biometrics data sensing, Rapid DNA analysis
- Elaine Eschen - Ph.D. (Vanderbilt University)
CCDM program director. Design and analysis of algorithms, Graph theory, Combinatorics
- David Graham - Ph.D. (Georgia Institute of Technology)
Analog Signal Processing
- Guodong Guo - Ph.D. (University of Wisconsin-Madison)
Computer vision, Biometrics, Human computer interaction
- Mark Jerabek - Ph.D., P.E. (Purdue University)
Solid state devices and sensors, Electromagnetics
- Vinod Kulathumani - Ph.D. (Ohio State University)
Wireless sensor actuator networks, Scalable and fault tolerant distributed systems
- Yuxin Liu - Ph.D. (Louisiana Tech University)
Biotechnology/bioengineering, BioMEMS and microfluidics, Cellular sensors, Tissue engineering
- Daryl Reynolds - Ph.D. (Texas A&M University)
Statistical signal processing for communications, Iterative (turbo) processing, Transmitter precoding, Space-time coding and processing
- Frances Van Scoy - Ph.D. (University of Virginia)
Programming languages and compilers, Multisensory computing, High performance computing
- Sarika Khushalani Solanki - Ph.D. (Mississippi State University)
Power/energy conversion, Power systems, Controls, signals, and systems

ASSISTANT PROFESSORS

- Thirimachos Bourlai - Ph.D. (University of Surrey)
Biomedical Image Processing, Pattern Recognition
- Kevin Bandura - Ph.D. (Carnegie Mellon University)
- Gianfranco Doretto - Ph.D. (University of California, Los Angeles)
Computer Vision, Statistical Pattern Recognition, Biometrics, Image Processing, Computer Graphics
- Victor Fragoso - Ph.D. (University of California - Santa Barbara)
Computer Vision, Machine Learning
- Saiph Savage - Ph.D. (University of California - Santa Barbara)
Machine Learning, Human Computer Interaction, Data Analytics for Social Networks
- Yangqiu Song - Ph.D.
machine learning, large data sets, text mining, data analytics.
- Yanfang Ye - Ph.D. (Xiamen University)
Computer security, Malware detection, Machine learning

RESEARCH ASSOCIATE PROFESSORS

- Alan V. Barnes - Ph.D. (California Institute of Technology)
Ion surface interactions, Materials growth, Automated document analysis
- Sumitra Reddy - Ph.D. (West Virginia University)
Healthcare informatics, Componentware, Intelligent systems, Information technology evolution

RESEARCH ASSISTANT PROFESSORS

- Jignesh Solanki - Ph.D. (Mississippi State University)
Power engineering, Smart grids, Decentralized control of power systems, Control and automation of distribution and transmission systems

VISITING AND ADJUNCT PROFESSORS

- Nancy Lan Guo - Ph.D. (West Virginia University)
- V. Jagannathan - Ph.D. (Vanderbilt University)
- Gyungsu Byun - Ph.D. (University of California, Los Angeles)
- Bojan Cukic - Ph.D. (University of Houston)
- Lawrence Hornak - Ph.D. (Rutgers University)
- Tim Menzies - Ph.D. (University of New South Wales)
- Arun Ross - Ph.D. (Michigan State University)
Statistical Pattern Recognition, Biometrics
- Stephanie Schuckers - Ph.D. (University of Michigan)

LECTURERS

- Kenneth Costello - M.S. (West Virginia University)
- Dale Dzielski - M.B.A. (Regent University)
- Jeffrey Edgell - M.S. (Stephens Institute of Technology)
- Michael Evanoff - M.S. (West Virginia University)
- Camille Hayhurst - M.S. (West Virginia University)
- Lawrence Jacowitz - Ph.D. (Ohio State University)
- Ron Reaser - M.S. (West Virginia University)
- Cynthia Tanner - M.S. (West Virginia University)

PROFESSORS EMERITUS

- John Atkins - Ph.D. (University of Pittsburgh)
- Wils Cooley - Ph.D., P.E. (Carnegie Mellon University)
- James Mooney - Ph.D. (Ohio State University)
Operating systems, Computer architecture, Software portability and standards
- George Trapp - Ph.D. (Carnegie Mellon University)
Biomedical imaging, Data analytics, Information assurance

In this Section

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- Dual BIOM and CPE Suggested Plan of Study (p. 725)
- BIOM and EE Curriculum (p. 726)
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Dual Degrees in the Lane Department of Computer Science and Electrical Engineering

Students can simultaneously pursue B.S. degrees in two majors within the department by completing additional classes for a minimum of 158 hours. Students must meet all the requirements for both degrees. Credit hours may vary based on student's choice of technical electives and emphasis courses. A minimum of 158 credit hours are required for dual degree graduation. Suggested schedules and course requirements for the dual curricula in Computer and Electrical Engineering, Computer Engineering and Computer Science, Biometric Systems and Computer Engineering, and Biometric Systems and Electrical Engineering are shown below.

To receive dual bachelor of science degrees in the majors listed below, a student must take all the courses indicated and must obtain a grade point average of 2.0 or better for all required biometric systems, computer engineering, computer science, and electrical engineering courses. If a BIOM, CPE, CS, or EE course is repeated, only the hours credited and the grade received for the last completion of the course are used in computing this grade point average. This requirement helps assure that the student has demonstrated overall competence in the chosen major.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6

F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

NON-MAJOR CORE FOR DUAL DEGREE COMBINATIONS

CHEM 115	Fundamentals of Chemistry	4
ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
MATH 155	Calculus 1	4
or MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
MATH 375	Applied Modern Algebra	3
PHYS 111	General Physics	4
PHYS 112	General Physics	4
STAT 215	Introduction to Probability and Statistics	3
Engineering Science Elective (Choose one)		3
CHE 201	Material and Energy Balances 1	
CHE 366	Materials Science	
IENG 377	Engineering Economy	
MAE 241	Statics	
MAE 320	Thermodynamics	
Total Hours		49

MAJOR REQUIREMENTS COMMON TO ALL DUAL DEGREE COMBINATIONS

CPE 271	Introduction to Digital Logic Design	3
CPE 272	Digital Logic Laboratory	1
CPE 310	Microprocessor Systems	3
CPE 311	Microprocessor Laboratory	1
CS 110	Introduction to Computer Science	4
CS 111	Introduction to Data Structures	4
CS 350	Computer System Concepts	3
EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
EE 223	Electrical Circuits	3
EE 224	Electrical Circuits Laboratory	1
EE 327	Signals and Systems 1	3
Senior Design Seminar		2
BIOM 480	Senior Design Seminar	
CPE 480	Senior Design Seminar	
CS 480	Senior Design	

EE 480	Senior Design Seminar	
Senior Design Project		3
BIOM 481	Senior Design Project	
CPE 481	Senior Design Project	
CS 481	Senior Project	
EE 481	Senior Design Project	
Total Hours		35

Curriculum for Dual Degrees in Computer and Electrical Engineering

Course Requirements Unique to the CPE/EE Dual Degree

A minimum GPA of 2.0 is required in all departmental courses

CPE 312	Microcomputer Structures and Interfacing	3
CPE 313	Microcomputer Structures and Interfacing Laboratory	1
CS 230	Introduction to Software Engineering	4
CS 450	Operating Systems Structure	3
EE 251	Digital Electronics	3
EE 252	Digital Electronics Laboratory	1
EE 328	Signals and Systems Laboratory	1
EE 329	Signals and Systems 2	3
EE 335	Electromechanical Energy Conversion and Systems	3
EE 336	Electromechanical Energy Conversion and Systems Lab	1
EE 345	Engineering Electromagnetics	3
EE 355	Analog Electronics	3
EE 356	Analog Electronics Laboratory	1
CPE 400 level Technical Elective		3
EE Emphasis Area Technical Electives		9
Free Electives		11-12
Technical Elective		6
GEF Electives 1, 5, 6, 7 (Students who take ENGL 103 must take another technical Elective Course or department approved course)		15
Total Hours		74-75

DUAL CPE AND EE SUGGESTED PLAN OF STUDY

It is important for students to take courses in the order specified as closely as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.Cp.E. and B.S.E.E. program that completes both degree requirements in four and one-half years is as follows.

First Year

Fall	Hours Spring	Hours
See Engineering or General Engineering curricula	17 See Engineering or General Engineering curricula	17
	17	17

Second Year

Fall	Hours Spring	Hours
CPE 271 & CPE 272	4 CS 110**	4
EE 221 & EE 222	4 EE 223 & EE 224*	4
MATH 251	4 EE 251 & EE 252*	4
PHYS 112	4 ENGL 102	3
Free Elective***	3 MATH 261	4
	19	19

Third Year

Fall	Hours Spring	Hours
CPE 310 & CPE 311	4 CPE 312 & CPE 313 [*]	4
CS 111 ^{**}	4 CS 230	4
EE 327 [*]	3 CS 350	3
MATH 375	3 ECON 201	3
STAT 215	3 EE 329 & EE 328 [*]	4
	17	18

Fourth Year

Fall	Hours Spring	Hours
CS 450	3 CPE 480	2
EE 335 & EE 336 [*]	4 ECON 202	3
EE 345 [*]	3 Technical Elective ^{****}	3
EE 355 & EE 356 [*]	4 Technical Elective ^{****}	3
CPE Technical Elective ^{****}	3 Engr. Science Elective GEF Elective	3 3
	17	17

Fifth Year

Fall	Hours
CPE 481	3
undefined	
Three Technical Electives ^{****}	9
Two Free Electives ^{***}	6
	18

Total credit hours: 159

* Only taught once per year, in the semester shown.

** Students can schedule CS 110 and CS 111 in the first year and move the GEF electives to later years.

*** At least eight hours of any University scheduled courses to make 158 minimum hours.

**** Technical Electives: five technical electives (TE) are required. At least three must come from one of the EE emphasis areas. One additional TE must be a 400-level CpE course, and one TE may be selected from upper-division engineering, math, science, or statistics courses. However, a student may petition the department through his or her advisor for prior written permission to select one upper-division course that meets specific career objectives. Non-LCSEE courses numbered 493x or designated "Special Topics" must receive prior approval by the Curriculum Committee to be counted as a TE. All prerequisites must be observed.

Curriculum for Dual Degrees in Biometric Systems and Computer Engineering**Courses Unique to the BIOM/CpE Dual Degree**

A minimum GPA of 2.0 is required in all departmental courses

BIOL 115	Principles of Biology	4
BIOL 324	Molecular Genetics	3
BIOM 426	Biometric Systems	3
CPE 312	Microcomputer Structures and Interfacing	3
CPE 313	Microcomputer Structures and Interfacing Laboratory	1
CS 230	Introduction to Software Engineering (satisfies BIOM Emph course 1)	4
CS 450	Operating Systems Structure (satisfies BIOM Emph course 2)	3
CS 465	Introduction to Cybersecurity	3
EE 251	Digital Electronics	3
EE 252	Digital Electronics Laboratory	1
EE 355	Analog Electronics	3

EE 356	Analog Electronics Laboratory	1
EE 425	Bioengineering	3
EE 465	Introduction to Digital Image Processing	3
STAT 316	Forensic Statistics	3
BIOM Emph course 3		3
CPE 400 level Technical Elective		3
Free Electives		6
GEF Electives 1, 5, 6, 7 (Students who take ENGL 103 must take another technical Elective Course or department approved course)		15
Total Hours		68

BIOM AND CPE SUGGESTED PLAN OF STUDY

It is important for students to take courses in the order specified as closely as possible; all prerequisites and concurrent requirements must be observed. A typical dual BSBS and BSCPE program that completes both degree requirements in four and one-half years is as follows.

First Year

Fall	Hours Spring	Hours
BIOL 115 ⁺	4 CHEM 115	4
ENGL 101	3 ENGR 102	3
ENGR 101	2 MATH 156	4
ENGR 199	1 PHYS 111	4
MATH 155	4 GEF Elective	3
GEF Elective	3	
	17	18

Second Year

Fall	Hours Spring	Hours
CPE 271 & CPE 272	4 CS 110	4
EE 221 & EE 222	4 EE 223 & EE 224 ⁺	4
ENGL 102	3 EE 251 & EE 252 ⁺	4
MATH 251	4 MATH 261	4
PHYS 112	4 STAT 215	3
	19	19

Third Year

Fall	Hours Spring	Hours
CPE 310 & CPE 311	4 BIOL 324 ⁺	3
CS 111	4 CS 230 (Emphasis Course 1)	4
EE 327 ⁺	3 EE 465 ⁺	3
EE 355 & EE 356 ⁺	4 Engineering Science Elective	3
STAT 316 ⁺	3 GEF Elective	3
	18	16

Fourth Year

Fall	Hours Spring	Hours
BIOM 426 ⁺	3 BIOM 480	2
CS 350	3 CPE 312 & CPE 313 ⁺	4
EE 425 ⁺	3 CS 450 (Emphasis Course 2)	3
MATH 375	3 ECON 201	3
Technical Elective [†]	3 Two Free Electives	6

Assigned GEF	3	
	18	18
Fifth Year		
Fall	Hours	
BIOM 481	3	
CS 465 [†]	3	
ECON 202	3	
CPE Technical Elective ^{**}	3	
Emphasis Course 3 ^{**}	3	
	15	

Total credit hours: 158

* Only taught once per year, in the semester shown.

** The CpE TE and Emphasis Course 3 may be combined under the Software emphasis area. If this option is exercised, an additional technical elective must be selected.

† Choose from POLS 210, PSYC 101, SOCA 101, or SOCA 232.

Five technical electives (TE) are required. Three electives fulfill one of the biometric system emphasis areas. One additional TE must be a 400-level Computer Engineering course, and one TE may be selected from any upper division LCSEE course. These areas may overlap with degree requirements; in that instance students must select additional TE from upper division LCSEE courses. All prerequisites must be observed. It is recommended that students consult closely with their academic advisor to insure that all requirements are met in a timely manner. Failure to plan ahead may cause delays in graduation.

Curriculum for Dual Degrees in Biometric Systems and Electrical Engineering

Courses Unique to the BIOM/EE Dual Degree

A minimum GPA of 2.0 is required in all departmental courses

BIOL 115	Principles of Biology	4
BIOL 324	Molecular Genetics	3
BIOM 426	Biometric Systems (satisfies EE Bioengineering emphasis)	3
CS 465	Introduction to Cybersecurity	3
EE 251	Digital Electronics	3
EE 252	Digital Electronics Laboratory	1
EE 328	Signals and Systems Laboratory	1
EE 329	Signals and Systems 2	3
EE 335	Electromechanical Energy Conversion and Systems	3
EE 336	Electromechanical Energy Conversion and Systems Lab	1
EE 345	Engineering Electromagnetics	3
EE 355	Analog Electronics	3
EE 356	Analog Electronics Laboratory	1
EE 425	Bioengineering (satisfies EE Bioengineering emphasis)	3
EE 465	Introduction to Digital Image Processing (satisfies EE Bioengineering emphasis)	3
STAT 316	Forensic Statistics	3
BIOM Emph courses		9
Free Elective		3
GEF Electives 1, 5, 6, 7 (Students who take ENGL 103 must take another technical Elective Course or department approved course)		15
Total Hours		68

BIOM AND EE SUGGESTED PLAN OF STUDY

It is important for students to take courses in the order specified as closely as possible; all prerequisites and concurrent requirements must be observed. A typical dual BSBS and BSEE program that completes both degree requirements in four and one-half years is as follows.

First Year

Fall	Hours Spring	Hours
BIOL 115 [*]	4 CHEM 115	4

ENGL 101	3 ENGR 102	3
ENGR 101	2 MATH 156	4
ENGR 199	1 PHYS 111	4
MATH 155	4 GEF Elective	3
GEF Elective	3	
	17	18
Second Year		
Fall	Hours Spring	Hours
CPE 271 & CPE 272	4 CS 110	4
EE 221 & EE 222	4 EE 223 & EE 224 ⁺	4
ENGL 102	3 EE 251 & EE 252 ⁺	4
MATH 251	4 MATH 261	4
PHYS 112	4 STAT 215	3
	19	19
Third Year		
Fall	Hours Spring	Hours
CPE 310 & CPE 311	4 BIOL 324 ⁺	3
CS 111	4 CS 350	3
EE 327 ⁺	3 EE 329 & EE 328 ⁺	4
EE 355 & EE 356 ⁺	4 MATH 375	3
STAT 316 ⁺	3 Engineering Science Elective	3
	18	16
Fourth Year		
Fall	Hours Spring	Hours
BIOM 426 ⁺	3 BIOM 480	2
EE 335 & EE 336 ⁺	4 ECON 201	3
EE 345 ⁺	3 EE 465 ⁺	3
EE 425 ⁺	3 Assigned GEF Elective [†]	3
GEF Elective	3 Biometrics Emphasis Course 1 ^{**} Technical Elective	3
	16	17
Fifth Year		
Fall	Hours	
BIOM 481	3	
CS 465 ⁺	3	
ECON 202	3	
Biometrics Emphasis Course 2 ^{**}	3	
Biometrics Emphasis Course 3 ^{**}	3	
Free Elective	3	
	18	

Total credit hours: 158

* Only taught once per year, in the semester shown.

** Biometrics Emphasis Courses and EE Technical Electives may overlap in some instances. It is recommended that students consult closely with their academic advisor to ensure that all requirements are met in a timely manor. Failure to plan ahead may cause delays in graduation.

† Choose from POLS 210, PSYC 101, SOCA 101, or SOCA 232.

In this degree combination, the EE Bioengineering Emphasis is automatically fulfilled. Three electives must also fulfill one of the biometric systems emphasis areas. These areas may overlap with degree requirements; in that instance, students must select additional technical electives (TE) from upper division LCSEE courses, or permanently numbered upper division engineering, science, statistics, or math courses. Non-LCSEE courses numbered 493x or designated "Special Topics" must receive prior approval by the Curriculum Committee to be counted as a TE. All prerequisites must be observed. It is recommended that students consult closely with their academic advisor to ensure that all requirements are met in a timely manner. Failure to plan ahead may cause delays in graduation.

Curriculum for Dual Degrees in Computer Engineering and Computer Science

Courses Unique to the CPE/CS Dual Degree

A minimum GPA of 2.0 is required in all departmental courses. All BSCS required CpE, CS, MATH, and STAT courses must be completed with a C or better.

CPE 312	Microcomputer Structures and Interfacing	3
CPE 313	Microcomputer Structures and Interfacing Laboratory	1
CS 210	File and Data Structures	4
CS 220	Discrete Mathematics	3
CS 221	Analysis of Algorithms	3
CS 230	Introduction to Software Engineering	4
CS 310	Principles of Programming Languages	3
CS 410	Compiler Construction	3
CS 450	Operating Systems Structure	3
EE 251	Digital Electronics	3
EE 252	Digital Electronics Laboratory	1
EE 355	Analog Electronics	3
EE 356	Analog Electronics Laboratory	1
CPE 4xx Technical Elective		3
CS 4xx Technical Electives		12
ENGL 305		3
Free Elective		3
GEF Electives 1, 5, 6, 7 (Students who take ENGL 103 must take another technical Elective Course or department approved course)		12
Total Hours		68

CS Concentration Areas (CA's)

Minimum grade of C required.

CA1: Theory of Computing

CS 420	Design of Algorithms	3
CS 422	Automata Theory	3
CS 426	Discrete Mathematics 2	3

CA2: Software and Knowledge Engineering

CS 430	Advanced Software Engineering	3
CS 440	Database Design and Theory	3
CS 470	Introduction to Computer Graphics	3
CS 472	Artificial Intelligence	3
CS 475 Game Development		3
CS 493 Human Computer Interaction		3

CA3: Computer Systems

CPE 435	Computer Incident Response	3
CS 453	Data and Computer Communications	3
CS 465	Introduction to Cybersecurity	3
CS 493 Concurrent Programming		3

CPE AND CS SUGGESTED PLAN OF STUDY

It is important for students to take courses in the order specified as closely as possible; all prerequisites and concurrent requirements must be observed. All CS, CpE, MATH, and STAT classes required for the BSCS must be completed with a grade of C or better. A typical dual B.S.C.S. and B.S.Cp.E. program that completes both degree requirements in four and one-half years is as follows.

First Year

Fall	Hours Spring	Hours
CHEM 115	4 COMM 112	3
CS 110	4 CS 111	4
ENGL 101	3 ENGR 102	3
ENGR 101	2 MATH 156	4
ENGR 199	1 PHYS 111	4
MATH 155	4	
	18	18

Second Year

Fall	Hours Spring	Hours
CPE 271 & CPE 272	4 CS 230	4
CS 210 [*]	4 EE 223 & EE 224 [*]	4
EE 221 & EE 222	4 EE 251 & EE 252 [*]	4
MATH 251	4 ENGL 102	3
PHYS 112	4 MATH 261	4
	20	19

Third Year

Fall	Hours Spring	Hours
CPE 310 & CPE 311	4 CPE 312 & CPE 313 [*]	4
CS 220 [*]	3 CS 221 [*]	3
EE 327 [*]	3 CS 310 [*]	3
EE 355 & EE 356 [*]	4 CS 350	3
MATH 375	3 ECON 201 ENGL 305	3
	17	19

Fourth Year

Fall	Hours Spring	Hours
CS 410 [*]	3 CPE 480 [*]	2
CS 450	3 CS 4xx Technical Elective, CA 1 ^{**}	3
ECON 202	3 CS 4xx Technical Elective, CA 2	3
STAT 215	3 Engineering Science Elective	3
CPE 4xx Technical Elective	3 GEF Elective	3
GEF Elective	3	
	18	14

Fifth Year

Fall	Hours
CPE 481	3
CS 4xx Technical Elective, CA 3 ^{**}	3
CS 4xx Technical Elective, CA 1-3	3
GEF Elective	3

Technical Elective	3
	15

Total credit hours: 158

* Only taught once per year, in the semester shown.

** CS 490, CS 491, CS 495, and Programming Competition do not count as technical electives.

COMPUTER SCIENCE MINOR

MINOR CODE - U002

Any student may take a minor in computer science by taking the following courses and making a minimum overall GPA of 2.0 in all courses required for the minor and a C or higher in each course.

A minimum overall GPA of 2.0 and a C or higher must be earned in all required courses.

CS 110	Introduction to Computer Science	8
& CS 111	and Introduction to Data Structures	
Select one of the following:		3
CS 210	File and Data Structures	
CS 220	Discrete Mathematics	
CS 230	Introduction to Software Engineering	
CS 310	Principles of Programming Languages	6
& CS 350	and Computer System Concepts	
At least one CS 400-level course		3
Total Hours		20

Biometric Systems

Nature of Program

Biometric systems are composed of complex hardware and software designed to measure a signature of the human body, compare the signature to a database, and render a decision for a given application based on the identification achieved from this matching process. Uses of biometric systems for positive personal identification are experiencing rapid growth in such areas as law enforcement, access control, banking, and a wide range of business and administrative systems. In an even broader application context, biometric systems are having a revolutionary impact on health care and the enhancement of the human computer interface, including in vivo identification of specific human conditions via implantable devices and the automated administration of life-saving medical therapies. The continued rapid advance of integrated sensor, signal/image processing, computer, and mass storage technology promises to extend these applications further into our daily lives with even the most inanimate objects able to identify, interact with, and assist their users.

Biometric systems for personal identification are based upon fundamental biometric features that are typically unique and time invariant, such as features derived from fingerprints, faces, irises, retinas, and voices. Biometrics for biomedical, human computer interface, and other applications may include these but will necessarily extend to a wide range of physiological signals which possess identifiable patterns that may change in time, albeit predictably. The spectrum of usable biometrics is defined by human physiology, the bioengineering implied by their measurement, and the application. As biometric system capabilities and applications evolve, biometrics will extend to any known measurement of the human body.

Biometric identification is a highly interdisciplinary field mixing traditional engineering with the forensic sciences. As a result, the engineering design and development of biometric systems requires knowledge of the biometric as well as the engineering disciplines. Designers work with the physics of the sensor to obtain measurements of the biometric defined by human physiology. Signal and image processing techniques are applied to the sensor signal to extract features usable for identification. Databases combined with artificial intelligence enable rapid storage, retrieval, and pattern matching while decision theory supports the mechanisms whereby systems can provide the needed identification results. Underlying the entire system is a foundation of statistics and mathematics that provides the language for implementing and evaluating biometric technology and systems.

Program Educational Objectives

The Program Educational Objectives (PEO) of the Biometric Systems (BS) program at West Virginia University is to produce graduates who will apply their knowledge and skills to achieve success in their careers in industry, research, government service or graduate study. It is expected that in the first five years after graduation our graduates will achieve success and proficiency in their profession, be recognized as leaders, and contribute to the well-being of society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Biometric Systems will have:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Areas of Emphasis

Presently, four specialization paths have been identified for the biometric systems curriculum. Each emphasis area enables students to develop an in-depth technical background in an area of their own choosing which is central to biometric system development. Currently designated areas of emphasis are sensors and circuits, signal processing, statistics, and software systems. Each emphasis area is fulfilled by the successful completion of three courses. Students may obtain at most one emphasis area designation from this four-course set in their degree curriculum. Each emphasis area curriculum is defined by three courses chosen from a set of classes prescribed for that area. At least one of these three courses is a required course. Successful completion of an emphasis area's requirements is designated on the student's transcript.

Click here to view the Suggested Plan of Study (p. 733)

Curriculum in Biometric Systems

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a bachelor of science in biometric systems, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better for all Lane Department of Computer Science and Electrical Engineering courses. If a Lane Department of Computer Science and Electrical Engineering course is repeated, only the last grade received is used to compute the major grade

point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Non-Biometric Systems Core

BIOL 115	Principles of Biology (GEF 8)	4
BIOL 324	Molecular Genetics	3
CHEM 115	Fundamentals of Chemistry (GEF 2B)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ECON 202	Principles of Macroeconomics	3
Calculus I (GEF 3):		4
MATH 155	Calculus 1 (Minimum grade of C- is required)	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus (Minimum grade of C- is required)	
MATH 156	Calculus 2 (GEF 8 - Minimum grade of C- is required)	4
MATH 251	Multivariable Calculus (Minimum grade of C- is required)	4
MATH 261	Elementary Differential Equations	4
MATH 375	Applied Modern Algebra	3
PHYS 111	General Physics	4
PHYS 112	General Physics	4
STAT 215	Introduction to Probability and Statistics	3
STAT 316	Forensic Statistics	3
Biometric Core (Minimum 2.0 GPA is required in all of the following courses.)		
BIOM 426	Biometric Systems	3
BIOM 480	Senior Design Seminar (Fulfills Writing and Communications Skills Requirement)	2
BIOM 481	Senior Design Project	3
CPE 271	Introduction to Digital Logic Design	3
CPE 272	Digital Logic Laboratory	1
CPE 310	Microprocessor Systems	3
CPE 311	Microprocessor Laboratory	1
CS 110	Introduction to Computer Science	4
CS 111	Introduction to Data Structures	4
CS 350	Computer System Concepts	3
CS 465	Introduction to Cybersecurity	3
EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
EE 223	Electrical Circuits	3
EE 224	Electrical Circuits Laboratory	1
EE 327	Signals and Systems 1	3
EE 425	Bioengineering	3
EE 465	Introduction to Digital Image Processing	3
Area of Emphasis		9
Free Elective		3
Technical Elective (300 level or higher course in Biometric Systems, Computer Engineering, Computer Science, or Electrical Engineering)		3

GEF Electives 1, 5, 6, 7	15
Total Hours	133

Suggested Plan of Study

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.B.S. degree program, which completes degree requirements in four years, is as follows.

First Year

Fall	Hours Spring	Hours
BIOL 115 (GEF 8)*	4 CHEM 115 (GEF 2)	4
ENGL 101 (GEF 1)	3 CS 110	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 MATH 156 (GEF 8)	4
MATH 155 (GEF 3)	4 PHYS 111 (GEF 8)	4
GEF 5	3	
	17	19

Second Year

Fall	Hours Spring	Hours
CS 111	4 CPE 271	3
EE 221	3 CPE 272	1
EE 222	1 EE 223	3
MATH 251	4 EE 224	1
PHYS 112	4 ENGL 102 (GEF 1)	3
	MATH 261	4
	STAT 215	3
	16	18

Third Year

Fall	Hours Spring	Hours
BIOM 426*	3 BIOL 324*	3
CPE 310	3 EE 465*	3
CPE 311	1 MATH 375	3
CS 350	3 GEF 6	3
EE 327*	3 Area of Emphasis Course 1	3
STAT 316*	3 Area of Emphasis Course 2	3
	16	18

Fourth Year

Fall	Hours Spring	Hours
BIOM 480	2 BIOM 481	3
CS 465*	3 ECON 202	3
ECON 201 (GEF 4)	3 Area of Emphasis Course 3	3
EE 425*	3 GEF 7	3
Free Elective	3 Technical Elective	3
	14	15

Total credit hours: 133

* Offered once per year in the semester shown.

Areas of Emphasis

MICROSENSORS AND CIRCUITS AREA OF EMPHASIS REQUIREMENTS

EE 251 & EE 252	Digital Electronics and Digital Electronics Laboratory	4
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Choose two of the following:	6
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PHYS 314	Introductory Modern Physics	
PHYS 321	Optics	
EE 355 & EE 356	Analog Electronics and Analog Electronics Laboratory	
EE 450	Device Design and Integration	
EE 455	Introduction to Microfabrication	

Total Hours 10

SIGNAL PROCESSING AREA OF EMPHASIS REQUIREMENTS

EE 251 & EE 252	Digital Electronics and Digital Electronics Laboratory	4
EE 329 & EE 328	Signals and Systems 2 and Signals and Systems Laboratory	4
Choose one of the following:		3
CS 453	Data and Computer Communications	
EE 463	Digital Signal Processing Fundamentals	
EE 565	Advanced Image Processing	

Total Hours 11

STATISTICS AREA OF EMPHASIS REQUIREMENTS

Choose either the Applied or Theory Option 9

Applied Option

STAT 312	Intermediate Statistical Methods	
Choose two of the following:		
STAT 313	Introductory Design and Analysis	
STAT 331	Sampling Methods	
STAT 421	Statistical Analysis System (SAS)	

Theory Option

STAT 312	Intermediate Statistical Methods	
STAT 461	Theory of Probability	
STAT 462	Theory of Statistics	

Total Hours 9

SOFTWARE SYSTEMS AREA OF EMPHASIS REQUIREMENTS

CS 230 or CPE 484	Introduction to Software Engineering Real-Time Systems Development	3-4
Choose two of the following:		6
CPE 442 or CS 455	Introduction to Digital Computer Architecture Computer Architecture	
CS 430	Advanced Software Engineering	
CS 450	Operating Systems Structure	
CS 453	Data and Computer Communications	
CS 472	Artificial Intelligence	

Total Hours 9-10

Major Learning Goals

BIOMETRIC SYSTEMS

Program Educational Objectives

The Program Educational Objectives (PEO) of the Biometric Systems (BS) program at West Virginia University is to produce graduates who will apply their knowledge and skills to achieve success in their careers in industry, research, government service or graduate study. It is expected that in the first

five years after graduation our graduates will achieve success and proficiency in their profession, be recognized as leaders, and contribute to the well-being of society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Biometric Systems will have:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Computer Engineering

Nature of Program

Computer engineers design, develop, test, and oversee the manufacture and maintenance of embedded computer hardware and software. As such, computer engineering combines portions of the knowledge of electrical engineers and computer scientists. Embedded computer systems include applications in the automotive, communications, radio and television, consumer electronics, aircraft, robotics, and health-care industries. In addition, computer engineers design, develop, test, manufacture, and maintain complex systems including digital communications systems such as cell phone networks, secure computer networks, and system-level software such as operating systems and applications software. The computer engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>.

Program Educational Objectives

The Program Educational Objectives (PEO) of the Computer Engineering (CpE) program at West Virginia University is to produce graduates who will apply their knowledge and skills to achieve success in their careers in industry, research, government service or graduate study. It is expected that in the first five years after graduation our graduates will achieve success and proficiency in their profession, be recognized as leaders, and contribute to the well-being of society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Computer Engineering will have the:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Fundamental courses in the computer engineering areas of hardware and software are taken during the second year with general fundamental engineering courses included. The third and fourth years in the curriculum concentrate on areas of computer engineering in both software and hardware with technical electives provided to allow the student to acquire more depth in a preferred area of expertise.

The computer engineering technical electives must be taken from 400-level CPE regular courses. The other technical electives should be selected from upper division regular courses in biometric systems, computer engineering, computer science, or electrical engineering. However, students with special career objectives can petition the department through their advisors for prior written permission to select technical electives from upper-division courses in mathematics, the sciences, or other areas of engineering.

A total of five humanities and social science electives (GEF electives) must be selected. The humanities and social science electives must be chosen so as to meet the University General Education Foundations requirements and Accreditation Board for Engineering and Technology accreditation guidelines.

Click here to view the Suggested Plan of Study (p. 737)

Curriculum in Computer Engineering

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a bachelor of science in computer engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better for all Lane Department of Computer Science and Electrical Engineering courses. If a Lane Department of Computer Science and Electrical Engineering is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Non-Computer Engineering Core

CHEM 115	Fundamentals of Chemistry (GEF 2B)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ECON 202	Principles of Macroeconomics	3
Calculus I (GEF 3):		4
MATH 155	Calculus 1 (Minimum grade of C- is required)	

MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus (Minimum grade of C- is required)	
MATH 156	Calculus 2 (GEF 8 - Minimum grade of C- is required)	4
MATH 251	Multivariable Calculus (Minimum grade of C- is required)	4
MATH 261	Elementary Differential Equations	4
MATH 375	Applied Modern Algebra	3
PHYS 111	General Physics (GEF 8)	4
PHYS 112	General Physics (GEF 8)	4
STAT 215	Introduction to Probability and Statistics	3
Engineering Science Elective (Choose one)		3
CHE 201	Material and Energy Balances 1	
CHE 366	Materials Science	
IENG 377	Engineering Economy	
MAE 241	Statics	
MAE 320	Thermodynamics	
Computer Engineering Core Requirements (Minimum GPA of 2.0 required in BIOM, CPE, CS, and EE courses)		
CPE 271	Introduction to Digital Logic Design	3
CPE 272	Digital Logic Laboratory	1
CPE 310	Microprocessor Systems	3
CPE 311	Microprocessor Laboratory	1
CPE 312	Microcomputer Structures and Interfacing	3
CPE 313	Microcomputer Structures and Interfacing Laboratory	1
CPE 480	Senior Design Seminar (Fulfills Writing and Communications Skills Requirement)	2
CPE 481	Senior Design Project	3
CS 110	Introduction to Computer Science	4
CS 111	Introduction to Data Structures	4
CS 230	Introduction to Software Engineering	4
CS 350	Computer System Concepts	3
CS 450	Operating Systems Structure	3
EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
EE 223	Electrical Circuits	3
EE 224	Electrical Circuits Laboratory	1
EE 251	Digital Electronics	3
EE 252	Digital Electronics Laboratory	1
EE 327	Signals and Systems 1	3
EE 355	Analog Electronics	3
EE 356	Analog Electronics Laboratory	1
CPE Technical Elective (400-level course in Computer Engineering)		3
Technical Electives (300 level or higher course in Biometric Systems, Computer Engineering, Computer Science, or Electrical Engineering)		6
Free Elective		3
GEF Electives 1, 5, 6, 7		15
Total Hours		130

Suggested Plan of Study

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.Cp.E. degree program that completes degree requirements in four years is as follows.

First Year

Fall	Hours Spring	Hours
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 PHYS 111 (GEF 8)	4

CHEM 115 (GEF 2)	4 GEF 6	3
ENGL 101 (GEF 1)	3 GEF 7	3
GEF 5	3	
	17	17
Second Year		
Fall	Hours Spring	Hours
CPE 271	3 CS 110	4
CPE 272	1 EE 223*	3
EE 221	3 EE 224*	1
EE 222	1 EE 251	3
MATH 251	4 EE 252*	1
PHYS 112 (GEF 8)	4 ENGL 102 (GEF 1)	3
	MATH 261	4
	16	19
Third Year		
Fall	Hours Spring	Hours
CPE 310	3 CPE 312*	3
CPE 311	1 CPE 313*	1
CS 111	4 CS 230	4
EE 327*	3 CS 350	3
EE 355*	3 ECON 201 (GEF 4)	3
EE 356*	1 STAT 215	3
MATH 375	3	
	18	17
Fourth Year		
Fall	Hours Spring	Hours
CPE 480	2 CPE 481	3
CS 450	3 Engr. Science Elective	3
ECON 202	3 CPE Tech. Elective	3
Free Elective	3 Tech. Elective	3
Tech. Elective	3	
	14	12

Total credit hours: 130

* Offered once per year in the semester shown.

Major Learning Goals

COMPUTER ENGINEERING

Program Educational Objectives

The Program Educational Objectives (PEO) of the Computer Engineering (CpE) program at West Virginia University is to produce graduates who will apply their knowledge and skills to achieve success in their careers in industry, research, government service or graduate study. It is expected that in the first five years after graduation our graduates will achieve success and proficiency in their profession, be recognized as leaders, and contribute to the well-being of society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Computer Engineering will have:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams

- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Computer Science

Nature of Program

Computer science is a discipline that involves the understanding and design of computational processes. The discipline ranges from a theoretical study of algorithms and information processing in general, to a practical design of efficient and reliable software that meets given specifications. This differs from most physical sciences, engineering included, that separate theoretical underpinnings of the science from applications within it. The computer science major prepares students for careers in fields such as software development, cybersecurity, machine learning, data analytics, virtual reality, and human computer interfaces. The computer science program is accredited by the Computing Accreditation Commission (CAC) of ABET, <http://www.abet.org>.

Program Educational Objectives

The Program Educational Objectives (PEO) of the Bachelor of Science in Computer Science (B.S.C.S.) program at West Virginia University is to produce graduates who will apply their knowledge and skills to achieve success in their careers in industry, research, government service or graduate study. It is expected that in the first five years after graduation our graduate will achieve success and proficiency in their profession, be recognized as leaders, and contribute to the well-being of society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Computer Science will:

- Be exposed to a variety of programming languages and systems and will be proficient in programming in at least two languages
- Have knowledge of the basic principles and methods of programming language translation, formal languages, and automata
- Have knowledge of the basic principles of data structures, discrete mathematics and algorithms, and be able to apply this knowledge to problem solving in relevant application areas
- Be familiar with principles of computer organization, operating systems, and networks
- Have knowledge of software engineering principles and be able to design, implement, and analyze moderately complex and robust systems.
- Be able to communicate ideas effectively in writing
- Be able to communicate ideas effectively verbally
- Be able to work and learn effectively as members of a team
- Have knowledge of and a commitment to the social and ethical responsibilities of computing professionals
- Have experienced a well-rounded education in areas outside of the computer science major, with emphasis on the arts, sciences, and humanities
- Be familiar with laboratory procedures and use of the scientific method in at least two different physical or biological sciences
- Be familiar with advanced concepts of some specialized computer science areas
- Have knowledge of mathematics through differential and integral calculus, discrete mathematics, and probability and statistics

[Click here to view the Suggested Plan of Study \(p. 741\)](#)

Curriculum in Computer Science

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing
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3-6

F2A/F2B - Science & Technology	4-6
F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a degree of bachelor of science in computer science, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better for all Lane Department of Computer Science and Electrical Engineering courses. If a Lane Department of Computer Science and Electrical Engineering course is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

All CPE, CS, MATH, and STAT courses must be completed with a grade of C- or better.

Non-Computer Science Core

COMM 112	Small Group Communication (GEF 4)	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 199	Orientation to Engineering	1
Calculus I (GEF 3):		4
MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus (Minimum Grade of C- Required)	4
STAT 215	Introduction to Probability and Statistics (Minimum grade of C- required)	3
ENGL 305	Technical Writing	3

Lab Science I (GEF 2B) & II (GEF 8): Select one of the following 8-hr sequences

BIOL 115 & BIOL 117	Principles of Biology and Introductory Physiology	8
CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry	
CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry	
PHYS 111 & PHYS 112	General Physics and General Physics	
GEOL 101 & GEOL 102 & GEOL 103 & GEOL 104	Planet Earth and Planet Earth Laboratory and Earth Through Time and Earth Through Time Laboratory	
or GEOL 110 & GEOL 111 & GEOL 103 & GEOL 104	Environmental Geoscience and Environmental Geoscience Laboratory and Earth Through Time and Earth Through Time Laboratory	

Lab Science III (GEF 8): Choose an additional 4-hr lab science from a second discipline

BIOL 115	Principles of Biology	4
CHEM 115	Fundamentals of Chemistry	
CHEM 117	Principles of Chemistry	
GEOL 101 & GEOL 102	Planet Earth and Planet Earth Laboratory	

or GEOL 110 & GEOL 111	Environmental Geoscience and Environmental Geoscience Laboratory	
PHYS 111	General Physics	
Major requirement Extra GEF 2-7		3
Free Electives (200 level or higher)		6
Computer Science Core Requirements		
CPE 271	Introduction to Digital Logic Design	3
CPE 272	Digital Logic Laboratory	1
Select one of the following:		3
CPE 310 & CPE 311	Microprocessor Systems and Microprocessor Laboratory	
CS 455	Computer Architecture	
CS 110	Introduction to Computer Science	4
CS 111	Introduction to Data Structures	4
CS 210	File and Data Structures	4
CS 220	Discrete Mathematics	3
CS 221	Analysis of Algorithms	3
CS 230	Introduction to Software Engineering	4
CS 310	Principles of Programming Languages	3
CS 350	Computer System Concepts	3
CS 410	Compiler Construction	3
CS 450	Operating Systems Structure	3
CS 453	Data and Computer Communications	3
CS 480	Senior Design (Fulfills Writing and Communications Skills Requirement)	2
CS 481	Senior Project	3
Concentration Areas (CA)		15
Choose two courses from two CAs and one course from the remaining CA.		
CA 1: Theory of Computing		
CS 420	Design of Algorithms	
CS 422	Automata Theory	
CS 426	Discrete Mathematics 2	
CA2: Software and Knowledge Engineering		
CS 430	Advanced Software Engineering	
CS 440	Database Design and Theory	
CS 470	Introduction to Computer Graphics	
CS 472	Artificial Intelligence	
CS 475	Game Development	
CA3: Computer Systems		
CPE 435	Computer Incident Response	
CS 465	Introduction to Cybersecurity	
CS 493	Concurrent Programming	
GEF Electives 1, 5, 6, 7		15
Total Hours		124

Suggested Plan of Study

It is important for students to take courses in the order specified as closely as possible; all prerequisites and concurrent requirements must be observed. A typical B.S. degree program that completes degree requirements in four years is as follows.

First Year

Fall	Hours Spring	Hours
CS 110	4 CS 111	4
COMM 112 (GEF 4)	3 ENGL 101 (GEF 1)	3
ENGR 101	2 MATH 156 (GEF 8)	4

ENGR 199	1 GEF 5	3
MATH 155 (GEF 3)	4 Lab Science II (GEF 8)	4
Lab Science I (GEF 2)	4	
	18	18
Second Year		
Fall	Hours Spring	Hours
CS 210*	4 CPE 271	3
CS 220*	3 CPE 272	1
ENGL 102 (GEF 1)	3 CS 230	4
MATH 251	4 STAT 215	3
Lab Science III (GEF 8)	4 GEF 6	3
	18	14
Third Year		
Fall	Hours Spring	Hours
CS 221	3 CS 310*	3
CS 350	3 CS 450*	3
CS 455 (or CPE 310/311)	3 Concentraion Area Course	3
Concentration Area Course	3 2xx Free Elective	3
GEF 7	3 ENGL 305	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
CS 410*	3 CS 481	3
CS 480	2 Concentration Area Course	3
Two Concentration Area Courses	6 2xx Free Elective	3
CS 453	3 Extra GEF (2-7)	3
	14	12

Total credit hours: 124

* Offered once per year in the semester shown.

Program Educational Objectives

The Program Educational Objectives (PEO) of the Bachelor of Science in Computer Science (B.S.C.S.) program at West Virginia University is to produce graduates who will apply their knowledge and skills to achieve success in their careers in industry, research, government service or graduate study. It is expected that in the first five years after graduation our graduate will achieve success and proficiency in their profession, be recognized as leaders, and contribute to the well-being of society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Computer Science will:

- Be exposed to a variety of programming languages and systems and will be proficient in programming in at least two languages
- Have knowledge of the basic principles and methods of programming language translation, formal languages, and automata
- Have knowledge of the basic principles of data structures, discrete mathematics and algorithms, and be able to apply this knowledge to problem solving in relevant application areas
- Be familiar with principles of computer organization, operating systems, and networks
- Have knowledge of software engineering principles and be able to design, implement, and analyze moderately complex and robust systems.
- Be able to communicate ideas effectively in writing
- Be able to communicate ideas effectively verbally
- Be able to work and learn effectively as members of a team
- Have knowledge of and a commitment to the social and ethical responsibilities of computing professionals
- Have experienced a well-rounded education in areas outside of the computer science major, with emphasis on the arts, sciences, and humanities
- Be familiar with laboratory procedures and use of the scientific method in at least two different physical or biological sciences
- Be familiar with advanced concepts of some specialized computer science areas

- Have knowledge of mathematics through differential and integral calculus, discrete mathematics, and probability and statistics

COMPUTER SCIENCE MINOR

MINOR CODE - U002

Any student may take a minor in computer science by taking the following courses and making a minimum overall GPA of 2.0 in all courses required for the minor and a C or higher in each course.

A minimum overall GPA of 2.0 and a C or higher must be earned in all required courses.

CS 110 & CS 111	Introduction to Computer Science and Introduction to Data Structures	8
Select one of the following:		3
CS 210	File and Data Structures	
CS 220	Discrete Mathematics	
CS 230	Introduction to Software Engineering	
CS 310 & CS 350	Principles of Programming Languages and Computer System Concepts	6
At least one CS 400-level course		3
Total Hours		20

Electrical Engineering

Nature of Program

Electrical engineers design, develop, test, and oversee the manufacture and maintenance of equipment that uses electricity, including subsystems for power generation and transmission, sensors, electronics, instrumentation, controls, communications and signal processing. The electrical engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>.

Program Educational Objectives

The Program Educational Objectives (PEO) of the Electrical Engineering (EE) program at West Virginia University is to produce graduates who will apply their knowledge and skills to achieve success in their careers in industry, research, government service or graduate study. It is expected that in the first five years after graduation our graduates will achieve success and proficiency in their profession, be recognized as leaders, and contribute to the well-being of society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Electrical Engineering will have:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

In the first two years of electrical engineering, coursework is limited to those subjects that are essential as preparatory courses for more technical courses in the third and fourth years. Fundamental courses in electrical engineering are introduced in the second year. In the third and fourth years, the curriculum provides advanced instruction through required courses and electives. These electives are included in the curriculum to allow the student to acquire additional depth in the student's selected field of electrical engineering. Five technical electives are required for a total of fifteen credits. At least three must come from one of the EE emphasis areas. Two additional technical electives may be selected from upper-division engineering, science, or math areas. However, a student with special career objectives may petition the Lane Department through his/her advisor for prior written permission to select one upper division course meeting those objectives.

The mathematics/science elective and engineering science elective are selected from department-approved lists. Students should consult with their advisors to select a course from this list. To be eligible for graduation in electrical engineering, a student must attain a grade point average of 2.0 or better for all required courses. If a required EE course is repeated, only the hours credited and the grade received for the last completion of the course is used in computing the grade point average.

A total of five humanities and social science electives (GEF electives) must be selected. The humanities and social science electives must be chosen so as to meet University General Education Foundations requirements.

Concentration Areas

Each student must have an concentration area from the list below. Students should check with instructors of the newly developed courses that are being offered under EE/CpE/CS 493 to determine their emphasis areas. Students should also be certain that this information is being recorded in their advising file.

1. **Power Systems:** The cost and reliability of electricity plays a critical role in the quality of life and price of all manufactured goods. Advances in power electronics devices and computers are improving the efficiency of electromechanical devices. Electric deregulation in many states is offering retail customers an opportunity to select their electricity supplier and reduce cost. Improvements in technologies such as fuel cells, micro-turbines, wind turbines and photovoltaic systems offer new choices for power generation. Siting of distributed generation sources near the loads and operating power system under deregulation offer new challenges for power engineers.
2. **Control Systems:** Control theory is fundamental to any system that is required to behave in a desired manner. Such systems include all engineering systems such as mechanical, chemical, electrical and computer systems as well as many other dynamical systems such as economic markets. Control theory therefore has a broad range of applications. This track interests those students who wish to apply technology to control dynamical systems. Signals from sensors, usually processed by a computer, are necessary for proper control of a system. Consequently, the student interested in the control systems track will take a course in digital control and at least two additional courses in control systems, digital signal processing and/or applications such as control of power systems. Additional courses that are useful are mathematical courses such as linear algebra and complex variable analysis.
3. **Electronics:** Electronics spans a number of large technical specialties within CSEE. A solid understanding of device operation and their limitations is key to good electronic design, be it the design of individual devices or the design of complex electronic systems. Several programming tools will be introduced to the students during their training in this emphasis area to support the development of this understanding. In the core course required in this emphasis area, the students will model devices using pSpice and layout electronic circuits using VLSI design rules. Additional electronic design concepts will be introduced in the technical electives. The following areas within electronics are emphasized at WVU based upon the expertise of the LCSEE faculty members: electronic device design and fabrication, analog electronic circuit design and applications, and optical device design and applications.
4. **Communications and Signal Processing:** Communications and signal processing are interrelated fields that play an important role in today's information driven economy. Signal processing involves the use of programmable computer architectures to operate on physical-world signals. Signal processors are found within modern control systems, biomedical applications, and communication devices. Communications is the conveyance of information from one location to another. The capacity of a communications system is limited by the random noise in the channel. The communication channel may be a fiber optic cable, a local or wide area computer network, or the radio frequency spectrum.
5. **Bioengineering and Biometrics:** Bioengineering is the multidisciplinary application of engineering to medicine and biology, including such areas as biomedical signal and image processing, medical informatics, and biomedical instrumentation. Bioengineering work can include the development of new technologies for use in medicine and biology or the use of engineering techniques to study issues in biology and medicine. Biometrics is a specific area of bioengineering in which biological signatures (fingerprint, voice, face, DNA) is used for identification or authentication in criminal justice, e-commerce, and medical applications. Specific LCSEE projects in these areas include signal processing for prediction of sudden cardiac death in an animal model of heart failure, development of algorithms for arrhythmia detection in implanted medical devices, telemedicine for rural health care delivery in West Virginia, analysis of temporal fingerprint images for determination of vitality, CMOS fingerprint sensor design and modeling, neural net fingerprint matching, and 3-D craniofacial reconstruction. At the undergraduate level, these projects impact courses and create opportunities for senior design projects and undergraduate research experiences.
6. **Computers:** Computers have become an important part of the technology used by engineers and a very important part of many technological systems and products. The computer emphasis area is designed to provide an electrical engineer with the basic understanding of how to use computers and microprocessors. When this track is completed, the electrical engineer should be able to develop, program, and use systems with embedded microcomputers.

Click here to view the Suggested Plan of Study (p. 748)

Curriculum in Electrical Engineering

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a bachelor of science in electrical engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better for all Lane Department of Computer Science and Electrical Engineering designated courses. If a Lane Department of Computer Science and Electrical Engineering course is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Non-Electrical Engineering Core

CHEM 115	Fundamentals of Chemistry (GEF 2B)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ECON 202	Principles of Macroeconomics	3
Calculus I (GEF 3):		4
MATH 155	Calculus 1 (Minimum grade of C- is required)	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus (Minimum grade of C- is required)	
MATH 156	Calculus 2 (GEF 8 - Minimum grade of C- is required)	4
MATH 251	Multivariable Calculus (Minimum grade of C- is required)	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4
PHYS 112	General Physics (GEF 8)	4
STAT 215	Introduction to Probability and Statistics	3
Engineering Science Elective (choose one of the following):		3
CE 443	Environmental Science and Technology	
CHE 201	Material and Energy Balances 1	
CHE 366	Materials Science	
IENG 316	Industrial Quality Control	
IENG 377	Engineering Economy	

MAE 241	Statics	
MAE 320	Thermodynamics	
Math/Science Elective (Choose one of the following)		3
BIOL 115	Principles of Biology	
CHEM 116	Fundamentals of Chemistry	
MATH 343	Introduction to Linear Algebra	
MATH 375	Applied Modern Algebra	
MATH 367	Applied Mathematical Analysis	
MATH 420	Numerical Analysis 1	
MATH 441	Applied Linear Algebra	
MATH 456	Complex Variables	
MATH 465	Partial Differential Equations	
PHYS 211	Introduction to Mathematical Physics	
PHYS 314	Introductory Modern Physics	
PHYS 321	Optics	
PHYS 331	Theoretical Mechanics 1	
PSIO 241	Elementary Physiology	
PSIO 441	Mechanisms of Body Function	
STAT 312	Intermediate Statistical Methods	
STAT 331	Sampling Methods	
STAT 461	Theory of Probability	
Electrical Engineering Requirements (Minimum GPA of 2.0 required in BIOM, CPE, CS, and EE courses)		
CPE 271	Introduction to Digital Logic Design	3
CPE 272	Digital Logic Laboratory	1
CPE 310	Microprocessor Systems	3
CPE 311	Microprocessor Laboratory	1
CS 110	Introduction to Computer Science	4
EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
EE 223	Electrical Circuits	3
EE 224	Electrical Circuits Laboratory	1
EE 327	Signals and Systems 1	3
EE 328	Signals and Systems Laboratory	1
EE 329	Signals and Systems 2	3
EE 335	Electromechanical Energy Conversion and Systems	3
EE 336	Electromechanical Energy Conversion and Systems Lab	1
EE 345	Engineering Electromagnetics	3
EE 251	Digital Electronics	3
EE 252	Digital Electronics Laboratory	1
EE 355	Analog Electronics	3
EE 356	Analog Electronics Laboratory	1
EE 480	Senior Design Seminar (Fulfills Writing and Communications Skills Requirement)	2
EE 481	Senior Design Project	3
Concentration Area (CA) Technical Electives (Selected from one of the CAs below)		9
CA1: Power Systems		
EE 435	Introduction to Power Electronics	
Choose one of the following:		
EE 431	Electrical Power Distribution Systems	
EE 436	Power Systems Analysis	
Choose one of the following:		
CS 453	Data and Computer Communications	
CS 465	Introduction to Cybersecurity	

EE 411	Fundamentals of Control Systems
EE 413	Introduction to Digital Control
EE 431	Electrical Power Distribution Systems
EE 436	Power Systems Analysis
EE 461	Introduction to Communications Systems

CA2: Control Systems

Choose one of the following:

EE 411	Fundamentals of Control Systems
EE 413	Introduction to Digital Control

Choose two of the following:

EE 411	Fundamentals of Control Systems
EE 413	Introduction to Digital Control
EE 435	Introduction to Power Electronics
EE 461	Introduction to Communications Systems
EE 463	Digital Signal Processing Fundamentals

CA3: Electronics

EE 450	Device Design and Integration
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Choose two of the following:

EE 435	Introduction to Power Electronics
EE 437	Fiber Optics Communications
EE 445	Introduction to Antennas
EE 455	Introduction to Microfabrication
EE 457	Fundamentals of Photonics
PHYS 321	Optics
PHYS 471	Solid State Physics

CA4: Communications & Signal Processing

Choose one of the following:

EE 437	Fiber Optics Communications
EE 461	Introduction to Communications Systems
EE 463	Digital Signal Processing Fundamentals

Choose two of the following:

BIOM 426	Biometric Systems
CPE 442	Introduction to Digital Computer Architecture
CPE 462	Wireless Networking
CS 453	Data and Computer Communications
EE 411	Fundamentals of Control Systems
EE 413	Introduction to Digital Control
EE 437	Fiber Optics Communications
EE 445	Introduction to Antennas
EE 461	Introduction to Communications Systems
EE 463	Digital Signal Processing Fundamentals
EE 465	Introduction to Digital Image Processing
EE 467	Digital Speech Processing

CA5: Bioengineering and Biometrics

EE 425	Bioengineering
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Choose one of the following:

BIOM 426	Biometric Systems
EE 463	Digital Signal Processing Fundamentals
EE 465	Introduction to Digital Image Processing

Choose one of the following:

BIOM 426	Biometric Systems
CHEM 231	Organic Chemistry: Brief Course

CHEM 233	Organic Chemistry	
CHEM 234	Organic Chemistry	
EE 463	Digital Signal Processing Fundamentals	
EE 465	Introduction to Digital Image Processing	
PSIO 241	Elementary Physiology	
or PSIO 441	Mechanisms of Body Function	
CA6: Computers		
Option 1		
CPE 312	Microcomputer Structures and Interfacing	
CPE 313	Microcomputer Structures and Interfacing Laboratory	
Choose two of the following:		
CPE 435	Computer Incident Response	
CPE 442	Introduction to Digital Computer Architecture	
CPE 484	Real-Time Systems Development	
Option 2		
CPE 435	Computer Incident Response	
CPE 442	Introduction to Digital Computer Architecture	
CPE 484	Real-Time Systems Development	
Technical Electives (300 level or higher in BIOM, BMEG, CE, CHE, CPE, CS, EE, IENG, MAE, MINE, PNGE, BIOL, CHEM, PHYS, STAT, OR MATH courses - Excluding Non-LCSEE 493)		9
Free Elective		3
GEF Electives 1, 5, 6, 7 *		15
Total Hours		132

Suggested Plan of Study

It is important for students to take courses in the order specified as closely as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.E.E. degree program that completes degree requirements in four years is as follows.

First Year

Fall	Hours Spring	Hours
CHEM 115 (GEF 2)	4 ENGR 102	3
ENGL 101 (GEF 1)	3 MATH 156 (GEF 8)	4
ENGR 101	2 PHYS 111 (GEF 8)	4
ENGR 199	1 GEF 6	3
MATH 155 (GEF 3)	4 GEF 7	3
GEF 5	3	
	17	17

Second Year

Fall	Hours Spring	Hours
CPE 271	3 CS 110	4
CPE 272	1 ENGL 102 (GEF 1)	3
EE 221	3 EE 223*	3
EE 222	1 EE 224*	1
MATH 251	4 EE 251	3
PHYS 112 (GEF 8)	4 EE 252*	1
	MATH 261	4
	16	19

Third Year

Fall	Hours Spring	Hours
EE 327*	3 CPE 310	3
EE 335*	3 CPE 311	1
EE 336*	1 ECON 201 (GEF 4)	3
EE 345*	3 EE 329*	3

EE 355	3 EE 328*	1
EE 356	1 Engr. Science Elective	3
STAT 215	3 Math/Science Elective	3
		17
Fourth Year		
Fall	Hours Spring	Hours
ECON 202	3 EE 481	3
EE 480	2 CA Technical Elective	3
Two CA Technical Electives	6 Free Elective	3
Technical Elective	3 Two Technical Electives	6
		14
		15
Total credit hours: 132		

* Offered once per year in semester shown.

Major Learning Goals

ELECTRICAL ENGINEERING

Program Educational Objectives

The Program Educational Objectives (PEO) of the Electrical Engineering (EE) program at West Virginia University is to produce graduates who will apply their knowledge and skills to achieve success in their careers in industry, research, government service or graduate study. It is expected that in the first five years after graduation our graduates will achieve success and proficiency in their profession, be recognized as leaders, and contribute to the well-being of society.

Student Outcomes

Upon graduation, all Bachelor of Science students in Electrical Engineering will have:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Department of Industrial & Management Systems Engineering

E-mail: Statler-IMSE@mail.wvu.edu (//wafik.iskander@mail.wvu.edu)

Degree Offered

- Bachelor of Science in Industrial Engineering (B.S.I.E.)

Nature of Program

Industrial engineering is the discipline of engineering concerned with the design, improvement, and installation of integrated systems of people, material, information, equipment, and energy to assure performance, reliability, maintainability, schedule adherence, and cost control. Industrial engineers look at the "big picture" of an operation or system and bridge the gap between management and operations. They deal with and motivate people as well as determine what tools should be used and how they should be used. Industrial engineers use computers and sophisticated software as tools to solve complicated problems to design, quantify, predict, and evaluate the performance of all types of complex technologies and systems.

The mission of the B.S.I.E. program at WVU is to advance the industrial engineering profession through innovative and high-quality academic programs, relevant research, and professional services that address the needs of West Virginia, the nation, and the world. The industrial engineering students at

WVU are taught to draw upon specialized knowledge and skills in the mathematical, physical, and social sciences, together with the principles and methods of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such systems. They are introduced to state-of-the-art software in their coursework for data analysis, information management, scheduling, quality control, optimization, and other practices and procedures used by the industrial engineering profession in highly evolving industries of the 21st century.

The discipline of industrial engineering has a rich, ever-increasing diversity of applications. Traditionally, industrial engineers have been employed by manufacturing companies to do facilities and plant design, plant management, quality control, ergonomics, and production engineering. Today, however, industrial engineers are employed in almost any type of industry, business, or institution. Because of their skills, industrial engineers are more widely distributed and in greater demand among more industries than any other engineering discipline.

As an industrial engineer educated at WVU, you can expect to have employment opportunities in manufacturing companies, insurance companies, banks, hospitals, technical sales, pharmaceutical companies, retail organizations including e-business, airlines, government agencies, consulting firms, construction, transportation, public utilities, social service, electronics, digital and wireless communications, etc. The diverse orientation of industrial engineering, coupled with the skills and training you receive at WVU, make you a prime source of management talent that offers unique professional advancement opportunities.

The B.S.I.E. program at WVU devotes considerable attention to the individual needs of the student. It is committed to develop student strengths in technical abilities, personal development, problem solving, and practical experience, preparing them for careers in industry, business, government, or advanced professional degrees. One of the defining attributes in the success of the department is the dedication and talent of its faculty and staff. The aggregate careers of our faculty and staff represent over 300 years of service to students at WVU. In these 300 years of service are embodied the wisdom and experience to successfully prepare industrial engineers for the 21st century.

The faculty works extensively with nearly 300 sophomore, junior, and senior students in such areas as communication skills, personal growth and development, creation of summer internship opportunities, senior capstone project experience, and permanent job opportunities. As faculty and staff, we are committed to provide for our students:

- A friendly, open-door, collegial environment
- Personable faculty mentoring students
- Teaching concepts and techniques for today's demands
- Quality courses that are innovative and challenging
- Placement in the jobs they want
- Notable life-long successes

The industrial engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>.

Program Educational Objectives

Drawing from the University's mission, the departmental mission, the needs of our constituents, and ABET Engineering Criteria, the following educational objectives were developed. Within a few years of graduation, an IE graduate...

- Creates value by applying the appropriate industrial engineering methods and tools to organizations through critical and creative thinking, structured problem solving, analysis, evaluation, and improvement of systems and processes.
- Communicates effectively across disciplines and cultures to influence decisions and lead activities in support of organizational goals and objectives.
- On a continual basis, pursues professional development and inquiry via graduate study, continuing education and/or training and development through employer-based or industry/sector groups.
- Works collaboratively as both a member and leader of cross-functional teams comprised of members with varying experience levels, organizational backgrounds, positions, and geographic locations.
- Demonstrates ethical standards in designing and implementing innovative systems or processes taking into account social responsibility, global responsibility, and overall benefit to organizational constituents.

Student Outcomes

Upon graduation, all Bachelor of Science students in Industrial Engineering will have acquired the:

- Ability to use modern and classical industrial engineering methodologies such as operations research, manufacturing systems, computer programming and simulation, production systems, human factors and ergonomics, engineering statistics and quality control, and engineering economics
- Ability to apply knowledge of math, science, and general engineering
- Ability to design and conduct experiments, analyze and interpret data, develop implementation strategies, and shape recommendations so that results will be achieved and findings will be communicated effectively
- Ability to work individually, on teams, and on multi-disciplinary teams to identify, formulate, and solve problems using industrial engineering knowledge, skills, and tools

- Ability to design and implement or improve integrated systems that include people, materials, information, equipment, and energy using appropriate analytical, computational, and experimental practices
- Broad education necessary to develop and maintain professional ethics and understand the comprehensive impact of their solutions on individuals and the society
- Recognition of the need for and an ability to engage in life-long learning
- Professional characteristics expected of a successful industrial engineer

FACULTY

CHAIR

- Kenneth R Currie - Ph.D., P.E., (West Virginia University)
Manufacturing systems design, Optimization, Automation & Controls, Healthcare Systems Engineering

PROFESSORS

- Rashpal S. Ahluwalia - Ph.D., P.E. (Western Ontario University)
Manufacturing systems, Quality and reliability engineering, Robotics and automation
- Jack Byrd Jr. - Ph.D., P.E. (West Virginia University)
Operations research, Workforce development, Work design, Integrated product development
- B. Gopalakrishnan - Ph.D., P.E., CEM (Virginia Polytechnic Institute and State University)
Manufacturing processes and systems engineering, Information systems, Artificial intelligence applications, Expert systems development, Mechatronics, Facilities planning and materials handling, Databases, Industrial energy/waste productivity management
- Steven Guffey - Ph.D., C.I.H. (North Carolina State University)
Ventilation systems theory and design, Noise measurement and control, Exposure assessment
- Majid Jaridi - Ph.D. (University of Michigan)
Statistics, Quality control, Forecasting and transportation research
- Gary Winn - Ph.D. (Ohio State University)
Construction safety, Transportation safety and program evaluation, Total quality management, Theory of paradigm shifts
- David Wyrick - Ph.D., P.E., P.E.M. (University of Missouri-Rolla)
Associate Dean for Academic Affairs, Engineering management, Engineering education, Effective management of technology in SMEs

ASSOCIATE PROFESSORS

- Elyce Biddle - Ph.D. (West Virginia University)
Teaching Associate Professor, Economics of safety, Risk management, Injury prevention
- Alan McKendall Jr. - Ph.D. (University of Missouri - Columbia)
Operations research, Meta-heuristics, Facilities layout and materials handling, Project scheduling, Integrated production systems
- Ashish Nimbarte - Ph.D. (Louisiana State University)
Occupational biomechanics, human factors engineering, Industrial ergonomics, Industrial hygiene, Occupational safety and health
- Feng Yang - Ph.D. (Northwestern University)
Simulation, Applied statistics, Stochastic Processes

ASSISTANT PROFESSORS

- Leily Farrokhvar - Ph.D. (Virginia Tech University)
Logistics systems modeling and analysis, Supply chain integration, Large scale optimization, Transportation and distribution networks, Decision support development for emergency and disaster management, Applied operations research in healthcare
- Xinjian (Kevin) He - Ph.D. (University of Cincinnati)
Respiratory protection, air purification and filtration, Aerosol measurement and characterization, Occupational exposure assessment, Underground coal mine ventilation and fire protection
- Xiaopeng Ning - Ph.D. (Iowa State University)
Occupational safety and health, Occupational biomechanics, Human factors engineering, Industrial ergonomics
- Thorsten Wuest - Ph.D. (Dr.-Ing.; University of Bremen, Germany)
Smart and advanced manufacturing, Intelligent manufacturing systems, Machine learning / Big data in manufacturing applications, Product lifecycle management, Smart product design, Information and knowledge management, IPPS / Servitization

ADJUNCT AND VISITING PROFESSORS

- Lorenzo G. Cena - Ph.D. (University of Iowa)
Occupational health and safety, Aerosol generation and characterization, Exposure assessment
- Christopher Coffey - Ph.D. (West Virginia University)
Occupational Safety and Health, Assessment, Evaluation of Respiratory protective equipment

- Ren Dong - Ph.D. (Concordia University)
Human Factors Engineering, Ergonomics, Safety engineering
- John R. Etherton - Ph.D. (West Virginia University)
Safety engineering
- Martin Harper - Ph.D. (London School of Hygiene and Tropical Medicine)
Industrial hygiene, Exposure assessment
- James Harris - Ph.D., P.E. (West Virginia University)
Safety, Human factors
- Hongwei Hsiao - Ph.D. (University of Michigan)
Safety, Human factors
- Kevin Michael - Ph.D. (The Pennsylvania State University)
Acoustics, Hearing protection, Industrial hygiene
- Christopher Pan - Ph.D. (University of Cincinnati)
Human factors engineering, Safety engineering, Ergonomics
- Ju-Hyeong Park - Sc.D., M.P.H., C.I.H. (Harvard)
Industrial hygiene, Exposure assessment
- M. Abbas Virgi - Sc.D., C.I.H. (University of Massachusetts)
Exposure assessment, Epidemiology, Biostatistics
- Ziqing Zhuang - Ph.D. (West Virginia University)
Exposure assessment, Assessment and evaluation of respiratory protective equipment

LECTURERS

- Michael Carr - MSIE (West Virginia University)
Decision support systems, Computer applications
- Kenton Colvin - MSIE (West Virginia University)
Production planning and control, Manufacturing processes
- Shanti Hamburg - M.S. (West Virginia University)
Prototyping, manufacturing systems, Digital manufacturing, Unmanned aerial vehicles
- Daniel Kniska - MSIE (West Virginia University)
Engineering economy, Statistics, Production planning and control

PROFESSOR EMERITUS

- Robert C. Creese - Ph.D., P.E. (Pennsylvania State University)
Manufacturing processes/systems, foundry engineering, Cost engineering, Engineering economics
- Daniel E. Della-Giustina - Ph.D. (Michigan State University)
Playground and recreation safety, Sport safety, Highway and traffic management, Safety, fire, and emergency response
- Wafik Iskander - Ph.D., P.E. (Texas Tech University)
Operations research and optimization, Simulation modeling and analysis, Production planning and control, Applied statistics, Energy efficiency, Transportation planning
- Warren Myers - Ph.D., C.I.H. (West Virginia University)
Industrial hygiene and safety, Worker exposure assessment and modeling, Aerosol filtration, Occupational respiratory protection design and testing
- Ralph W. Plummer - Ph.D. (West Virginia University)
Systems safety engineering, Energy conservation, Human factors, Ergonomics

ASSOCIATE PROFESSOR EMERITUS

- Andrew Sorine - Ph.D. (West Virginia University)
Benchmarking, Safety and health programs, Safety management information systems

Click here to view the Suggested Plan of Study (p. 754)

Curriculum in Industrial Engineering

GENERAL EDUCATION FOUNDATIONS

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General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To be eligible for graduation with a bachelor of science in industrial engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better in all industrial engineering courses. If an industrial engineering is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Non-Industrial Engineering Core

CHEM 115	Fundamentals of Chemistry (GEF 2B)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ECON 202	Principles of Macroeconomics	3
Calculus I (GEF 3):		4
MATH 155	Calculus 1 (Minimum grade of C- is required)	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus (Minimum grade of C- is required)	
MATH 156	Calculus 2 (GEF 8 - Minimum grade of C- is required)	4
MATH 251	Multivariable Calculus (Minimum grade of C- is required)	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4
Select one of the following (GEF 8):		4
BIOL 115	Principles of Biology	
CHEM 116	Fundamentals of Chemistry	
PHYS 112	General Physics	

Major in Industrial Engineering Requirements

A minimum GPA of 2.0 is required in all IENG courses

EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
IENG 200	Fundamentals of Industrial Engineering	1
IENG 213	Engineering Statistics	3
IENG 220	Re-Engineering Management Systems	3
IENG 301	Materials and Costing	1

IENG 302	Manufacturing Processes	2
IENG 303	Manufacturing Processes Laboratory	1
IENG 305	Introduction to Systems Engineering	2
IENG 314	Advanced Analysis of Engineering Data	3
IENG 316	Industrial Quality Control	3
IENG 331	Computer Applications in Industrial Engineering	3
IENG 343	Production Planning and Control	3
IENG 350	Introduction to Operations Research	3
IENG 360	Human Factors Engineering	3
IENG 377	Engineering Economy	3
IENG 445	Project Management for Engineers	3
IENG 446	Plant Layout/Material Handling	3
IENG 455	Simulation by Digital Methods	3
IENG 471	Design of Productive Systems 1 (Fulfills Writing and Communications Skills Requirement)	3
IENG 472	Design of Productive Systems 2	3
MAE 241	Statics	3
MAE 243	Mechanics of Materials	3
IENG Technical Electives (Any 400 and 500 level IENG courses)		6
MAE Elective - Choose one of the following:		3
MAE 242	Dynamics	
MAE 320	Thermodynamics	
MAE 331	Fluid Mechanics	
Additional Technical Electives - Choose two of the following:		6
CE 347	Introduction to Environmental Engineering	
CE 414	Construction Engineering	
CS 430	Advanced Software Engineering	
CS 440	Database Design and Theory	
EE 425	Bioengineering	
EE 426	Biometric Systems	
GEOG 350	Geographic Information Systems and Science	
IENG 400 level courses		
IENG 500 level courses		
IH&S 500 level courses		
MAE 242	Dynamics	
MAE 320	Thermodynamics	
MAE 331	Fluid Mechanics	
MAE 427	Heating, Ventilating, and Air Conditioning	
MATH 343	Introduction to Linear Algebra	
MATH 420	Numerical Analysis 1	
MATH 441	Applied Linear Algebra	
SAFM 470	Managing Construction Safety	
STAT 421	Statistical Analysis System (SAS)	
STAT 541	Applied Multivariate Analysis	
GEF Electives 1, 5, 6, 7		15
Total Hours		129

Suggested Plan of Study

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.I.E. degree program that completes degree requirements in four years is as follows.

First Year

Fall	Hours Spring	Hours
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4

ENGR 101	2 ENGR 102	3
ENGR 199	1 PHYS 111 (GEF 8)	4
CHEM 115 (GEF 2B)	4 GEF Elective 6	3
ENGL 101 (GEF 1)	3 GEF Elective 7	3
GEF Elective 5	3	
	17	17

Second Year

Fall	Hours Spring	Hours
MATH 251	4 MATH 261	4
CHEM 116 or PHYS 112 (GEF 8)	4 MAE 243	3
MAE 241	3 IENG 213	3
ENGL 102 (GEF 1)	3 IENG 377	3
IENG 200	1 EE 221	3
IENG 220	3 EE 222	1
	18	17

Third Year

Fall	Hours Spring	Hours
ECON 201 (GEF 4)	3 ECON 202	3
IENG 301	1 IENG 302	2
IENG 314	3 IENG 303	1
IENG 305	2 IENG 316	3
IENG 350	3 IENG 331	3
IENG 360	3 IENG 343	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
IENG Technical Elective	3 IENG 472	3
IENG 445	3 IENG Technical Elective	3
IENG 455	3 IENG 446	3
IENG 471	3 MAE Elective	3
Technical Elective	3 Technical Elective	3
	15	15

Total credit hours: 129

Major Learning Goals

INDUSTRIAL ENGINEERING

Upon graduation, all Bachelor of Science students in Industrial Engineering will have acquired the:

Learning Goal #1. Ability to use modern and classical industrial engineering methodologies such as operations research, manufacturing systems, computer programming and simulation, production systems, human factors and ergonomics, engineering statistics and quality control, and engineering economics.

Learning Goal #2. Ability to apply knowledge of math, science, and general engineering.

Learning Goal #3. Ability to design and conduct experiments, analyze and interpret data, develop implementation strategies, and shape recommendations so that results will be achieved and findings will be communicated effectively.

Learning Goal #4. Ability to work individually, on teams, and on multi-disciplinary teams to identify, formulate, and solve problems using industrial engineering knowledge, skills, and tools.

Learning Goal #5. Ability to design and implement or improve integrated systems that include people, materials, information, equipment, and energy using appropriate analytical, computational, and experimental practices.

Learning Goal #6. Broad education necessary to develop and maintain professional ethics and understand the comprehensive impact of their solutions on individuals and the society.

Learning Goal #7. Recognition of the need for and an ability to engage in life-long learning.

Learning Goal #8. Professional characteristics expected of a successful industrial engineer.

Department of Mechanical & Aerospace Engineering

E-mail: Statler-MAE@mail.wvu.edu (/jacky.prucz @mail.wvu.edu)

Degrees Offered

- Bachelor of Science in Aerospace Engineering (B.S.A.E.)
- Bachelor of Science in Mechanical Engineering (B.S.M.E.)
- Dual Degree in Aerospace and Mechanical Engineering

FACULTY

CHAIR

- Jacky C. Prucz - Ph.D. (Georgia Institute of Technology)
Structural Design, Composite Materials, Solid Mechanics

PROFESSORS

- Richard A. Bajura - Ph.D. (University of Notre Dame)
Director NRCCE, Fluids Engineering
- Ever J. Barbero - Ph.D. (Virginia Polytechnic Institute & State University)
Materials, Experimental and Computational Mechanics
- Ismail Celik - Ph.D. (University of Iowa)
Fluids Engineering, Fuel Cell Technology
- Nigel N. Clark - Ph.D. (University of Natal, South Africa)
Provost WVU-IT, Multiphase flows, I.C. engines and emissions
- Bruce S. Kang - Ph.D. (University of Washington)
Experimental Mechanics, Advanced Materials
- John M. Kuhlman - Ph.D. (Case Western Reserve University)
Fluid Mechanics
- Xingbo Liu - Ph.D. (University of Science and Technology of China, Beijing)
Materials Science
- Kenneth H. Means - Ph.D., P.E. (West Virginia University)
Kinematics, Dynamics and Stability, Friction and Wear
- Gary J. Morris - Ph.D. (West Virginia University)
Fluid Mechanics, Combustion, Aerodynamics
- Victor H. Mucino - Dr.Eng., P.E. (University of Wisconsin-Milwaukee)
Mechanical Engineering Design, CAD, Finite Element Analysis
- Marcello R. Napolitano - Ph.D. (Oklahoma State University)
Aircraft Stability and Control, Feedback Control, Unmanned Airborne Vehicles (UAVs)
- Mario Perhinschi - Ph. D. (University of Bucharest, Romania)
Flight Modeling and Simulation
- Songgang Qui - Ph. D.(University of Minnesota)
Thermodynamics, Heat Transfer
- Samir N. Shoukry - Ph.D. (Aston University, Birmingham, U.K.)
Pavement Modeling, Non-destructive Evaluation, Structural Dynamics, Neural nets, Instrumentation
- Nithi T. Sivaneri - Ph.D. (Stanford University)
Structural Mechanics, Composite Materials, FEM, Numerical Methods
- James E. Smith - Ph.D. (West Virginia University)
Mechanical and Aeronautical Design
- Nianqiang Wu - Ph.D. (Zhejiang Universtiy, China)
Materials Science and Engineering

ASSOCIATE PROFESSORS

- Wade W. Huebsch - Ph.D. (Iowa State University)

Fluid Mechanics, CFD, Numerical Methods

- Hailin Li - Ph.D. (University of Calgary, Canada)
Combustion, Emissions, Fuel Efficiency of Vehicles and IC Engines
- Osama Mukdadi - Ph.D. (University of Colorado)
Bioengineering, Acoustics, Solid Mecanics and Materials
- Edward M. Sabolsky - Ph.D. (The Pennsylvania State University)
Materials, Ceramic Science
- Xueyan Song - Ph.D. (Zhejiang University, China)
Materials Science, Electron Microscopy
- Gregory J. Thompson - Ph.D. (West Virginia University)
Thermodynamics, Machine Design
- W. Scott Wayne - Ph.D. (West Virginia University)
Machine Design, Alternative Fuels

ASSISTANT PROFESSORS

- V'yacheslav Akkerman - Ph.D. (Umea University, Sweden)
Turbulent Combustion, Flame Turbulization, Propulsion Instabilities in Rocket Engines
- Patrick H. Browning - Ph.D. (West Virginia University)
Aerodynamics, Aircraft Design
- John A. Christian - Ph.D. (University of Texas)
Spacecraft Design, Navigation, Estimation Theory
- Cosmin E. Dumitrescu - Ph.D. (University of Alabama)
Combustion, Alternate Fuels, IC Engines
- Jason N. Gross - Ph.D. (West Virginia University)
Unmanned Aerial Vehicles, Avionic Systems, Flight Testing
- Yu Gu - Ph.D. (West Virginia University)
Robotic Systems, Sensor Fusion
- David S. Mebane - Ph.D. (Georgia Institute of Technology)
Fuel Cells, Multi-Scale Simulation of Chemical and Electrochemical Systems
- Terence D. Musho - Ph.D. (Vanderbilt University)
Nanoscale Thermal and Electrical Transport, Direct Energy Conversion
- Andrew C. Nix - Ph.D. (Virginia Polytechnic Institute & State University)
Turbines, Engines and Emissions
- Konstantinos Sierros - Ph.D. (University of Birmingham, U. K.)
Flexible Optoelectronic Devices, Tribology, Materials for Renewable Energy
- Arvind Thiruvengadam - Ph.D. (West Virginia University)
Emissions of Heavy-Duty Internal Combustion Egines

TEACHING ASSISTANT PROFESSORS

- Peter D. Gall - Ph. D. (West Virginia University)
Aerodynamics, Aircraft Design

RESEARCH ASSOCIATE PROFESSOR

- Thomas Evans - Ph. D. (West Virginia University)
Solid Mechanics, Structures
- David C. Lewellen - Ph.D. (Cornell University)
Fluid Dynamics, Turbulence
- Eduardo Sosa - Ph. D. (University of Puerto Rico)
Thin Wall Structures

RESEARCH ASSISTANT PROFESSORS

- Marc Besch - Ph. D. (West Virginia University)
Alternative Fuels, Engines and Emissions
- Yun Chen - Ph.D. (Universidade Tecnica de Lisboa)
Material Science, Metal Hydrides, Cathode Material Development
- Derek Johnson - Ph.D. (West Virginia University)
Alternative Fuels, Engines and Emissions
- Ross Ryskamp - Ph. D. (West Virginia University)

Alternative Fuels, Engines and Emissions

VISITING PROFESSORS AND ADJUNCT PROFESSORS

- Alberto Ayala - Ph.D. (University of California, Davis)
Engine Emissions
- Dureid Azzouz - Ph.D. (University of Southampton, U.K.)
Fluid Mechanics
- David Booker - Ph. D. (Univeristy of Exeter)
Exhaust Flow
- Albert Boretti - Ph.D. (University of Florence, Italy)
Innovative Combustion Engines
- Darran R. Cairns - Ph.D. (University of Birmingham, U.K.)
Materials Science
- Weigiang Ding - Ph.D. (Northwestern University)
Nanostructures
- Mridul Gautam - Ph.D. (West Virginia University)
Alternate Fuels, Engine and Emissions, VP for Research UNR
- Luis A. Godoy - Ph.D. (University of London, U.K.)
Structural Stability
- Frank E. Goodwin - Sc.D. (Massachusetts Institute of Technology)
Materials Engineering, ILZRO
- Valeriya Gritsenko - Ph.D. (University of Alberta, Canada)
Neuroscience
- Huang Guo - Ph.D. (West Virginia University)
Electro-Chemistry, Materials Science, Mechanical Engineering
- Srinkath Gururajan - Ph.D. (West Virginia University)
Small Unmanned Aerial Vehicle Systems
- Yiqun Huang - Ph.D. (University of Texas, Austin)
Engine and Emissions Control
- George Kiriakidis - Ph.D. (Salford University, U.K.)
Physics, Mechanics
- Stephen Kukureka - Ph.D. (University of Birmingham, U.K.)
Materials Science
- Andrew D. Lowery - Ph.D. (West Virginia University)
Control Systems
- Alejandro Lozano-Guzman - Ph.D. (University of New Castle Upon Tyne, U.K.)
Structural Analysis, Power and Control Systems (CICATA-IPN)
- Eugene A. McKenzie - Ph.D. (West Virginia University)
Mechanical Engineering Design, NIOSH
- Chris Menchini - Ph.D. (West Virginia University)
Computational Fluid Dynamics, Fire Modeling
- Vincenzo Mulone - Ph.D. (Universtiy of Rome Tor Vergata)
Internal Combustion Engines, Emissions
- John Nuzkowski - Ph.D. (West Virginia University)
Alternative Fuels and Engine Emissions, UNF
- Ming Pei - M.D., Ph.D. (Beijing Medical University, China)
Tissue Engineering HSC-WVU
- Matthew Robinson - Ph. D. (West Virginia University)
Analysis and Optimization of Engines
- Alber Alphonse Sadek - Ph.D. (Osaka University)
Alloys
- Brad Seanor - Ph.D. (West Virginia University)
Controls Systems
- Benjamin Shade - Ph.D. (West Virginia University)
Engine Emissions, IAV Automotive
- Alberto Traverso - Ph.D. (University of Genoa, Italy)
Energy Systems and Control, DIMSET - Italy

- Nathan Weiland - Ph.D. (Georgia Institute of Technology)
Energy Systems, Experimental, Computational, Theoretical Methods
- Jay Wilhelm - Ph.D. (West Virginia University)
Unmanned Aerial Systems, Wind Turbine Modeling and Design
- Gergis William - Ph.D. (West Virginia University)
Structural Engineering
- Sergiy Yakovenko - Ph.D. (University of Alberta, Canada)
Neuroscience
- Kirk Yerkes - Ph.D. (University of Dayton)
Energy Optimized Aircraft

PROFESSORS EMERITI

- Larry Banta - Ph.D. (Georgia Institute of Technology)
- Eric Johnson - Ph.D. (University of Wisconsin-Madison)
- John Loth - Ph.D. (University of Toronto, Canada)
- Michael G. Palmer - Ph.D. (West Virginia University)
- John E. Sneckenberger - Ph.D. (West Virginia University)
- Wallace S. Venable - Ed.D. (West Virginia University)
- Richard E. Walters - Ph.D. (West Virginia University)

Dual Degree in Aerospace Engineering and Mechanical Engineering

In the modern technical marketplace, college graduates must attain every competitive edge possible to enhance their career opportunities. One way to do this is with a master's degree following the bachelor's degree; however, this often results in more specialization than may be desired and may take an additional two years. Another option is to broaden the undergraduate experience, thus opening more opportunities for the graduate. The dual B.S.A.E./B.S.M.E. program awards both the aerospace engineering and mechanical engineering degrees at the completion of a planned curriculum.

Students under this option pursue the B.S.A.E. and B.S.M.E. degrees simultaneously. This can be accomplished by declaring intentions as a freshman requesting admission to the programs or by informing an MAE advisor of the dual-degree preference. Maximum scheduling flexibility will result when this decision is made as early as possible in the student's academic career. Dual-degree students must take all courses listed in the 155-hour dual curriculum under the Major tab and satisfy the other requirements of the two individual programs.

The state of West Virginia is a member of a group of Academic Common Market (ACM) states. WVU allows residents of states within the ACM to enroll in the dual B.S.A.E./B.S.M.E. program on an in-state tuition basis. Application must be made through the higher education authority of the state of residence.

Curriculum for the Dual Degree in Aerospace Engineering and Mechanical Engineering

A requirement for graduation in aerospace and mechanical engineering is a departmental grade point average of 2.0 or better for all required mechanical and aerospace engineering (MAE) courses. If a required MAE course is repeated, only the hours credited and the grade received for the last completion of the course is used in computing the student's departmental grade point average. Also a grade of C or better is required in each of the four required mathematics courses and physics 111.

It is important for students to take courses in the order specified as close as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.A.E./B.S.M.E. degree program that completes degree requirements in four and a half years is listed below.

Students must complete a minimum of 155 credit hours to graduate - the total at the bottom reflects all possible course combinations

Mechanical and Aerospace Engineering Core Requirements

CHEM 115	Fundamentals of Chemistry	4
ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
Select one of the following: *		4
MATH 155	Calculus 1	
or MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 *	4

MATH 251	Multivariable Calculus *	4
MATH 261	Elementary Differential Equations *	4
PHYS 111	General Physics *	4
PHYS 112	General Physics	4
A minimum cumulative GPA of 2.0 is required in all MAE courses		
Dual Core		
MAE 215	Intro to Aerospace Engineering	3
MAE 241	Statics	3
MAE 211	Mechatronics	3
MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3
MAE 331	Fluid Mechanics	3
EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
MAE 316	Analysis-Engineering Systems	3
MAE 320	Thermodynamics	3
MAE 335	Incompressible Aerodynamics	3
MAE 343	Intermediate Mechanics of Materials	3
MAE 244	Dynamics and Strength Laboratory	1
MAE 322	Thermal and Fluids Laboratory	1
MAE 336	Compressible Aerodynamics	3
MAE 342	Dynamics of Machines	3
MAE 345	Aerospace Structures	3
MAE 365	Flight Dynamics	3
MAE 426	Flight Vehicle Propulsion	3
MAE 434	Experimental Aerodynamics	2
MAE 456	Computer-Aided Design and Finite Element Analysis	3
MAE 476	Space Flight and Systems	3
IENG 302	Manufacturing Processes	2
IENG 303	Manufacturing Processes Laboratory	1
MAE 411	Advanced Mechatronics	3
MAE 423	Heat Transfer	3
MAE 460	Automatic Controls	3
MAE 475	Flight Vehicle Design-Capstone	3
MAE 454	Machine Design and Manufacturing	3
MAE 471	Principles of Engineering Design	3
Aerospace Engineering Technical Electives		9
Mechanical Engineering Technical Electives		9
Aerospace Engineering or Mechanical Engineering Technical Electives		2
GEF Courses (Students who take ENGL 103 must take another technical Elective Course or department approved course) **		15
Total Hours		155

* Minimum Grade of C required

DUAL SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
CHEM 115 (GEF 2)	4 MATH 156 (GEF 8)	4
ENGL 101 (GEF1)	3 PHYS 111 (GEF 8)	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 GEF 6	3
MATH 155 (GEF 3)	4 GEF 7	3

GEF 5	3	
	17	17
Second Year		
Fall	Hours Spring	Hours
MAE 215	3 MAE 211	3
MAE 241	3 MAE 242	3
MATH 251	4 MAE 243	3
PHYS 112 (GEF 8)	4 MAE 331	3
ENGL 102 (GEF1)	3 MATH 261	4
	ECON 201 (GEF 4)	3
	17	19
Third Year		
Fall	Hours Spring	Hours
MAE 316	3 MAE 244	1
MAE 320	3 MAE 322	1
MAE 335	3 MAE 336	3
MAE 343	3 MAE 342	3
EE 221	3 MAE 345	3
EE 222	1 MAE 365	3
ECON 202	3 Technical Elective	3
	19	17
Fourth Year		
Fall	Hours Spring	Hours
MAE 426	3 MAE 411	3
MAE 434	2 MAE 423	3
MAE 456	3 MAE 460	3
MAE 476	3 MAE 475	3
Two Technical Electives	6 IENG 302	2
	IENG 303	1
	Technical Elective	3
	17	18
Fifth Year		
Fall	Hours	
MAE 454	3	
MAE 471	3	
Three Technical Electives	8	
	14	

Total credit hours: 155

Note: The dual degree requires twenty hours of technical electives. The twenty hours consists of: nine hours of approved aerospace engineering technical electives, nine hours of approved mechanical engineering technical electives, and the final two hours can be either aerospace engineering or mechanical engineering approved technical electives. Students should consult with their academic advisor to select courses that form a clear and consistent pattern according to the career objectives of the student.

Aerospace Engineering

Aerospace Engineering

Aerospace travel, space exploration, and flight of manned or unmanned vehicles continue to gain significance. Aerospace engineering is involved with the science and technology of advanced vehicles, including aircraft, rockets, missiles, and spacecraft. Although a specialized branch of engineering, it is also diverse. Aerospace technology has expanded to include design and development of earthbound vehicles such as ground-effect machines, hydrofoil ships, and high-speed rail-type systems.

The curriculum consists of a judicious combination of fundamentals, including mathematics and sciences, and practical laboratory experience which provides access to modern engineering tools. Aeronautical engineering subjects are to be the focus of the discipline along with significant exposure to

space-related topics. Graduates will be able to critically analyze aerospace engineering problems and execute practical solutions. In addition to being able to function independently, it is expected that graduates will be able to function with effective written and oral communication within multidisciplinary teams and be prepared to address several issues such as environmental, social, and economic considerations, due to a thorough education in the humanities, social sciences, ethics, safety, and professionalism.

The aerospace engineering curriculum includes studies in the disciplines encountered in the design of aerospace vehicles, missiles, rockets, and spacecraft. Undergraduate students extensively study the basic principles of aerodynamics, solid mechanics and structures, stability and control, thermal sciences, and propulsion. The senior year includes a capstone flight vehicle design course providing an experiential learning opportunity.

Students are involved in both theoretical and experimental studies and trained to integrate knowledge with practical engineering design. With the breadth and depth of education in aerospace engineering, students become versatile engineers, competent to work in many areas. The curriculum may serve as a terminal degree program by incorporating design-oriented courses for technical electives or it may be used as a preparatory program for advanced study by the selection of science-oriented courses.

While the undergraduate curriculum is sufficiently broad to permit graduates to select from a wide variety of employment opportunities, it contains sufficient depth to prepare students to enter graduate school to pursue advanced degrees. As modern science and engineering become more complex, the desirability of graduate-level preparation is being recognized by most advanced industries and government agencies.

Students can simultaneously pursue B.S. degrees in both aerospace engineering and mechanical engineering by completing additional courses. Information on this 155 credit-hour, four-and-one-half-year option can be seen at the end of this department description.

Students who plan a career in medicine, dentistry, or related areas, but who desire an aerospace engineering degree before entering the appropriate professional school, may substitute eight hours (from a combination of biology and organic chemistry courses) for the required six hours of technical electives. This selection will help students satisfy admission requirements to the professional schools in the health sciences.

The aerospace engineering program at WVU is administered by the faculty of the Department of Mechanical and Aerospace Engineering. The aerospace engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET.

PROGRAM EDUCATIONAL OBJECTIVES

It is expected that, within a few years of graduation (3 to 5 years), graduates will attain the following Program Educational Objectives (PEO's):

PEO-1. Proficiency in practicing one or more areas of aerospace engineering.

It is expected that after a few years of graduating (3 to 5 years), graduates will have consolidated professional proficiency as practitioners in at least one technical area of aerospace engineering, as reflected by the responsibilities and accomplishments of their professional practice.

PEO-2. Success in adapting to the demands of the workforce in the dynamic technological arena.

It is expected that, within a few years of graduation (3 to 5 years), graduates will have successfully adapted to the demands of the workforce in a dynamic technological arena through a professional practice that reflects high credentials or development of new technical skills and acumen for administrative functions.

PEO-3. Progress in their personal career development through professional service, continuing education and/or graduate studies.

It is expected that, within a few years of graduation (3 to 5 years), graduates will have made meaningful progress in their professional career, either by promotions to positions of higher responsibility with their employers, by participation in professional service activities, or by technical self-improvement through continuing education or graduate degree programs.

PEO-4. Meaningful involvement in a team that tangibly contributes to industry and/or society through the engineering discipline.

It is expected that, within a few years of graduation (3 to 5 years), graduates will have the experience of being or having been members in a team of professionals successfully making tangible technical contributions to industry or society through an engineering discipline.

STUDENT OUTCOMES

Upon graduation, all Bachelor of Science students in Aerospace Engineering will have the:

- Outcome A. Ability to apply knowledge of mathematics, science and engineering.
- Outcome B. Ability to design and conduct experiments, as well as to analyze and interpret data.
- Outcome C. Ability to design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- Outcome D. Ability to function on multidisciplinary teams.
- Outcome E. Ability to identify, formulate, and solve engineering problems.
- Outcome F. Understanding of professional and ethical responsibility.
- Outcome G. Ability to communicate effectively.

- Outcome H. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context.
- Outcome I. Recognition of the need for, and an ability to engage in, life-long learning.
- Outcome J. Knowledge of contemporary issues.
- Outcome K. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

SPRING SEMESTER STUDY ABROAD OPPORTUNITY IN ROME, ITALY, PRIMARILY FOR JUNIOR YEAR ME AND AE UNDERGRADUATE STUDENTS

All MAE undergraduates are invited to consider spending the spring semester of their junior year studying abroad at the University of Rome Tor Vergata ("UTV", for short). This very successful program is taught fully in English at UTV to both Italian undergraduate engineering students and students from other countries all over the world. Through this program WVU students have the opportunity to earn credits towards their WVU BSME or dual BSME/BSAE degrees for a full semester of equivalent WVU engineering courses towards their degrees. Please see the following link for the UTV description of this program:

<http://engineering-sciences.uniroma2.it/MENU/COURSES/Courses.html>

In order to ensure that, upon successfully passing the UTV class examinations, the credits earned at UTV will transfer back to WVU for the equivalent courses within the MAE degree programs, it is recommended that students should select from the following list of UTV courses only those courses that are regularly taught during their spring semester:

UTV also strongly recommends that WVU students register for Italian Language Class for Foreigners 2.

Additional courses taught during the UTV fall semester as listed above can also be completed by students who participate in this WVU-UTV student exchange program for their full junior year: e.g., Kinematics and Dynamics of Mechanisms (for WVU courses MAE 342 & MAE 495), Electrical Network Analysis (for WVU course EE 221), and Fluid Machinery (for WVU course MAE 495).

The UTV spring semester classes begin each year in mid-February, with classes ending near the end of June. Examinations are then given during the month of July. WVU students who participate in the WVU-UTV exchange program must pay their normal WVU tuition and fees for their study abroad semester, and are also responsible to cover all of their travel and living expenses while participating in the program. You must complete your transient form (studyabroad.wvu.edu) before your semester abroad. Check with your advisor before registering for courses to approve your course choices. This program is also part of the WVU Statler program to earn the Certificate of Global Competency; see the MAE Department program description in the current WVU Catalog for additional details of this Certificate Program (<http://statler.wvu.edu/international-programs/global-competency>).

WVU students must meet the relevant course prerequisites for the WVU course for which they wish to earn credit via a course taken at UTV. Also, because the UTV courses are only taught once a year, WVU students are encouraged to discuss with their academic advisors as early as possible the feasibility of delaying a course listed in the current WVU Catalog for the junior year fall semester in the Suggested Plan of Study for your major.

STUDY ABROAD IN THE SUMMER INDUSTRIAL OUTREACH PROGRAM IN MEXICO PRIMARILY FOR SENIOR YEAR ME AND AE UNDERGRADUATE STUDENTS

Senior students in good standing in the MAE Department have the opportunity to participate in the Industrial Outreach Program in Mexico (IOPM) during the summer of each year (June and July) to earn a total of 9 credits (described below) toward their BS degree requirements in the BSAE or BSME Degree. In this program, students are teamed up with Mexican students from local universities and conduct meaningful engineering projects in industrial sites, working full time under the guidance and supervision of practicing industrial engineers and faculty members. The duration of the program is 8 weeks.

The Objectives of this Program are:

1. To add value to student's education through international experiential learning.
2. To solve meaningful engineering problems of value to industry.
3. To bridge the gap between academia and industry to benefit both.

Practical engineering problems from well-established companies in Mexico are presented to each team, with specific objectives and technical deliverables to be attained during the 8 week duration of the program. A final report and a final presentation are delivered at the end to personnel from industry and faculty members. A poster session is conducted at the closing of the program.

The main venue of this program is in Queretaro City and surroundings. Students are placed in home-stay with local families who provide clean, safe, healthy and friendly environment to students providing a full cultural and professional immersion. Weekends are used for fieldtrips and cultural sightseeing. Fundamental knowledge of Spanish language is recommended but is not essential, as all the Mexican students and engineering liaisons are required to speak English.

Courses with credit:

- MAE 471 Principles of Engineering Design (3 cr) – Capstone Design Course
- MAE 472 Engineering System Design (3 cr) – Project Technical Elective
- FCLT 260 Cultures of Mexico (3 cr) – GEF 7 Global Studies and Diversity

This is a summer faculty led program administered by WVU Office of International Programs (<https://studyabroad.wvu.edu/>) and provides eligibility for the Statler College Certificate of Global Competency (<http://statler.wvu.edu/international-programs/global-competency>).

Click here to view the Suggested Plan of Study (p. 766)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Aerospace Curriculum Requirements

To receive a bachelor of science in aerospace engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better in all mechanical and aerospace engineering courses. If a mechanical and aerospace engineering course is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement ensures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Non Aerospace Engineering Core Requirements (Minimum grade of C- required)

Calculus I: (GEF 3)		4
MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4

Aerospace Engineering Core Requirements

A minimum cumulative GPA of 2.0 is required in all MAE courses

CHEM 115	Fundamentals of Chemistry (GEF 2B)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ECON 202	Principles of Macroeconomics	3
PHYS 112	General Physics (GEF 8)	4
EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
MAE 215	Intro to Aerospace Engineering	3
MAE 241	Statics	3
MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3
MAE 244	Dynamics and Strength Laboratory	1
MAE 316	Analysis-Engineering Systems	3
MAE 320	Thermodynamics	3
MAE 335	Incompressible Aerodynamics	3
MAE 336	Compressible Aerodynamics	3
MAE 343	Intermediate Mechanics of Materials	3
MAE 345	Aerospace Structures	3
MAE 365	Flight Dynamics	3
MAE 423	Heat Transfer	3
MAE 426	Flight Vehicle Propulsion	3
MAE 434	Experimental Aerodynamics	2
MAE 456	Computer-Aided Design and Finite Element Analysis	3
MAE 460	Automatic Controls	3
MAE 475	Flight Vehicle Design-Capstone (Fulfills Writing and Communications Skills Requirement)	3
MAE 476	Space Flight and Systems	3
Technical Electives (see list for details below)		12
GEF 1, 5, 6, 7		15
Total Hours		125

AEROSPACE ENGINEERING TECHNICAL ELECTIVES

Students are limited to a total of 3 hours under MAE 495 and MAE 496

Students may substitute one technical elective from the substitute technical electives

Students may substitute two technical electives from the pre medical technical electives

MAE 415 & MAE 417	Balloon Satellite Project 1 and Balloon Satellite Project 2	3
MAE 430 or MAE 431	Microgravity Research 1 Microgravity Research 2	3
MAE 432	Engineering Acoustics	3
MAE 433	Computational Fluid Dynamics	3
MAE 437	Vertical/Short Takeoff and Landing Aerodynamics	3
MAE 439	Hypersonic Gas Dynamics	3
MAE 446	Mechanics of Composite Materials	3
MAE 447	Aeroelasticity	3
MAE 465	Flight Mechanics 2	3
MAE 467	Introduction to Flight Simulation	3
MAE 470	Unmanned Aerial Vehicle Design/Build/Fly Competition 1	1
MAE 473	Bioengineering	3
MAE 474	UAV Design/Build/Fly Comp	3
MAE 478	Guided Missile Systems	3
MAE 482	Flight Simulation for Aircraft Safety	3

Any MAE 493 Except Technical Entrepreneurship and Mobile Robotics

MAE 495	Independent Study	3
MAE 496	Senior Thesis	3
Any MAE 500 Level Course		

SUBSTITUTE TECHNICAL ELECTIVES

Aerospace Engineering students may take one of the following courses with prior approval from the AE curriculum chair. Students may only take one of the substitute courses and must take the other technical electives.

CHE 366	Materials Science	3
CHE 463	Polymer Composites Processing	3
CE 322	Hydrotechnical Engineering	3
CE 347	Introduction to Environmental Engineering	4
CE 443	Environmental Science and Technology	3
CE 463	Steel Design	3
CE 464	Timber Design	3
CS 430	Advanced Software Engineering	3
CS 440	Database Design and Theory	3
CS 453	Data and Computer Communications	3
CS 455	Computer Architecture	3
EE 327	Signals and Systems 1	3
EE 335	Electromechanical Energy Conversion and Systems	3
EE 345	Engineering Electromagnetics	3
EE 463	Digital Signal Processing Fundamentals	3
IENG 405	Design for Manufacturability	3
MATH 421	Numerical Analysis 2	3
MATH 441	Applied Linear Algebra	3
MATH 456	Complex Variables	3
MATH 465	Partial Differential Equations	3
PHYS 314	Introductory Modern Physics	4
PHYS 321	Optics	3
PHYS 332	Theoretical Mechanics 2	3
PHYS 451	Introductory Quantum Mechanics	3
PHYS 463	Nuclear Physics	3
PHYS 471	Solid State Physics	3

PRE MEDICAL TECHNICAL ELECTIVES

Students who plan a career in medicine, dentistry, or related areas may substitute eight hours from the list of courses below for the required six hours of technical electives.

Choose two of the following:

CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	4
CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory	4
BIOL 115	Principles of Biology	4
BIOL 117	Introductory Physiology	4

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
CHEM 115 (GEF 2)	4 MATH 156 (GEF 8)	4
ENGL 101 (GEF 1)	3 PHYS 111 (GEF 8)	4
ENGR 101	2 MAE 102	3

ENGR 199	1 GEF 6	3
MATH 155 (GEF 3)	4 GEF 7	3
GEF 5	3	
<hr/>		
		17
		17

Second Year

Fall	Hours Spring	Hours
MAE 215	3 MAE 242	3
MAE 241	3 MAE 243	3
MATH 251	4 MAE 244	1
PHYS 112 (GEF 8)	4 MATH 261	4
ENGL 102 (GEF 1)	3 ECON 201 (GEF 4)	3
<hr/>		
		17
		14

Third Year

Fall	Hours Spring	Hours
MAE 316	3 EE 221	3
MAE 320	3 EE 222	1
MAE 335	3 MAE 336	3
MAE 343	3 MAE 345	3
ECON 202	3 MAE 365	3
	Technical Elective	3
<hr/>		
		15
		16

Fourth Year

Fall	Hours Spring	Hours
MAE 426	3 MAE 423	3
MAE 434	2 MAE 460	3
MAE 456	3 MAE 475	3
MAE 476	3 Two Technical Electives	6
Technical Elective	3	
<hr/>		
		14
		15

Total credit hours: 125

AREA OF EMPHASIS IN AERONAUTICAL ENGINEERING

MAE 365	Flight Dynamics	3
MAE 426	Flight Vehicle Propulsion	3
MAE 475	Flight Vehicle Design-Capstone	3
MAE 485	Flight Vehicle Design 2	3

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
CHEM 115 (GEF 2B)	4 MATH 156 (GEF 8)	4
ENGL 101 (GEF 1)	3 PHYS 111 (GEF 8)	4
ENGR 101	2 MAE 102	3
ENGR 199	1 GEF Elective 6	3
MATH 155 (GEF 3)	4 GEF Elective 7	3
GEF Elective 5	3	
<hr/>		
		17
		17

Second Year

Fall	Hours Spring	Hours
MAE 215	3 MAE 242	3
MAE 241	3 MAE 243	3
MATH 251	4 MAE 244	1

PHYS 112 (GEF 8)	4 MATH 261	4
ENGL 102 (GEF 1)	3 ECON 201 (GEF 4)	3
		17

Third Year

Fall	Hours Spring	Hours
MAE 316	3 EE 221	3
MAE 320	3 EE 222	1
MAE 335	3 MAE 336	3
MAE 343	3 MAE 345	3
ECON 202	3 MAE 365	3
Technical Elective		3
		15

Fourth Year

Fall	Hours Spring	Hours
MAE 426	3 MAE 423	3
MAE 434	2 MAE 460	3
MAE 456	3 MAE 485	3
MAE 475	3 Technical Electives	6
MAE 476	3	
Technical Elective	3	
		17

Total credit hours: 128

AREA OF EMPHASIS IN ASTRONAUTICAL ENGINEERING

MAE 466	Spacecraft Dynamics	3
MAE 484	Spacecraft Propulsion	3
MAE 486	Spacecraft Design 1	3
MAE 487	Spacecraft Design 2	3
Total Hours		12

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
CHEM 115 (GEF 2B)	4 MATH 156 (GEF 8)	4
ENGL 101 (GEF 1)	3 PHYS 111 (GEF 8)	4
ENGR 101	2 MAE 102	3
ENGR 199	1 GEF Elective 6	3
MATH 155 (GEF 3)	4 GEF Elective 7	3
GEF Elective 5	3	
		17

Second Year

Fall	Hours Spring	Hours
MAE 215	3 MAE 242	3
MAE 241	3 MAE 243	3
MATH 251	4 MAE 244	1
PHYS 112 (GEF 8)	4 MATH 261	4
ENGL 102 (GEF 1)	3 ECON 201 (GEF 4)	3
		17

Third Year

Fall	Hours Spring	Hours
MAE 316	3 EE 221	3
MAE 320	3 EE 222	1

MAE 335	3 MAE 336	3
MAE 343	3 MAE 345	3
ECON 202	3 MAE 476	3
	Technical Elective	3
		15
Fourth Year		
Fall	Hours Spring	Hours
MAE 434	2 MAE 423	3
MAE 456	3 MAE 460	3
MAE 466	3 MAE 487	3
MAE 484	3 Two Technical Elective	6
MAE 486	3	
Technical Elective	3	
		17
		15

Total credit hours: 128

Major Learning Goals

AEROSPACE ENGINEERING

The primary learning goal of the BSAE program is to implement state-of-the-art instructional materials, methods and technologies in order to prepare engineers who are highly proficient in their field of specialty and ready to contribute to the well-being of society through competent practice of the engineering profession, leading to economic development and innovative technological advancements.

The graduates of the BSAE program are well prepared to engage in the long-life pursuit of successful engineering careers by quickly adapting to the changing demands of the workforce in a dynamic global environment, by enhancing continuously their professional abilities or skills, and by contributing effectively in multidisciplinary teams to the advancement of existing or anticipated industrial, economical and societal needs.

Mechanical Engineering

Mechanical Engineering

Mechanical engineering is a broad technical discipline. It integrates knowledge of the physical sciences and mathematics for the design, construction, and manufacture, testing, analysis, use, and operation of a device, structure, a machine, a process, or a system in service to humanity. Its development parallels the growth of industry. Modern society needs mechanical engineers who have broad and deep training in the fundamentals of engineering and related sciences and who have developed versatility in analyzing and solving complex problems. The mechanical engineer must not only possess a high level of professional expertise but also have an appreciation for the impact of engineering solutions in a societal context, including ethical and economic considerations.

Mechanical engineers are problem-solvers who are scientifically informed and mathematically minded. The mechanical engineering curriculum prepares students to deal effectively with a broad range of engineering problems rather than with narrow specialties. Graduates find employment in a wide range of industries, government agencies, and educational institutions where they are concerned with many functions:

- The use and economic conversion of energy from natural sources into useful energy for power, light, heating, cooling, and transportation;
- The design and production of machines to lighten the burden of human work;
- The planning and development of systems for using energy machines and resources;
- The processing of materials into products useful to mankind; and
- The education and training of specialists who deal with mechanical systems.

The curriculum consists of a judicious combination of fundamentals, including mathematics and sciences, and practical laboratory experience which provides access to modern engineering tools. Mechatronics, which is a study of the interdependence between mechanical engineering and electrical/electronics engineering, is a key part of the mechanical engineering curriculum. Graduates will be able to critically analyze mechanical engineering problems and execute practical solutions. In addition to being able to function independently, it is expected that graduates will be able to function with effective written and oral communication within multidisciplinary teams and be prepared to address several issues such as environmental, social, and economic considerations due to a thorough education in the humanities, social sciences, ethics, safety, and professionalism.

While the undergraduate curriculum is sufficiently broad to permit graduates to select from a wide variety of employment opportunities, it contains sufficient depth to prepare students to enter graduate school to pursue advanced degrees. As modern science and engineering become more complex, the desirability of graduate-level preparation is being recognized by most advanced industries and government agencies.

Students can simultaneously pursue B.S. degrees in both aerospace engineering and mechanical engineering by completing additional courses. Information on this 155 credit-hour, four-and-one-half-year option can be seen at the end of this section.

Students who plan a career in medicine, dentistry, or related areas, but who desire a mechanical engineering degree before entering the appropriate professional school, may substitute eight hours (from a combination of biology and organic chemistry courses) for the required six hours of technical electives. This selection will help the student satisfy admission requirements to the professional schools in the health sciences.

The mechanical engineering program at WVU is administered by the faculty of the Department of Mechanical and Aerospace Engineering. The mechanical engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>.

PROGRAM EDUCATIONAL OBJECTIVES

It is expected that, within a few years of graduation (3 to 5 years), graduates will attain the following Program Educational Objectives (PEO's):

PEO-1. Proficiency in practicing one or more areas of mechanical engineering.

It is expected that after a few years of graduating (3 to 5 years), graduates will have consolidated professional proficiency as practitioners in at least one technical area of mechanical engineering, as reflected by the responsibilities and accomplishments of their professional practice.

PEO-2. Success in adapting to the demands of the workforce in the dynamic technological arena.

It is expected that, within a few years of graduation (3 to 5 years), graduates will have successfully adapted to the demands of the workforce in a dynamic technological arena through a professional practice that reflects high credentials or development of new technical skills and acumen for administrative functions.

PEO-3. Progress in their personal career development through professional service, continuing education and/or graduate studies.

It is expected that, within a few years of graduation (3 to 5 years), graduates will have made meaningful progress in their professional career, either by promotions to positions of higher responsibility with their employers, by participation in professional service activities, or by technical self-improvement through continuing education or graduate degree programs.

PEO-4. Meaningful involvement in a team that tangibly contributes to industry and/or society through the engineering discipline.

It is expected that, within a few years of graduation (3 to 5 years), graduates will have the experience of being or having been members in a team of professionals successfully making tangible technical contributions to industry or society through an engineering discipline.

STUDENT OUTCOMES

Upon graduation, all Bachelor of Science students in Mechanical Engineering will have the:

- Ability to apply knowledge of mathematics, science and engineering.
- Ability to design and conduct experiments, as well as to analyze and interpret data.
- Ability to design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- Ability to function on multidisciplinary teams.
- Ability to identify, formulate and solve engineering problems.
- Understanding of professional and ethical responsibility.
- Ability to communicate effectively.
- Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context.
- Recognition of the need for, and an ability to engage in, life-long learning.
- Knowledge of contemporary issues.
- Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

SPRING SEMESTER STUDY ABROAD OPPORTUNITY IN ROME, ITALY, PRIMARILY FOR JUNIOR YEAR ME AND AE UNDERGRADUATE STUDENTS

All MAE undergraduates are invited to consider spending the spring semester of their junior year studying abroad at the University of Rome Tor Vergata ("UTV", for short). This very successful program is taught fully in English at UTV to both Italian undergraduate engineering students and students from other countries all over the world. Through this program WVU students have the opportunity to earn credits towards their WVU BSME or dual BSME/BSAE degrees for a full semester of equivalent WVU engineering courses towards their degrees. Please see the following link for the UTV description of this program:

<http://engineering-sciences.uniroma2.it/MENU/COURSES/Courses.html>

In order to ensure that, upon successfully passing the UTV class examinations, the credits earned at UTV will transfer back to WVU for the equivalent courses within the MAE degree programs, it is recommended that students should select from the following list of UTV courses only those courses that are regularly taught during their spring semester:

UTV also strongly recommends that WVU students register for Italian Language Class for Foreigners 2.

Additional courses taught during the UTV fall semester as listed above can also be completed by students who participate in this WVU-UTV student exchange program for their full junior year: e.g., Kinematics and Dynamics of Mechanisms (for WVU courses MAE 342 & MAE 495), Electrical Network Analysis (for WVU course EE 221), and Fluid Machinery (for WVU course MAE 495).

The UTV spring semester classes begin each year in mid-February, with classes ending near the end of June. Examinations are then given during the month of July. WVU students who participate in the WVU-UTV exchange program must pay their normal WVU tuition and fees for their study abroad semester, and are also responsible to cover all of their travel and living expenses while participating in the program. You must complete your transient form (studyabroad.wvu.edu) before your semester abroad. Check with your advisor before registering for courses to approve your course choices. This program is also part of the WVU Statler program to earn the Certificate of Global Competency; see the MAE Department program description in the current WVU Catalog for additional details of this Certificate Program. (<http://statler.wvu.edu/international-programs/global-competency>).

WVU students must meet the relevant course prerequisites for the WVU course for which they wish to earn credit via a course taken at UTV. Also, because the UTV courses are only taught once a year, WVU students are encouraged to discuss with their academic advisors as early as possible the feasibility of delaying a course listed in the current WVU Catalog for the junior year fall semester in the Suggested Plan of Study for your major.

STUDY ABROAD IN THE SUMMER

INDUSTRIAL OUTREACH PROGRAM IN MEXICO

PRIMARILY FOR SENIOR YEAR ME AND AE UNDERGRADUATE STUDENTS

Senior students in good standing in the MAE Department have the opportunity to participate in the Industrial Outreach Program in Mexico (IOPM) during the summer of each year (June and July) to earn a total of 9 credits (described below) toward their BS degree requirements in the BSAE or BSME Degree. In this program, students are teamed up with Mexican students from local universities and conduct meaningful engineering projects in industrial sites, working full time under the guidance and supervision of practicing industrial engineers and faculty members. The duration of the program is 8 weeks.

The Objectives of this Program are:

1. To add value to student's education through international experiential learning.
2. To solve meaningful engineering problems of value to industry.
3. To bridge the gap between academia and industry to benefit both.

Practical engineering problems from well-established companies in Mexico are presented to each team, with specific objectives and technical deliverables to be attained during the 8 week duration of the program. A final report and a final presentation are delivered at the end to personnel from industry and faculty members. A poster session is conducted at the closing of the program.

The main venue of this program is in Queretaro City and surroundings. Students are placed in home-stay with local families who provide clean, safe, healthy and friendly environment to students providing a full cultural and professional immersion. Weekends are used for fieldtrips and cultural sightseeing. Fundamental knowledge of Spanish language is recommended but is not essential, as all the Mexican students and engineering liaisons are required to speak English.

Courses with credit:

- MAE 471 Principles of Engineering Design (3 cr) – Capstone Design Course
- MAE 472 Engineering System Design (3 cr) – Project Technical Elective
- FCLT 260 Cultures of Mexico (3 cr) – GEF-F7 Global Studies and Diversity

This is a summer faculty led program administered by WVU Office of International Programs (<https://studyabroad.wvu.edu/>) and provides eligibility for the Statler College Certificate of Global Competency. (<http://statler.wvu.edu/international-programs/global-competency>).

Click here to view the Suggested Plan of Study (p. 774)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Mechanical Curriculum Requirements

To receive a bachelor of science in mechanical engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.0 or better in all mechanical and aerospace engineering courses. If a mechanical and aerospace engineering course is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement ensures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Non Mechanical Engineering Core Requirements (Minimum grade of C- required)

Calculus I (GEF 3):		4
MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4

Mechanical Engineering Core Requirements

A minimum cumulative GPA of 2.0 is required in all MAE courses

CHEM 115	Fundamentals of Chemistry (GEF 2B)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ECON 202	Principles of Macroeconomics	3
PHYS 112	General Physics (GEF 8)	4
EE 221	Introduction to Electrical Engineering	3
EE 222	Introduction to Electrical Engineering Laboratory	1
IENG 302	Manufacturing Processes	2
IENG 303	Manufacturing Processes Laboratory	1
MAE 211	Mechatronics	3
MAE 241	Statics	3
MAE 242	Dynamics	3

MAE 243	Mechanics of Materials	3
MAE 244	Dynamics and Strength Laboratory	1
MAE 316	Analysis-Engineering Systems	3
MAE 320	Thermodynamics	3
MAE 321	Applied Thermodynamics	3
MAE 322	Thermal and Fluids Laboratory	1
MAE 331	Fluid Mechanics	3
MAE 342	Dynamics of Machines	3
MAE 343	Intermediate Mechanics of Materials	3
MAE 411	Advanced Mechatronics	3
MAE 423	Heat Transfer	3
MAE 454	Machine Design and Manufacturing	3
MAE 456	Computer-Aided Design and Finite Element Analysis	3
MAE 460	Automatic Controls	3
MAE 471	Principles of Engineering Design (Fulfills Writing and Communications Skills Requirement)	3
Technical Electives		12
GEF Electives 1, 5, 6, 7 **		15
Total Hours		124

MECHANICAL ENGINEERING TECHNICAL ELECTIVES

Mechanical Engineering Technical Electives

Students are limited to a total of 3 hours under MAE 491, MAE 495, and/or MAE 496

Students may substitute one technical elective from the substitute technical electives

Students may substitute two technical electives from the pre medical technical electives

MAE 271 & MAE 371	Mechanical and Aerospace Engineering Design 1 and Mechanical and Aerospace Engineering Design 2	3
MAE 312	Introduction to Mechanical Design	3
MAE 335	Incompressible Aerodynamics	3
MAE 336	Compressible Aerodynamics	3
MAE 345	Aerospace Structures	3
MAE 415 & MAE 417	Balloon Satellite Project 1 and Balloon Satellite Project 2	3
MAE 421	Problems in Thermodynamics	3
MAE 425	Internal Combustion Engines	3
MAE 426	Flight Vehicle Propulsion	3
MAE 427	Heating, Ventilating, and Air Conditioning	3
MAE 430 or MAE 431	Microgravity Research 1 Microgravity Research 2	3
MAE 432	Engineering Acoustics	3
MAE 433	Computational Fluid Dynamics	3
MAE 441	Gas Turbine Design and Durability	3
MAE 446	Mechanics of Composite Materials	3
MAE 461	Applied Feedback Control	3
MAE 462	Design of Robotic Systems	3
MAE 472	Engineering Systems Design	3
MAE 473	Bioengineering	3
MAE 474	UAV Design/Build/Fly Comp	1-3
MAE 476	Space Flight and Systems	3
Any MAE 493 Except Advanced Orbital Mechanics		
MAE 491	Professional Field Experience	3
MAE 495	Independent Study	3
MAE 496	Senior Thesis	3

Any MAE 500 Level Course		
IENG 377	Engineering Economy	3
Approved ENGR 493 Courses		

SUBSTITUTE TECHNICAL ELECTIVES

Mechanical Engineering students may take one of the following courses with prior approval from the ME curriculum chair. Students may only take one of the substitute courses and must take the other technical elective from the list above.

CHE 366	Materials Science	3
CHE 463	Polymer Composites Processing	3
CE 322	Hydrotechnical Engineering	3
CE 347	Introduction to Environmental Engineering	4
CE 443	Environmental Science and Technology	3
CE 463	Steel Design	3
CE 464	Timber Design	3
CS 430	Advanced Software Engineering	3
CS 440	Database Design and Theory	3
CS 453	Data and Computer Communications	3
CS 455	Computer Architecture	3
EE 327	Signals and Systems 1	3
EE 335	Electromechanical Energy Conversion and Systems	3
EE 345	Engineering Electromagnetics	3
EE 463	Digital Signal Processing Fundamentals	3
ENGR 310	Energy Engineering	3
IENG 405	Design for Manufacturability	3
MATH 421	Numerical Analysis 2	3
MATH 441	Applied Linear Algebra	3
MATH 456	Complex Variables	3
MATH 465	Partial Differential Equations	3
PHYS 314	Introductory Modern Physics	4
PHYS 321	Optics	3
PHYS 332	Theoretical Mechanics 2	3
PHYS 451	Introductory Quantum Mechanics	3
PHYS 463	Nuclear Physics	3
PHYS 471	Solid State Physics	3

PRE MEDICAL TECHNICAL ELECTIVES

Students who plan a career in medicine, dentistry, or related area may substitute the following courses to count as the technical elective requirement.

Choose two of the following:

CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory
CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory
BIOL 115	Principles of Biology
BIOL 117	Introductory Physiology

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 ENGR 102	3
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4
CHEM 115 (GEF 2B)	4 PHYS 111 (GEF 8)	4
ENGR 101	2 GEF Elective 6	3

ENGR 199	1 GEF Elective 7	3
GEF Elective 5	3	
		<hr/>
		17
		<hr/>
Second Year		
Fall	Hours Spring	Hours
MAE 211	3 ECON 201 (GEF 4)	3
MAE 241	3 MAE 242	3
MATH 251	4 MAE 243	3
PHYS 112 (GEF 8)	4 MAE 244	1
ENGL 102 (GEF 1)	3 MATH 261	4
		<hr/>
		17
		<hr/>
Third Year		
Fall	Hours Spring	Hours
MAE 316	3 MAE 321	3
MAE 320	3 MAE 322	1
MAE 343	3 MAE 331	3
EE 221	3 MAE 342	3
EE 222	1 IENG 302	2
ECON 202	3 IENG 303	1
		<hr/>
		Technical Elective
		3
		<hr/>
		16
		<hr/>
Fourth Year		
Fall	Hours Spring	Hours
MAE 454	3 MAE 411	3
MAE 456	3 MAE 423	3
MAE 471	3 MAE 460	3
Two Technical Electives	6 Technical Elective	3
		<hr/>
		15
		<hr/>
		12

Total credit hours: 124

Major Learning Goals

MECHANICAL ENGINEERING

The primary learning goal of the BSME program is to implement state-of-the-art instructional materials, methods and technologies in order to prepare engineers who are highly proficient in their field of specialty and ready to contribute to the well-being of society through competent practice of the engineering profession, leading to economic development and innovative technological advancements.

The graduates of the BSME program are well prepared to engage in the long-life pursuit of successful engineering careers by quickly adapting to the changing demands of the workforce in a dynamic global environment, by enhancing continuously their professional abilities or skills, and by contributing effectively in multidisciplinary teams to the advancement of existing or anticipated industrial, economical and societal needs.

Department of Mining Engineering

E-mail: Stater-MINE@mail.wvu.edu (Chris.Bise@mail.wvu.edu)

Degree Offered

- Bachelor of Science in Mining Engineering (B.S.Min.E.)

Nature of Program

Mining engineering deals with discovering, extracting, processing, marketing, and utilizing mineral deposits from the earth's crust. The role of the mining engineer may be quite diversified, and the field offers opportunities for specialization in a large number of technical areas. The trained professional in this field is well versed in mining and geology and also in the principles of civil, electrical, and mechanical engineering as applied to the mining industry. With the present trend toward the use of engineers in industrial management and administrative positions, the mining engineer's training also includes economics, business, personnel management, and the humanities.

The mission of the Bachelor of Science in Mining Engineering (B.S.Min.E.) program at West Virginia University has been established to produce graduates who are thoroughly prepared to meet the operational and engineering challenges of the mining industry and to continue their studies in graduate programs. The mining engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>.

Program Educational Objectives

The four program educational objectives of the WVU BSMInE have been established:

1. Our graduates will be successful in their professional careers and will continue to develop professionally and serve in leadership roles in industry, research, public service, and/or post-graduate education.
2. Our graduates will achieve their professional objectives by coordinating and leveraging key aspects of Mining Engineering: geology, exploration, valuation, development, exploitation, reclamation, and beneficiation.
3. Our graduates will successfully utilize engineering principles and technology to solve engineering problems in their career.
4. Throughout their careers, our graduates will successfully demonstrate their awareness and appreciation for professional registration, ethics, and lifelong learning while recognizing their obligations to society, the environment, the profession, and miner health and safety.

Student Outcomes

Upon graduation, all Bachelors of Science students in Mining Engineering will:

- Be well prepared in application of mathematics, science, and engineering
- Be well prepared to design and conduct experiments, as well as to analyze and interpret data
- Be well prepared to design a system, component, or process to meet desired needs
- Have an ability to function on multi-disciplinary teams
- Have an ability to identify, formulate, and solve engineering problems
- Have an understanding of professional and ethical responsibility
- Have an ability to communicate effectively
- Have the broad education necessary to understand the impact of engineering solutions in a global and societal context
- Have recognition of the need for, and an ability to engage in, life-long learning
- Have knowledge of contemporary issues
- Have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
- Have an understanding of the importance of economics, environmental, health, and safety issues in the operations of modern mines
- Have an ability to learn independently

Professional technical courses include surface and underground mining systems, engineering principles of blasting, materials handling, ventilation, roof control, rock mechanics, mining equipment, coal and mineral preparation, plant and mine design, geology, and water control. In addition, students receive a foundation in the managerial, financial, environmental, and social aspects of the operation of a mining enterprise. Local coal fields, mines, and preparation plants provide extensive opportunity for research, instruction, and field work in a real-world situation.

In the fourth year, the student may specialize in such career areas as coal mining, ore mining, or other phases of mining engineering through the proper selection of design problems and electives. The student will be assigned an advisor who will assist in this phase of the program.

FACULTY

CHAIR

- John A. Herbst - Ph.D. (University of California, Berkeley)
Mineral Processing, Numerical modeling, Comminution

PROFESSORS

- Keith Heasley - Ph.D. (Colorado School of Mines)
Numerical modeling, Rock mechanics
- Vladislav Kecojevic - Ph.D. (University of Belgrade)
Surface mining

ASSOCIATE PROFESSORS

- Yi Luo - Ph.D. (West Virginia University)
Surface subsidence, Mine Ventilation
- Brijes Mishra - Ph.D. (West Virginia University)
Rock mechanics, Numerical modeling
- Felicia F. Peng - Ph.D. (West Virginia University)

Coal preparation, Coal utilization, Process control, Plant design

ASSISTANT PROFESSOR

- Aaron Noble - Ph.D. (Virginia Tech)
Mineral processing, Flowsheet design, Froth flotation

RESEARCH ASSISTANT PROFESSOR

- Mark Sindelar - Ph.D. (University of Pittsburgh)
Mine power systems

PROFESSORS EMERITUS

- Syd S. Peng - Ph.D. (Stanford University)
- Y. J. Wang - Ph.D. (The Pennsylvania State University)

Click here to view the Suggested Plan of Study (p. 778)

Curriculum in Mining Engineering

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a degree of bachelor of science in mining engineering, a student must meet the University's undergraduate degree requirements, take all the courses indicated below, and attain a grade point average of 2.25 or better in all mining engineering courses. If a mining engineering course is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Non-Mining Engineering Core

AGRN 455	Reclamation of Disturbed Soils	3
CHEM 115	Fundamentals of Chemistry (GEF 2B)	4

GEOL 101	Planet Earth	3
GEOL 102	Planet Earth Laboratory	1
GEOL 342	Structural Geology for Engineers	3
MAE 241	Statics	3
MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3
MAE 320	Thermodynamics	3
MAE 331	Fluid Mechanics	3
Calculus I (GEF 3):		4
MATH 155	Calculus 1 (Minimum grade of C- is required)	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus (Minimum grade of C- is required)	
MATH 156	Calculus 2 (GEF 8 - Minimum grade of C- is required)	4
MATH 251	Multivariable Calculus (Minimum grade of C- is required)	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4
PHYS 112	General Physics (GEF 8)	4
STAT 215	Introduction to Probability and Statistics	3
Mining Engineering Core Requirements (Minimum GPA of 2.25 required)		
MINE 201	Mine Surveying	3
MINE 205	Underground Mining Systems	3
MINE 206	Surface Mining Systems	4
MINE 261	Engineering Computer Aided Design	2
MINE 306	Mineral Property Evaluation	3
MINE 331	Mine Ventilation	3
MINE 382	Mine Power Systems	3
MINE 411	Rock Mechanics/Ground Control	4
MINE 427	Coal Preparation	4
MINE 461	Applied Mineral Computer Methods	3
MINE 471	Mine and Safety Management	3
MINE 480	Multidisciplinary Team Project	1
MINE 483	Mine Design-Exploration Mapping	2
MINE 484	Mine Design-Report Capstone (Fulfills Writing and Communications Skills Requirement)	4
Mining Technical Electives (300 or 400 level MINE course)		6
Engineering/Science Electives: 300 or 400 level science or engineering course in BIOM, BMEG, CE, CHE, CPE, CS, EE, IENG, MAE, MINE, PNGE, BIOL, CHEM, PHYS, GEOL, and MATH.		6
GEF Electives 1, 4, 5, 6, 7		18
Total Hours		134

Suggested Plan of Study

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.Min.E. degree program that completes degree requirements in four years is as follows:

First Year

Fall	Hours Spring	Hours
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 PHYS 111 (GEF 8)	4
CHEM 115 (GEF 2)	4 GEF 4	3
ENGL 101 (GEF 1)	3 GEF 5	3
GEOL 101	3	
GEOL 102	1	
	18	17

Second Year

Fall	Hours Spring	Hours
MINE 205	3 MINE 206	4
MINE 201	3 MAE 243	3
MINE 261	2 MATH 261	4
MAE 241	3 PHYS 112 (GEF 8)	4
GEOL 342	3 MAE 331	3
MATH 251	4	
	18	18

Third Year

Fall	Hours Spring	Hours
MINE 306	3 MINE 331	3
MINE 382	3 MINE 427	4
MINE 461	3 ENGL 102 (GEF 1)	3
MAE 320	3 MAE 242	3
STAT 215	3 GEF 6	3
	15	16

Fourth Year

Fall	Hours Spring	Hours
MINE 411	4 MINE 484	4
MINE 483	2 AGRN 455	3
MINE 471	3 MINE 480	1
Mining Technical Elective	3 Two Engineering/Science Electives	6
GEF 7	3 Mining Technical Elective	3
	15	17

Total credit hours: 134

Major Learning Goals**MINING ENGINEERING**

Upon graduation, all Bachelor of Science students in Mining Engineering will:

- Be well prepared in application of mathematics, science, and engineering.
- Be well prepared to design and conduct experiments, as well as to analyze and interpret data.
- Be well prepared to design a system, component, or process to meet desired needs.
- Have an ability to function on multidisciplinary teams.
- Have an ability to identify, formulate, and solve engineering problems.
- Have an understanding of professional and ethical responsibility.
- Have an ability to communicate effectively.
- Have the broad education necessary to understand the impact of engineering solutions in a global and societal context.
- Have recognition of the need for, and an ability to engage in, life-long learning.
- Have knowledge of contemporary issues.
- Have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- Have an understanding of the importance of economics, environmental, health, and safety issues in the operations of modern mines.
- Have an ability to learn independently.

Dual Degrees**In this Section:**

- MINE and CE Curriculum (p. 780)
- Dual MINE and CE Suggested Plan of Study (p. 782)
- MINE and GEOL Curriculum (p. 783)
- Dual MINE and GEOL Suggested Plan of Study (p. 784)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum for a Dual Degree in Mining Engineering and Civil Engineering

This curriculum allows students to simultaneously pursue B.S. degrees in mining engineering and civil engineering by completing additional courses. A suggested schedule for the dual curriculum in mining engineering and civil engineering is shown below.

To receive the degrees of bachelor of science in mining engineering and bachelor of science in civil engineering, a student must take all of the courses indicated below and achieve a grade point average of 2.0 or better for all civil engineering courses attempted and a grade point average of 2.25 in all mining engineering courses attempted, except for those courses in which a grade of W was received. If a course is repeated, only the last grade received is counted in computing the grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the chosen major.

Undergraduate Student Minimum Performance Policy

All civil engineering students at WVU, including transfer students, second-degree students, and dual degree students must complete each tracking course with a grade of C or better, with the exception that one D among them is permitted (a transfer course(s) with a grade of D does not satisfy the minimum performance requirement). When a course is repeated, the last grade earned in that course will be used for determining compliance with this minimum performance policy. Only the following Civil Engineering courses may be taken prior to completion of the minimum performance policy: CE 201, CE 210, CE 305, CE 332, and CE 347.

Any tracking course transferred from outside of WVU must be a C or better.

All tracking courses must be completed collectively before taking any 300-level or higher civil engineering course. However, as an exception to the collective prerequisite requirement, geomatics (CE 305), environmental engineering (CE 347), and transportation engineering (CE 332) may be taken before completing all tracking courses.

Second-degree students may petition for a waiver to the collective prerequisite requirement for 300-level or higher civil engineering courses but must meet individual course prerequisites. The petition must include a plan for completing the tracking courses and be approved by the student's academic advisor and the department chairman.

It is important for the students take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.Min.E and B.S.C.E. degree program that completes degree requirements in five years is as follows.

Mining/Civil Engineering Curriculum Requirements

Students must complete a minimum of 152 credit hours to graduate - the total at the bottom reflects all possible course combinations.

Tracking Courses		
CHEM 115	Fundamentals of Chemistry (GEF 2)	4
MAE 241	Statics	3

MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3
Select one of the following (GEF 3):		4
MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4
Required Courses		
CE 201	Introduction to Civil Engineering	1
CE 301	Engineering Professional Development	1
CE 321	Fluid Mechanics for Civil Engineers	3
CE 322	Hydrotechnical Engineering	3
CE 479	Integrated Civil Engineering Design-Capstone	3
ECON 201	Principles of Microeconomics (GEF 4)	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
GEOL 101	Planet Earth	3
GEOL 102	Planet Earth Laboratory	1
GEOL 342	Structural Geology for Engineers	3
IENG 377	Engineering Economy	3
MAE 320	Thermodynamics	3
MINE 201	Mine Surveying	3
MINE 205	Underground Mining Systems	3
MINE 206	Surface Mining Systems	4
MINE 261	Engineering Computer Aided Design	2
MINE 306	Mineral Property Evaluation	3
MINE 331	Mine Ventilation	3
MINE 382	Mine Power Systems	3
MINE 411	Rock Mechanics/Ground Control	4
MINE 427	Coal Preparation	4
MINE 471	Mine and Safety Management	3
MINE 480	Multidisciplinary Team Project	1
MINE 483	Mine Design-Exploration Mapping	2
MINE 484	Mine Design-Report Capstone	4
PHYS 112	General Physics (GEF 8)	4
STAT 215	Introduction to Probability and Statistics	3
Civil Engineering Core Courses		
CE 332	Introduction to Transportation Engineering	4
CE 347	Introduction to Environmental Engineering	4
CE 351	Introductory Soil Mechanics	4
CE 361	Structural Analysis 1	4
Civil Engineering Design Electives		
Select from the following:		6
CE 411	Pavement Design	
CE 415	Flexible Pavements	
CE 447	Environmental Engineering Design	
CE 451	Foundation Engineering	
CE 453	Earthwork Design	

CE 462	Reinforced Concrete Design	
CE 463	Steel Design	
CE 464	Timber Design	
Civil Engineering Electives		
Select from the following:		3
CE 305	Introduction to Geomatics	
CE 310	Civil Engineering Materials	
CE 413	Construction Methods	
CE 414	Construction Engineering	
CE 416	Advanced Concrete Materials	
CE 420	Computational Fluid Mechanics	
CE 425	Engineering Hydrology	
CE 427	Water Resources Engineering	
CE 433	Urban Transportation Planning and Design	
CE 435	Railway Engineering	
CE 436	Pedestrian/Bike Transportation	
CE 443	Environmental Science and Technology	
CE 445	Properties of Air Pollutants	
CE 461	Structural Analysis 2	
CE 493 course (approved by Advisor)		
CE 495	Independent Study	
SAFM 470	Managing Construction Safety	
GEF Electives 1, 5, 6, 7		15
Total Hours		152

MINE and CE Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
CHEM 115 (GEF 2)	4 ENGR 102	3
ENGL 101 (GEF 1)	3 GEOL 101	3
ENGR 101	2 GEOL 102	1
ENGR 199	1 MATH 156 (GEF 8)	4
MATH 155 (GEF 3)	4 PHYS 111 (GEF 8)	4
	14	15

Second Year

Fall	Hours Spring	Hours
CE 201	1 ENGL 102 (GEF 1)	3
MAE 241	3 MAE 242	3
MATH 251	4 MATH 261	4
MINE 201	3 MINE 206	4
MINE 205	3 PHYS 112 (GEF 8)	4
MINE 261	2	
	16	18

Third Year

Fall	Hours Spring	Hours
CE 321	3 Two CE Core Courses *	8
GEOL 342	3 MINE 331	3
MAE 243	3 MINE 427	4
MAE 320	3 MINE 480	1
STAT 215	3	
	15	16

Fourth Year

Fall	Hours Spring	Hours
Two CE Core Courses *	8 CE 301	1
MINE 306	3 Two CE Design Electives **	6
MINE 382	3 CE 322	3
	GEF Elective 6	3
	IENG 377	3
	14	16

Fifth Year

Fall	Hours Spring	Hours
GEF Elective 5	3 CE Open Elective ***	3
ECON 201 (GEF 4)	3 CE 479	3
MINE 411	4 GEF Elective 7	3
MINE 471	3 MINE 484	4
MINE 483	2	
	15	13

Total credit hours: 152

* CE Core Classes: CE 332, CE 347, CE 351, CE 361

** CE Design Electives—any approved CE 400-level design course. See advisor for approved list

*** CE Open Electives—any approved CE 300 or CE 400-level course. See advisor for approved list.

Notes: Discipline substitutions:

- MINE 306 fulfills requirement of CE Engr/Math/Sci Elective 1.
- MINE 411 fulfills requirement of CE Engr/Math/Sci Elective 2.
- MINE requirement for is fulfilled through CE 322 and CE 351.
- MINE 382 fulfills requirement of CE engineering elective outside CE.
- MINE 461 is fulfilled by CE 322.
- MINE 484 fulfills CE requirement of ENGL 305.
- MINE requirement for STAT 211 is fulfilled by CE requirement of STAT 215.
- CE 321 fulfills MINE requirement for MAE 331.
- MINE technical elective and MINE Eng/Sci technical elective requirements are fulfilled by any two of the following: CE 332, CE 347, or CE 361.
- GEOL 342 fulfills requirement of CE basic science elective.
- MINE 261 substitutes for CE 210.

Mining Engineering/Geology Curriculum Requirements**Dual Degree Curriculum for Mining Engineering and Geology**

This curriculum allows students to simultaneously pursue a BS.Min.E. degree in mining engineering and a B.S. in geology. The dual degree program requires satisfactory completion of 154 credits and fulfilling all the requirements for both degrees.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.Min.E. and B.S.Geology program that completes both degree requirements in five years is as follows.

Students must complete a minimum of 154 credit hours to graduate - the total at the bottom reflects all possible course combinations.

Required Courses

CHEM 115	Fundamentals of Chemistry (GEF 2)	4
CHEM 116	Fundamentals of Chemistry (GEF 8)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
GEOL 101	Planet Earth	3
GEOL 102	Planet Earth Laboratory	1

GEOL 103	Earth Through Time	3
GEOL 104	Earth Through Time Laboratory	1
GEOL 284	Mineralogy	3
GEOL 285	Introductory Petrology	3
GEOL 311	Stratigraphy and Sedimentation	4
GEOL 321	Geomorphology	3
GEOL 331	Paleontology	3
or GEOL 454	Environmental and Exploration of Geophysics 1	
GEOL 341	Structural Geology	4
GEOL 404	Geology Field Camp	6
GEOL 495	Independent Study	1
or MINE 495	Independent Study	
Geology Elective (upper level GEOL course, excluding GEOL 351)		3
MAE 241	Statics	3
MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3
MAE 320	Thermodynamics	3
MAE 331	Fluid Mechanics	3
Select one of the following (GEF 3):		4
MATH 155	Calculus 1	
or MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
MINE 201	Mine Surveying	3
MINE 205	Underground Mining Systems	3
MINE 206	Surface Mining Systems	4
MINE 261	Engineering Computer Aided Design	2
MINE 306	Mineral Property Evaluation	3
MINE 331	Mine Ventilation	3
MINE 382	Mine Power Systems	3
MINE 411	Rock Mechanics/Ground Control	4
MINE 427	Coal Preparation	4
MINE 461	Applied Mineral Computer Methods	3
MINE 471	Mine and Safety Management	3
MINE 480	Multidisciplinary Team Project	1
MINE 483	Mine Design-Exploration Mapping	2
MINE 484	Mine Design-Report Capstone (Fulfills Writing and Communications Skills Requirement)	4
PHYS 111	General Physics (GEF 8)	4
PHYS 112	General Physics	4
STAT 215	Introduction to Probability and Statistics	3
GEF Electives 1, 5, 6, 7		15
Total Hours		154

DUAL MINE AND GEOL SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 PHYS 111 (GEF 8)	4
CHEM 115 (GEF 2)	4 ENGL 102 (GEF 1)	3

ENGL 101 (GEF 1)	3 GEOL 103 & GEOL 104	4	
GEOL 101 & GEOL 102	4		
	18	18	
Second Year			
Fall	Hours Spring	Hours	
GEOL 284	3 CHEM 116 (GEF 8)	4	
MAE 241	3 GEOL 285	3	
MATH 251	4 MAE 331	3	
MINE 201	3 MINE 206	4	
MINE 205	3 PHYS 112	4	
MINE 261	2		
	18	18	
Third Year			
Fall	Hours Spring	Hours Summer	Hours
GEOL 341	4 GEOL 311	4 GEOL 404 ^{***}	6
MAE 320	3 MAE 243	3	
MATH 261	4 MINE 331	3	
MINE 461	3 MINE 427	4	
STAT 215	3 MINE 480	1	
	17	15	6
Fourth Year			
Fall	Hours Spring	Hours	
GEF 5	3 GEF 6	3	
ECON 201 (GEF 4)	3 GEF 7	3	
GEOL 331 or 454	3 GEOL 321	3	
MINE 382	3 GEOL Elective [*]	3	
MINE 306	3 MAE 242	3	
	MINE 483	2	
	15	17	
Fifth Year			
Fall	Hours		
GEOL 495 or MINE 495 ^{**}	1		
MINE 411	4		
MINE 471	3		
MINE 484	4		
	12		

Total credit hours: 154

* GEOL technical elective may be any GEOL upper-division elective courses, including GEOL 493, but not GEOL 351.

** One credit hour from GEOL 495, MINE 495, or eng/sci technical electives or others approved by GEOL or MINE department can be used to satisfy 159 total credit hours requirement.

*** GEOL 404 Geology Field Camp is GEOL capstone course.

Notes: Discipline substitutions:

- GEOL 311 and other GEOL upper-division elective courses fulfill the requirements for MinE technical elective and eng/sci technical elective.
- GEOL requirement for GEOL 341 is substituted for MINE requirement for GEOL 342.
- MINE requirement of AGRN 455 is fulfilled through GEOL 321.
- MINE 205 and MINE 206 fulfill the requirement of GEOL upper-division technical electives.
- MINE 484 and GEOL 311 fulfill the requirement of writing course.

- ECON 201 and GEOL 101 fulfill two of the GEF requirements in the mining curriculum.

Department of Petroleum & Natural Gas Engineering

E-mail: Statler-PNGE@mail.wvu.edu (samuel.ameri@mail.wvu.edu)

Degree Offered

- Bachelor of Science in Petroleum and Natural Gas Engineering (B.S.P.N.G.E.)

Nature of Program

Petroleum and Natural Gas Engineering is concerned with design and application aspects of the discovery, production, and transportation of oil and natural gas resources.

Professionals in this field must have a thorough understanding of the geological principles relating to the occurrence, discovery, and production of fluid hydrocarbons. The petroleum and natural gas engineer must know and be capable of applying both conventional engineering design principles as well as those pertaining specifically to the field of petroleum and natural gas engineering. These are developed in the petroleum and natural gas engineering courses in the curriculum. In addition, a strong foundation in mathematics and the sciences broadens the future engineer's professional capabilities. Because many engineers will be employed as supervisors or executives, managerial and social skills are also emphasized.

Students are offered the opportunity to enter all phases of the petroleum and natural gas industry in meaningful and important jobs, continue their education towards advanced degrees, or in some cases pursue a combination of professional employment and continued education. The petroleum and natural gas engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>.

Program Learning Objectives

- The graduates will be successful in their professional careers as petroleum engineers in the energy industry, government agencies, and/or post-graduate education.
- The graduates will continue to develop professionally and serve in leadership roles.
- The graduates will be successful in demonstrating their obligations to the profession, to their employer, and to society.

The foundation for achieving program objectives is established through a rigorous curriculum that provides the students with:

- An understanding of scientific and engineering principles and the application of these principles in solving petroleum and natural gas engineering problems using modern tools
- An integrated design experience leading to a capstone design course
- A balanced and rounded education to recognize the need for developing technical communication and teamwork skills, as well as understanding the engineer's professional, ethical, and societal obligations

Student Outcomes

Upon graduation, all Bachelors of Science students in Petroleum and Natural Gas Engineering will have:

- A thorough understanding of scientific and engineering principles and their application to petroleum and natural gas engineering problems
- The ability to integrate their scientific and engineering knowledge to design and conduct experiments and interpret and analyze data
- The ability to apply scientific and engineering fundamentals to formulate solutions to petroleum and natural gas engineering problems
- The ability to use techniques, skills, and modern petroleum and natural gas engineering tools
- The ability to integrate their scientific and engineering knowledge to solve petroleum and natural gas engineering design problems
- The ability to communicate effectively
- The ability to function on multi-disciplinary teams
- Recognition of the professional and ethical responsibilities of a petroleum engineer
- An understanding of the impact of petroleum and natural gas engineering solutions in a societal and global context
- Recognition of the need to acquire the knowledge of contemporary issues
- Recognition of the need to engage in life-long learning

These outcomes are achieved by enrolling in rigorous individual courses in all basic areas of petroleum and natural gas engineering, basic science, mathematics, geology, and humanities and social sciences. The petroleum and natural gas engineering curriculum also contains significant laboratory components aimed at reinforcing the knowledge gained in the classroom. In the senior year, electives are offered in which the student may obtain additional depth of knowledge in specific areas of petroleum and natural gas engineering technology. Each student is individually assisted in course selection by an adviser who is a member of the petroleum and natural gas engineering faculty.

Students gain practical experience and first-hand knowledge of many aspects of petroleum and natural gas engineering through close proximity to the industry in West Virginia and surrounding states. Production sites, secondary and enhanced oil recovery projects, compressor stations, gas storage fields, and corporate offices all provide excellent opportunities for our students. Additional experience is provided through modern, well-equipped laboratories within the department and the University. Students are urged to gain field experience through summer employment in the industry.

FACULTY

CHAIR

- Samuel Ameri - M.S.Pet.E., P.E. (West Virginia University)
Formation Evaluation

PROFESSORS

- Kashy Aminian - Ph.D. (University of Michigan)
Graduate Coordinator. Natural Gas Engineering, Reservoir Engineering
- Shahab Mohaghegh - Ph.D. (Pennsylvania State University)
Intelligent Systems

ASSOCIATE PROFESSOR

- H. Ilkin Bilgesu - Ph.D., P.E. (Pennsylvania State University)
Drilling Engineering

ASSISTANT PROFESSOR

- Fatemeh Belyadi - Ph.D. (West Virginia University)
Reservoir Engineering
- Ebrahim Fathi - Ph.D. (University of Oklahoma)
Unconventional Gas Recovery
- Ali Takbiri Borujeni - Ph.D. (Louisiana State University)
Enhanced Oil Recovery
- Ming Gu - Ph.D. (University of Texas)
Rock Mechanics
- Mehrdad Zamirian - Ph.D. (West Virginia University)
Reservoir Engineering

ADJUNCT PROFESSORS

- Alan Brannon - Ph.D. (West Virginia University)
Natural Gas Engineering
- Pramod Thakur - Ph.D. (Pennsylvania State University)
Coalbed Methane

Click here to view the Suggested Plan of Study (p. 789)

Curriculum in Petroleum and Natural Gas Engineering

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3

F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

To receive a degree of bachelor of science in petroleum and natural gas engineering, a student must meet the University's undergraduate degree requirements, take all of the courses indicated below, attain a grade point average of 2.25 or better in all petroleum and natural gas engineering courses and a grade of C- or better in all petroleum and natural gas engineering courses. If a petroleum and natural gas engineering course is repeated, only the last grade received is used to compute the major grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the major.

Freshman Engineering Requirements

ENGR 101	Engineering Problem Solving 1	2
Engineering Problem Solving:		3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
ENGR 199	Orientation to Engineering	1

Non-Petroleum & Natural Gas Engineering Core

CHEM 115	Fundamentals of Chemistry (GEF 2B)	4
CHEM 116	Fundamentals of Chemistry (GEF 8)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ECON 202	Principles of Macroeconomics	3
GEOL 101	Planet Earth	3
GEOL 373	Introduction to Petroleum Geology	3
Calculus I (GEF 3):		4
MATH 155	Calculus 1 (Minimum grade of C- is required)	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus (Minimum grade of C- is required)	
MATH 156	Calculus 2 (GEF 8 - Minimum grade of C- is required)	4
MATH 251	Multivariable Calculus (Minimum grade of C- is required)	4
MATH 261	Elementary Differential Equations	4
PHYS 111	General Physics (GEF 8)	4
PHYS 112	General Physics	4
STAT 215	Introduction to Probability and Statistics	3
or IENG 213	Engineering Statistics	
EE 221	Introduction to Electrical Engineering	3
MAE 241	Statics	3
MAE 243	Mechanics of Materials	3
MAE 320	Thermodynamics	3
MAE 331	Fluid Mechanics	3

Petroleum & Natural Gas Engineering Core Requirements (Minimum grade of C- required)

Minimum GPA of 2.25 required in all petroleum and natural gas courses

PNGE 200	Introduction to Petroleum Engineering	3
PNGE 310	Drilling Engineering	4
PNGE 312	Drilling Fluids Laboratory	1
PNGE 332	Petroleum Properties and Phase Behavior (Fulfills Writing and Communications Skills Requirement)	3
PNGE 333	Basic Reservoir Engineering	3
PNGE 400	Petroleum Engineering Ethics	1
PNGE 405	Multidisciplinary Team Project	1

PNGE 420	Production Engineering	3
PNGE 432	Petroleum Reservoir Engineering Laboratory	1
PNGE 434	Applied Reservoir Engineering	3
PNGE 441	Oil and Gas Property Evaluation	3
PNGE 450	Formation Evaluation	3
PNGE 470	Natural Gas Engineering	4
PNGE 480	Petroleum Engineering Design	3
Professional Elective - select two of the following:		6
PNGE 415	Well Control	
PNGE 460	Well Stimulation Design	
PNGE 471	Natural Gas Production and Storage	
PNGE 501	Petroleum Engineering Problems	
PNGE 532	Introduction to Reservoir Simulation	
Additional GEF Elective (2-7)		3
GEF Electives 1, 5, 6, 7		15
Total Hours		128

Suggested Plan of Study

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.P.N.G.E. degree program that completes degree requirements in four years is as follows.

First Year

Fall	Hours Spring	Hours
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 PHYS 111 (GEF 8)	4
CHEM 115 (GEF 2B)	4 CHEM 116 (GEF 8)	4
ENGL 101 (GEF 1)	3 GEF Elective 6	3
GEF Elective 5	3	
	17	18

Second Year

Fall	Hours Spring	Hours
PHYS 112	4 MATH 261	4
MATH 251	4 MAE 243	3
MAE 241	3 MAE 331	3
ENGL 102 (GEF 1)	3 IENG 213 or STAT 215	3
GEOL 101	3 PNGE 200	3
	17	16

Third Year

Fall	Hours Spring	Hours
PNGE 332	3 PNGE 310	4
EE 221	3 PNGE 312	1
ECON 201 (GEF 4)	3 PNGE 333	3
MAE 320	3 ECON 202	3
GEF Elective 7	3 GEOL 373	3
	Additional GEF Course	3
	15	17

Fourth Year

Fall	Hours Spring	Hours
PNGE 420	3 PNGE 400	1
PNGE 434	3 PNGE 405	1
PNGE 441	3 PNGE 432	1

PNGE 450	3 PNGE 480	3
PNGE 470	4 Two Professional Electives	6
		<hr/>
		16
		<hr/>
		12

Total credit hours: 128

Major Learning Goals

PETROLEUM & NATURAL GAS ENGINEERING

Upon graduation, all Bachelors of Science students in Petroleum and Natural Gas Engineering will have:

- A thorough understanding of scientific and engineering principles and their application to petroleum and natural gas engineering problems
- The ability to integrate their scientific and engineering knowledge to design and conduct experiments and interpret and analyze data
- The ability to apply scientific and engineering fundamentals to formulate solutions to petroleum and natural gas engineering problems
- The ability to use techniques, skills, and modern petroleum and natural gas engineering tools
- The ability to integrate their scientific and engineering knowledge to solve petroleum and natural gas engineering design problems
- The ability to communicate effectively
- The ability to function on multi-disciplinary teams
- Recognition of the professional and ethical responsibilities of a petroleum engineer
- An understanding of the impact of petroleum and natural gas engineering solutions in a societal and global context
- Recognition of the need to acquire the knowledge of contemporary issues
- Recognition of the need to engage in life-long learning

Fundamentals of Engineering Program

E-mail: Statler-freshman@mail.wvu.edu

Nature of Program

The Benjamin M. Statler College of Engineering and Mineral Resources Fundamentals of Engineering Program (FEP) is designed to support beginning engineering students as they build foundational engineering skills and discern their career interests within the field of engineering. The mission of this student-oriented program is to advise, prepare, and retain qualified students for degree programs in the Statler College. More specifically, the FEP provides the academic and co-curricular support students need for success in their: transition to college life; development of academic discipline and skills needed to succeed as an engineering student; foundational courses (Mathematics, Chemistry, Physics, and basic engineering); and selection of a Computer Science, Biometric Systems, or Engineering discipline major.

Program Objectives

The FEP uses both curricular and co-curricular programmatic elements to meet its educational objectives. Students who successfully complete the requirements of the WVU Fundamentals of Engineering Program:

- Apply their knowledge of mathematics, science, and engineering, as well as problem-solving techniques, to define, formulate, and solve engineering problems.
- Use Word[®], Excel[®], Power Point[®], and MATLAB[®] as engineering tools to perform computations, analyze and plot data, and model a simple system as part of solving an engineering problem.
- Communicate effectively, orally, in writing, and with the use of technical tools such as Microsoft Word[®], Excel[®], Power Point[®], and MATLAB[®] to analyze, report, and present data.
- Work collaboratively on a team.
- Demonstrate their understanding of professional and ethical responsibility by applying ethical principles and professional standards to making engineering decisions.
- Demonstrate an understanding of the impact of engineering solutions and actions in a global, economic, environmental, and societal context.
- Demonstrate the academic maturity and skills necessary to manage their time and use available resources, as necessary, to succeed in their coursework and to engage in life-long learning.
- Identify ways to become involved in and engaged with the Statler College community.
- Select a major that fits with their career goals.

The FEP focuses on: (1) careful advising and accurate placement of students into courses that are at an appropriate level to facilitate academic success; (2) communication between students, faculty, advisors, and parents; (3) academic support services to help students in the fundamental math, science

and engineering courses; (4) provision of a co-curricular and social environment that facilitates successful transition to the college environment, provides career exploration opportunities, and supports students' academic endeavors; and (5) quality and engaging fundamental engineering instruction.

The FEP provides a vibrant and supportive community for beginning engineering students centered in the Engineering Learning Center (ELC). Freshmen have a "one-stop" place to get the answers they need as they navigate through the transition from high school to college. In the ELC, students receive free tutoring, find information about upcoming guest speakers and other College events, get advising questions answered, and spend a significant amount of time studying, doing homework, and working on team projects for their engineering classes.

Academic support is provided to all FEP students in the following subjects: Math, Chemistry, Physics, and Engineering. Academic support takes several forms: special engineering sections of MATH 155, Calculus I, with two problem-solving recitations each week; free tutoring available at the ELC, the Math Learning Center, the Chemistry Learning Center, and other campus learning centers; special review sessions for math, chemistry, physics, and engineering courses hosted by the ELC; and support from faculty who care about their students' learning and who are willing to meet with students during office hours and in the ELC. All students taking any 100-level ENGR course must spend two hours each week studying, working on homework or class assignments in an approved and supervised environment that provides tutoring support services.

To facilitate engagement with the engineering community and development as engineering professionals, FEP students are required to participate in and reflect upon engineering-related "Out of Class Experiences" (OCEs). Typical OCE opportunities include: *EngineerFEST*, an engineering student organization fair held at the beginning of the year to encourage students to learn about and become involved in one of the College's many student chapters of the professional engineering societies; *Department Visitations*, in which each department hosts freshmen in an informational seminar describing their majors, relevant research opportunities, and the career paths of graduates; and *Student Success Seminars* where students learn academic skills and strategies that promote success in engineering disciplines.

All policies, procedures, upcoming events and activities, and academic resources are listed on the FEP website. All of these efforts, academic and co-curricular, work together to create a coherent program designed to facilitate student success in engineering.

FACULTY

ASSISTANT DEAN

- Robin A. M. Hensel - Ed.D. (West Virginia University)
STEM education K-16, Student retention, Curriculum development

TEACHING ASSOCIATE PROFESSORS

- Ordel J. Brown - Ph.D. (University of West Indies)
STEM education, Curriculum development, Underrepresented minorities in STEM fields, Service-learning
- Lizzie Y. Santiago - Ph.D. (The Pennsylvania State University)
Bioengineering, Engineering education, Curriculum development, STEM education, Retention

TEACHING ASSISTANT PROFESSORS

- Gerald M. Angle, II - Ph.D. (West Virginia University)
Aerospace engineering, STEM education K-16
- Todd R. Hamrick - Ph.D. (West Virginia University)
STEM education, Robotics, Industrial applications, Curriculum development
- Melissa L. Morris - Ph.D. (West Virginia University)
Thermodynamics, Fluid mechanics, K-12 outreach, Curriculum development

TEACHING INSTRUCTORS

- Michael K. Brewster - M.A. (West Virginia University)
Mathematics, Statistics, STEM education K-16

Admission to the Fundamentals of Engineering Program (Internal Transfer Student, FTFT)

To be admitted into the Engineering Track 3 major, a student must have:

- Successfully completed CHEM 115 and ENGL 101
- A cumulative GPA of 2.25 or higher
- Completed the prerequisites for or be ready to take MATH 153 or MATH 155

Admission to the Fundamentals of Engineering Program (External Transfer Student)

To be admitted into the Engineering Track 3 major, a student must have:

- Successfully completed CHEM 115 and ENGL 101
- A cumulative GPA of 2.5 or higher
- Completed the prerequisites for or be ready to take MATH 153 or MATH 155

Admission to a Discipline Major

to be admitted into an engineering major, a student must have:

- Successfully completed MATH 155, CHEM 115, ENGL 101, ENGR 101, ENGR 102, and ENGR 199, all with a grade of C- or better
- A cumulative GPA of 2.25 or higher

The criteria listed above are minimum requirements.

Admission to Programs Under Enrollment Management

Currently, the program in Biomedical Engineering (BMEG) is under enrollment management. Admission to programs under enrollment management will follow the priority structure listed below. If the number of eligible first priority students exceeds the number of admission slots, students will be admitted into the program based on review and consideration of their cumulative GPAs.

1. First priority will be given to first-time, full-time (FTFT) freshmen entering Statler College and students matriculating through the engineering articulation program at Potomac State and students matriculating through other specifically designated program curricula established through articulation agreements at other colleges/universities. Students considered to be FTFT freshmen and in this category include:
 - a. Students who entered Statler College as FTFT freshmen and who are in a discipline major for less than one-semester.
 - b. Students who entered WVU as FTFT freshmen.
 - c. Students outside the WVU system transferring to WVU with less than 24 credit hours.
2. Second priority will be given to internal transfer students from other Statler College discipline majors or WVU Tech students.
3. Third priority will be given to students previously enrolled in Statler College
4. Fourth priority will be given to students wishing to transfer from outside WVU and all second degree students.

Early Admission to Discipline Major

Freshman students having outstanding academic performance during their first semester may elect to move into their selected major at the end of the first semester. These students have the option of taking ENGR 102|Code or an approved department-specific ENGR 102|Code substitute course during the second semester. Early admission is based on a combination of prior credit and academic performance. For early admission to a discipline major, students must:

- Have seven credit hours or more of AP or prior college credit including at least four credits of CHEM 115, CHEM 116, PHYS 111, or PHYS 112;
- Pass all first semester math (MATH 155 and above) and science courses (CHEM 115 or CHEM 116; PHYS 111 or PHYS 112; or GEOL 101, GEOL 102) plus ENGR 199 and ENGR 101 with a C or better; and
- Achieve a cumulative GPA # 3.0.

Or advancement can be based on the following exceptional performance:

- Pass all first semester math (MATH 155 and above) and science courses (CHEM 115 or CHEM 116; PHYS 111 or PHYS 112; or GEOL 101, GEOL 102) plus ENGR 199 and ENGR 101 with a C or better, and
- Achieve a cumulative GPA # 3.5.

Curriculum

In this Section

- Engineering Track 1 Program Curriculum (p. 792)
- Engineering Track 2 Program Curriculum (p. 794)
- Engineering Track 3 Program Curriculum (p. 795)
- First Year Computer Science Curriculum (p. 797)

Engineering Track 1 Program Curriculum

The Engineering Track 1 program curriculum is designed for students who have similar math and science backgrounds so they can effectively work in teams, solve problems, and undertake challenging projects in the Fundamentals of Engineering Problem Solving course, ENGR 101. While Engineering students are accepted based on a combination of ACT/SAT-Math scores, ACT/SAT Composite/Total scores, and high school GPA, students entering WVU may be required to use the ALEKS assessment and preparation system to determine initial course placement in math and chemistry. Engineering Track 1 students are expected to have the math background necessary to place into MATH 155 and CHEM 115. Credit hours for chemistry courses

below CHEM 115, mathematics courses below MATH 154/155, and physics courses below PHYS 111 do not count toward meeting degree credit hour requirements for chemistry, mathematics or physics; students placing below MATH 155 and CHEM 115 will be placed in either Engineering Track 2 or Engineering Track 3.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Engineering Curriculum Requirements

CHEM 115	Fundamentals of Chemistry	4
CHEM 116 or BIOL 115	Fundamentals of Chemistry Principles of Biology	4
Select one of the following:		3
ENGL 101 or ENGL 103	Introduction to Composition and Rhetoric Accelerated Academic Writing	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
MATH 155	Calculus 1 (minimum grade C)	4
MATH 156	Calculus 2	4
PHYS 111	General Physics	4
GEF Elective		3
Total Hours		35

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MATH 155	4 MATH 156	4
ENGR 101	2 ENGR 102	3
ENGR 199	1 PHYS 111	4
Select one of the following:	4 Select one of the following:	3-4
CHEM 115	CHEM 116**	
BIOL 115*	CHEM 115	
Select one of the following:	3 GEF Elective***	
ENGL 103	Select one of the following:	3
ENGL 101	ENGL 101	

GEF Elective ^{***}	ENGL 103	
GEF Elective ^{***}	3 GEF Elective ^{***}	
	17	17-18

Total credit hours: 34-35

- * Students intending to pursue a biometric systems degree should take BIOL 115 in place of CHEM 115 first semester and CS 110 in place of a second semester GEF elective.
- ** Students intending to pursue a chemical engineering degree or petroleum and natural gas engineering degree must take CHEM 116. Students intending to pursue an industrial engineering degree can take either PHYS 112 (taken in sophomore year) or CHEM 116 but do not need both. Students intending to pursue a civil engineering degree must take only one of: CHEM 116, PHYS 112 or BIOL 115. Students wishing to pursue single or dual degrees in aerospace, computer, electrical, mechanical, mining, biometric systems or computer science do not need CHEM 116.
- *** Students intending to pursue a petroleum and natural gas engineering degree should take GEOL 101 in place of one GEF elective. Students intending to pursue a mining engineering degree should take GEOL 101, GEOL 102, and STAT 211 in place of two GEF electives. Students pursuing dual mining engineering and geology degrees need to take GEOL 101, 102, 103 and 104 in place of both GEF electives.

Engineering Track 2 Program Curriculum

The Engineering track 2 program curriculum is tailored for those students who are not ready to take MATH 155 and ENGR 101. While Engineering students are accepted based on a combination of ACT/SAT-Math scores, ACT/SAT Composite/Total scores, and high school GPA, students entering WVU may be required to use the ALEKS assessment and preparation system to determine initial course placement in math and chemistry. Engineering Track 2 students are expected to have the math background necessary to place into MATH 128 or MATH 129, and CHEM 110A, and must earn a grade of C or better in each math course to move to MATH 155. These students will need to complete ENGR 102 either in the summer following their first year or during the fall of the second year before they will be accepted into an engineering discipline major. Credit hours for chemistry courses below CHEM 115, mathematics courses below MATH 154/155, and physics courses below PHYS 111 do not count toward meeting degree credit hour requirements for chemistry, mathematics or physics.

General Engineering Curriculum Requirements

CHEM 110A	Introduction to Chemistry A	1
CHEM 110B	Introduction to Chemistry B	1
CHEM 115	Fundamentals of Chemistry	4
CHEM 116 or BIOL 115	Fundamentals of Chemistry Principles of Biology	4
ENGL 101 or ENGL 103	Introduction to Composition and Rhetoric Accelerated Academic Writing	3
ENGR 100	Introduction to Engineering Applications	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
Select from the following based on Placement:		4
MATH 128	Plane Trigonometry (minimum grade C)	
MATH 129	Pre-Calculus Mathematics (minimum grade C)	
MATH 153	Calculus 1a with Precalculus (minimum grade C)	
MATH 154	Calculus 1b with Precalculus (minimum grade C)	
MATH 155	Calculus 1 (minimum grade C)	
MATH 156	Calculus 2	4
PHYS 111	General Physics	4

Total Hours 34

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
Select one of the following:	3-4 Select one of the following:	3-4
MATH 128	MATH 154	
MATH 129	MATH 155	
MATH 153 ^{****}	Select one of the following:	2-3

ENGR 199	1	ENGR 101	
CHEM 110A	1	GEF Elective	
CHEM 110B	1	CHEM 115	4
Select one of the following:	3	Select one of the following:	3
ENGL 101		ENGL 101	
ENGL 103		ENGL 103	
GEF Elective ^{***}		GEF Elective ^{***}	
Select one of the following:	3-4	GEF Elective ^{***}	3
BIOL 115 [*]			
ENGR 100 ^{****}			
GEF Elective ^{***}			

12-14

15-17

Second Year

Fall	Hours
MATH 156	4
ENGR 102	3
PHYS 111	4
Select one of the following:	3-4
CHEM 116 ^{**}	
BIOL 115 [*]	
GEF Elective ^{***}	
GEF Electives ^{***}	3

17-18

Total credit hours: 44-49

- * Students intending to pursue Biometrics should take BIOL 115 in the first semester and should also take CS 110 in place of a GEF Elective.
- ** Students intending to pursue a chemical engineering degree or petroleum and natural gas engineering degree must take CHEM 116. Students intending to pursue an industrial engineering degree can take either PHYS 112 (taken in sophomore year) or CHEM 116, but do not need both. Students intending to pursue a civil engineering degree must take only one of: CHEM 116, PHYS 112 or BIOL 115. Students wishing to pursue single or dual degrees in aerospace, computer, electrical, mechanical, mining, biometric systems or computer science do not need CHEM 116.
- *** Students intending to pursue a petroleum and natural gas engineering degree should take GEOL 101 in place of one GEF elective. Students intending to pursue a mining engineering degree should take GEOL 101, GEOL 102, and STAT 211 in place of two GEF electives. Students pursuing dual mining engineering and geology degrees need to take GEOL 101, 102, 103 and 104 in place of both GEF electives.
- **** Students taking MATH 153 should take ENGR 100.

Engineering Track 3 Program Curriculum

The Engineering Track 3 program curriculum is tailored for those students who demonstrate the need to take more than one math course before MATH 155. While Engineering students are accepted based on a combination of ACT/SAT-Math scores, ACT/SAT Composite/Total scores, and high school GPA, students entering WVU may be required to use the ALEKS assessment and preparation system to determine initial course placement in math and chemistry. Based on the ALEKS assessment, students are placed into algebra, trigonometry, or pre-calculus courses and must earn a grade of C or better in each course in sequence to move into MATH 155. The student's ALEKS assessment results also determine initial placement into a chemistry course. Typically, Engineering Track 3 students have the background necessary to place into CHEM 110A and either MATH 126A or MATH 126B. Engineering Track 3 students should expect to take more than one year to complete the six courses that are pre-requisite to entering an engineering discipline major. Credit hours for chemistry courses below CHEM 115, mathematics courses below MATH 154/155, and physics courses below PHYS 111 do not count toward meeting degree credit hour requirements for chemistry, mathematics or physics.

Pre-Engineering Curriculum Requirements

CHEM 110A	Introduction to Chemistry A	1
CHEM 110B	Introduction to Chemistry B	1
CHEM 115	Fundamentals of Chemistry	4
CHEM 116	Fundamentals of Chemistry	4
or BIOL 115	Principles of Biology	
ENGL 101	Introduction to Composition and Rhetoric	3
or ENGL 103	Accelerated Academic Writing	
ENGR 100	Introduction to Engineering Applications	3

ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 199	Orientation to Engineering	1
Select from the following based on Placement:		4
MATH 126A	College Algebra 5-Day (minimum grade C)	
MATH 126B	College Algebra 4-Day (minimum grade C)	
MATH 128	Plane Trigonometry (minimum grade C)	
MATH 129	Pre-Calculus Mathematics (minimum grade C)	
MATH 153	Calculus 1a with Precalculus (minimum grade C)	
MATH 154	Calculus 1b with Precalculus (minimum grade C)	
MATH 155	Calculus 1 (minimum grade C)	
MATH 156	Calculus 2	4
PHYS 111	General Physics	4
Total Hours		34

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
Select one of the following:	3 MATH 128	3
MATH 126A	GEF Elective ^{***}	3
MATH 126B	CHEM 115	4
ENGR 199	1 Select one of the following:	3
CHEM 110A	1 ENGL 101	
CHEM 110B	1 ENGL 103	
Select one of the following:	3 GEF Elective ^{***}	
ENGL 101	GEF Elective ^{***}	3
ENGL 103		
GEF Elective ^{***}		
GEF Electives ^{***}	3	
Select one of the following:	3	
BIOL 115 [*]		
GEF Elective ^{***}		
	15	16

Second Year

Fall	Hours Spring	Hours
MATH 155	4 MATH 156	4
ENGR 101	2 ENGR 102	3
Select one of the following:	4 PHYS 111	4
CHEM 115	GEF Electives ^{***}	6
CHEM 116 ^{**}		
BIOL 115 [*]		
GEF Electives ^{***}	6	
	16	17

Total credit hours: 64

* Students intending to pursue Biometrics should take BIOL 115 in the first semester and should also take CS 110 in place of a GEF elective.

** Students intending to pursue a chemical engineering degree or petroleum and natural gas engineering degree must take CHEM 116. Students intending to pursue an industrial engineering degree can take either PHYS 112 (taken in sophomore year) or CHEM 116 but do not need both. Students intending to pursue a civil engineering degree must take only one of: CHEM 116, PHYS 112 or BIOL 115. Students wishing to pursue single or dual degrees in aerospace, computer, electrical, mechanical, mining, biometric systems or computer science do not need CHEM 116.

*** Students intending to pursue a petroleum and natural gas engineering degree should take GEOL 101 in place of one GEF elective. Students intending to pursue a mining engineering degree should take GEOL 101, GEOL 102, and STAT 211 in place of two GEF electives. Students pursuing dual mining engineering and geology degrees need to take GEOL 101, 102, 103 and 104 in place of both GEF electives.

First Year Computer Science Curriculum

The complete Computer Science curriculum, including the suggested first year plan of study, is presented under the Computer Science major subsection of the Lane Department of Computer Science and Electrical Engineering section. Computer Science students are expected to have the math background necessary to place into MATH 155.

Policies

In this Section

- Adequate Academic Progress (p. 797)
- Dismissal from the Statler College (p. 797)

ADEQUATE ACADEMIC PROGRESS

All students need to make adequate academic progress. Adequate academic progress for Track 1, Track 2, and Track 3 engineering students is defined as meeting the prerequisites to take MATH 153 or MATH 155 by the beginning of the third semester within the Fundamentals of Engineering Program and meeting the criteria for admission to an engineering discipline major within four semesters of the date of entrance to the Statler College. Because each student's case is unique, the academic progress of all students who have not started MATH 153/MATH 155 by the start of their third semester and all students who have not moved to an engineering discipline major by the end of their fourth semester will be reviewed by the Fundamentals of Engineering Program Academic Standards Committee. Upon review, the committee will either:

1. Transfer the student out of the Statler College to the Center for Learning, Advising, and Student Success and specify the conditions which must be met before the student may return to the Statler College; or
2. Retain the student in the Statler College and specify the academic progress which must be met within one semester.

Students will not be permitted to enroll, without college approval, in courses carrying a discipline major code until they have been accepted into an engineering discipline major.

DISMISSAL FROM THE STATLER COLLEGE

The duration of the firstshy; dismissal from the Statler College is one academic semester. The duration of subsequent dismissals will be one calendar year for a second dismissal and a minimum of five years for a third dismissal. If a student appeal of dismissal is granted, the duration of any subsequent dismissal will be at the greater level. A student who has been dismissed from the Statler College cannot transfer academic major course work taken at another institution, during the period of dismissal, for credit toward meeting their degree requirements. A student who has been dismissed from the Fundamentals of Engineering program for low academic performance (overall and/or WVU grade point average less than 2.00) must petition to be readmitted to the Statler College; the decision to readmit will be on a case-by-case basis.

A student may also be dismissed from the Statler College for violating the WVU Student Code of Conduct.

Honors College

MISSION

The Honors College enhances the undergraduate experience for high-achieving students at West Virginia University by building a community of scholars who enrich their education in the classroom and beyond.

The Honors College features three academic programs: University Honors for students enrolled prior to 2017, the Honors Foundations Program for first- and second-year students, and beginning in Fall 2019 an upper-division program for upper-class students.

UNIVERSITY HONORS REQUIREMENTS

PRESIDENTIAL HONORS SCHOLAR

- Students admitted to WVU prior to Fall 2017
- 3.5 grade point average
- Twenty-five hours of Honors-eligible credit hours
- At least one credit hour of Honors-eligible orientation (HONR 199 or eligible departmental first-year seminar)
- Three to six credits of thesis or an approved Honors senior project, including approved study abroad, undergraduate research, or internship. Thesis hours can be used to count toward 25-hour total.

DEAN'S HONORS SCHOLAR

- Students admitted to WVU prior to Fall 2017
- 3.4 grade point average
- Sixteen hours of Honors-eligible credit hours
- At least one credit hour of Honors-eligible orientation (HONR 199 or eligible departmental first-year seminar)
- (Optional) Three to six credits of thesis or an approved Honors senior project, including approved study abroad, undergraduate research, or internship.

Students admitted to WVU prior to Fall 2017 may shift between Presidential and Dean's levels as academic performance merits.

HONORS FOUNDATIONS PROGRAM

ADMISSIONS REQUIREMENTS

Beginning for the class entering Fall 2017, most eligible students will meet the following criteria:

- 3.7 High School GPA (weighted or unweighted), and
- 26 ACT or 1180 SAT (M/CR) or 1250 Redesigned SAT (M/EBRW)

The Honors College also invites a small number of students (with unusually promising application profiles that nonetheless do not meet the above criteria) to participate in an alternative application process.

Students may also join the Honors Foundations Program with a 3.7 cumulative GPA after the first semester of full-time course work with no withdrawals or incompletes, or if they transfer to WVU in good standing in an Honors program at their previous institution.

HONORS FOUNDATIONS PROGRAM BENEFITS

- Smaller class sizes, often under 25 students;
- Access to innovative Honors course topics;
- Dedicated Honors housing and community activities;
- Priority registration for classes before general population students;
- Honors advising, tutoring, and mentoring;
- Opportunities for peer leadership and community service;
- Recognition at graduation and on their transcripts;
- Connections with a community of Honors students.

HONORS FOUNDATIONS PROGRAM REQUIREMENTS

Students will ideally complete the program within four semesters, typically taking one full Honors course per semester. In order to complete the program, students must:

- Complete a minimum of five Honors courses (including a one-credit Honors-eligible orientation course) and a minimum of 13 Honors credits.

- Meet ongoing requirements for good standing:
 - After year one, students must have completed an Honors-eligible orientation experience and at least one Honors course/ three Honors credits, and must maintain a 3.0 cumulative GPA and a 3.0 GPA in Honors courses.
 - If a student needs to extend enrollment in the program in order to complete the requirements after year two, students must have completed an Honors-eligible orientation experience and at least three Honors courses/ nine Honors credits, and must maintain a 3.0 cumulative GPA and a 3.5 GPA in Honors courses.
- Meet appropriate final requirements, including
 - Minimum 3.5 GPA in Honors credits
 - Minimum 3.0 cumulative GPA at the time of program completion
 - Participation in the Honors exit interview process

UPPER DIVISION HONORS PROGRAM

Beginning in Spring 2019, juniors and seniors may apply to join the Honors College upper-division program. The upper-division program is rooted in experiential learning and will require students to submit a proposal that will be evaluated for admission.

Students in the program will complete three or more Honors credits every semester, a minimum of six of which must involve experiential learning (study abroad, research, internships, etc.). Details about the program and the admission process will be announced in advance of the initial Spring 2019 proposal cycle.

For more information, please contact the Honors Office. Students may also visit the website at <https://www.honors.wvu.edu>.

ADMINISTRATION

DEAN

- Kenneth P. Blemings - Ph.D.
University of Wisconsin

ASSOCIATE DEAN

- Ryan Claycomb - Ph.D.
University of Maryland, College Park

PROGRAM COORDINATOR

- Ashley Watts - MS
West Virginia University

DIRECTOR HONORS LIVE/LEARN COMMUNITY

- Kevin Gooding - Ph.D.
Purdue University

Reed College of Media

Degrees Offered

- Bachelor of Science in Journalism
- Bachelor of Arts (Multidisciplinary Studies)

Majors

- Journalism
- Multidisciplinary Studies
- Strategic Communications

Areas of Emphasis

Strategic Communications:

- Advertising
- Public Relations

Minors

- Advertising
- Entertainment Media
- Event Planning
- Health Promotion
- Interactive Media Design (offered jointly with the College of Creative Arts)
- Journalism
- Public Relations
- Sport Communication (offered jointly with the College of Physical Activity and Sport Sciences)
- Strategic Social Media

Nature of Program

The WVU Reed College of Media is a student-centered media school that has been educating journalists and strategic communicators since 1939. Rooted in tradition and real-world experiences that prepare students for today's media world, the College of Media offers an innovative curriculum that prepares students for dynamic, cutting-edge communications careers. Using the latest media technology, students produce real products — multimedia stories, advertising campaigns, news broadcasts, virtual reality experiences and special events — that are adopted and disseminated by real-world professional outlets and clients. In addition, community outreach and service learning are incorporated into our undergraduate programs, allowing students to connect with their communities and learn how to be compassionate and committed communications professionals.

The College of Media currently offers a bachelor of science in journalism (BSJ) degree in 1) journalism, which includes multimedia storytelling and production coursework and 2) strategic communications, with curricular areas of emphasis in advertising and public relations (students who entered the major prior to Fall 2013 may have enrolled in the advertising or public relations majors). The College also offers a bachelor of arts (BA) degree in multidisciplinary studies. While they are still in school, students intern at various on- and off-campus locations, including top regional and national TV stations, public relations firms, newspapers and advertising agencies. Students also have the opportunity to work for campus media, including U-92 (the campus radio station) and *The Daily Athenaeum* (the student newspaper). Many students also build their skills by working part-time at local media outlets, agencies, non-profit organizations and within programs and departments across the WVU campus, such as athletics and health sciences.

Accreditation

The Accrediting Council on Education in Journalism and Mass Communications (ACEJMC) fully accredits the College of Media and its undergraduate programs: journalism and strategic communications (advertising and public relations). Only about 110 colleges and universities with journalism or communications programs have earned ACEJMC approval. The College is also a member of the Association of Schools of Journalism and Mass Communications.

Equal Employment Opportunity and Affirmative Action Plan

West Virginia University is an Equal Opportunity/Affirmative Action Employer and the recipient of an NSF ADVANCE award for gender equity. The University values diversity among its faculty, staff and students, and invites applications from all qualified individuals, including minorities, females, individuals with disabilities, and veterans.

The College of Media endorses WVU's affirmative action plan and has historically applied the plan's principles in all college initiatives and activities. Assurance of equal opportunity and affirmative action procedures are included in both the University and College of Media guidelines for faculty recruitment.

To recruit minority students, our faculty and staff speak to campus organizations, visit high schools and community colleges, work closely with high school counselors, work with community organizations and give special attention to minority internship/placement opportunities. In 2010, the College established a chapter of the National Association of Black Journalists. The College has also partnered with community colleges with diverse populations to create articulation agreements so that students can seamlessly transfer to WVU to earn a four-year degree.

The College appreciates ethnic, racial, and cultural diversity among students, faculty and staff. The College has an Assistant Dean for Student Services who has minority recruitment and retention as a major responsibility.

ADMINISTRATION

DEAN

- Maryanne Reed - M.S. (Northwestern University)
Professor

ASSOCIATE DEAN

- Diana Martinelli - Ph.D. (University of North Carolina at Chapel Hill)
Associate Professor

ASSISTANT DEANS

- Chad Mezera - M.S. (West Virginia University)
Online Programs
- Tricia Petty - M.Ed. (University of Georgia)
Student and Enrollment Services

DIRECTOR OF GRADUATE STUDIES

- Steve Urbanski - Ph.D. (Duquesne University)
Associate Professor

Degree Designation Learning Goals

BACHELOR OF ARTS (BA)

The WVU Reed College of Media prepares its students to excel as professional communicators, scholars and innovators in a rapidly changing global media environment. As such, the College maintains the following overarching learning goals for its B.A. in Multidisciplinary Studies (MDS) students. MDS students must have at least two of their three minors in the College of Media.

Upon completion of the B.A. in MDS, students will:

- understand the interrelationships among different disciplines and possess a knowledge of and aptitude with principles, practices, facts, concepts, theories and tools in three minor areas of concentration
- understand and apply the U.S. principles and laws of freedom of speech and press
- understand the range of systems of freedom of expression around the world, including the right to dissent, to monitor and criticize power, and to assemble and petition for redress of grievances
- demonstrate an understanding of the history and role of professionals and institutions in shaping communications
- demonstrate an understanding of gender, race ethnicity, sexual orientation and, as appropriate, other forms of diversity in domestic society in relation to mass communications
- demonstrate an understanding of the diversity of peoples and cultures and of the significance and impact of mass communications in a global society
- understand concepts and apply theories in the use and presentation of images and information
- demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity
- think critically, creatively and independently
- conduct research and evaluate information by methods appropriate to the communications professions in which they work
- write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve
- critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness
- apply basic numerical and statistical concepts
- apply tools and technologies appropriate for the communications professions in which they work.

BACHELOR OF SCIENCE IN JOURNALISM (BSJ)

The WVU Reed College of Media prepares its students to excel as professional communicators, scholars and innovators in a rapidly changing global media environment. As such, the College maintains the following overarching learning goals for its Bachelor of Science (Journalism and Strategic Communications--Advertising and Public Relations) students.

Upon completion of the BSJ, students will:

- demonstrate professional communications knowledge, skills and judgment
- demonstrate the ability to work professionally and effectively as part of a diverse team
- understand and apply the U.S. principles and laws of freedom of speech and press
- understand the range of systems of freedom of expression around the world, including the right to dissent, to monitor and criticize power, and to assemble and petition for redress of grievances
- demonstrate an understanding of the history and role of professionals and institutions in shaping communications
- demonstrate an understanding of gender, race ethnicity, sexual orientation and, as appropriate, other forms of diversity in domestic society in relation to mass communications
- demonstrate an understanding of the diversity of peoples and cultures and of the significance and impact of mass communications in a global society
- understand concepts and apply theories in the use and presentation of images and information
- demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity
- think critically, creatively and independently
- conduct research and evaluate information by methods appropriate to the communications professions in which they work
- write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve
- critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness
- apply basic numerical and statistical concepts
- apply tools and technologies appropriate for the communications professions in which they work

ADVERTISING MINOR

MINOR CODE - U058

Students in colleges and units outside of the College of Media may earn a minor in advertising by completing the following courses and meeting the requirements as stated below. The advertising minor is not available to students in the College of Media unless they are pursuing the College's multidisciplinary studies major. The majority of courses for the advertising minor are offered exclusively online and may require summer enrollment (additional online course fees may apply).

To earn a minor in advertising, a student must earn a minimum overall GPA of 2.0 in all courses required for the minor. However, College of Media MDS students must earn a C- in every course in the minor.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

Course Requirements

JRL 101	Media and Society	3
ADV 201	Advertising and Society	3
or ADV 215	Principles of Advertising	
ADV 309	Advertising and Creativity	3
ADV 409	Advertising Research and Media	3
ADV 419	Advertising Strategies	3
Total Hours		15

ENTERTAINMENT MEDIA MINOR

MINOR CODE - U132

Students in colleges and units outside the College of Media may earn a minor in entertainment media by completing the following courses and meeting the requirements as stated below. The entertainment media minor is not available to students in the College of Media unless they are pursuing the College's multidisciplinary studies major. The majority of courses for the entertainment media minor are offered exclusively online and may require summer enrollment (additional online course fees may apply).

To earn a minor in entertainment media, a student must earn a minimum overall GPA of 2.0 in all courses required for the minor. However, College of Media MDS students must earn a C- in every course in the minor.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

Course Requirements

JRL 101	Media and Society	3
PR 215	Introduction to Public Relations	3
PR 431	Promotion for Entertainment Media	3
Select one of the following:		3
PR 432	Entertainment Media Branding	
JRL 419	Entertainment Reporting	
PR 433	Entertainment Media Campaigns	3
Total Hours		15

EVENT PLANNING MINOR

MINOR CODE - U131

Students in colleges and units outside of the College of Media may earn a minor in event planning by completing the following courses and meeting the requirements as stated below. The event planning minor is not available to students in the College of Media unless they are pursuing the College's multidisciplinary studies major or are pursuing it as an optional secondary minor. (A primary minor must be earned from a unit outside of the College of Media to be eligible to graduate.) The majority of courses for the event planning minor are offered exclusively online and may require summer enrollment (additional online course fees may apply).

To earn a minor in event planning, a student must earn a minimum overall GPA of 2.0 in all courses required for the minor. However, College of Media MDS students must earn a C- in every course in the minor.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

Course Requirements

JRL 101	Media and Society	3
PR 215	Introduction to Public Relations	3
PR 436	Event Planning	3
PR 437	Event Promotion	3
PR 438	Event Execution	3
Total Hours		15

HEALTH PROMOTION MINOR

MINOR CODE - U099

Students in colleges and units outside of the College of Media may earn a minor in health promotion by completing the following courses and meeting the requirements as stated below. The health promotion minor is not available to students in the College of Media unless they are pursuing the College's multidisciplinary studies major. The majority of courses for the health promotion minor are offered exclusively online and may require summer enrollment (additional online course fees may apply).

To earn a minor in health promotion, a student must earn a minimum overall GPA of 2.0 in all courses required for the minor. However, College of Media MDS students must earn a C- in every course in the minor.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

JRL 101	Media and Society	3
PR 215	Introduction to Public Relations	3
or ADV 215	Principles of Advertising	
JRL 450	Writing for Health Promotion	3

JRL 452	Applied Health Promotion	3
JRL 454	Health Promotion Campaigns	3
Total Hours		15

INTERACTIVE DESIGN FOR MEDIA MINOR

MINOR CODE - U129

The interactive media design minor is intended to close an existing gap between the College of Creative Arts and the College of Media by providing a finely-tuned curriculum supplement for journalism and strategic communications students that delivers emergent digital and interactive design skills while expanding learning opportunities for art and design students in the study of narrative methodologies, multimedia and visual storytelling. This minor is restricted to students with a major in either the College of Media or the College of Creative Arts.

Through collaboration and shared support between the College of Creative Arts and the College of Media, students will be able to acquire critical competitive skills in interactive design and visual narrative using new technologies that will make them highly competitive in an environment that is increasingly determined by digital and visual media. To complete the interactive media design minor, students must schedule an appointment with their advisor in the School of Art and Design or the College of Media.

To earn this minor, a minimum grade of C- is required in all minor courses.

ART 272	Designing for Multimedia	3
Art and Design students complete the following JRL course; Media students complete the following ART course:		3
JRL 210	Visual Journalism and New Media	
ART 270	Introduction to Electronic Media 1	
JRL 225	Media Tools & Applications	3
JRL 322	Gaming Design and Digital Narrative	3
ART 372	Interactive Design	3
Art and Design students complete the ART course; Media students complete the JRL course:		3
ART 472	Advanced Interactive Design	
JRL 472	Advanced Interactive Design	
Total Hours		18

JOURNALISM MINOR

MINOR CODE - U136

Students in colleges and units outside of the College of Media may earn a minor in journalism by completing the following courses and meeting the requirements as stated below. The journalism minor is not available to students in the College of Media unless they are pursuing the College's multidisciplinary studies major.

To earn a minor in journalism, a student must earn a minimum overall GPA of 2.0 in all courses required for the minor. However, College of Media MDS students must earn at least a C- in every course in the minor.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

JRL 101	Media and Society	3
JRL 215	Media Writing	3
JRL 428	Media Ethics and Law	3
Select two of the following:		6
JRL 318	Beat Reporting	
JRL 319	Editing and Curation	
JRL 321	Media Design	
JRL 335	Video and Audio News Writing	
JRL 412	Sport Journalism	
JRL 420	Feature Writing	
JRL 430	Social Media and Journalism	
Total Hours		15

PUBLIC RELATIONS MINOR

MINOR CODE - U070

Students in colleges and units outside of the College of Media may earn a minor in public relations by completing the following courses and meeting the requirements as stated below. The public relations minor is not available to students in the College of Media unless they are pursuing the College's multidisciplinary studies major. The majority of courses for the public relations minor are offered exclusively online and may require summer enrollment (additional online course fees may apply).

To earn a minor in public relations, a student must earn a minimum overall GPA of 2.0 in all courses required for the minor. However, College of Media MDS students must earn a C- in every course in the minor.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

Course Requirements

JRL 101	Media and Society	3
PR 215	Introduction to Public Relations	3
PR 301	Writing for Public Relations	3
PR 401	Applied Public Relations	3
PR 410	Integrated Marketing Communications for Public Relations	3
Total Hours		15

SPORT COMMUNICATION MINOR

MINOR CODE - U088

The sport communication minor requires courses offered by the WVU College of Physical Activity and Sport Sciences and the College of Media. This blended minor includes both on-campus and online courses, and summer coursework is typically required to complete it.

To earn a minor in sport communication, a minimum grade of C- is required in all minor courses.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

A grade of C- or higher must be earned in all minor courses

Requirements

One of the following:		3
ADV 201	Advertising and Society	
ADV 215	Principles of Advertising	
PR 215	Introduction to Public Relations	
Required:		3
JRL 361	Media Relations In Sport	
One of the following:		3
JRL 412	Sport Journalism	
PR 412	IMC for Sport	
Required: offered by the College of Physical Activity and Sports Sciences		3
SEP 271	Sport in American Society	
Two of the following offered by the College of Physical Activity and Sports Sciences:		6
SM 426	Liability in Sport (Only offered in spring and summer for minors)	
SM 485	Sport Management (Only offered in fall and summer for minors)	
SM 486	Sport Marketing & Sales (Only offered in summer for minors)	
Total Hours		18

STRATEGIC SOCIAL MEDIA MINOR

MINOR CODE - U124

Students in college and units outside of the College of Media may earn a minor in strategic social media by completing the following courses and meeting the requirements as stated below. The strategic social media minor is not available to students in the College of Media unless they are pursuing the College's multidisciplinary studies major or are pursuing it as an optional secondary minor. (A primary minor must be earned from a unit outside of the College of Media to be eligible to graduate.) The majority of courses for the strategic social media minor are offered exclusively online and may require summer enrollment (additional online course fees may apply).

To earn a minor in strategic social media, a student must earn a minimum overall GPA of 2.0 in all courses required for the minor. However, College of Media MDS students must earn at least a C- in every course in the minor.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

JRL 101	Media and Society	3
Select 1 of the following:		3
ADV 201	Advertising and Society	
ADV 215	Principles of Advertising	
PR 215	Introduction to Public Relations	
JRL 432	Social Media Strategy	3
JRL 433	Social Media Applications	3
JRL 434	Social Media Campaigns	3
Total Hours		15

- Admission to the College of Media (p. 806)
- Scholarships (p. 806)
- Choosing a Major (p. 806)
- Accelerated Bachelor's/Master's Program (p. 807)

Admission to the College of Media

Students interested in majoring in journalism or strategic communications in the College of Media must first apply to West Virginia University and be accepted. To be eligible for direct admission into the College of Media, West Virginia residents must have at least a 2.0 high school GPA and either a 19 Composite ACT score or a 990 post-March 2016 SAT combined Evidence Based Reading/Writing and Math score. Non-West Virginia residents must have at least a 2.5 unweighted high school GPA and either a 21 Composite ACT score or a 1070 post-March 2016 SAT combined Evidence Based Reading/Writing and Math score. High school students with a 3.0 GPA and a 20 English ACT score or a 500 post-March 2016 SAT Evidence Based Reading/Writing score will also be considered for direct admission. Students who have completed at least one full-time semester of college work (either at WVU or elsewhere) with a cumulative GPA of 2.5 or higher may also qualify for direct admission into the College of Media irrespective of standardized test scores. Students who do not meet these criteria will automatically be enrolled in a pre-media major and advised by WVU's Center for Learning, Advising and Student Success. Students advised in the Center for Learning, Advising and Student Success may declare a journalism or strategic communications major once they have earned a cumulative GPA of 2.5 at WVU. Or, if a student has a 2.0 cumulative GPA at WVU, they may enroll in JRL 215 (space permitting). If the student earns a C- or better in that course and maintains a 2.0 overall GPA at WVU, then the student may then declare a major in journalism or strategic communications.

Scholarships

In addition to financial aid from West Virginia University, the College of Media offers a number of scholarships each year to eligible students. Current College of Media students with a 3.0 or better cumulative GPA may apply during the spring selection period. All students applying for scholarships must file a FAFSA form by the deadline, even if they are not eligible for need-based aid. Awards are generally based on academic performance, extra curricular activities and/or financial need and are restricted to direct admit students and declared majors in the College of Media.

Choosing a Major

The College of Media offers three majors: journalism, strategic communications and multidisciplinary studies. Students in the strategic communications major choose one of two areas of emphasis: advertising or public relations. (Students who entered a major prior to Fall 2013 may be enrolled in the advertising or public relations majors rather than the strategic communications major.)

Direct admission students are admitted to the College upon admission to the University and declare their majors at that time. However, to declare a multidisciplinary studies major, students must have earned 29 college credit hours and have a minimum 2.0 overall GPA.

Accelerated Bachelor's/Master's Program

The College of Media offers an accelerated bachelor's/master's program, which offers exceptional students (with at least a minimum 3.5 cumulative WVU GPA) an opportunity to earn both their bachelor's and master's degrees in a five-year period. Qualified students should contact the director of graduate studies during their sophomore year to learn more. Students meet with the director of graduate studies during their junior year and formally apply to the program near the end of their junior year. Graduate coursework begins during the fourth year and continues through the following summer. During the fifth year, students become graduate students and continue with their graduate coursework, which will culminate with a thesis or professional project that will be defended by the end of their fifth year. After program completion, students graduate with both their BSJ and MSJ degrees simultaneously. Should a student complete the bachelor's work but withdraw from the master's program before completion, then the student will still receive the BSJ. More information can be found on the College of Media's website (<http://reedcollegeofmedia.wvu.edu/graduate/master-of-science-journalism/4-1-program>).

Policies

- Graduation Requirements (p. 807)
- Scholastic Requirements (p. 807)
- Academic Minors (p. 808)
- Full-Time Load/Probation (p. 808)
- Priorities for Admission to Journalism 215 and Major Program Specific Courses (p. 808)
- Courses for Non-Majors (p. 808)

Graduation Requirements

College of Media graduates earn a Bachelor of Science in Journalism (BSJ) degree that requires a minimum of 120 credit hours. Of the 120 credit hours required to graduate, College of Media students must take a minimum of 72 credit hours outside of the College of Media in non journalism/non-mass communications courses.

Included in those 120 hours are a minimum of 33 credits in major courses; a minimum of 15 credits in minor courses; 28 credits in other liberal arts requirements outside of the College of Media; a minimum of 31 credit hours of General Education Foundations (GEF) courses; and general electives to bring the total number of credit hours to at least 120. Some courses are available only once a year; it is the student's responsibility to arrange their schedule accordingly. Please note that while some classes can count in more than one category, students still need to complete at least 120 credit hours.

The College of Media will accept no more than fifteen hours of journalism/mass-communication courses from community colleges.

Students majoring in multidisciplinary studies earn a Bachelor of Arts (B.A.) degree that requires a minimum of 120 hours. Please review the MDS major requirements in the Undergraduate Catalog for specific information.

Students may not double major or dual degree within the College of Media, but they can pursue a dual-degree program with another academic unit on campus. To earn a second baccalaureate degree, students must complete at least 150 credit hours (30 hours beyond the first bachelor's degree). Students pursuing dual degrees must have their academic plan approved by the assistant dean.

Scholastic Requirements

To be eligible for graduation, students must earn a minimum 2.0 cumulative grade point average; minor requirements are set by the College(s) where the minor is housed. Students also must earn a grade of C- or better in all major pre-requisite courses to advance. Students who do not earn a C- or better will not be allowed to remain enrolled in subsequent courses until the required grade has been earned in the pre-requisite course. Students must earn a grade of C- or better in all major courses that are counted toward graduation requirements.

To help ensure timely progression toward a WVU degree, if a student earns D/F/W grades for two semesters in at least one major course, even if the student's overall GPA is 2.0 or greater, he or she must meet with the Assistant and/or Associate Dean to assess progress toward graduation and the likelihood of success within their current major. If, after consultation with the student, it is deemed that the major is not the right academic program, the student will be referred to WVU's Center for Learning, Advising and Student Success to explore other possible majors. If the student desires to continue within the College of Media against the respective dean's recommendations, a contract of academic progress will be developed to outline the parameters necessary for the student to continue College of Media studies. These parameters might include attending tutoring sessions as well as earning adequate grades the following semester to continue the student's academic progress. If the stipulations set forth in the contract are not satisfied, the student will be referred to the Center for Learning, Advising and Student Success to pursue an alternative major.

All students must see their respective advisors each semester to schedule classes and ensure they are progressing appropriately. In addition, during the semester prior to applying for graduation, students must complete a graduation audit with their advisor during the registration advising session.

Academic Minors

Students pursuing the journalism or strategic communications major must complete an officially sanctioned minor outside the College of Media. However, students may pursue the sport communication minor, which is offered jointly by the College of Media and the College of Physical Activity and Sport Sciences, or the interactive media and design minor, which is offered jointly by the College of Media and the College of Creative Arts. Students in the College of Media may add a second minor in event planning or strategic social media; however, these minors will not fulfill the requirement of having a minor outside of the College. Students completing a dual-degree are exempt from the requirement to complete a minor. Students should consult their advisor before starting a minor, as many minors require at least four semesters to complete. The minor will also fulfill the University's GEF 8 requirement.

Full-Time Load/Probation

Students may not enroll for more than 20 hours in a single term or 14 hours in two summer sessions without permission from the assistant dean. For requests to register for more than 21 credit hours during the fall/spring and more than 15 credits during the summer, the request must also be approved by the Associate Provost for Undergraduate Academic Affairs.

While on probation, a student is not permitted to register for more than 15 hours of coursework in an academic term and must successfully complete at least 12 hours. Students enrolling in more than 15 hours will be notified by the Media College's Advising Center to reduce their credit-hour registration.

Priorities for Admission to Journalism 215 and Major Program Specific Courses

Journalism 215 is restricted to College of Media students. Pre-media majors with at least a 2.0 cumulative GPA may enroll in JRL 215 if space permits after College of Media students have received their registration priority. Major courses are restricted to College of Media majors, with priority given to those students pursuing that specific area of study.

Courses for Non-Majors

The following are open to all WVU students on a first-come, first-served basis:

ADV 201	Advertising and Society (GEF 4)	3
ADV 215	Principles of Advertising	3
JRL 101	Media and Society (GEF 4)	3
JRL 220	Introduction to Photojournalism	3
JRL 235	Electronic Media and Society (GEF 4)	3
PR 215	Introduction to Public Relations	3

Those who attempt to enroll in other courses offered by the College of Media but who lack the appropriate prerequisites or major will be removed from such classes.

- Professional Relations (p. 808)
- Experiential Learning (p. 809)
- Journalism Organizations (p. 809)
- Internship/Practicum Credit (p. 809)
- Job Placement (p. 809)

Professional Relations

A close relationship is maintained with state and national communications and journalism professionals through the West Virginia Press Association, the West Virginia Broadcasters Association, the West Virginia Associated Press Broadcasters Association, Public Relations Society of America, American Advertising Federation, Business/Professional Advertising Association, National Press Photographers Association, the National Association of Black Journalists, the Broadcast Education Association and the Society of Professional Journalists. These groups have provided educational and financial support to the College along with internships and job opportunities.

Every year, the College provides opportunities for students to get advice on how to find jobs, write resumes, produce professional portfolios and broadcast clips, and conduct themselves on job interviews. Employers also regularly interview College of Media students for internships and permanent positions.

Throughout the year, nationally prominent speakers are brought to campus to share their professional experiences and insights with students. Recent speakers have included Elliott Nix, head of Google's media solutions, Nieman Lab writer Justin Ellis, Newsweek investigative journalist Michael Isikoff and Liz McDonnell, New York Times Head of Creative Strategy at T Brand Studios. The College also hosts a number of events, such as hackathons to spur innovation and creativity in media and workshops and panel discussions on such themes as sensor journalism, social justice reporting, women in communications, fake news, sport communication, political photography, and storytelling through augmented and virtual reality, digital and mobile media.

Experiential Learning

Students gain real-world experience through service-learning and senior capstone courses, as well as with special projects and student organizations. For example, strategic communications students work with local nonprofit organizations to help plan and promote campaigns and special events and work through the student-run Martin Hall Agency to assist regional and statewide clients. Journalism students write, report, and produce multimedia content for newspapers, television, and other media and sports networks across the state and region. Faculty and students work together on high-profile journalism projects that impact the community and give students valuable hands-on experience. These have included developing a mobile application and social media promotional campaign to help support regional tourism; an interactive, multimedia exhibit and grand reopening for the national African-American World War I memorial; a county-wide Buy Local campaign and conference event; and collaborative faculty and student work with Innovators in Residence, such as professionals from The New York Times, Huffington Post, Quartz, National Public Radio, Harrison Omnicom, and more.

Students also develop their professional skills and portfolios through internships at news organizations and advertising and public relations agencies, as well as in the communications departments of companies and nonprofit organizations. College of Media students have interned at such organizations as ABC's "Good Morning America," the Associated Press, the White House, ESPN, GolinHarris International, MARC USA, U.S. Congress, NBC News, Pittsburgh Penguins, Fox News, USA Today, Walt Disney World, NASA and Ketchum Inc., among others.

Journalism and Strategic Communications Organizations

Several organizations affiliated with the College of Media provide honor and recognition as well as fellowship and education. They include:

- Association for Women in Sports Media, an organization supporting the advancement of women in sports media
- Ed on Campus: All Things Magazine, a community of young magazine editors and aspiring editors who want to learn more about the industry
- Kappa Tau Alpha, a national scholastic honorary for students with exceptional academic records in journalism
- Martin Hall Agency, a student-run professional advertising/public relations agency
- National Association of Black Journalists, an organization dedicated to strengthening ties among African-American journalists and promoting diversity in newsrooms
- Public Relations Student Society of America, the student arm of the largest professional organization devoted to public relations
- Radio Television Digital News Association, the world's largest organization exclusively serving the electronic news profession
- The Society of Professional Journalists, the journalism profession's most broad-based organization
- WVU Film Club, a student-run group that helps people learn more about film, its production and creation process

Internship/Practicum Credit

Students may choose any of the following options when taking an internship or practicum:

- Resume experience—no College credit or monetary compensation
- Experience—paid, but not for credit
- Experience—College credit plus monetary compensation
- Experience—College credit but no monetary compensation

Typically, students choose to do an internship/practicum for credit because the employer requires it or the student needs the elective credit(s). Students who wish to do an internship/practicum for credit must see the College of Media's director of student careers and opportunities to complete a contract and to be registered for JRL 441 (3 credits, typically done in the summer) or JRL 442 (1–2 credits). Students cannot receive credit retroactively, per College policy. Thirty-five hours on the job equals one credit hour. Because internship/practicum is graded as pass/fail, it may be used for general elective credit, but cannot be used to fulfill major course elective requirements.

Job Placement

The College of Media's director of student careers and opportunities assists future graduates in finding professional positions by acting as a placement clearinghouse for current students and alumni. College of Media faculty also advise and assist students in the preparation of resumes and portfolios. Representatives of newspapers, magazines, public relations, broadcasting, advertising firms and many units on campus frequently request that College of Media faculty provide applicants for job openings and internships.

Journalism

Journalism

The journalism major at the College of Media prepares students for careers as journalists working in the fields of broadcast, video production, multimedia, internet, newspaper or magazine journalism. All students in the journalism major must complete a series of shared core requirements (12 credit hours) and a shared capstone experience (3 credit hours). In addition, students will take courses of their own choosing across three skills areas: writing, creating, and engaging (15 credit hours), and an elective course (3 credit hours).

Journalism majors have the opportunity to participate in such immersion journalism courses as Mobile Storytelling, Experimental Journalism, WVU News, Adventure Travel Writing and Photography, Mountaineer Playbook and numerous other special topics classes. The College houses student chapters of the Society of Professional Journalists; National Association of Black Journalists; WVU Film Club; Association for Women in Sports Media; Radio, Television, Digital News Association; and Ed on Campus (All Things Magazine). Journalism majors who wish to pursue law school or other graduate study have a solid basis in writing and research on which to build.

FACULTY

PROGRAM COORDINATOR

- Gina Martino Dahlia - M.S.J. (West Virginia University)
Teaching Associate Professor, Television Journalism

PROFESSORS

- Maryanne Reed - M.S. (Northwestern University)
Dean, Television Journalism
- John Temple - M.F.A. (University of Pittsburgh)
Print and Narrative Journalism

ASSOCIATE PROFESSORS

- Joel Beeson - Ph.D. (Union College)
Visual Journalism
- Stephen Urbanski - Ph.D. (Duquesne University)
Print Journalism, Media Ethics and Law

ASSISTANT PROFESSORS

- Alison Bass - M.L.A. (Harvard University)
Print Journalism
- Lois Raimondo - M.A. (University of Missouri - Columbia)
Shott Chair of Journalism, Visual Journalism

TEACHING ASSOCIATE PROFESSORS

- Emily Hughes Corio - M.S.J. (West Virginia University)
Television Journalism
- Gina Martino Dahlia - M.S.J. (West Virginia University)
Television Journalism

TEACHING ASSISTANT PROFESSORS

- Robert Britten - Ph.D. (University of Missouri)
Print and Experimental Journalism
- Mary Kay McFarland - M.S. (University of Missouri-Columbia)
Visual Journalism
- Jeffrey Moser - M.F.A. (University of Delaware)
Interactive Media Design
- Tom Stewart - M.S.J. (West Virginia University)
Print Journalism

LECTURERS

- Tyler Channell - M.S.J. (West Virginia University)
Multimedia Specialist
- David Smith - M.A. (West Virginia University)
Multimedia Specialist

Click here to view the Suggested Plan of Study (p. 813)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

JRL 191	College of Media Orientation	3
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General Education Requirements

GEF 1, 2, 3, 5, 6, and 7		22
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Non-Journalism/Media Requirements

For all students in the major, required non-major courses include:

BUSA 201	Survey of Economics	3
BUSA 330	Survey of Marketing	3
HIST 153	Making of Modern America: 1865 to the Present	3
POLS 102	Introduction to American Government	3
STAT 111	Understanding Statistics	3
English literature or Creative Writing course		3
Two semesters of any foreign language/computer coding course or one language/coding course +study abroad		6
Select one of the following:		3
PSYC 101	Introduction to Psychology	
SOCA 101	Introduction to Sociology	
SOCA 105	Introduction to Anthropology	

Journalism Major Core

A grade of C- or higher must be earned in all major courses.

JRL 101	Media and Society (may fulfill GEF 4)	3
JRL 215	Media Writing (fulfills Writing and Communication Skills Requirement)	3
JRL 225	Media Tools & Applications	3
JRL 428	Media Ethics and Law	3
Select one of the following capstones:		3
JRL 411	Experimental Journalism	
JRL 459	Multimedia News Publication	

Writing Courses

Select two of the following:		6
JRL 318	Beat Reporting	
JRL 418	Advanced Reporting	
JRL 420	Feature Writing	
JRL 426	Investigative Reporting	
JRL 429	Opinion Writing	

JRL 335	Video and Audio News Writing	
Creating Courses		
Select two of the following:		6
JRL 386	Beginning Video Reporting	
JRL 424	Adventure Travel Writing & Photography	
JRL 487	Advanced Video Reporting and Producing	
JRL 220	Introduction to Photojournalism	
JRL 320	Advanced Photojournalism	
JRL 321	Media Design	
JRL 431	Multimedia Storytelling	
Engaging Courses		
Select one of the following:		3
JRL 319	Editing and Curation	
JRL 322	Gaming Design and Digital Narrative	
JRL 430	Social Media and Journalism	
JRL 458	Interactive Media and Audience Building	
JRL 440	Visual Storytelling for the Media	
Major Electives		
Any 300 or 400 level ADV, JRL, PR, or STCM course		3
Required Minor *		15
General Electives **		20
Total Hours		120

English Literature or Creative Writing Courses

English Literature		
ENGL 131	Poetry and Drama	3
ENGL 132	Short Story and Novel	3
ENGL 139	Contemporary African Literature	3
ENGL 154	African American Literature	3
ENGL 156	Literature of Native America	3
ENGL 225	Western World Literature	3
ENGL 226	Non-Western World Literature	3
ENGL 232	Poetry	3
ENGL 233	The Short Story	3
ENGL 234	Drama	3
ENGL 235	Novel	3
ENGL 236	The Bible as Literature	3
ENGL 241	American Literature 1	3
ENGL 242	American Literature 2	3
ENGL 251	American Folklore and Culture	3
ENGL 252	Appalachian Fiction	3
ENGL 253	Southern Writers	3
ENGL 254	African American Literature	3
ENGL 257	Science Fiction and Fantasy	3
ENGL 258	Popular American Culture	3
ENGL 261	British Literature 1	3
ENGL 262	British Literature 2	3
ENGL 263	Shakespeare 1	3
ENGL 272	Modern Literature	3
ENGL 273	Contemporary Literature	3
ENGL 285	Images of Women in Literature	3
Creative Writing		

ENGL 111	Introduction to Creative Writing	3
ENGL 212	Creative Writing: Fiction	3
ENGL 213	Creative Writing: Poetry	3
ENGL 214	Creative Writing: Non-Fiction	3

* Students must complete an officially sanctioned minor outside the College of Media. However, students may pursue the Sport Communication minor, which is offered jointly by the College of Media and the College of Physical Activity and Sport Sciences, or the Interactive Media and Design minor, which is offered jointly by the College of Media and the College of Creative Arts. Students completing a dual-degree are exempt from the requirement to complete a minor. Students should consult their advisor before starting a minor. Some minors require 18 hours of coursework instead of 15 hours.

** General Education and Elective Credits can vary - students must have a minimum of 120 credit hours total to complete the degree. College of Media students must take a minimum of 72 credit hours outside of the College of Media in non journalism/mass communications courses.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 ENGL literature or Creative Writing course	3
JRL 101 (GEF 4)	3 GEF 3	3
JRL 215	3 GEF 5	3
Language course	3 Language course	3
JRL 191	3 Select one of the following: PSYC 101 SOCA 101 SOCA 105	3
	15	15

Second Year

Fall	Hours Spring	Hours
GEF 2B	4 Elective	2
JRL major Writing category course	3 GEF 6	3
JRL 225	3 JRL major Writing category course	3
ENGL 102 (GEF 1)	3 HIST 153	3
BUSA 201	3 Minor course	3
	16	14

Third Year

Fall	Hours Spring	Hours
Elective	3 STAT 111	3
GEF 7	3 JRL major Creating category course	3
POLS 102	3 Minor Course	3
JRL major Creating category course	3 Electives	3
Minor Course	3 BUSA 330	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
JRL 428	3 JRL 459	3
JRL major Engaging category course	3 300/400 JRL, STCM, ADV, or PR course	3
Minor Course	3 Minor Course	3
Elective	6 Electives	6
	15	15

Total credit hours: 120

Major Learning Goals

JOURNALISM

The Reed College of Media states as its learning goals the values and competencies of its national accrediting body, the Accrediting Council for Education in Journalism and Mass Communications, which appear under information about the B.S. in Journalism degree. In addition, the College faculty have set other specific educational outcomes deemed critical for success as professional communicators. These additional educational outcomes for journalism majors are:

1. Journalism graduates will demonstrate proficiency in critical thinking skills, writing and reporting, and an understanding of basic production skills, allowing them to produce news stories and multimedia projects. Graduates will be adequately prepared to either work in the field or pursue advanced educational opportunities.
2. Journalism graduates will demonstrate a mastery of written and spoken communications, an understanding of the technologies of print, television and digital media, and knowledge and applications of these skills in their chosen careers.
3. Journalism graduates will demonstrate an understanding of how to serve diverse publics in their reporting and producing.
4. Journalism graduates will demonstrate knowledge of media ethics, law and regulation.
5. Journalism graduates will demonstrate specialized knowledge of news media interactions with various critical publics, including but not limited to: government at all levels; educational entities; law enforcement; medical, social and humanitarian services; and religious and secular organizations within the community.
6. Journalism graduates will learn to work as collaborative teams to solve problems, create strategies and produce content across media platforms.
7. Journalism graduates demonstrate the ability to engage an audience using social media networking and analytics tools.

Multidisciplinary Studies

The College of Media Multidisciplinary Studies Bachelor of Arts program draws upon undergraduate course offerings university-wide and is comprised of three complementary minors. *The minors are designed to be completed online, therefore many of the courses are only available online and sometimes must be taken during summer terms.* As the world has become more complex, our communications industries have evolved with it, and future professionals must have both specific skills and broad-based backgrounds to adapt quickly to this changing environment.

The Multidisciplinary Studies program will develop students who will:

- acquire a broad liberal arts education
- have studied three areas of interest in depth
- understand the interrelationships among different disciplines
- be capable of critical thought
- be able to understand complex issues
- be able to analyze problems from multiple perspectives
- be prepared to engage in life-long learning.

To declare a Multidisciplinary Studies major, students must have at least 29 earned college hours and a minimum of 2.0 overall GPA.

[Click here to view the Suggested Plan of Study \(p. 815\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3

F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

JRL 119	Reed College Multidisciplinary Orientation	3
JRL 485	Reed College Multidisciplinary Capstone (fulfills Writing and Communication Skills requirement)	3
General Education Requirements*		
Cumulative GPA of 2.0 or higher required.		
GEF 1, 2, 3, 5, 6, 7, and 8		31
Reed College of Media Minor **		15
Reed College of Media Minor **		15
Third Minor		15
A grade of C- or higher must be earned in all minor courses.		
Electives (as needed to reach at least 120 credit hours) *		38
Total Hours		120

* General Education and Elective Credits can vary - students must have a minimum of 120 earned credit hours total to complete the degree.

** Reed College of Media minors must be selected from the following: Advertising, Entertainment Media, Event Planning, Health Promotion, Interactive Design for Media, Journalism, Public Relations, Sport Communication, Strategic Social Media. Students must complete unique credit hours for each of their minors. Because courses can only be counted toward one minor, students may replace duplicate course requirements within their College of Media minors with College of Media core courses (i.e., JRL 215, JRL 225, JRL 428).

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
GEF 2A	4 ENGL 101 (GEF 1)	3
GEF 3	3 GEF 6	3
GEF 5	3 GEF 7	3
Electives	5 Elective	3
	Elective	3
	15	15

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 GEF2/Elective	3
JRL 101 Media and Society (fulfills GEF 4 and counts toward College of Media Minor I-1)	3 GEF 8	3
GEF 8	3 Minor I-2	3
JRL 119 (fulfills WVUE 191 requirement)	3 Minor II-1	3
Elective	3 Minor III-1	3
	15	15

Third Year

Fall	Hours Spring	Hours
GEF 8	3 Minor I-4	3
Minor I-3	3 Minor II-3	3
Minor II-2	3 Minor III-3	3
Minor III-2	3 Electives	6
Elective	3	
	15	15

Fourth Year

Fall	Hours Spring	Hours
Minor II-4	3 Minor II-5	3
JRL 485	3 Minor I- 5	3
Minor III-4	3 Minor III-5	3
Electives	6 Electives	6
	15	15

Total credit hours: 120

Note: Some minors may require online course enrollment during Summer terms to complete. Students should check with their advisor about individual minor requirements and expected course availabilities.

This suggested plan of study assumes three minors requiring 15 unique hours each. Minors that require more than 15 hours can be completed by substituting the extra minor hours in place of elective hours.

Minor courses may not be used to fulfill both a minor requirement and a General Education Foundation requirement, except JRL 101. Minors used as part of the MDS requirements may not be used to complete GEF 8. For MDS majors, GEF 8 may be satisfied by completion of a fourth minor, double major, or dual degree.

Minor courses may not be used to fulfill the requirements for more than one minor. All Reed College minors and shared college minors must be completed with their own unique hours.

In the event of course overlap between minors, the Reed College of Media's Writing and Communications Skills Requirement, JRL 215, may be substituted in place of the overlapped course within one of the minors. When used to fulfill both requirements, the number of credit hours associated with the course will calculate into total earned credit hours only once.

In the event of additional course overlap among minors, JRL 225 (Media Tools & Applications) and/or JRL 428 (Media Ethics and Law) may be used as replacement courses. Other minor course overlaps may be replaced with Reed College of Media's coursework at the 200-level or higher, at the approval and discretion of the College.

If completed prior to admission into the program, ADV 215, PR 215, and/or STCM 215 may be substituted as equivalent 215 coursework within Reed College minors or shared college minors, at the discretion of the College.

Of total earned credit hours, a minimum of 30 credit hours must be at the 200-level or higher, and an additional minimum of 30 credit hours must be at the 300-level or higher.

A grade of C- or higher must be earned in all major- and minor-required courses.

Students have the option to use elective hours to pursue a fourth minor to complement their studies.

Major Learning Goals

MULTIDISCIPLINARY STUDIES

Upon completion of the B.A. in MDS, students will:

- understand the interrelationships among different disciplines and possess a knowledge of and aptitude with principles, practices, facts, concepts, theories and tools in three minor areas of concentration
- understand and apply the U.S. principles and laws of freedom of speech and press
- understand the range of systems of freedom of expression around the world, including the right to dissent, to monitor and criticize power, and to assemble and petition for redress of grievances
- demonstrate an understanding of the history and role of professionals and institutions in shaping communications
- demonstrate an understanding of gender, race ethnicity, sexual orientation and, as appropriate, other forms of diversity in domestic society in relation to mass communications
- demonstrate an understanding of the diversity of peoples and cultures and of the significance and impact of mass communications in a global society
- understand concepts and apply theories in the use and presentation of images and information
- demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity
- think critically, creatively and independently
- conduct research and evaluate information by methods appropriate to the communications professions in which they work
- write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve
- critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness

- apply basic numerical and statistical concepts
- apply tools and technologies appropriate for the communications professions in which they work.

Strategic Communications

Strategic Communications -- Advertising and Public Relations

The strategic communications major teaches students how to develop and produce persuasive and educational messages and integrated communications campaigns that employ both public relations and advertising tactics. Students in this major select an area of emphasis (AOE) in either advertising or public relations to complement their integrated strategic communications coursework. Both majors require advanced skills in writing and oral communication.

Students build skills in writing, research, graphic design, event planning, media planning, crisis communications, and campaign development and management. Students plan and produce promotional and educational campaigns and materials for actual clients, which include nonprofit and small community and University projects, gaining real-world experience that can lead to careers in advertising and public relations agencies, corporations, nonprofits, government, education, entertainment, sports, healthcare, and other public-sector fields.

The College boasts an active faculty-advised and student-run integrated communications agency, Martin-Hall Agency (<http://journalism.wvu.edu/student-resources/clubs-organizations>), and an award-winning Public Relations Student Society of America chapter. These organizations offer students professional networking opportunities and application of advertising and public relations knowledge into campaign experience.

ADVERTISING AREA OF EMPHASIS

Students who select the advertising AOE within the strategic communications major obtain a solid foundation in creative copywriting and design, media planning, audience insights and analysis, and campaigns. Additional courses in interactive marketing, strategic social media and account management are available to round out students' individual interests. They go on to work at advertising and marketing agencies, in media advertising sales, within corporate communications offices, as media planners, or as consultants and business owners. The advertising curriculum affords a solid foundation for law or other specialized graduate programs.

PUBLIC RELATIONS AREA OF EMPHASIS

Students who select the public relations AOE within the strategic communications major take courses in strategic writing and social media, media design, audience research and analysis, and campaigns. Other courses that apply to the major include special event planning, multi- and interactive media, integrated marketing communications for sports, and planning and management. Students go on to work at communications agencies, in government, health care organizations, nonprofits, corporations and politics. Those students who wish to go on to graduate school have a solid grounding in writing, research, analysis and communications.

FACULTY

PROGRAM COORDINATOR

- Sang Lee - Ph.D. (Pennsylvania State University)
Associate Professor, Advertising

ASSOCIATE PROFESSORS

- Hongmin Ahn - Ph.D. (University of Texas at Austin)
Advertising
- Dana Coester - M.A. (University of Missouri-Columbia)
Media Innovation Center, Creative Director
- Rita Colistra - Ph.D. (University of North Carolina at Chapel Hill)
Public Relations
- Diana Martinelli - Ph.D. (University of North Carolina at Chapel Hill)
Widmeyer Professor in Public Relations

ASSISTANT PROFESSORS

- Julia Fraustino - Ph.D. (University of Maryland)
Public Relations
- Geah Pressgrove - Ph.D. (University of South Carolina)
Public Relations

TEACHING ASSOCIATE PROFESSOR

- Elizabeth Oppe - Ph.D. (Ohio University)
Public Relations

TEACHING ASSISTANT PROFESSOR

- Catherine Mezera - M.S.J. (West Virginia University)
Advertising

SENIOR LECTURER

- David Howell - B.A. (Purdue University)
Advertising

Click the appropriate link below to view the corresponding Area of Emphasis (AOE) Requirements and Suggested Plans of Study.

- Advertising (p. 820)
- Public Relations (p. 821)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

JRL 191	College of Media Orientation	3
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General Education Requirements

GEF 1, 2, 3, 5, 6, and 7		22
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Non-Journalism/Media Requirements

For all students in the major, required non-major courses include

BUSA 201	Survey of Economics	3
BUSA 330	Survey of Marketing	3
HIST 153	Making of Modern America: 1865 to the Present	3
POLS 102	Introduction to American Government	3
STAT 111	Understanding Statistics	3
English literature or Creative Writing course		3
Two semesters of any foreign language/computer coding course or one language/coding course + study abroad		6
Select one of the following:		3
PSYC 101	Introduction to Psychology	
SOCA 101	Introduction to Sociology	
SOCA 105	Introduction to Anthropology	

Strategic Communications Core

A grade of C- or higher must be earned in all major courses.

JRL 101	Media and Society (may fulfill GEF 4)	3
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JRL 215	Media Writing (fulfills Writing and Communication Skills requirement)	3
JRL 225	Media Tools & Applications	3
JRL 428	Media Ethics and Law	3
STCM 215	Introduction to Strategic Communications	3
STCM 315	Strategic Advertising and Public Relations Writing	3
STCM 421	Advertising and Public Relations Audience	3
STCM 459	Strategic Communication Campaigns for Public Relations and Advertising	3

Required Area of Emphasis

Select one of the following Areas of Emphasis (details below): 9

Public Relations (PR)

Advertising (ADV)

Required Minor ^{*} 15

General Electives ^{**} 20

Total Hours 120

English Literature or Creative Writing Courses

English Literature		
ENGL 131	Poetry and Drama	3
ENGL 132	Short Story and Novel	3
ENGL 139	Contemporary African Literature	3
ENGL 154	African American Literature	3
ENGL 156	Literature of Native America	3
ENGL 225	Western World Literature	3
ENGL 226	Non-Western World Literature	3
ENGL 232	Poetry	3
ENGL 233	The Short Story	3
ENGL 234	Drama	3
ENGL 235	Novel	3
ENGL 236	The Bible as Literature	3
ENGL 241	American Literature 1	3
ENGL 242	American Literature 2	3
ENGL 251	American Folklore and Culture	3
ENGL 252	Appalachian Fiction	3
ENGL 253	Southern Writers	3
ENGL 254	African American Literature	3
ENGL 257	Science Fiction and Fantasy	3
ENGL 258	Popular American Culture	3
ENGL 261	British Literature 1	3
ENGL 262	British Literature 2	3
ENGL 263	Shakespeare 1	3
ENGL 272	Modern Literature	3
ENGL 273	Contemporary Literature	3
ENGL 285	Images of Women in Literature	3
Creative Writing		
ENGL 111	Introduction to Creative Writing	3
ENGL 212	Creative Writing: Fiction	3
ENGL 213	Creative Writing: Poetry	3
ENGL 214	Creative Writing: Non-Fiction	3

* Students must complete an officially sanctioned minor outside the College of Media. However, students may pursue the Sport Communication minor, which is offered jointly by the College of Media and the College of Physical Activity and Sport Sciences, or the Interactive Media and Design minor, which is offered jointly by the College of Media and the College of Creative Arts. Students completing a dual-degree are exempt from the requirement to complete a minor. Students should consult their advisor before starting a minor. Some minors require 18 hours of coursework instead of 15 hours.

** General Education and Elective Credits can vary - students must have a minimum of 120 credit hours total to complete the degree. College of Media students must take a minimum of 72 credit hours outside of the College of Media in non journalism/mass communications courses.

Advertising (ADV) Area of Emphasis Requirements

Students learn how to develop and produce persuasive messages and advertising campaigns. Students build skills in writing, research, graphic design, direct marketing, media planning, and campaign management. Advertising students plan and produce advertising campaigns for actual clients, gaining real-world experience that can lead to careers in advertising agencies, corporations and public-sector fields.

A grade of C- or higher must be earned in all emphasis courses.

Choose three 400-level classes from the following:		9
ADV 401	Creative 1	
ADV 403	Media Planning/Strategy	
ADV 451	Interactive Marketing Communications	
ADV 455	Creative 2	
STCM 438	Branded Content and Narrative	
STCM 439	Strategic Social Media	
STCM 452	Strategic Communication Strategy and Management	
Total Hours		9

Suggested Plan of Study for Advertising (ADV) Area of Emphasis

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 ENGL literature or Creative Writing course	3
JRL 101 (GEF 4)	3 JRL 215	3
STCM 215	3 GEF 3	3
Language course	3 Language course	3
JRL 191 (Fulfills WVUE 191 requirement)	3 Select one of the following: PSYC 101 SOCA 101 SOCA 105	3
	15	15

Second Year

Fall	Hours Spring	Hours
GEF 2B	4 GEF 6	3
GEF 5	3 HIST 153	3
ENGL 102 (GEF 1)	3 STCM 315	3
JRL 225	3 BUSA 330	3
BUSA 201	3 Elective	2
	16	14

Third Year

Fall	Hours Spring	Hours
STAT 111	3 STCM 421	3
GEF 7	3 400-level AOE course	3
400-level AOE course	3 Minor course	3
Minor course	3 Elective Courses	6
Elective	3	
	15	15

Fourth Year

Fall	Hours Spring	Hours
STCM 459	3 JRL 428	3
POLS 102	3 Minor course	3
400-level AOE course	3 Elective courses	9
Minor courses	6	
	15	15

Total credit hours: 120

Public Relations (PR) Area of Emphasis Requirements

Students learn how to communicate with multiple stakeholders to achieve business objectives, create media campaigns and plan events for nonprofit organizations, private firms, government agencies and businesses. Public relations students develop traditional communication and social media plans, public service announcements, videos, media kits, brochures, speeches, and press releases. While focusing on public relations, students also receive a solid education in writing, research, interviewing skills, and media and audience analysis.

A grade of C- or higher must be earned in all emphasis courses.

Select one of the following:

JRL 319	Editing and Curation	3
PR 319	Creative Design and Strategy	
PR 333	Web Development	

Any two 400-level JRL, PR, or STCM classes 6

Total Hours 9

Suggested Plan of Study for Public Relations (PR) Area of Emphasis**First Year**

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 ENGL literature or Creative Writing course	3
JRL 101 (GEF 4)	3 JRL 215	3
STCM 215	3 GEF 3	3
Language	3 Language	3
JRL 191 (Fulfills WVUE 191 requirement)	3 Select one of the following: PSYC 101 SOCA 101 SOCA 105	3
	15	15

Second Year

Fall	Hours Spring	Hours
GEF 2B	4 GEF 6	3
GEF 5	3 HIST 153	3
ENGL 102 (GEF 1)	3 BUSA 330	3
BUSA 201	3 Select one of the following:	3
JRL 225	3 JRL 319 PR 319 PR 333 Elective	2
	16	14

Third Year

Fall	Hours Spring	Hours
GEF 7	3 STAT 111	3
POLS 102	3 400-level AOE course	3
STCM 315	3 Minor course	3
Minor course	3 Elective Courses	6

Elective	3	
	15	15
Fourth Year		
Fall	Hours Spring	Hours
STCM 421	3 STCM 459	3
400-level AOE course	3 JRL 428	3
Minor courses	6 Minor course	3
Elective	3 Electives	6
	15	15

Total credit hours: 120

Major Learning Goals

STRATEGIC COMMUNICATIONS

The Reed College of Media states as its learning goals the values and competencies of its national accrediting body, the Accrediting Council for Education in Journalism and Mass Communications, which appear under information about the B.S. in Journalism degree. In addition, the College faculty have set other specific educational outcomes deemed critical for success as professional communicators. These additional educational outcomes for strategic communications majors are:

1. Strategic communications graduates will understand how to serve diverse publics and will be prepared to either work in the field or to pursue advanced educational opportunities.
2. Strategic communications graduates will demonstrate professional competency in preparing campaign plans, including obtaining, analyzing and interpreting data; establishing goals and objectives; identifying appropriate strategies; developing creative tactics; and understanding budgeting, timeframes, and success indicators/evaluation.
3. Strategic communications graduates will demonstrate the ability to professionally present ideas in all forms: written, verbal, and with the use of appropriate digital/electronic audio-visual materials.
4. Strategic communications graduates will understand the working relationship between advertising and public relations, as well as related marketing communications vehicles (e.g., direct marketing, sales promotion), and demonstrate specialized knowledge of media planning and placement.
5. Strategic communications graduates will be able to demonstrate knowledge and understanding of communication ethics and law as it applies to advertising, media and public relations.
6. Strategic communications graduates will be able to work effectively in teams and work collaboratively to create messages, solve problems and develop and implement integrated communication strategies.

School of Medicine

Degrees Offered

- B.A. in Human Performance and Health
- B.S. in Exercise Physiology
- B.S. in Health Informatics and Information Management
- B.S. in Immunology and Medical Microbiology
- B.S. in Medical Laboratory Science

Introduction

The West Virginia University School of Medicine is a part of the Robert C. Byrd Health Sciences Center, a comprehensive academic health system with three campuses in the state, a network of affiliated hospitals and practice plans, and a mission of education, research, clinical care, and service to the state. On the main Morgantown campus, students have access to a full range of research and clinical facilities, including a new laboratory building and a wide range of advanced research centers. West Virginia University Hospitals includes sophisticated medical technology, including magnetic resonance imagery, lithotripsy, and laser surgery; the campus includes a large and busy tertiary hospital, a trauma center, children's hospital, cancer center, a psychiatric hospital, primary care and specialty clinics, a rehabilitation hospital and many other patient care facilities.

The undergraduate degrees in the School of Medicine are in the Professional Programs division of the school. At the undergraduate level, BS degrees are offered in Exercise Physiology, Health Informatics and Information Management, Immunology and Medical Microbiology and Medical Laboratory Science, with tracks of study in Clinical Laboratory Science and Histotechnology. The undergraduate experience is enhanced by the academic health sciences environment as described above and in most cases involves practical work in a health care setting in addition to classroom and laboratory experiences. Many students have the opportunity to pursue undergraduate research experiences.

The undergraduate degree programs in the School of Medicine are enhanced by the presence of robust biomedical sciences graduate programs and other graduate and professional programs, including the M.D. degree program. Graduate degrees in the Professional Programs include Exercise Physiology (both MS and PhD), master's in occupational therapy (MOT), doctorate in physical therapy (DPT), and master's of health sciences in pathologist's assistant (MHS).

Undergraduate students may choose to enter the workforce or to continue their study in a graduate or professional program. These programs often have competitive admission requirements for which the undergraduate degree programs provide an excellent foundation.

ADMINISTRATION

DEAN

- Clay Marsh - M.D. (West Virginia University)

VICE DEAN-MEDICAL EDUCATION/ACADEMIC AFFAIRS

- Norman D. Ferrari III - M.D. (West Virginia University)

VICE DEAN-CLINICAL SERVICES/CMO WVU HEALTHCARE

- Judie Charlton - M.D. (West Virginia University)

VICE DEAN-PROFESSIONAL & UNDERGRADUATE PROGRAMS

- MaryBeth Mandich - Ph.D. (West Virginia University)

ASSOCIATE DEANS

- Scott A. Cottrell - Ed.D. (West Virginia University)
Student Services & Curriculum
- Barbara Ducatman - M.D. (Albany Medical College)
Faculty Services
- James P. Griffith - M.D. (West Virginia University)
Charleston Campus Student Services
- Maria Kolar - M.D. (West Virginia University)
Veterans Affairs
- Rosemarie Cannarella Lorenzetti - M.D. (West Virginia University)
Eastern Campus Student Services
- Timothy Palencik -
Finance
- James M. Stevenson - M.D. (West Virginia University)

Development

ASSISTANT DEANS

- Kathleen Bors - M.D. (West Virginia University)
Charleston Campus
- James Brown - M.D. (Meharry Medical School)
Eastern Campus
- Hannah Hazard - M.D. (West Virginia University)
Admissions
- Fred L. Minnear - Ph.D. (Oregon Health Sciences University)
Graduate Studies
- Jamal Mustafa - Ph.D. (Lucknow University, India)
Research
- James O'Donnell - Ph.D. (University of Chicago)
Research
- David Wilks - M.D. (University of Pittsburgh School of Medicine)
Medical Education Technology

ASSOCIATE VICE PRESIDENT FOR HEALTH SCIENCE

- Clark Hansbarger - M.D. (Medical College of Virginia School of Medicine)
Dean Charleston Campus
- Konrad Nau - M.D. (West Virginia University)
Dean Eastern Campus

SENIOR ASSOCIATE DEAN/CHIEF ADMINISTRATIVE OFFICER

- John Worth - M.B.A. (State University of New York)

Degree Designation Learning Goals

BACHELOR OF SCIENCE (BS)

Bachelor of Science (BS) in Exercise Physiology

Goal 1: The Bachelor of Science in Exercise Physiology program is designed to meet the knowledge, skill, and aptitude (KSA) requirements for students to be eligible to take the American College of Sports Medicine Health and Fitness National Examination and the National Strength and Conditioning Association Certified Strength and Conditioning Specialist Examination. The KSA areas for these examinations include:

- Exercise Physiology and Related Exercise Science
- Pathophysiology and Risk Factors
- Health Appraisal, Fitness, and Clinical Exercise Testing
- Electrocardiography and Diagnostic Techniques
- Patient Management and Medications
- Exercise Prescription and Programming
- Nutrition and Weight Management
- Human Behavior and Counseling
- Safety, Injury Prevention, and Emergency Procedures
- Program Administration, Quality Assurance, and Outcome Assessment
- Cardiovascular Pathophysiology and Risk Factors

Goal 2: Students will have a background in basic science and exercise physiology as well as courses in nutrition, athletic training, personal fitness, first aid and emergency care, and business.

Goal 3: Students will experience training in basic and applied sciences that will allow them to continue in a career path towards treatment or interventions and identification and dissemination of new knowledge that will contribute to exercise-induced health care and disease treatment.

Goal 4: Students will experience intensive, hands-on training in laboratories that use state-of-the art equipment and develop the ability to step into hospitals, clinics, or other settings and be able to treat patients who have various clinically important health problems that can be evaluated and treated with exercise.

Goal 5: Students will complete a 200-hour internship training in the senior year for additional clinical or research experience under the guidance and supervision of trained personnel. Students will develop attitudes, habits, skills, and abilities that will enable them to grow and develop as clinical exercise physiologists and/or that will set the framework for additional clinical or research training in the biomedical sciences.

Goal 6: Students will be prepared for graduate or professional school in areas such as exercise physiology, physical therapy, dentistry, pharmacy, occupational therapy, or medicine.

Bachelor of Science (BS) in Immunology and Medical Microbiology

Goal 1: The Bachelor of Science in Immunology and Medical Microbiology program is designed to provide students with a thorough understanding of the basis of the mammalian immune system and how it functions to protect the body from infectious agents in conjunction with an in-depth knowledge and understanding of pathogens.

Goal 2: Students will be prepared to serve as professionals that are knowledgeable about the immune system of humans and other mammals, how the immune system functions, and the consequences of its malfunction on the health of the host.

Goal 3: Students' knowledge of the immune system will be fully integrated with an understanding of the diversity of microorganisms that cause disease in humans and other mammals and mechanisms of disease pathogenesis.

Goal 4: Graduates of the program will provide a well-trained healthcare and research workforce who have the education and experience to work in a variety of occupations that require knowledge in immunology, medical microbiology, and related disciplines.

Goal 5: Graduates will possess the laboratory skills and knowledge needed to assess the functional status of the immune system and to safely cultivate and identify microorganisms that cause disease in mammals.

Goal 6: Graduates will be well-suited for various educational or career options. They will be qualified to work as immunologists or microbiologists in many diverse fields – including biotechnology research and industry, the pharmaceutical industry, the medical industry, the public health arena, academia, and various state and federal government agencies.

Goal 7: Graduates will be well prepared for advanced graduate or professional school education and training including public health, medicine, dentistry, and pharmacy.

Bachelor of Science (BS) in Medical Laboratory Science

Goal 1: The Bachelor of Science in Medical Laboratory Science program is designed to prepare graduates for their roles as members of a healthcare team in an environment of rapidly changing technology.

Goal 2: Graduates of the program will be prepared to serve as medical laboratory scientists for medical (both urban and rural) laboratories, public health laboratories, research laboratories, and industry.

Goal 3: Clinical Laboratory Scientist graduates will be able to analyze, develop, and perform medical laboratory tests and evaluate results on blood and bodily fluids.

Goal 4: Clinical Laboratory Scientist graduates will be prepared to sit for the Medical Laboratory Scientist (MLS) certification exam administered by the American Society for Clinical Pathology (ASCP).

Goal 5: Histotechnologist graduates will be prepared to conduct routine and specialized procedures on tissue and autopsy specimens for diagnosis.

Goal 6: Histotechnologist graduates will be prepared to sit for the Histotechnologist (HTL) certification exam administered by the American Society for Clinical Pathology (ASCP).

Goal 7: Graduates of the program will be prepared to assume teaching and supervisory positions in medical laboratory science.

Goal 8: Graduates of the program will be prepared for graduate work in the medical sciences.

Exercise Physiology

DEGREES OFFERED

- Bachelor of Science

Stephen E. Alway, Ph.D., Professor and Chair of Exercise Physiology, Executive Chairperson, Dept. of Human Performance & Applied Exercise Science, Senior Assistant Dean for Research and Graduate Studies, Director of Graduate Studies Master's Program, salway@hsc.wvu.edu; (salway@hsc.wvu.edu) <http://medicine.hsc.wvu.edu/ep/students/master-of-science/>

Randall W. Bryner, Ed.D, Associate Professor, Vice Chair, and Director of Undergraduate Education, rbryner@hsc.wvu.edu; (rbryner@hsc.wvu.edu) <http://medicine.hsc.wvu.edu/ep/students/bachelor-of-science/>

John M. Hollander, Ph.D., Associate Professor and Director of Doctoral Graduate Studies, jhollander@hsc.wvu.edu; (jhollander@hsc.wvu.edu) <http://medicine.hsc.wvu.edu/ep/students/phd-program/>

INTRODUCTION

The mission of the Division of Exercise Physiology is to prepare qualified professionals at the B.S., M.S., and Ph.D. levels to promote health and quality of life through the use of appropriate physical activity and lifestyle behaviors. In addition it is our mission to provide exercise physiology programs and expertise at the community, state, and national level, and to make meaningful scientific contributions to the discipline of exercise science through faculty research and by training graduate students in research skills. The WVU Exercise Physiology Program was established in the Health Sciences Center's School of Medicine in July 1993. The program offers a four-year curriculum leading to a bachelor of science degree in exercise physiology, a two-year program leading to a masters of science (clinical or thesis track), and a doctoral program leading to a Ph.D. in exercise physiology. The Bachelor of Science program meets the knowledge, skill, and aptitude (KSA) requirements for students to be eligible to take the American College of Sports Medicine Health and Fitness National Examination and the National Strength and Conditioning Association Certified Strength and Conditioning Specialist Examination.

WHAT IS AN EXERCISE PHYSIOLOGIST?

Exercise physiology is the study of the biological and biochemical processes associated with exercise and overload that affects the underlying function of cells and organ systems in the human body. Exercise physiology is a rapidly evolving field that is becoming increasingly important in the delivery of healthcare. Exercise physiologists work to prevent or delay the onset of chronic disease in healthy participants or to provide therapeutic or functional benefits to patients with known disease. Services may be offered in a variety of medical settings such as hospitals, rehabilitation centers, and out-patient clinics; in community, corporate, commercial, and university fitness and wellness centers; in nursing homes and senior citizens centers; as well as in research and academic settings.

Research by scientists trained in exercise physiology have greatly expanded our understanding of the ways in which exercise affects cell function. Advances in research in exercise physiology have provided a foundation for many types of medical treatment in areas that include but are not limited to cardiovascular diseases, diabetes, aging, obesity, and disuse atrophy. Employment opportunities are expanding and increase with experience and level of education.

Exercise physiologists are trained to evaluate people in the areas of cardiovascular fitness, muscular strength and endurance, flexibility, neuromuscular integration, and body composition. They are also trained to provide exercise programs based on the results of these evaluations that are designed to increase the functional capacity of the participants.

Exercise physiologists work with athletes, patients, and healthy participants in the areas of disease prevention in wellness programs or rehabilitation in hospital settings. The bachelor of science program is a preparatory program for graduate school. Graduates of this program continue their studies in exercise physiology, physical therapy, medicine, or other health-related careers. Graduates of the master of science or doctoral program find employment in corporate wellness, hospital rehabilitation, higher education, or other research settings. Graduates of our Ph.D. program have obtained postdoctoral positions in prestigious universities and medical schools. Additionally, they may be employed in a wide variety of private, community, state, and national agencies. Exercise physiology is an evolving field that is becoming increasingly important with the integration of preventive medicine into the healthcare system. Employment opportunities are expanding and increasing with experience and level of education.

ADMINISTRATION

CHAIR

- Stephen E Alway - Ph.D. (McMaster University)
Chair of Exercise Physiology; Executive Chairperson, Dept. Human Performance & Applied Exercise Science; Senior Assistant Dean for Research & Graduate Studies, and Director of Masters Graduate Programs

VICE CHAIR AND DIRECTOR OF UNDERGRADUATE EDUCATION

- Randall Bryner - Ed.D.
Director of Undergraduate Education.

DIRECTOR OF PH.D. GRADUATE PROGRAM

- John Hollander - Ph.D.
Director of Graduate Studies

FACULTY

CHAIR

- Stephen E. Alway - Ph.D. (McMaster University)
Professor, Sarcopenia, Muscle Wasting, Diabetes and Muscle Injury

ASSOCIATE PROFESSORS

- Daniel Bonner - MS (West Virginia University)

Clinical Exercise Physiology

- Randall W Bryner - Ed.D. (West Virginia University)
Vice Chair, Director of Undergraduate Studies, Diabetes, Exercise, Cancer
- David Donley - MS (West Virginia University)
Obesity and Metabolic Syndrome
- Diana Gilleland - MS (West Virginia University)
Cardiac Rehabilitation
- John M. Hollander - Ph.D. (University of Wisconsin)
Director Graduate Education, Cardiovascular Research in Diabetes
- Guyton W Hornsby, Jr. - Ph.D. (Louisiana State University)
Diabetes and Depression
- I. Mark Olfert - Ph.D. (Loma Linda University)
Angiogenesis, Respiratory Physiology
- Lori Sherlock - Ed.D. (West Virginia University)
Aquatic Therapy in Diabetes

ASSISTANT PROFESSORS

- Paul D. Chantler - Ph.D. (Liverpool John Moores University)
Metabolic Syndrome, Vascular Biology, Effects of Aging and CV Diseases on Arterial and Ventricular Structure and Function
- Junaith S. Mohamed - Tamil Nadu, India
Muscle regeneration, injury repair, muscle fatigue, genomics
- Beth Nardella - M.A. (West Virginia University)
Writing Instructor
- Emidio E. Pistilli - Ph.D. (West Virginia University)
Muscular Dystrophy, Muscle Injury, Cytokines
- James Thomas - M.S. (West Virginia University)
Exercise, Children, Strength Training
- Sergiy Yakovenko - Ph.D. (University of Alberta)
Neuromuscular Integration of Movement

ADJUNCT ASSOCIATE PROFESSOR

- Ming Pei - Ph.D. (Beijing University, China)
Stem Cells, Cartilage Repair

INSTRUCTOR

- Emily Ryan - Ph.D. (Kent State University)
Obesity, Exercise

ADJUNCT ASSISTANT PROFESSOR

- Brent Baker - Ph.D. (West Virginia University)
Muscle injury, regeneration, rehabilitation

Admission

Students must meet the minimum requirements for WVU for admission to the program. For undergraduate students, all coursework completed prior to transfer to the exercise physiology program requires at least a 2.75 cumulative grade point average and a grade of C or better in all required courses. All graduate students must have a minimal GPA of 3.0 and submit GRE scores. International students must also submit TOEFL scores for admission.

[Click here to view the Suggested Plan of Study \(p. 829\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations**F1 - Composition & Rhetoric**

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing
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F2A/F2B - Science & Technology	4-6
F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

A grade of C- or higher must be earned in all graded courses required for the major. (a maximum of three attempts will be given). In addition, students must maintain a minimal cumulative GPA of 2.5 to remain in the program. Students who fail to meet or maintain these minimal requirements will be eligible for dismissal.

ATTR 121	Sport Injury Control and Management	3
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory (GEF 2) *	4
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory (GEF 2) *	4
CHEM 115	Fundamentals of Chemistry (GEF 8)	4
CHEM 116	Fundamentals of Chemistry	4
Select one of the following sequences:		4
CHEM 231	Organic Chemistry: Brief Course	
OR		
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	
CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory	
EXPH 100	Orientation: Exercise Physiology 1	1
EXPH 101	Introduction to Exercise Physiology	1
EXPH 240	Medical Terminology	1
EXPH 364	Kinesiology	3
EXPH 369	Strength/Conditioning Methods	4
EXPH 370	Writing for Exercise Science	3
EXPH 386	Advanced Physiology of Exercise 1	3
EXPH 387	Advanced Physiology of Exercise 2	3
EXPH 388	Physiology of Exercise Laboratory 1	1
EXPH 389	Advanced Physiology of Exercise Lab 2	1
EXPH 491	Professional Field Experience	4
EXPH 475	Industry Organization in Exercise Physiology	3
EXPH 493	Special Topics	3
EXPH 496	Senior Thesis	3
Math Requirement (Choose one of the following sequences; May fulfill GEF 3):		6
HN&F 171	Introduction to Human Nutrition	3
MATH 126A & MATH 128	College Algebra 5-Day and Plane Trigonometry (OR)	
OR		
MATH 126B & MATH 128	College Algebra 4-Day and Plane Trigonometry (OR) **	
OR		
MATH 126C & MATH 128	College Algebra 3-Day and Plane Trigonometry	

Or select one of the following courses:

MATH 129	Pre-Calculus Mathematics	
MATH 150	Applied Calculus	
MATH 155	Calculus 1	
PHYS 101	Introductory Physics	4
PHYS 102	Introductory Physics	4
PSYC 101	Introduction to Psychology (GEF 4)	3
PSYC 241	Introduction to Human Development	3
Select one of the following:		4
PSIO 241	Elementary Physiology	
PSIO 441	Mechanisms of Body Function	
Select one of the following:		3
STAT 211	Elementary Statistical Inference	
ECON 225	Elementary Business and Economics Statistics	
GEF Requirements 1, 5, 6, and 7		15
Electives (May vary depending on overlap with area of emphasis if selected)		18
All students must complete 25 hours of community service per year.		
Total Hours		120

* BIOL 115 and any other 4 credit BIOL with lab may be substituted for BIOL 101–104. BIOL 115, BIOL 117, CHEM 233, CHEM 234, CHEM 235, and CHEM 236 are required for Health Professions AOE.

** MATH 129, MATH 150, or MATH 155 may be substituted for MATH 126A or MATH 126B and MATH 128.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
BIOL 101 & BIOL 103 (GEF 2)	4 ENGL 101 (GEF 1)	3
EXPH 100	1 EXPH 101	1
MATH 126B (GEF 3)	3 MATH 128 (GEF 8)	3
PSYC 101 (GEF 4)	3 BIOL 102 & BIOL 104 (GEF 8)	4
HN&F 171	3 GEF 5, 6, or 7	3
Elective	1 Elective	1
	15	15

Second Year

Fall	Hours Spring	Hours
PHYS 101	4 PHYS 102	4
ENGL 102 (GEF 1)	3 CHEM 116	4
CHEM 115 (GEF 8)	4 PSIO 241	4
EXPH 240	1 EXPH 364	3
GEF 5, 6, or 7	3	
	15	15

Third Year

Fall	Hours Spring	Hours
ATTR 121	3 CHEM 231	4
PSYC 241	3 EXPH 369	4
EXPH 370	3 EXPH 387	3
EXPH 386	3 EXPH 389	1
EXPH 388	1 EXPH 493	3
Electives	2	
	15	15

Fourth Year

Fall	Hours Spring	Hours
EXPH 496	3 EXPH 491	4
STAT 211	3 EXPH 475	3
Electives	6 Electives	8
GEF 5, 6 or 7	3	
	15	15

Total credit hours: 120

Areas of Emphasis**AQUATIC THERAPY AREA OF EMPHASIS REQUIREMENTS**

Minimum GPA of 2.5 required.

EXPH 450	Theory of Aquatic Therapy	4
EXPH 451	Application of Aquatic Therapy	3
EXPH 452	Aquatic Therapy Facility Management	3
EXPH 491	Professional Field Experience	6
Total Hours		16

HEALTH PROFESSIONS AREA OF EMPHASIS REQUIREMENTS

All courses must be completed but 12 hours replace courses from the general course list

BIOC 339 or BIOC 531 or AGBI 410	Introduction to Biochemistry General Biochemistry Introductory Biochemistry	4
BIOL 115	Principles of Biology	4
BIOL 117	Introductory Physiology	4
BIOL 219	The Living Cell	4
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	4
CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory	4
EXPH 460	Pathophysiology	3
Select 1 of the following:		3
AEM 341	General Microbiology	
BIOL 310	Advanced Cellular/Molecular Biology	
BIOL 313	Molecular Basis of Cellular Growth	
BIOL 316	Developmental Biology	
BIOL 324	Molecular Genetics	
BIOL 348	Neuroscience 1	
BIOL 410	Cell and Molecular Biology Methods	
BIOL 413	Molecular Endocrinology	
BIOL 414	Molecular Endocrinology-Laboratory	
BIOL 439	Neuroethology	
BIOL 440	Comparative Anatomy	
BIOL 441	Vertebrate Microanatomy	
GEN 371	Principles of Genetics	
Total Hours		30

SUGGESTED PLAN OF STUDY**First Year**

Fall	Hours Spring	Hours
EXPH 100	1 EXPH 101	1

CHEM 115 (GEF 8)	4 ENGL 101	3
BIOL 115 (GEF 2)	4 MATH 128 (GEF 8)	3
MATH 126B (GEF 3)	3 BIOL 117 (GEF 8)	4
PSYC 101	3 CHEM 116	4
	ATTR 219	3
	15	18

Second Year

Fall	Hours Spring	Hours
BIOL 219	4 PHYS 102	4
EXPH 364	3 CHEM 234 & CHEM 236	4
HN&F 171	3 ENGL 102	3
CHEM 233 & CHEM 235	4 EXPH 240	1
PHYS 101	4 PSIO 241	4
	18	16

Third Year

Fall	Hours Spring	Hours
BIOC 339	4 STAT 211	3
EXPH 386	3 EXPH 369	4
EXPH 388	1 EXPH 370	3
GEF 5, 6, or 7	3 EXPH 387	3
	EXPH 389	1
	PSYC 241	3
	11	17

Fourth Year

Fall	Hours Spring	Hours
EXPH 460	3 ATTR 121	3
EXPH 496	3 EXPH 475	3
BIOL 310 (or other Elective Science)	3 EXPH 491	4
GEF 5, 6, or 7	3 GEF 5, 6, or 7	3
	12	13

Total credit hours: 120

Major Learning Goals

BACHELOR OF SCIENCE (BS) IN EXERCISE PHYSIOLOGY

The Bachelor of Science program in exercise physiology is a preparatory program for graduate or professional school in areas such as exercise physiology, physical therapy, or medicine. The undergraduate program includes courses in science, anatomy, physiology, nutrition, first aid emergency care, and business, and hands-on laboratories in exercise physiology, and exercise instruction. Students will also complete a 134 hr. clinical internship or research in their senior year. Select senior students can also take a hands on cadaver dissection gross anatomy laboratory to further enhance their ability to compete for admission to Physician Assistant, Physical Therapy, Medicine or other Rehabilitative Science graduate programs.

Students will:

- Identify physiological, molecular, cellular, and integrative systems concepts in exercise physiology to athletic and diseased populations
- Critically interpret the current scientific literature in areas of health and disease that are impacted by exercise
- Develop critical hands-on-experience for identifying health problems through proper evaluations
- Describe and demonstrate proper exercise techniques for healthy, and unhealthy populations
- Design and interpret stress test experiments for evaluation of health risk
- Demonstrate technical skills in conducting clinical assessments for cardiovascular or skeletal muscle function
- Articulate, verbally and in writing, their understanding of physiology and anatomical concepts in health and disease that are impacted by exercise intervention
- Discuss relevant scientific ethical issues pertinent to working as a team of health care providers

- Engage with fellow students and faculty and demonstrate teamwork in research and laboratory assessments of persons with or without health risks

Health Informatics and Information Management

Degree Awarded

- Bachelor of Science

Nature of Program

The program in Health Informatics and Information Management (HIIM) was approved in the Spring of 2017 with the first students being accepted for Fall 2017. HIIM is an integration of healthcare management, business management, and information systems technology. HIIM professionals possess a unique blend of knowledge, skills, and competencies related to the complex and ever-evolving healthcare industry, including healthcare systems organization; workflow and delivery processes; healthcare privacy and security; policy and finance; data management; compliance; clinical documentation improvement; and quality healthcare outcomes and improvement processes.

The goal of the HIIM program is to prepare students to graduate with an understanding of current and future healthcare industry trends and issues; to prepare students to develop, communicate, and manage resources and solutions to address healthcare industry challenges; and to prepare students to improve overall quality and outcomes of the healthcare system.

Students graduating with this degree are prepared for leadership roles in a wide variety of job settings. Opportunities are available in compliance/risk management, healthcare privacy and security, health informatics/data analysis, clinical documentation improvement, information governance, operations/administration, and revenue cycle management (clinical coding and billing).

ADMINISTRATION

PROGRAM DIRECTOR

- Sally Lucci - MS, RHIA, CCA

FACULTY

PROGRAM DIRECTOR

- Sally Lucci - MS, RHIA, CCA

Freshman and transfer applicants must meet the minimum WVU general admission requirements for admission to the program. Please see details at <http://admissions.wvu.edu/how-to-apply>.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

WVUE 191	First Year Seminar	1
A grade of C- or higher must be earned in all graded courses required for the major.		
Minimum GPA of 2.5 required.		
ENGL 101	Introduction to Composition and Rhetoric (GEF 1)	3
ENGL 102	Composition, Rhetoric, and Research (GEF 1)	3
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory (GEF 2)	4
CS 101	Intro to Computer Applications (GEF 8)	4
PHIL 331	Health Care Ethics (GEF 5)	3
Program Requirements		
STAT 111	Understanding Statistics (GEF 3)	3
PATH 200	Medical Terminology	3
NBAN 205 & NBAN 206	Introduction to Human Anatomy and Human Anatomy Laboratory	4
Major Requirements		
HIIM 110	Introduction to U.S. Healthcare Delivery System	3
HIIM 112	Fundamentals of Health Information Management	3
HIIM 231	Health Information Management Applications	2
HIIM 233	Health Informatics and Information Management Disease Fundamentals and Management	3
HIIM 235	Coding and Classification of Diseases	3
HIIM 237	Introduction to Professional Practice	1
HIIM 240	Classification of Healthcare Procedures	3
HIIM 242	Healthcare Reimbursement and Revenue Cycle Management	2
HIIM 244	Principles of Health Informatics and Information Management Quality Management	2
HIIM 246	Fundamentals of Clinical Documentation Improvement	3
HIIM 247	Registries in Healthcare	2
HIIM 248	Health Informatics and Information Management Professional Practice 1	1
HIIM 351	Data Privacy, Confidentiality, and Security	3
HIIM 353	Healthcare Information System Analysis and Design	3
HIIM 355	Health Informatics and Information Management Legal Issues	3
HIIM 360	Application of Healthcare Classification Systems	3
HIIM 362	Data Governance in Healthcare Systems	3
HIIM 364	Healthcare Data Design	3
HIIM 366	Healthcare Analytics 1	2
HIIM 368	Health Informatics & Information Management Professional Practice 2	1
HIIM 471	Health Informatics & Information Management Research	3
HIIM 473	Healthcare Analytics 2	2
HIIM 475	Project Management in Health Informatics & Information Management	3
HIIM 477	Leadership in Health Informatics & Information Management	3
HIIM 480	Health Informatics & Information Management Administration	3
HIIM 482	Health Informatics and Information Governance	3
HIIM 484	Capstone in Health Informatics & Information Management	3
HIIM 486	Advanced Professional Practice in Health Informatics & Information Management	3
Electives		5
Total Hours		120

First Year

Fall	Hours Spring	Hours
WVUE 191	1 ENGL 102 (GEF 1)	3
ENGL 101 (GEF 1)	3 NBAN 205 & NBAN 206	4

BIOL 102 & BIOL 104 (GEF 2)	4 STAT 111 (GEF 3)	3
CS 101 (GEF 8)	4 HIIM 110	3
PATH 200	3 HIIM 112	3
	15	16
Second Year		
Fall	Hours Spring	Hours
HIIM 231	2 HIIM 240	3
HIIM 233	3 HIIM 242	2
HIIM 235	3 HIIM 244	2
HIIM 237	1 HIIM 246	3
GEF Requirements (4, 6, 7 or 8)	6 HIIM 247	2
	HIIM 248	1
	Elective	2
	15	15
Third Year		
Fall	Hours Spring	Hours
HIIM 351	3 HIIM 360	3
HIIM 353	3 HIIM 362	3
HIIM 355	3 HIIM 364	3
PHIL 331 (GEF 5)	3 HIIM 366	2
GEF Requirements (4, 6, 7, or 8)	3 HIIM 368	1
	GEF Requirement (4, 6, 7 or 8)	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
HIIM 471	3 HIIM 480	3
HIIM 473	2 HIIM 482	3
HIIM 475	3 HIIM 484	3
HIIM 477	3 HIIM 486	3
GEF Requirement (4, 6, 7 or 8)	3 Elective	3
	14	15

Total credit hours: 120

BACHELOR OF SCIENCE IN HEALTH INFORMATICS AND INFORMATION MANAGEMENT (HIIM)

Students completing the degree will be able to:

- Coordinate all information management functions across the enterprise that encompasses the quality, appropriateness, retrieval and analysis, and security of patients-related and other enterprise data.
- Employ skills in the design and use of medical vocabularies and classification systems; define data and retrieve information from computer-based patient record systems using vocabularies and classification systems.
- Employ skills to maintain organizational compliance across the enterprise.
- Understand and synthesize finance and reimbursement strategies related to various delivery systems.
- Implement methodologies known to improve data quality that are required in today's healthcare environment.
- Design, implement, and/or maintain an information security program that balances the requirements of privacy, integrity, and availability of data.
- Employ systems and strategic planning, integrate and maintain information resources, and understand acquisition and implementation of systems.
- Employ skills in data retrieval, data mining, data cartography, modeling, and statistical tools for analysis of healthcare data.
- Understand vocabulary of the healthcare enterprise; serve as the human interface between the healthcare professional and the systems professional with technical expertise and the systems environment; construct data models.
- Manage the implementation of systems necessary to support the computer-based patient record and other systems implementation projects.

Immunology & Medical Microbiology

Introduction

Every day of our lives, we are exposed to microbes such as bacteria, viruses, and parasites. For the most part we suffer no disease or symptoms from these organisms, and they often go un-noticed. The single system in the body that allows life to continue in the face of these assaults is the immune system. The immune system is the network of cells and their biological processes that enable the body to recognize diseased cells or the invasion by microorganisms (bacteria, viruses, parasites, and prions) and eliminate them. The scientific discipline called Immunology is the study of this system, and Medical Microbiology is the study of the disease states induced by the invasion of microorganisms. Collectively, these two disciplines address how humans and other mammals respond to infectious disease. These scientific disciplines have become the cornerstone for many industries - including the biotechnology, pharmaceutical and medical and public health industries. These are all areas of particular emphasis and are being targeted for further development in West Virginia.

Educational Objectives

The Bachelor of Science degree in Immunology and Medical Microbiology will prepare students from diverse backgrounds to serve as professionals that are knowledgeable about the immune system of humans and other mammals, how the immune system functions, and the consequences of its malfunction on the health of the host. Knowledge of the immune system will be fully integrated with an excellent understanding of the diversity of microorganisms that cause disease in humans and other mammals and mechanisms of disease pathogenesis. Graduates will possess the laboratory skills and knowledge needed to assess the functional status of the immune system and to safely cultivate and identify microorganisms that cause disease in mammals. Graduates will be qualified to pursue several professional career paths in private industry, state and federal government, and academic institutions. The degree can also provide a strong foundation to progress to advanced studies leading to a Masters or professional degree.

Relationship of the Objectives to the Mission of WVU

The Bachelor of Science degree in Immunology and Medical Microbiology directly fulfills many of the stated objectives in the Strategic Plan for WVU, the WVU Health Sciences Center and the WVU School of Medicine. It will be a financially viable, new, innovative and dynamic educational program that provides a unique opportunity to earn a degree in Immunology and Medical Microbiology for both in-state and out-of-state undergraduate students. Its learner centered curriculum will integrate both classroom and hands-on laboratory experiences. Graduates of the program will provide the state of West Virginia with a well-trained healthcare and research workforce who have the education and experience to work in a variety of occupations that require knowledge in immunology, medical microbiology and related disciplines.

FACULTY

CHAIR

- John B. Barnett - Ph.D. (University of Louisville)

ASSISTANT PROFESSORS

- Mariette Barbier - Ph.D. (Universitat de les Illes Balears)
- Kathy Brundage - Ph.D. (University of Pennsylvania)
Technical Director of Flow Cytometry Core Facility
- Duaa Dakhllallah - Ph.D. (The Ohio State University)
- F. Heath Damron - Ph.D. (Marshall University)
- Meenal Elliott - Ph.D. (University of Alabama)
- Jennifer Franko - Ph.D. (Case Western Reserve University)
- Ivan Martinez - Ph.D. (University of Pittsburgh)
- Gordon Meares - Ph.D. (University of Alabama)
- Edwin Wan - Ph.D. (City of University of Hong Kong)
- Valerie Watson - M.S. (West Virginia University)

ASSOCIATE PROFESSORS

- Tin Eubank - Ph.D. (The Ohio State University)
- Slawomir Lukomski - Ph.D. (University of Lodz, Poland)
- Karen Martin - Ph.D. (Duke University)
- Lisa Robinson - Ph.D. (Cornell University)
- Cory Robinson - Ph.D. (Miami University of Ohio)
- Rosana Schafer - Ph.D. (Temple University)
- James M. Sheil - Ph.D. (University of Kentucky)

ADJUNCT PROFESSORS

- Don Beezhold - Ph.D. (University of Illinois Medical Center)
- John Noti - Ph.D. (Purdue University)
- David Weissman - M.D. (Northwestern University)

ADJUNCT ASSOCIATE PROFESSOR

- David Klinke - Ph.D. (Northwestern University)

ADJUNCT ASSISTANT PROFESSORS

- Stacey Anderson - Ph.D. (West Virginia University)
- Brett Green - Ph.D. (University of Sydney)
- Yong Qian - Ph.D. (West Virginia University)

Admission Requirements:

Applicants must fulfill all requirements for admission to WVU and the IMMB program:

- ACT Math score of 26, or SAT Math score of 620, or place into Chemistry 115
- High school GPA of # 3.70
- Complete admissions information at <http://admissions.wvu.edu/admissions/university-requirements>

Click here to view the Suggested Plan of Study (p. 838)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Minimum GPA of 2.75 is required in all coursework

First Year Studies Requirement

WVUE 191	First Year Seminar	1
GEF Requirements 1, 4, 5, 6, and 7		18
BIOC 339	Introduction to Biochemistry	4
BIOL 115	Principles of Biology	4
BIOL 117	Introductory Physiology	4
BIOL 219	The Living Cell	4
BIOL 324	Molecular Genetics	3
Select one of the following sequences:		8

CHEM 115 & CHEM 116	Fundamentals of Chemistry and Fundamentals of Chemistry	
CHEM 117 & CHEM 118	Principles of Chemistry and Principles of Chemistry	
CHEM 233	Organic Chemistry	3
CHEM 234	Organic Chemistry	3
CHEM 235	Organic Chemistry Laboratory	1
CHEM 236	Organic Chemistry Laboratory	1
Select one of the following:		3
MATH 150	Applied Calculus	
MATH 153	Calculus 1a with Precalculus	
MATH 154	Calculus 1b with Precalculus	
MATH 155	Calculus 1	
MATH 156	Calculus 2	
Select one of the following sequences:		8
PHYS 101 & PHYS 102	Introductory Physics and Introductory Physics	
PHYS 111 & PHYS 112	General Physics and General Physics	
STAT 211 or STAT 215 or ECON 225	Elementary Statistical Inference Introduction to Probability and Statistics Elementary Business and Economics Statistics	3
IMMB 150	Microbiology Colloquium 1	2
IMMB 200	Immunology Colloquium 1	2
IMMB 250	Microbiology Colloquium 2	2
IMMB 300	Immunology Colloquium 2	2
IMMB 301	Basic Medical Microbiology	4
IMMB 302	Principles of Immunobiology	3
IMMB 310	Bacterial Pathogenesis	4
IMMB 320	Cellular Immunobiology	3
IMMB 400	Senior Colloquium 1	1
IMMB 405	Scientific Integrity	1
IMMB 410	Microbial Genetics	3
IMMB 420	Molecular Immunobiology	5
IMMB 494	Seminar	1
IMMB 450	Senior Colloquium 2	1
IMMB 460	Contemporary Issues for Majors	3
IMMB 470	Medical Virology	3
IMMB 484	Senior Thesis (fulfills Writing and Communication Skills and Capstone requirements)	3
Choose 9 credits from the following IMMB approved Electives		9
IMMB 327	Parasitology	
IMMB 491	Professional Field Experience	
IMMB 497	Research	
AEM 341	General Microbiology	
AEM 401	Environmental Microbiology	
AEM 408	Applied Water Microbiology	
AEM 445 & AEM 449	Food Microbiology and Food Microbiology Lab	
BIOL 302	Biometry	
BIOL 310	Advanced Cellular/Molecular Biology	
BIOL 315	Communicating Natural Science	
BIOL 348	Neuroscience 1	
BIOL 409	Biochemical Basis of Therapeutics	

BIOL 413	Molecular Endocrinology
BIOL 415	Epigenetics
BIOL 418	Medical Genetics
BIOL 420	Genomics
BIOL 426	Molecular Biology of Cancer
BIOL 430	Bioinformatics
HN&F 348	Science of Food Preparation
HN&F 353	Food Service Systems Management
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Total Hours	120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
MATH 150 (GEF 3)	3 ENGL 101 (GEF 1)	3
CHEM 115 (GEF 8)	4 CHEM 116 (GEF 2)	4
WVUE 191	1 IMMB 150	2
BIOL 115 (GEF 8)	4 BIOL 117	4
GEF 4, 5, 6, or 7	3 GEF 4, 5, 6, or 7	3
	15	16

Second Year

Fall	Hours Spring	Hours
CHEM 233	3 CHEM 234	3
CHEM 235	1 CHEM 236	1
BIOL 219	4 IMMB 250	2
IMMB 200	2 PHYS 102 (GEF 8)	4
PHYS 101	4 GEF 4, 5, 6, or 7	3
ENGL 102 (GEF 1)	3	
	17	13

Third Year

Fall	Hours Spring	Hours
BIOC 339	4 BIOL 324	3
IMMB 300	2 IMMB 310	4
IMMB 301	4 IMMB 320	3
IMMB 302	3 GEF 4, 5, 6, or 7	3
Elective (IMMB approved)	3 Elective (IMMB Approved)	3
	16	16

Fourth Year

Fall	Hours Spring	Hours
STAT 211	3 IMMB 405	1
IMMB 400	1 IMMB 450	1
IMMB 410	3 IMMB 460	3
IMMB 420	5 IMMB 470	3
IMMB 494	1 IMMB 484	3
	Elective (IMMB approved)	3
	13	14

Total credit hours: 120

Major Learning Goals

IMMUNOLOGY & MEDICAL MICROBIOLOGY

Goal 1: The Bachelor of Science in Immunology and Medical Microbiology program is designed to provide students with a thorough understanding of the basis of the mammalian immune system and how it functions to protect the body from infectious agents in conjunction with an in-depth knowledge and understanding of pathogens.

Goal 2: Students will be prepared to serve as professionals that are knowledgeable about the immune system of humans and other mammals, how the immune system functions, and the consequences of its malfunction on the health of the host.

Goal 3: Students' knowledge of the immune system will be fully integrated with an understanding of the diversity of microorganisms that cause disease in humans and other mammals and mechanisms of disease pathogenesis.

Goal 4: Graduates of the program will provide a well-trained healthcare and research workforce who have the education and experience to work in a variety of occupations that require knowledge in immunology, medical microbiology, and related disciplines.

Goal 5: Graduates will possess the laboratory skills and knowledge needed to assess the functional status of the immune system and to safely cultivate and identify microorganisms that cause disease in mammals.

Goal 6: Graduates will be well-suited for various educational or career options. They will be qualified to work as immunologists or microbiologists in many diverse fields – including biotechnology research and industry, the pharmaceutical industry, the medical industry, the public health arena, academia, and various state and federal government agencies.

Goal 7: Graduates will be well prepared for advanced graduate or professional school education and training including public health, medicine, dentistry, and pharmacy.

Medical Laboratory Science

DEGREE OFFERED

- Bachelor of Science in Medical Laboratory Science

The Degree Program

The B.S. in medical laboratory science has two tracks: Clinical laboratory science (<http://medicine.hsc.wvu.edu/medical-laboratory-science>) and Histotechnology (<http://medicine.hsc.wvu.edu/Histotech>). Clinical laboratory scientists are healthcare professionals educated in all aspects of clinical laboratory analysis, including test development, performance, and evaluation. Clinical laboratory scientists may work in many areas, including clinical chemistry, hematology, immunohematology, immunology, clinical microbiology, and molecular diagnostics.

Histotechnologists are healthcare professionals who are qualified through academic and applied science education and training to provide service, research, and management in histotechnology and areas related to anatomic pathology. Histotechnologists are integral to the success of the anatomic pathology department by performing routine and complex procedures to preserve and process tissue specimens for examination and diagnosis by a pathologist.

Practice settings for both clinical laboratory scientists and histotechnologists include hospital, clinic, public health, or private clinical laboratories; research, cytogenetic, pharmaceutical, or in-vitro fertilization laboratories; technical or sales representatives for medical manufacturers and suppliers; biotechnology, food, and cosmetic industries; and state or federal forensics laboratories.

Nature of Program

Students are admitted into either the clinical laboratory science or the histotechnology track within the medical laboratory science major after completing the pre-requisite courses at an accredited college or university. As students complete the pre-requisite courses, they may apply to the medical laboratory science major, typically during the sophomore year.

Within both tracks, the junior year (the first year of the professional curriculum) includes core and area-specific courses to introduce the student to the medical sciences and to prepare for the senior year curriculum. During the senior year (the second year of the professional curriculum), the student receives both didactic instruction and practical experience. Students receive practical experience at one or more of the affiliated hospital laboratories including:

- Ruby Memorial Hospital, Morgantown, WV
- Monongalia County General Hospital, Morgantown, WV
- West Penn Allegheny Health System, Pittsburgh, PA
- WVU Eastern Division which includes City Hospital, Martinsburg, WV and Jefferson Memorial Hospital, Ranson, WV
- Veterans Affairs Medical Center, Martinsburg, WV
- Excelsa Health which includes Westmoreland Hospital in Greensburg, PA and Latrobe Hospital in Latrobe, PA

- Charleston Area Medical Center, Charleston, WV
- United Hospital Center, Clarksburg, WV
- St. Clair Hospital, Pittsburgh, PA

Students must provide their own transportation and housing during the clinical rotations. Students assigned to the Eastern Division will participate in the rural rotation activities at this site.

The WVU medical laboratory science tracks in clinical laboratory science and histotechnology are accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018, and (773) 714-8880. Graduates of the clinical laboratory science program and the histotechnology program are eligible for certification by the Board of Certification of the American Society for Clinical Pathology (ASCP).

FACULTY

DIRECTOR OF MEDICAL LABORATORY SCIENCE AND CLINICAL LABORATORY SCIENCE PROGRAM DIRECTOR

- Beverly Kirby - Ed.D. (West Virginia University)

HISTOTECHNOLOGY PROGRAM DIRECTOR

- Kimberly Feaster - B.S. (University of Findlay)

ASSOCIATE PROFESSOR AND CLS MEDICAL DIRECTOR

- Peter L. Perrotta - M.D. (Pennsylvania State University)

CLINICAL ASSISTANT PROFESSOR AND HTL MEDICAL DIRECTOR

- Olukemi Esan - M.D. (West Virginia University)

ASSOCIATE PROFESSOR

- Kerry Harbert - M.A. (West Virginia University)

INSTRUCTOR

- Jane Wade - B.A. (West Virginia University)

ASSISTANT PROFESSOR

- Marianne T. Downes - PhD (The Catholic University of America)
- Abra L. Elkins - M.A. (West Virginia University)
- Jason V. Evans - PhD (West Virginia University)

ASSOCIATE PROFESSOR EMERITUS

- Barbara J. Gutman
- Mary Ellen Koenn
- Karen S. Long

ADJUNCT INSTRUCTOR

- Sharon Hall

Admission to the Pre-Medical Laboratory Science Major

Students in the pre-medical laboratory science major and direct admit students must meet the admission criteria of WVU. Pre-medical laboratory science students are advised by the Center for Learning, Advising, and Student Success. Medical laboratory science faculty advise direct admit students. Prospective students are advised to take mathematics, chemistry, and biology in high school.

Qualified applicants may enter the pre-medical laboratory science major at the beginning of any semester, however the professional curriculum begins the fall semester after the student is admitted to either the clinical laboratory science or histotechnology track. Admission to the pre-medical laboratory science major does not ensure admission to the medical laboratory science tracks in clinical laboratory science or histotechnology.

Pre-medical laboratory science students apply for admission into the junior year (first year in the medical laboratory science professional curriculum) before the second semester of the sophomore year in college. Fulfillment of the pre-requisites does not ensure admittance into either the clinical laboratory science or the histotechnology track.

PRE-REQUISITES

English

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
Biology		8
BIOL 101 & BIOL 103 or BIOL 115	General Biology and General Biology Laboratory Principles of Biology	4
BIOL 102 & BIOL 104 or BIOL 117	General Biology and General Biology Laboratory Introductory Physiology	4
Chemistry		
CHEM 115	Fundamentals of Chemistry	4
CHEM 116	Fundamentals of Chemistry	4
CHEM 233 & CHEM 235 or CHEM 231	Organic Chemistry and Organic Chemistry Laboratory Organic Chemistry: Brief Course	4
CHEM 234 & CHEM 236 or CHEM 231	Organic Chemistry and Organic Chemistry Laboratory Organic Chemistry: Brief Course	4
Mathematics (One of the following):		3
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 155	Calculus 1	
Statistics		3
STAT 211 or ECON 225	Elementary Statistical Inference Elementary Business and Economics Statistics	3
GEF		12
Credits to satisfy foundations 4-7.		
Total Hours		56-59

* CHEM 231 Organic Chemistry: Brief Course may be substituted for CHEM 233/235 and CHEM 234/236, however two semesters of organic chemistry are strongly recommended to better prepare for the professional curriculum.

Although not required for admission to the medical laboratory science tracks in clinical laboratory science and histotechnology, eight credits of organic chemistry, eight credits of physics, cell biology, and six credits of social sciences are suggested electives for those students interested in applying to medical, dental, or other graduate programs. In addition, a foreign language is recommended for students who plan to do graduate work.

Admission decisions are based upon the applicant's grade point average, recommendations, interview, and documented ability to successfully complete full-time academic work. Applicants should have a minimum grade point average of 2.5 (cumulative and science). Applicants may be admitted on probation if their GPA (cumulative or science) is less than 2.5. Applicants with less than a 2.0 GPA, either cumulative or science, will not be admitted. A GPA of 2.5 or above does not ensure admission. Two letters of recommendation are required; at least one must be from a college science professor. A personal interview with the Medical Laboratory Science Admissions Committee is required. Admission of international students is in compliance with WVU regulations.

APPLICATION PROCEDURE

Each year the medical laboratory science division selects a limited number of applicants from the applications received for admission into the clinical laboratory science and histotechnology track. The application is available online after December 1.

There is an application fee for residents and non-residents. The application deadline is March 15 if the applicant expects to enter the program the following fall semester. If the class is not filled by those applications, the deadline may be extended until August.

Click the link below to view the corresponding track requirements and Suggested Plans of Study.

- Clinical Laboratory Science (p. 845)
- Histotechnology (p. 844)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Medical Laboratory Science Pre-Requisites

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	6
BIOL 101 & BIOL 103 or BIOL 115	General Biology and General Biology Laboratory Principles of Biology	4
BIOL 102 & BIOL 104 or BIOL 117	General Biology and General Biology Laboratory Introductory Physiology	4
CHEM 115	Fundamentals of Chemistry	4
CHEM 116	Fundamentals of Chemistry	4
CHEM 233 & CHEM 235 or CHEM 231	Organic Chemistry and Organic Chemistry Laboratory * Organic Chemistry: Brief Course	4
CHEM 234 & CHEM 236 or CHEM 231	Organic Chemistry and Organic Chemistry Laboratory * Organic Chemistry: Brief Course	4
Select 1 of the following:		3
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
MATH 129	Pre-Calculus Mathematics	
MATH 155	Calculus 1	
STAT 211 or ECON 225	Elementary Statistical Inference Elementary Business and Economics Statistics	3
GEF Requirements 4, 5, 6, & 7		12
First Year Studies Requirement		
WVUE 191	First Year Seminar	1
Medical Laboratory Science Core Curriculum		

MICB 323 or MICB 200 & PATH 323	Medical Microbiology/Lab Medical Microbiology and Medical Microbiology Lab	5
PATH 300	Introduction to Pathology	3
PATH 303	Clinical Lab Applications	2
PATH 320	Basic Clinical Biochemistry	3
PATH 380	Introduction to Immunology	1
PATH 381	Research and Educational Methodology	2
PATH 403	Community Service Practicum	1
PATH 465	Medical Laboratory Management	2
PATH 475	Medical Relevance (fulfills the Capstone requirement)	3
PSIO 441	Mechanisms of Body Function	4
There are two Tracks: Histotechnology or Clinical Laboratory Science		36
Histotechnology (43 credits)		
NBAN 205	Introduction to Human Anatomy	
PATH 200	Medical Terminology	
PATH 304	Histotechnology Microanatomy	
PATH 305	Staining Techniques 1	
PATH 306	Histotechnique 1	
PATH 405	Staining Techniques 2	
PATH 406	Histotechnique 2	
PATH 407	Histology Laboratory	
PATH 408	Histotechnologist Practicum	
PATH 409	Molecular Pathology for Laboratory Professionals	
Clinical Laboratory Science (36 credits)		
PATH 310	Clinical Laboratory Mycology	
PATH 329	Clinical Chemistry 1	
PATH 340	Introduction to Hematology	
PATH 401	Phlebotomy	
PATH 420	Immunology and Blood Banking	
PATH 421	Immunoematology and Blood Banking Laboratory	
PATH 430	Clinical Chemistry 2	
PATH 431	Clinical Chemistry Laboratory	
PATH 440	Clinical Hematology	
PATH 441	Clinical Hematology Laboratory	
PATH 450	Clinical Microbiology	
PATH 451	Clinical Microbiology Laboratory	
PATH 470	Clinical Microscopy	
PATH 472	Urinalysis and Body Fluids Laboratory	
PATH 480	Clinical Immunology	
PATH 481	Clinical Immunology Laboratory	
Electives **		9
Total Hours		120

* CHEM 231 may be substituted for CHEM 233/235 and CHEM 234/236, however two semesters of organic chemistry are strongly recommended to prepare for the professional curriculum.

** PATH 100, PATH 101, PATH 200, and PATH 201 are required for Direct Admit students and highly recommended for Pre-Medical Laboratory Science students.
A minimum of 120 hours are required for graduation. However, students may have to take additional hours.

Graduation Requirements

JUNIOR YEAR

Students must maintain a minimum grade point average of 2.5 throughout the program. Failure to maintain at least a 2.5 GPA (cumulative and science) may result in disciplinary sanctions. The Academic and Professional Standards Committee must recommend any student for advancement to the senior year. A satisfactory GPA does not ensure advancement.

SENIOR YEAR

Students receive didactic and clinical instruction during the senior year which includes summer, fall, and spring semesters. Students must maintain a minimum grade point average of 2.5 (cumulative and science) for each semester of the senior year.

Graduation requires satisfactory completion of all academic work and the recommendation of the faculty of the School of Medicine. All first degree students are required to complete a total of 120 semester hours for the BS in Medical Laboratory Science degree. Any competencies not completed must be made up by the end of the school year (mid-May) or graduation may be delayed. Graduation is not dependent upon passing a national certification examination.

SUGGESTED PLAN OF STUDY FOR HISTOTECHNOLOGY

First Year

Fall	Hours Spring	Hours
CHEM 115 (GEF 8)	4 CHEM 116	4
Select one of the following (GEF 3):	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following (GEF 8):	4
MATH 126B	BIOL 102 & BIOL 104	
MATH 126C	BIOL 117	
Select one of the following (GEF 2):	4 GEF 4, 5, 6, or 7	3
BIOL 101 & BIOL 103		
BIOL 115		
GEF 4, 5, 6, or 7	3	
WVUE 191	1	
	15	14

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 CHEM 234 & CHEM 236	4
STAT 211 or ECON 225 (GEF 8)	3 GEF 4, 5, 6, or 7	3
CHEM 233 & CHEM 235	4 Elective	2
GEF 4, 5, 6, or 7	3	
	13	9

Third Year

Fall	Hours Spring	Hours Summer	Hours
PATH 300	3 MICB 323	5 PATH 305	4
PATH 320	3 NBAN 205	3 PATH 406	3
PSIO 441	4 PATH 381	2	
PATH 380	1 PATH 304	3	
PATH 303	2 PATH 306	3	
PATH 200	3		
	16	16	7

Fourth Year

Fall	Hours Spring	Hours
PATH 465	2 PATH 403	1
PATH 405	4 PATH 475	3
PATH 407	8 PATH 408	10
PATH 409	2	
	16	14

Total credit hours: 120

SUGGESTED PLAN OF STUDY FOR CLINICAL LABORATORY SCIENCE**First Year**

Fall	Hours Spring	Hours
CHEM 115 (GEF 8)	4 CHEM 116	4
Select one of the following (GEF 3):	3 ENGL 101 (GEF 1)	3
MATH 126A	Select one of the following (GEF 8):	4
MATH 126B	BIOL 102 & BIOL 104	
MATH 126C	BIOL 117	
Select one of the following (GEF 2):	4 GEF 4, 5, 6, or 7	3
BIOL 101 & BIOL 103		
BIOL 115		
GEF 4, 5, 6, or 7	3	
WVUE 191	1	
	15	14

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 CHEM 234 & CHEM 236	4
STAT 211 or ECON 225 (GEF 8)	3 GEF 4, 5, 6, or 7	3
CHEM 233 & CHEM 235	4 Electives	6
GEF 4, 5, 6, or 7	3	
Elective	1	
	14	13

Third Year

Fall	Hours Spring	Hours Summer	Hours
PATH 300	3 PATH 340	3 PATH 440	3
PATH 320	3 MICB 323	5	
PSIO 441	4 PATH 310	1	
PATH 380	1 PATH 329	2	
PATH 303	2 PATH 381	2	
Electives	2 PATH 472	1	
	PATH 470	1	
	15	15	3

Fourth Year

Fall	Hours Spring	Hours
PATH 450	3 PATH 403	1
PATH 420	3 PATH 475	3

PATH 430	3 PATH 421	3
PATH 480	2 PATH 451	3
PATH 465	2 PATH 431	3
PATH 481	1 PATH 441	3
	PATH 401	1
<hr/>		
	14	17
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Total credit hours: 120

Major Learning Goals

MEDICAL LABORATORY SCIENCE

The mission of the medical laboratory science major at West Virginia University is to provide a high-quality education culminating in a Bachelor of Science degree that prepares laboratory professionals for their roles as members of the healthcare team in an environment of rapidly changing technology.

The goals of the program are to provide:

- a program in medical laboratory science which meets the academic standards of the University;
- Clinical Laboratory Scientists and Histotechnologists for medical (both urban and rural) laboratories, public health laboratories, research laboratories, and industry;
- an educational background which enables graduates to assume teaching and supervisory positions;
- an education background acceptable for graduate work in the sciences.

Occupational Therapy

Degree Offered

- Master of Occupational Therapy (MOT)

Introduction

In the fall of 1993, the West Virginia Board of Trustees approved the establishment of a new master's degree program at WVU, leading to an entry-level master's degree in occupational therapy. WVU accepted its first students into the professional program in the fall semester of 1996. The academic and fieldwork program requires three years to complete. Prior to application, students are required to complete approximately fifty to fifty-five hours of prerequisite courses, which in most instances will take two years to fulfill.

The Profession of Occupational Therapy

Occupational therapy is a health and rehabilitation profession which provides services to people of all ages, and addresses physical, cognitive, psychosocial, sensory, communication, and other areas of performance in various contexts and environments in every day life activities that affect health, well-being, and quality of life (AOTA, 2004). Occupational Therapy is a caring profession designed to help people regain and build skills that are important for health, well-being, security, and happiness. The purpose of occupational therapy is to help individuals achieve a maximum level of independence and function through engagement in occupation in order to lead independent, productive, and satisfying lives. The focus is on assisting and enabling individuals to develop the capacity to function in all activities (occupations) of daily life, including self-care, work, and leisure. Hence the name occupational therapy.

Occupational therapists work in schools, hospitals, rehabilitation centers, home health agencies, skilled nursing homes, and private practice.

Accreditation Status

WVU's Division of Occupational Therapy has been granted accreditation status by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA) located at 4720 Montgomery Lane, Suite 200, Bethesda, M.D. 20814-3449. ACOTE's phone number, c/o AOTA, is (301) 652-AOTA. The OT program at WVU was initially awarded accreditation in 1998 and awarded re-accreditation in 2013. The next scheduled onsite visit for accreditation will be in 2023-2024. ACOTE information may be accessed at www.acoteonline.org (<http://www.acoteonline.org>).

Graduates of the program are able to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy Inc. (NBCOT). The address for NBCOT is: National Board for Certification in Occupational Therapy, Inc., 12 South Summit Avenue, Suite 100, Gaithersburg, MD 20877-4150. For more information, NBCOT can be contacted at (301) 990-7979 or at <http://www.nbcot.org/>. After successful completion of this exam, the individual will be an occupational therapist, registered (OTR). Most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination. Note: A felony conviction

may impact a graduate's ability to take the NBCOT examination and/or obtain a state license. For further information on NBCOT's Character Review Program, interested parties can obtain information from the licensing board in that particular state.

Prospective students, applicants, and interested parties can review program data results for the National Board for Certification in Occupational Therapy (NBCOT) exam at: <https://secure.nbcot.org/data/schoolstats.aspx>

What to Expect

Like many professional programs, the curriculum in the entry-level master's occupational therapy program is fairly fixed and intense. The first professional year, which begins in the summer, will include courses in basic sciences relevant to the profession and practice of occupational therapy along with introductory professional courses. The second and third professional years will deal more specifically with training in occupational therapy theory and practice as administered across a wide variety of settings. The professional curriculum includes two off-campus, full-time clinical experiences known as Level II Fieldwork. Students are financially responsible for transportation, housing, and meal expenses related to clinical assignments. Students in the program are required to participate in the School of Medicine's laptop computer purchase lease-to-own program, which provides each student with a state-of-the-art computer that contains course and program-relevant software.

All OT coursework must be completed with a grade of "C" or higher. Further, OT students must maintain an OT coursework GPA of 3.0 or higher while in the OT Program.

Students in the OT Program must complete all didactic coursework and all fieldwork within a period of five years after commencing the occupational therapy program. Furthermore, all Level II Fieldwork must be completed within eighteen months following completion of academic coursework while remaining within the five-year time frame.

FACULTY

CHAIR

- Randy P. McCombie - Ph.D., OTR/L (Loyola University of Chicago)
Chair, Program Director - Associate Professor

ASSOCIATE PROFESSORS

- Anne Cronin - Ph.D., OTR/L, FAOTA (University of Florida)
- Diana Davis - Ph.D, MA, OTR/L (West Virginia University)

ASSISTANT PROFESSORS

- Amy Burt - M.O.T., OTR/L (University of Pittsburgh)
- Amanda Acord-Vira - M.O.T., OTR/L (West Virginia University)
- Brandy Brown - O.T.D., OTR/L (Chatham University)
- Garth Graebe - M.O.T., OTR/L (West Virginia University)
- Brian Scaife - OTD, OTR/L (Chatham University)
- Sue Ann Woods - MOT, OTR/L, CHT (West Virginia University)

Admission Standards

Normally, students apply to the program during their second year of college. They must have a minimum of fifty to fifty-five hours of college credit which includes the prerequisites. Students who already have a degree in another field are also eligible to apply. All applicants must meet the following criteria:

- Minimum GPA of 3.0, including overall GPA and prerequisite GPA, is required (a higher GPA may be necessary given the competitive nature of the program).
- All OT prerequisite & GEF courses must be completed with a grade of C or higher.
- Minimum of sixty (60) hours of volunteer experience with at least two licensed occupational therapists (Students should contact the Division of Occupational Therapy to determine the type of experience required. Students should keep a record of dates/hours, locations, and names of supervising occupational therapists. Forms to record volunteer/ shadowing experiences can be found online at <http://medicine.hsc.wvu.edu/ot>)
- Recommendations are required from two Occupational Therapists who supervised the volunteer/shadowing experience. These OTs must be from 2 different clinical facilities. Specific recommendation forms are available at the time of application within the on-line application packet.
- You may be enrolled in **NO MORE THAN TWO** OT prerequisite courses in Spring semester of your application year. All other OT prerequisites courses must be completed prior to this Spring semester. All OT prerequisite courses and WVU GEF courses must be completed by June 1st prior to starting the OT Program.
- *Note: Some OT prerequisite courses have their own course specific prerequisites. For example, physics courses at WVU require that students have completed college algebra and trigonometry. Students must check with those departments for specifics.
- **IMPORTANT NOTE:** Applicants must have completed all but a maximum of 2 OT prerequisite courses by the end of their Fall semester prior to the close of the Spring application period. Those applying to the OT Program will not be considered in the application review process if they are

taking more than two OT prerequisite courses in the Spring semester prior to their anticipated start of summer classes in the OT Program. In other words, for those applying to the WVU OT Program, all but a maximum of two OT prerequisite courses must be fully completed by end of the Fall semester. Thus, applicants who are taking three or more OT prerequisite courses in the Spring semester will not be considered for acceptance into the OT Program. Applicants must **plan** on taking no more than two OT prerequisite courses in the Spring semester prior to the summer start of the Program for which they are applying. This requirement does not apply to WVU non-OT prerequisite general education (GEF) course requirements. Note: Courses with a required lab, including those courses that have labs with a separate course number, may be considered one course for purposes of this requirement, i.e., a course plus its lab equal one course. Students are strongly urged to contact the Division of OT for clarification or if they have any questions on this requirement.

Application forms are available online on the program homepage at medicine.hsc.wvu.edu/ot Questions regarding application materials may be directed to The Division of OT at (304) 293-8828 or to the OT Program Academic Advisor at (304) 293-1690. Application materials are traditionally available November 15 through February 15. The deadline for submission of application materials is typically February 15. The official deadline will be posted on the occupational therapy website and printed in the admissions packet.

Course information for the master of occupational therapy degree can be found on the following website: <http://medicine.hsc.wvu.edu/ot>

Click here to view the Suggested Plan of Study (p. 850)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

GEF Requirements: GEF 6		3
Pre-Major Requirements		
ENGL 101	Introduction to Composition and Rhetoric	3
ENGL 102 or ENGL 103	Composition, Rhetoric, and Research Accelerated Academic Writing	3
WVUE 191	First Year Seminar	1
PSYC 101	Introduction to Psychology	3
PSYC 241	Introduction to Human Development	3
PSYC 281	Introduction to Abnormal Psychology	3
SOCA 101 or SOCA 105	Introduction to Sociology Introduction to Anthropology	3
Select one of the following:		4-8
BIOL 101 & BIOL 103 & BIOL 102 & BIOL 104	General Biology and General Biology Laboratory and General Biology and General Biology Laboratory	

or BIOL 115	Principles of Biology	
PHYS 101	Introductory Physics	4
STAT 211	Elementary Statistical Inference	3
Select one of the following (Students who take COMM 100 & 102 will need to complete GEF 5 & 6):		3
COMM 100 & COMM 102 or COMM 104	Principles of Human Communication and Human Communication in the Interpersonal Context Public Communication	
PSIO 241 or PSIO 441	Elementary Physiology Mechanisms of Body Function	4
OTH 201	Medical Terminology for Occupational Therapy	1
Undergraduate Occupational Therapy Courses		
Minimum grade of C required.		
Minimum GPA of 3.0 required		
OTH 301	Professional Foundations of OT	2
OTH 303	Functional Movement Across the Lifespan	2
OTH 304	Physical Impairment and Function 1	4
OTH 307	Neurobiologic Foundations	4
OTH 308	Evaluation Procedures	3
OTH 309	The Brain and Occupation in Occupational Therapy	1
OTH 310	Critical Reasoning in Occupational Therapy	3
OTH 311	Anatomic Foundations of OT	4
OTH 312	Functional Kinesiology in Occupational Therapy	2
OTH 321	Development Life Tasks	3
OTH 360	Research Methods in Occupational Therapy	3
OTH 361	Qualitative Research in Occupational Therapy	1
OTH 370	Principles of Occupational Science	3
OTH 384	Level 1 Fieldwork 1	2
OTH 386	Level 1 Fieldwork 3	2
OTH 387	Level 1 Fieldwork 4	2
OTH 401	Physical Impairment and Function 2	4
OTH 405	Upper Extremity Rehabilitation	4
OTH 408	Physical Impairment and Function 3	3
OTH 416	Professional Decision-Making	2
OTH 417	Occupational Therapy in Geriatrics	3
OTH 419	Professional Values	3
OTH 430	Occupational Therapy in Mental Health	3
OTH 432	Occupational Therapy Interventions in Mental Health	3
OTH 435	Therapeutic Activity	3
OTH 440	Cognition and Perception in Occupational Therapy	2
OTH 480	Current Topics in Occupational Therapy	2
OTH 493	Special Topics	2
OTH 497	Research	2

Total Hours

122

Degree Requirements

BACHELOR OF ARTS IN HUMAN PERFORMANCE AND HEALTH

Students are awarded a Bachelor of Arts degree in Human Performance and Health at the end of the senior year (year two in the OT program). In order to receive this degree, students must have successfully completed a minimum total of 122 hours of college credits, including completion of the GEF requirements.

MASTER OF OCCUPATIONAL THERAPY

The master of Occupational Therapy (MOT) degree is awarded upon completion of all required graduate work (typically the end of the third year in the OT program). Requirements for the MOT are found in the Graduate Catalog.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours Summer	Hours
BIOL 101 & BIOL 103 (GEF 2)	4 BIOL 102 & BIOL 104 (GEF 8)	4 PSIO 241	4
MATH 126A	3 MATH 128	3	
PSYC 101 (GEF 4)	3 PSYC 241 (GEF 8)	3	
COMM 100 & COMM 102	3 SOCA 101 or 105	3	
WVUE 191	1		
	14	13	4

Second Year

Fall	Hours Spring	Hours Summer	Hours
ENGL 101	3 ENGL 102	3 OTH 301	2
PSYC 281 (GEF 7)	3 PHYS 101	4 OTH 311	4
STAT 211 (GEF 3)	3 GEF 6	3	
OTH 201	1 Elective	3	
GEF 5	3		
	13	13	6

Third Year

Fall	Hours Spring	Hours
OTH 303	2 OTH 307	4
OTH 304	4 OTH 308	3
OTH 312	2 OTH 309	1
OTH 360	3 OTH 310	3
OTH 370	3 OTH 321	3
OTH 435	3 OTH 361	1
	OTH 384	2
	OTH 480	1
	17	18

Fourth Year

Fall	Hours Spring	Hours
OTH 387	2 OTH 386	2
OTH 401	4 OTH 405	4
OTH 417	3 OTH 408	3
OTH 430	3 OTH 416	2
OTH 440	2 OTH 419	3
OTH 497	1 OTH 432	3
OTH 493	2 OTH 480	1
	OTH 497	1
	17	19

Total credit hours: 134

Major Learning Goals

OCCUPATIONAL THERAPY

- Program content based on a broad foundation in the liberal arts and sciences. A strong foundation in the biological, physical, social, and behavioral sciences supports an understanding of occupation across the lifespan.
- The basic tenants of occupational therapy including its history, philosophy, foundation in occupation, and models of occupational performance.

- The process of screening, evaluation, and referral as related to occupational performance and participation that is culturally relevant and based on theoretical perspectives, models of practice, frames of reference, and available evidence.
- The process of formulation and implementation of the therapeutic intervention plan to facilitate occupational performance and participation that is culturally relevant; reflective of current occupational therapy practice; based on available evidence; and based on theoretical perspectives, models of practice, and frames of reference.
- Context of service delivery information and skills including the knowledge and understanding of the various contexts, such as professional, social, cultural, political, economic, and ecological, in which occupational therapy services are provided.
- Leadership and management skills including principles and applications of leadership and management theory.
- Promotion of scholarly endeavors including describing and interpreting the scope of the profession, establishing new knowledge, and interpreting and applying this knowledge to practice.
- Professional ethics, values, and responsibilities, including an understanding and appreciation of ethics and values of the profession of occupational therapy.

School of Nursing

Degrees Offered

- Bachelor of Science in Nursing

Introduction

The mission of the WVU School of Nursing is to lead in improving health in West Virginia and the broader society through excellence in student-centered educational programs, research and scholarship, the compassionate practice of nursing, and service to the public and the profession. This mission is responsive to changing healthcare needs and emerging national and state changes in technology and healthcare delivery and is enhanced by a supportive and open environment. The faculty's educational effort is directed at providing high quality, student-centered programs of instruction at all levels which prepare superb professional nurses to meet basic healthcare needs; advance practiced nurses to address complex health needs; and enable doctorally educated nurses to advance nursing knowledge through research, to assist in the formulation of policies to improve health care, and to serve as faculty in higher degree programs. Unique characteristics of the state mandates that the healthcare needs of rural populations and vulnerable groups be a major focus of education, research, and service, including faculty practice.

The School of Nursing offers undergraduate, graduate, and post graduate certificates of study. The baccalaureate program (BSN) is available for high school graduates who aspire to a career in nursing (basic students) and to registered nurses (RN) who are licensed graduates of associate degree or diploma nursing programs seeking to continue their career development. In addition, a BS/BA to BSN program is available for the college graduate seeking a BSN.

The WVU School of Nursing and the WVU College of Business and Economics offers a dual master's degree program to provide the skills and knowledge necessary to serve as a nurse leader. This blended degree program (totaling 67 credit hours) is done predominately online, and includes four 3-4 day residencies. Students take courses from both the MSN and MBA program concurrently. Graduates of the MSN (Executive Focus) and MBA program can work in a variety of settings, including hospitals, private practice, nonprofit organizations and public sectors.

The Bachelor of Science in Nursing to Doctor of Nursing Practice (BSN-DNP) prepares baccalaureate prepared nurses for advanced practice roles in primary care. These roles include family nurse practitioner and pediatric nurse practitioner specialties. Students are awarded the Master of Science (MSN) degree and are eligible to sit for certification as an advanced practice nurse upon completing 48 hours of the program. At that time they may progress to the DNP or select to exit the program with the MSN degree.

Post-graduate nurse practitioner certificate programs for family nurse practitioner and pediatric nurse practitioner are available for those who already have an MSN. The RN to MSN program also has these role specialties available.

The doctor of nursing practice (DNP) prepares advanced practice nurses who will practice at the highest level of professional nursing and will advance the application of nursing knowledge for the purpose of improving healthcare for diverse populations.

The doctor of philosophy in nursing (PhD) prepares nurse scholars/scientists for roles in research, teaching and service. The program prepares graduates who will contribute to the body of nursing knowledge, educate the next generation, and lead, ultimately impacting health policy, improving health, and reducing disparity.

Accreditation

Initial accreditation was received with graduation of the first class in 1964. The baccalaureate as well as advanced practice programs in nursing are fully accredited by the Commission on Collegiate Nursing Education, a national accrediting agency.

Fees, Expenses, Housing, Transportation, and Immunization

Students enrolling at the Morgantown campus pay fees which are detailed at <http://admissions.wvu.edu/pay>. Special fees and deposits are also required. Students enrolling at other sites pay the fees shown in the catalog for that site. Fees are subject to change without notice. Students' expenses vary according to the course of study and individual needs. Information concerning financial assistance, application forms, and the Free Application for Federal Student Aid (FAFSA) form may be obtained from the financial aid website at <http://financialaid.wvu.edu/home/hsc-office> or by contacting the HSC Financial Aid Office, PO Box 9810, Morgantown, WV 26506-9810; telephone (304) 293-3706 (toll free) or 1-800-344-WVU1.

The University Housing and Residence Life Office, telephone (304) 293-4491, provides information concerning university-owned housing. The Student Life Office in E. Moore Hall, telephone (304) 293-5611, provides information concerning privately owned, off-campus housing.

Students are expected to provide their own transportation, equipment, and instruments for the clinical courses. Some clinical experiences require travel in a multi-county area.

Students entering the BSN or BS/BA - BSN program are required to participate in the WVU Health Sciences Center Student Computer Program. A laptop computer will be issued to all students entering these programs. Please visit the School of Nursing website at <http://nursing.hsc.wvu.edu/academics/undergraduate-programs/bachelor-of-science/program-information/> for more information.

Proof of specific immunizations is required for all health sciences students. Students in the BSN, BA/BS to BSN, BSN-DNP, and post graduate certificate master of science in nursing program must undergo a criminal background check prior to clinical courses. Felony convictions and serious misdemeanors may preclude participation in the clinical courses. This could, in turn, prevent the completion of course requirements and completion of the nursing programs.

Scholarships

The School of Nursing offers several scholarships. These scholarships are administered by the Health Science Center Financial Aid Office and require completion of the Free Application for Federal Student Aid (FAFSA) form in order to be considered for financial aid. Most School of Nursing scholarships are available only to students already admitted to the School of Nursing and are awarded each April for the following academic year. However, there are a limited number of scholarships for which students may apply before admission. Further information is provided on the School of Nursing website: <http://nursing.hsc.wvu.edu/academics/current-students/>.

Additional Information

Visit the School of Nursing website at <http://nursing.hsc.wvu.edu/>. Call the WVU school of Nursing Office of Student Services at 1-866-WVUNURS or (304) 293-1386. Write to WVU School of Nursing at PO Box 9600, Morgantown, WV 26506-9600

ADMINISTRATION

DEAN

- Tara F. Hulseley - PhD (University of South Carolina)
Professor

ASSOCIATE DEAN FOR ACADEMICS

- Lisa Onega - PhD (University of Virginia)

ASSISTANT DEAN FOR STUDENT AND ALUMNI SERVICES

- Gregory Cave - BA (West Virginia University)

DIRECTOR AND ASSISTANT DEAN OF BUSINESS & FINANCE

- Karis P. Wolfe - MBA (West Virginia University)

CHAIR-DEPARTMENT OF ADULT HEALTH

- Mary Jane Smith - PhD (University of New York)
Professor

CHAIR-DEPARTMENT OF FAMILY/COMMUNITY HEALTH

- Susan Newfield - PhD (Texas Tech University)
Associate Professor
- David Parker - PhD (University of South Carolina)
Associate Professor

CHAIR-CHARLESTON DIVISION

- Alvita Nathaniel - PhD (West Virginia University)
Professor

CHAIR-WVU TECH DEPARTMENT

- Evelyn Klocke - EdD (Marshall University)
Assistant Professor

DIRECTOR, UNDERGRADUATE PROGRAMS

- Kari Sand-Jecklin - EdD (West Virginia University)
Associate Professor

DIRECTOR, MSN/DNP PROGRAMS

- Martha Summers - DNP (West Virginia University)
Clinical Associate Professor

DIRECTOR, PHD PROGRAMS

- Gina Maiocco - PhD (University of Utah)
Clinical Associate Professor

FACULTY

PROFESSORS

- K. Joy Buck - PhD (University of Virginia)
- Susan H. McCrone - PhD (University of Utah)

ASSOCIATE PROFESSORS

- Pamela Deiriggi - PhD (University of Texas)
Coordinator PNP Track
- Alvita Nathaniel - PhD (West Virginia University)
Chair, Charleston Division
- Laurie Theeke - PhD (West Virginia University)

ASSISTANT PROFESSORS

- Roger Carpenter - PhD (West Virginia University)
- Jennifer Mallow - PhD (West Virginia University)
- Catherine Nolan - EdD (West Virginia University)
- Aletha Rowlands - PhD (University of Virginia)
- Suzy Walter - PhD (West Virginia University)

CLINICAL PROFESSOR

- Marilyn Smith - PhD (University of Tennessee)

CLINICAL ASSOCIATE PROFESSOR

- Emily Barnes - DNP (West Virginia University)

CLINICAL ASSISTANT PROFESSORS

- Kendra Barker - MSN (West Virginia University)
- Lori Constantine - DNP (West Virginia University)
- Sandra Cotton - DNP (West Virginia University)
- Daniel J. DeFeo - MSN (West Virginia University)
- Elizabeth A. Minchau - MSN (University of Pittsburgh)
- Trisha Petite - MSN (West Virginia University)
- Susan Pinto - MSN (West Virginia University)
- Billie Vance - MSN (West Virginia University)

TEACHING ASSISTANT PROFESSOR

- Tina Antill-Keener - PhD (West Virginia University)
- Diana L. McCarty - MSN (West Virginia University)
- Rebecca Smeltzer - DNP (Case Western Reserve University)

SENIOR LECTURER

- Michelle Borland - DNP (Walden University)
- Dana Friend - MPH (West Virginia University)
- Stacy Huber - MSN (Waynesburg College)
- Kathy Linkous - MSN (Bellarmine College)
- Patricia Joyce Maramba - DNP (West Virginia University)
- Terri L. Marcischak - MSN (West Virginia University)
- Amy Miner - MSN (West Virginia University)
- Christine Mott - MSN (West Virginia University)
- Tonya Payerchin - MSN (Waynesburg University)
- Stacey Pierce - JD (Marshall University)
- Angel Smothers - DNP (West Virginia University)
- Joanne E. Watson - MSN (University of Virginia)

LECTURERS

- Kimberly Adams - MSN (Waynesburg University)
- Amy Ankrom - MSN (University of Pittsburgh)
- Christy Barnhart - MSN (Waynesburg University)
- Debbie Bellisario - MSN (University of Phoenix)
- Pearl Bingham - MSN (Norwich University)
- Laurie Cain - MA (West Virginia University)
- Gina Greathouse - MSN (University of North Carolina)
- Jessica Matthews - MSN (West Virginia University)
- Elizabeth McCarty - MSN (Excelsior College)
- Danille McGinnis - MSN (West Virginia University)
- Susan McKinrick - MSN (West Virginia University)
- Christine Miser - MSN (West Virginia Wesleyan College)
- Trisha Petite - MSN (West Virginia University)
- Kevin Smith - MSN (Waynesburg College)
- Amber Walker - MSN (Marshall University)
- Kimberly Wallace - MSN (West Virginia University)
- Ashley Wilson - MSN (West Virginia University)
- Stephanie Young - MSN (Gonzaga University)

ADJUNCT LECTURER

- Lois Harder - PhD (Perdue University)
- David Keefover - MSN (Liberty University)
- Marian Longstreth - BSN (Waynesburg University)
- Elaine Taylor - MSN (West Virginia University)
- Kara Terhune - MSN (Wilkes University)
- Kayla Watson - MSN (West Virginia University)
- Christopher Waybright - BSN (West Virginia University)
- Heather Wright - MSN (West Virginia University)

CHARLESTON DIVISION-CLINICAL ASSISTANT PROFESSOR

- Laure Marino - DNP (The George Washington University)

CHARLESTON DIVISION - TEACHING ASSISTANT PROFESSOR

- Theresa Cowan - DHEd (A.T. Still University of Osteopathic Medicine and Health Professions)
- Evelyn Martin - DNP (West Virginia University)
- Teresa Ritchie - DNP (West Virginia University)

CHARLESTON DIVISION-SENIOR LECTURER

- Chrystal Sheaves - PhD (West Virginia University)
- Melanie Whelan - PhD (West Virginia University)

CHARLESTON DIVISION-LECTURER

- Nancy Atkins - MSN (Bellarmine College)
- Tracie Boner - MSN (West Virginia University)
- Barbara Koster - MSN (West Virginia University)

WVU TECH DIVISION-ASSISTANT PROFESSOR

- Peggy Lambert Fink - PhD (West Virginia University)

WVU TECH DIVISION-SENIOR LECTURER

- Amy Bruce - MSN (Marshall University)
- Barbara Douglas - MSN (Wright State University)
- Mindy Harris - MSN (Marshall University)
- James Messer - MSN (University of Phoenix)

- Robin Spencer - MSN (Marshall University)
- Melinda Stoecklin - MSN (Marshall University)

WVU TECH DIVISION-LECTURER

- Kelly Morton - BSN (West Virginia Technical Institute)
- Hillary Parcell - MSN (Marshall University)

DEAN EMERITUS

- Lorita Jenab - EdD (Columbia University)
- E. Jane Martin - PhD (University of Pittsburgh)

PROFESSOR EMERITUS

- Laurie Badzek - MSN/JD (University of DePaul)
- Susan Coyle - PhD (West Virginia University)
- June Larrabee - PhD (University of Tennessee)
- Nan Leslie - PhD (University of Pittsburgh)
- Gaynelle McKinney - MSN,ED (Indiana University)
- Georgia Narsavage - PhD (University of Pennsylvania)
- Barbara Nunley - PhD (University of Kentucky)

ASSOCIATE PROFESSOR EMERITUS

- Peggy Burkhardt - PhD (University of Miami)
Charleston Division
- Imogene P. Foster - EdD (West Virginia University)
- Debra Harr - EdD (West Virginia University)
- Jean Hoff - MPH (University of Pittsburgh)
- Nancy A. Koontz - MSN (University of Maryland)
- Barbara Kupchak - PhD (University of Texas)
- Lois O'Kelley - MSN (Wayne State University)
- C. Lynn Ostrow - EdD (West Virginia University)
- Elisabeth Shelton - PhD (Widener University)
- Jane A. Shrewsbury - MN,ED (University of Pittsburgh)
- Patricia Simoni - EdD (West Virginia University)

ASSISTANT PROFESSOR EMERITUS

- Ann Cleveland - EdD (West Virginia University)
- Suzanne Gross - PhD (University of Texas)
- Dorothy M. Johnson - EdD (West Virginia University)
- Kathleen Marsland - MS (University of Colorado)

Degree Designation Learning Goals

BACHELOR OF SCIENCE IN NURSING (BSN)

Upon completion of the BSN program, graduates will:

CRITICAL THINKING: Employ scholarly inquiry and evidence-based reasoning and creativity in the process of assessment, interpretation, analysis, synthesis, evaluation, and inference as a basis for professional nursing practice.

NURSING INTERVENTIONS: Ensure quality care by applying theory, evidence-based clinical judgment and decision-making, and patient care technology in the delivery of safe and skilled nursing therapeutics with individuals, families, communities, and populations across the health-illness continuum.

PROFESSIONAL ROLE: Demonstrate knowledge, attitudes, professional values, personal qualities and behaviors consistent with the nursing roles of health care designer and coordinator, organization and system leader, and advocate for consumers and the nursing profession.

CARING: Provide empathetic, culturally sensitive, and compassionate care for individuals, families, communities, and populations that upholds moral, legal, and ethical humanistic principles.

COMMUNICATION: Integrate therapeutic, interpersonal, intraprofessional, interprofessional and informatics communication processes in professional nursing practice.

Academic Standards and Graduation Requirements

To be in good academic standing, students must:

- Maintain a cumulative grade point average of 3.0 or better in all college work attempted for pre-licensure programs and a 2.5 for RN-BSN students.
- Pass all nursing courses and pre- or co-requisite non-nursing courses with a grade of C or better

A student who receives a grade of D, F, or W in a required nursing course or pre- or co-requisite non-nursing course may repeat that course once and must earn a grade of C or better when the course is repeated. Students who repeat a nursing course or a pre- or co-requisite non-nursing course and earn a grade of D, F, or W will be dismissed from the school. A student may repeat only one nursing course. Students who do not maintain a cumulative GPA of 3.0 or better for pre-licensed programs and a 2.5 for RN-BSN will be placed on probation for one semester. Students on probation who do not raise their cumulative GPA to 3.0 or better for pre-licensed programs and a 2.5 for RN-BSN after one semester will be dismissed from the School of Nursing. Nursing courses and pre- and co-requisite courses in which students earn a grade of D, F, or W must be repeated prior to the student's progression to the next course(s) in the nursing sequence. Nursing courses must be repeated in the next fall or spring semester that the course is offered. Any general education course that is not a pre- or co-requisite of nursing courses and in which a grade of D or F has been earned must be repeated prior to graduation if it is to be counted toward graduation requirements. The baccalaureate of science in nursing degree for the traditional BSN program is conferred upon completion of 122 hours and all required courses. The baccalaureate of science in nursing degree for the RN-BSN program is conferred upon completion of 120 hours and all required courses. The baccalaureate of science in nursing degree for the BS/BA-BSN second degree students is conferred upon completion of 64 hours and all required courses.

Bachelor of Science in Nursing

Nature of Program

The School of Nursing undergraduate program in nursing is recognized by health care agencies as providing excellent preparation for the nursing profession. Our graduates are in great demand and enjoy a large number of career opportunities. The BSN curriculum includes courses in the humanities, social sciences, basic sciences, and nursing science. The clinical component of nursing courses enables students to apply their learning to actual client, family, and community situations that warrant nursing intervention. The curriculum has been carefully designed to equip graduates to begin professional nursing practice with patients of all ages in any health care setting where there is a position for the professional nurse at the start of his or her career. The program also provides an excellent foundation for graduate study in nursing and in other fields.

The baccalaureate program (BSN) is available for high school graduates who aspire to a career in nursing (basic students). It is also available to registered nurses (RNs) who are licensed graduates of associate degree or diploma nursing programs seeking to continue their career development and to individuals with college degrees in other fields who wish to attain the bachelor of science in nursing. The basic BSN program can be completed in four years at WVU's Morgantown campus or at WVU Institute of Technology. Programs at Potomac State College and Glenville State College allow students to complete pre-nursing requirements at those institutions.

Registered nurses can complete the BSN requirements online through a completely web-based program. Advising for the program can occur at WVU in Morgantown, or at the Charleston division. Nursing courses for RN students are scheduled to provide opportunity for completion of degree requirements in three semesters if non-nursing courses are already completed. Credit may be earned by enrollment and by challenge through advanced placement and portfolio exams. The School of Nursing offers in-state tuition for all students enrolled in the RN-BSN program, regardless of residency.

A BS/BA to BSN accelerated program is available for the college graduate with a degree in a field other than nursing. Following eighteen months of continuous enrollment, students attain the BSN degree and are eligible to take the RN licensing examination. The BS/BA to BSN program is offered at WVU in Morgantown.

Further information about the BSN program or the MSN, DNP, and Ph.D. graduate programs in nursing may be obtained from the School of Nursing website at <http://nursing.hsc.wvu.edu/> or by contacting the WVU School of Nursing Office of Student Services, 6400 Health Sciences South, P.O. Box 9600, Morgantown, WV 26506-9600; telephone (304) 293-1386 or (toll free) 1-866-WVUNURS.

Accreditation

Initial accreditation was received with graduation of the first class in 1964. The baccalaureate program in nursing is fully accredited by the Commission on Collegiate Nursing Education, a national accrediting agency.

Fees, Expenses, Housing, Transportation, and Immunization

Students enrolling at the Morgantown campus pay fees which are detailed at <http://admissions.wvu.edu/pay>. Special fees and deposits are also required. Students enrolling at other sites pay the fees shown in the catalog for that site. Fees are subject to change without notice. Students' expenses vary according to the course of the study and individual needs. Information concerning financial assistance, application forms, and the Free

Application for Federal Student Aid (FAFSA) form may be obtained from the financial aid website <http://financialaid.wvu.edu/forms> or by contacting the HSC Financial Aid Office PO Box 9810, Morgantown, WV 26506-9810; telephone (304) 293-3706 or (toll free) 1-866-WVUNURS.

University Housing and Residence Life Office, telephone (304) 293-4491, provides information concerning University-owned housing. The Student Life Office in E. Moore Hall, telephone (304) 293-5611, provides information concerning privately owned, off-campus housing.

Students are expected to provide their own transportation, equipment, and instruments for the clinical courses. Some clinical experiences require travel in a multi-county area.

Students entering the BSN or BS/BA to BSN program are required to participate in the WVU Health Sciences Center Student Computer Program. A laptop computer, will be issued to all students entering these programs. Please visit the school of Nursing website at <http://nursing.hsc.wvu.edu/students/undergraduate-programs/bachelor-of-science/> for more information.

Proof of specific immunizations are required for all health sciences students.

Criminal Background Checks

Students are required by clinical agencies to undergo a criminal background check and a drug screening prior to clinical experiences. Felony convictions and some serious misdemeanors as well as illicit drug use may preclude participation in clinical rotations. This could, in turn, prevent the completion of clinical course requirements and completion of the nursing program.

Curriculum details are also available on the School of Nursing webpage: <http://nursing.hsc.wvu.edu/>.

In this section:

- Direct Admission to Basic Program (p. 858)
- Admission to Basic Program as Pre-Nursing or Other College Major (p. 858)
- Transfer (p. 859)

DIRECT ADMISSION TO BASIC PROGRAM

Applicants are eligible to enter the BSN program as freshmen. Admission is based on a combination of high school grade point average and composite ACT or total SAT scores in a single testing session. Students admitted to the nursing major as freshmen have until the end of summer session of the freshman year to complete the required freshman coursework.

High school students eligible for admission to the University may be admitted directly into nursing if they meet the following criteria:

- GPA of 3.8 or higher with composite ACT 26 or SAT combined Critical Reading and Math 1190 or 1260 EBRW and Math (2016 & beyond)
- GPA of 3.6-3.79 with composite ACT 28 or SAT combined Critical Reading and Math 1260 or 1320 EBRW and Math (2016 & beyond)
- For direct admission in 2018, students must also achieve a ACT Math score of 22 or SAT Math score of 540/570 (2016)

In addition, students must have completed the following high school credits required by the University:

UNITS (YEARS)

- Four in English (including courses in grammar, composition, and literature)
- Three in Social studies (including US History)
- Three in College preparatory mathematics (algebra I, algebra II, and plane geometry)
- Two in Laboratory science (biology, chemistry, physics, or other courses with a strong laboratory science orientation)

Note: Admission criteria are subject to change. Please see the School of Nursing website for the most up-to-date criteria (<http://nursing.hsc.wvu.edu>).

ADMISSION TO BASIC PROGRAM AS GENERAL NURSING (PRE-NURSING) OR OTHER COLLEGE MAJOR

If a student does not meet the nursing admission criteria to be directly admitted to the BSN program as a freshman, the student can apply for admission to the BSN program as a sophomore after completion of at least one semester of college coursework with a minimum cumulative GPA of 3.0.

To be admitted to the University as a general nursing (Pre-Nursing) major, high school students must meet the following criteria:

- GPA of 3.2 or higher with composite ACT 23 or SAT combined Critical Reading and Math 1070
- ACT (Math) 22 or SAT (Math) 540/570 (2016)

General nursing (Pre-Nursing) applicants are admitted to the School of Nursing as sophomores for either the Fall or Spring semesters. A completed application, including transcripts, for the basic BSN program must be made by January 15 of the year the candidate wishes to be admitted for the Fall semester and by May 15 to be admitted for the following Spring semester. Acceptance and placement in the program are dependent upon space

available in the program. There are limited spaces available and the best-qualified applicants are accepted. Application are available online from the admissions website after December 1.

Note: Admission criteria are subject to change. Please see the School of Nursing website (<http://nursing.hsc.wvu.edu>) for the most up-to-date criteria.

TRANSFER STUDENTS

Students with nursing credit from a nationally accredited nursing program in an accredited college or university are eligible for consideration for transfer admission by presenting a record of courses comparable to those required in this curriculum and meeting other School of Nursing admission requirements. These students must provide a statement of good standing from the nursing program in which they are currently enrolled. Acceptance and placement in the program are dependent on the individual's academic record and the number of spaces available. Transfer students must have a cumulative GPA of 3.0 for previous college coursework and must have earned at least a C in all nursing and pre- and co-requisite non-nursing courses, with no grade below a C in nursing courses. Only courses that are comparable to required courses in the BSN curriculum will be transferable. Nursing credits from a program that is not nationally accredited are not transferable. Transfer students are required to complete a transfer student orientation.

Acceptance and placement in the program is dependent on the individual's academic record and the number of spaces available in the program. Application should be initiated three months prior to the beginning of the semester in which the applicant wishes to begin nursing courses. Transcripts and other required materials must be received no later than two months before the start of entering semester.

Note: Admission criteria are subject to change. Please see the School of Nursing website for the most up-to-date criteria (<http://nursing.hsc.wvu.edu>).

Click here to view the Suggested Plan of Study (p. 861)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Bachelor of Science in Nursing

All basic students admitted to the school complete a common curriculum in the freshman year designed to provide the foundation for success in subsequent nursing courses.

Students admitted to the School of Nursing as sophomores must have completed the freshman-year (pre-requisite) courses prior to beginning the sophomore year. All freshman-year courses must be completed with a grade of C- or better, and the student must have a cumulative GPA of 3.0 or higher in required pre-requisite courses and an overall GPA of 3.0 or higher in all college level work.

Pre-requisite courses required with a grade of C- or better before enrollment in Sophomore nursing courses.

Choose one of the following (GEF 2B):		4
BIOL 102 & BIOL 104 or BIOL 115	General Biology and General Biology Laboratory Principles of Biology	
Choose one of the following (GEF 8):		4

CHEM 111 or CHEM 115	Survey of Chemistry Fundamentals of Chemistry	
Choose one of the following (GEF 8):		4
CHEM 112 or CHEM 116	Survey of Chemistry Fundamentals of Chemistry	
ENGL 101	Introduction to Composition and Rhetoric (GEF 1)	3
NBAN 107 or PSIO 107	Introduction to Human Anatomy and Physiology Introduction to Human Anatomy and Physiology	4
NSG 100	Introduction to Nursing	2
PSYC 101	Introduction to Psychology (GEF 4)	3
WVUE 191	First Year Seminar	1
Choose one of the following (GEF 3):		3
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
MATH 126C	College Algebra 3-Day	
Pre- or Co-requisites with enrollment of Sophomore courses. Must be completed with a C- or better.		
ENGL 102	Composition, Rhetoric, and Research (GEF 1)	3
MICB 200	Medical Microbiology	3
HN&F 171	Introduction to Human Nutrition (GEF 8)	3
NBAN 207	Human Anatomy and Physiology 2	4
PSYC 241	Introduction to Human Development	3
STAT 211 or STAT 201	Elementary Statistical Inference Applied Statistical Modeling	3
SOCA 105	Introduction to Anthropology (GEF 7; is a pre or co-requisite to the first semester Junior year courses)	3
Nursing courses. Must be completed with a C- or better.		
NSG 211	Health Assessment & Communication	6
NSG 212	Foundations of Nursing Practice	6
NSG 276	Evidence Based Practice and Research	3
NSG 310	Maternal Infant Nursing & Women's Health Care	4
NSG 311	Alterations in Adult Health 1	6
NSG 312	Alterations in Adult Health 2	6
NSG 320	Child and Adolescent Health	4
NSG 360	Ethics and Health Policy	3
NSG 376	Clinical Nursing Pharmacology	3
NSG 411	Nursing in Complex Community Systems	7
NSG 412	Leadership in Complex Systems	7
NSG 450	Alterations in Mental Health	4
NSG 460	Care of the Critically Ill Patient	4
NSG 486	NCLEX Review	1
Select one of the following:		2
NSG 400	Spirituality and Health	
NSG 481	Cardiac Nursing	
NSG 482	Palliative Care Nursing	
NSG 483	Holistic and Integrative Nursing	
NSG 484	Care of the Diabetic Patient	
NSG 485	Children With Complex Health Needs	
NSG 487	Movies and Mental Health	
NSG 488	Generics/Genomics in Health	
GEF Requirements 5 & 6		6
NSG 276, NSG 360, and NSG 411 will fulfill Writing and Communication Skills Requirement		
Total Hours		122

Suggested Plan of Study for Basic Nursing and Pre-Nursing Majors

Nursing courses must be taken in the sequence indicated in the Plan of Study and must be passed with a grade of C or better before progressing to nursing courses in the next semester.

First Year

Fall	Hours Spring	Hours
CHEM 111 or 115 (GEF 8)	4 CHEM 112 or 116 (GEF 8)	4
BIOL 102 or 115 (GEF 2B)	3 NBAN 107	4
BIOL 104 or 115	1 ENGL 101 (GEF 1)	3
NSG 100	2 STAT 211	3
Select one of the following (GEF 3):	3 PSYC 101 (GEF 4)	3
MATH 126A		
MATH 126B		
MATH 126C		
WVUE 191	1	
	14	17

Second Year

Fall	Hours Spring	Hours
PSYC 241	3 ENGL 102 (GEF 1)	3
NBAN 207	4 HN&F 171 (GEF 8)	3
MICB 200	3 NSG 212	6
NSG 211	6 NSG 376	3
	16	15

Third Year

Fall	Hours Spring	Hours
NSG 310	4 NSG 312	6
NSG 311	6 NSG 320	4
SOCA 105 (GEF 7)	3 NSG 360	3
NSG 276	3 GEF 5 or 6	3
	16	16

Fourth Year

Fall	Hours Spring	Hours
NSG 450	4 NSG 412	7
NSG 411	7 NSG 460	4
Nursing Elective	2 NSG 486	1
GEF 5 or 6	3	
	16	12

Total credit hours: 122

Major Learning Goals

BACHELOR OF SCIENCE IN NURSING

CRITICAL THINKING: Employ scholarly inquiry and evidence-based reasoning and creativity in the process of assessment, interpretation, analysis, synthesis, evaluation, and inference as a basis for professional nursing practice.

NURSING INTERVENTIONS: Ensure quality care by applying theory, evidence-based clinical judgment and decision-making, and patient care technology in the delivery of safe and skilled nursing therapeutics with individuals, families, communities, and populations across the health-illness continuum.

PROFESSIONAL ROLE: Demonstrate knowledge, attitudes, professional values, personal qualities and behaviors consistent with the nursing roles of health care designer and coordinator, organization and system leader, and advocate for consumers and the nursing profession.

CARING: Provide empathetic, culturally sensitive, and compassionate care for individuals, families, communities, and populations that upholds moral, legal, and ethical humanistic principles.

COMMUNICATION: Integrate therapeutic, interpersonal, intraprofessional, interprofessional and informatics communication processes in professional nursing practice.

BS/BA to BSN

BS/BA to Bachelor of Science Program

The BS-BA to BSN program is an accelerated program for college graduates who wish to become a registered nurse with a bachelor's degree in nursing. It is designed for full time study. After 18 months of continuous enrollment, successful students obtain the Bachelor of Science in nursing degree (BSN) and are eligible to take the licensing examination for registered professional nurse (RN).

BS/BA TO BSN ADMISSION

Applicants for the BS/BA to BSN program must have a baccalaureate degree from an accredited college or university with an overall grade point average of at least 3.0 on a 4.0 scale and a cumulative GPA of 3.0 or better in prerequisite courses.

The following prerequisite courses must be completed with a grade of C- or better prior to enrollment:

English Composition	6
Chemistry	3-4
Biology	3-4
Human Anatomy	3-4
Human Physiology	3-4
Microbiology	3-4
Statistics	3
Introductory Psychology	3
Introductory Sociology	3
Developmental Psychology Across the Lifespan	3
Human Nutrition	3
College Algebra	3

Application to the BS/BA to BSN program must be made by July 1 for admission to the program the following January. Acceptance and placement in the program are dependent upon space available in the program. There are limited spaces available and the best-qualified applicants are accepted.

Application forms are available online after March 1 by from the admissions website. Students in the BS/BA to BSN program must meet the same academic standards as basic BSN students and must complete the graduation requirements as specified for second degree students.

Students entering the BSN or BS/BA to BSN program are required to participate in the WVU Health Sciences Center Student Computer Program. A laptop computer, will be issued to all students entering these programs. Please visit the School of Nursing website at <http://nursing.hsc.wvu.edu/academics/undergraduate-programs/bachelor-of-science/program-information/> for more information.

Note: Admission criteria are subject to change. Please see the School of Nursing website for the most up-to-date criteria (<http://nursing.hsc.wvu.edu>).

[Click here to view the Suggested Plan of Study \(p. 863\)](#)

The BS/BA to BSN Curriculum

Students must have earned a previous baccalaureate degree prior to enrollment in the BS/BA to BSN program. Students must have a cumulative GPA of 3.0 or higher in required pre-requisite courses and an overall GPA of 3.0 or higher in all college level work.

Students must maintain a cumulative GPA of 3.0 or higher through completion of degree.

All courses must be completed with a grade of a C- or better

NSG 211	Health Assessment & Communication	6
NSG 212	Foundations of Nursing Practice	6
NSG 276	Evidence Based Practice and Research	3
NSG 310	Maternal Infant Nursing & Women's Health Care	4
NSG 311	Alterations in Adult Health 1	6
NSG 312	Alterations in Adult Health 2	6
NSG 320	Child and Adolescent Health	4
NSG 360	Ethics and Health Policy	3
NSG 376	Clinical Nursing Pharmacology	3

NSG 411	Nursing in Complex Community Systems	7
NSG 412	Leadership in Complex Systems	7
NSG 450	Alterations in Mental Health	4
NSG 460	Care of the Critically Ill Patient	4
NSG 486	NCLEX Review	1
Select one of the following		2
NSG 480	Core Concepts in Gerontological Nursing	
NSG 481	Cardiac Nursing	
NSG 482	Palliative Care Nursing	
NSG 483	Holistic and Integrative Nursing	
NSG 484	Care of the Diabetic Patient	
NSG 485	Children With Complex Health Needs	
NSG 487	Movies and Mental Health	
Total Hours		66

Suggested Plan of Study for BS/BA to BSN

First Semester	Hours
NSG 211	6
NSG 212	6
NSG 376	3
	15
Second Semester	Hours
NSG 310	4
NSG 311	6
NSG 276	3
	13
Third Semester	Hours
NSG 312	6
NSG 320	4
NSG 360	3
	13
Fourth Semester	Hours
NSG 411	7
NSG 450	4
Nursing Elective	2
	13
Fifth Semester	Hours
NSG 412	7
NSG 460	4
NSG 486	1
	12

Total credit hours: 66

Major Learning Goals

BS/BA TO BACHELOR OF SCIENCE IN NURSING

CRITICAL THINKING: Employ scholarly inquiry and evidence-based reasoning and creativity in the process of assessment, interpretation, analysis, synthesis, evaluation, and inference as a basis for professional nursing practice.

NURSING INTERVENTIONS: Ensure quality care by applying theory, evidence-based clinical judgment and decision-making, and patient care technology in the delivery of safe and skilled nursing therapeutics with individuals, families, communities, and populations across the health-illness continuum.

PROFESSIONAL ROLE: Demonstrate knowledge, attitudes, professional values, personal qualities and behaviors consistent with the nursing roles of health care designer and coordinator, organization and system leader, and advocate for consumers and the nursing profession.

CARING: Provide empathetic, culturally sensitive, and compassionate care for individuals, families, communities, and populations that upholds moral, legal, and ethical humanistic principles.

COMMUNICATION: Integrate therapeutic, interpersonal, intraprofessional, interprofessional and informatics communication processes in professional nursing practice.

RN to BSN

RN to Bachelor of Science Program

The WVU School of Nursing RN to BSN program offers graduates of diploma and associate degree nursing programs the opportunity to complete requirements for the Bachelor of Science in Nursing degree (BSN) at the Charleston, Morgantown, and Beckley campuses. Nursing courses in the RN to BSN program are designed for completion in three semesters of full-time study. Alternate progression patterns are available for students needing to maintain 12 credit hours each semester and for students wishing to maintain part-time enrollment. All the courses are offered as web courses. The School of Nursing offers in-state tuition for all students enrolled in the RN-BSN program, regardless of residency.

ADMISSION FOR RN TO BSN PROGRAM

Registered nurses are admitted directly to the School of Nursing. Acceptance and placement in the program are dependent upon the individual's academic record and upon the number of spaces available. An unrestricted license to practice nursing, an Associate Degree in Nursing from a nationally accredited program, and a grade point average of 2.5 or better on all college work attempted are required to be eligible for consideration. The School of Nursing offers in-state tuition for all students enrolled in the RN-BSN program, regardless of residency.

All Registered Nurses will transfer 50 hours of undifferentiated nursing credit. All RN to BSN students will be required to meet WVU's General Education Foundations (GEF). Students who already hold a bachelors degree in another discipline will be required to complete ENGL 102, STAT 211, PSYC 101, PSYC 241, and SOCA 101 or SOCA 105 (if not already taken) to fulfill the GEF requirements. Advisors will work with students to identify courses already appearing on the transcript that meet GEF requirements, and then develop a plan to fulfill any remaining requirements. For example:

120 credits (minimum required to graduate)
~~50~~ undifferentiated nursing credits for RN license
 70 credits remaining

~~28~~ credits RN-BSN nursing courses (See program of study)
 42 general education credits remaining*

*General education credits may be fulfilled by course work from associate degrees or other college work. For more information about General Education Foundations; see link below. For more information about course equivalency please see the following website: Transfer Course Equivalency System (http://admissions.wvu.edu/admissions/university-requirements/transfer_equivalency). **PLEASE NOTE: The last consecutive 30 enrolled credits must be taken at WVU in order to meet residency requirements for graduation.**

Note: Admission criteria are subject to change. Please see the School of Nursing website for the most up-to-date criteria (<http://nursing.hsc.wvu.edu>).

[Click here to view the Suggested Plan of Study \(p. 865\)](#)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3

F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

RN to BSN Curriculum

All Registered Nurses will transfer 50 hours of undifferentiated nursing credit. All RN to BSN students will be required to meet WVU's General Education Foundations Curriculum (GEF). If a student already holds a bachelors degree in another discipline, you will be required to complete ENGL 102, STAT 211, PSYC 101, PSYC 241, and SOCA 101 or SOCA 105 (if not already taken) to fulfill nursing requirements. Advisors will work with students to identify courses already appearing on the transcript that meet GEF requirements, and then develop a plan to fulfill any remaining requirements.

Student must have a cumulative GPA of 2.5 or higher on college work attempted and carry an overall GPA of 2.5 or higher throughout through completion of degree. Note that the last 30 credit hours taken for the degree MUST come from WVU in order to meet residency requirements.

Overall GPA of 2.5 or higher is required through completion of degree

Cumulative GPA of 2.5 or higher on college work attempted is required

Transfer Credits

Undifferentiated nursing transfer credit	50
GEF 2, 5, 6, 7, 8	16
Additional elective transfer credit *	8

Required Courses

Must be completed with a grade of C- or better

ENGL 101	Introduction to Composition and Rhetoric (GEF 1)	3
ENGL 102	Composition, Rhetoric, and Research (GEF 1) **	3
PSYC 101	Introduction to Psychology (GEF 4) **	3
PSYC 241	Introduction to Human Development (GEF 8) **	3
SOCA 101	Introduction to Sociology (GEF 8) **	3
or SOCA 105	Introduction to Anthropology	
STAT 211	Elementary Statistical Inference (GEF 3) **	3
NSG 333	Ethics in Nursing	3
NSG 361	Health Assessment	3
NSG 362	Clinical Health Promotion	3
NSG 373	Leadership in Organizations	3
NSG 372	Safety, Quality, and Information Technology	2
NSG 461	Health Policy for Professional Nursing Practice	3
NSG 475	Applied Research and Evidence Based Practice	4
NSG 465	Foundations of Research and Evidence Based Practice	3
NSG 471	Community Health Nursing:Theory and Interventions	4
Total Hours		120

* Used to meet minimum total credits of 120 for the degree.

** Transfer credit equivalent to the specific course is allowed.

*** 120 credit hours are required by WVU for awarding of an undergraduate degree

Suggested Plan of Study for Full Time RN-BSN: 3 Semesters

First Semester	Hours
Transfer credit *	
GEF	3
NSG 333	3
NSG 361	3
NSG 362	3
	12

Second Semester	Hours
NSG 461	3
NSG 465	3
NSG 373	3
NSG 372	2
	11
Third Semester	Hours
NSG 471	4
NSG 475	4
	8
Total credit hours: 31	

* Completion of transfer credit or courses to fulfill GEF requirement and reach a total of 120 credits is required.

Suggested Plan of Study for Part-Time RN-BSN: 2 Years/5 Semesters

First Year

Fall	Hours Spring	Hours Summer	Hours
Transfer credit.*	NSG 373	3 GEF	3
NSG 333	3 GEF	3	
NSG 361	3		
	6	6	3

Second Year

Fall	Hours Spring	Hours Summer	Hours
NSG 362	3 NSG 465	3 NSG 475	4
GEF	3 NSG 372	2 NSG 471	4
GEF	3 NSG 461	3	
	9	8	8

Total credit hours: 40

* Completion of transfer credit or courses to fulfill GEF requirement and reach a total of 120 credits is required.

Major Learning Goals

RN TO BACHELOR OF SCIENCE IN NURSING

CRITICAL THINKING: Employ scholarly inquiry and evidence-based reasoning and creativity in the process of assessment, interpretation, analysis, synthesis, evaluation, and inference as a basis for professional nursing practice.

NURSING INTERVENTION: Ensure quality care by applying theory, evidence-based clinical judgment and decision-making, and patient care technology in the delivery of safe and skilled nursing therapeutics with individuals, families, communities, and populations across the health-illness continuum.

PROFESSIONAL ROLE: Demonstrate knowledge, attitudes, professional values, personal qualities and behaviors consistent with the nursing roles of health care designer and coordinator, organization and system leader, and advocate for consumers and the nursing profession.

CARING: Provide empathetic, culturally sensitive, and compassionate care for individuals, families, communities, and populations that upholds moral, legal, and ethical humanistic principles.

COMMUNICATION: Integrate therapeutic, interpersonal, intraprofessional, interprofessional and informatics communication processes in professional nursing practice.

School of Pharmacy

Degrees Offered

- Doctor of Pharmacy (Pharm.D.)

Introduction

The mission of the West Virginia University (WVU) School of Pharmacy is to improve the health and well-being of West Virginians and society at large through innovative pharmacy education, research, practice, and service.

Pharmacy was first offered at West Virginia University as a department in the School of Medicine in 1914. The College of Pharmacy emerged as a separate entity in 1936 and became the School of Pharmacy in 1958. In 1960, the School of Pharmacy changed from a four-year to a five-year program and in 1998 to a six-year program. The doctor of pharmacy (Pharm.D.) program comprises four years of professional study preceded by a minimum of two years of pre-pharmacy study in an accredited U.S. or Canadian college of arts and sciences.

Many pharmacy graduates enter practice in community or institutional pharmacies; postgraduate pharmacy residency programs offer the opportunity for additional training and experience in general pharmacy practice and in several areas of specialty practice. Positions are also available in various government agencies, the pharmaceutical industry, long-term care, nuclear pharmacy, home health-care organizations and many other areas. Pharmacists are eligible for commissions in the armed forces and the U.S. Public Health Service. Pharmacists also may prepare for careers in teaching and research.

The WVU School of Pharmacy also offers Ph.D. programs in the pharmaceutical and pharmacological sciences and health outcomes research.

Accreditation

The School of Pharmacy is fully accredited by the Accreditation Council for Pharmacy Education, the national agency for the accreditation of professional degree programs in pharmacy. The Council is composed of members from the American Pharmacists Association, the National Association of Boards of Pharmacy, the American Association of Colleges of Pharmacy, and the American Council on Education.

The School of Pharmacy holds membership in the American Association of Colleges of Pharmacy, whose mission is to lead and partner with member institutions in advancing pharmacy education, research, scholarship, practice, and service to improve societal health.

ADMINISTRATION

INTERIM DEAN

- Mary K. Stamatakis - Pharm.D. (The Ohio State University)

ASSOCIATE DEAN FOR ACADEMIC AFFAIRS AND EDUCATIONAL INNOVATION

- Mary K. Stamatakis - Pharm.D. (The Ohio State University)
Associate Professor, Department of Clinical Pharmacy

ASSOCIATE DEAN FOR STUDENT SERVICES

- Mary L. Euler - Pharm.D. (University of Missouri-Kansas City School of Pharmacy)
Professor, Department of Clinical Pharmacy

ASSOCIATE DEAN FOR RESEARCH AND GRADUATE PROGRAMS (INTERIM)

- Paul R. Lockman - Ph.D. (Texas Tech University Health Sciences Center)
Chair, Department of Pharmaceutical Sciences

Pre-Pharmacy

The primary objective of the Doctor of Pharmacy (Pharm.D.) program is to educate practitioners for current and future roles in the profession of pharmacy. The Pharm.D. program comprises four years of professional study preceded by a minimum of two years of pre-pharmacy coursework in a U.S. or Canadian accredited college of arts and sciences. To prepare for the professional curriculum, students must complete a pre-pharmacy curriculum that emphasizes the biological and chemical sciences. In addition, pre-pharmacy students must complete a variety of courses of their choosing in the arts, humanities, and social sciences. Student will go through a competitive application process in the year prior to intended matriculation to the four year professional curriculum. Details regarding the pre-pharmacy course requirements can be found on the major tab.

Pharm.D. Admissions

Admissions are competitive. Criteria used to evaluate candidates include academic performance, as measured by the grade point averages (GPA) for all the above-noted prerequisite courses and the cumulative GPA achieved in all prior college-level coursework, Pharmacy College Admissions Test (PCAT) scores (including a written essay), a personal interview, and letters of recommendation. Prerequisite courses may be taken at an accredited U.S.

or foreign institution of higher education and completed with a grade of C or better. Careful consideration is given to those personal qualifications which bear upon the fitness of applicants for the study and practice of the profession of pharmacy.

All applicants must first file an initial electronic application with the Pharmacy College Application Service (PharmCAS). Instructions for completing the application are found on the PharmCAS website: <http://www.pharmacas.org/>. Application deadlines are subject to change; check PharmCAS, the School of Pharmacy website at <http://pharmacy.hsc.wvu.edu> or contact the School to verify current deadlines. Supplemental applications specific to the WVU School of Pharmacy will then be sent to selected candidates deemed qualified by the Committee on Admissions. A \$50 fee must accompany the supplemental application.

Each applicant who is recommended for acceptance is required to pay a deposit of \$500 before his or her name is added to the official list of those accepted by the School of Pharmacy. If the applicant enrolls, this sum is applied to the first-semester tuition. If the applicant fails to enroll, this deposit is forfeited.

With enrollment in the School of Pharmacy, all students must comply with the immunization and diagnostic procedures required by the WVU Board of Governors, WVU, the WVU Robert C. Byrd Health Sciences Center, and the School of Pharmacy.

Complete information may be obtained from:

School of Pharmacy Office of Student Services
WVU Robert C. Byrd Health Sciences Center
P.O. Box 9500
Morgantown, WV 26506-9500

Pharmacy College Admission Test

Completion of the Pharmacy College Admission Test is a requirement for admission to the School. It is recommended that the student take this test in the summer or fall before making application for admission. Information concerning time and place of the test can be obtained from the School of Pharmacy, or by NCS Pearson, Inc.

PCAT Customer Relations
19500 Bulverde Road
San Antonio, TX 78259
1-800-622-3231 or (210) 339-8710
Fax 1-800-727-0811 or 1-800-999-5941
or <http://www.PCATweb.info>

Personal Interview

The Committee on Admissions requires a personal interview with selected candidates who qualify for a supplemental application. The Committee on Admissions will determine which applicants are to receive the supplemental application. Interviews are held during the fall and spring semester at the WVU Robert C. Byrd Health Sciences Center in Morgantown.

Recommendations on Academic Performance

A total of three recommendations are required. Two academic recommendations are required and must be provided by course instructors in any two of the pre-pharmacy course requirements. The third recommendation may be provided by a variety of individuals. Please refer to the PharmCAS website for more detailed information.

Early Decision

The Early Decision program is a binding option for applicants who have decided that West Virginia University is the degree program of their first choice and that they will enroll if accepted. As an Early Decision applicant, you can apply to only one pharmacy degree program.

The Early Decision application deadline is typically the first of September. In addition to completing the PharmCAS application, you must arrange for PharmCAS to receive all of your official transcripts and fee by the September deadline. If your application, transcripts, or fee arrives after the deadline, PharmCAS will automatically change your file from early decision status to regular status.

You may be offered early admission, denied admission, or deferred to regular applicant status. **If you are offered admission as an Early Decision applicant, you are obligated to accept the offer and you will not be permitted to apply to other PharmCAS institutions.** If, however, you are denied admission as an Early Decision applicant, you may apply to other PharmCAS institutions for an additional fee. Refer to the PharmCAS application fee schedule to determine the cost to apply to each additional program. PharmCAS institutions will make admission decisions on early decision applicants by mid October.

Admission to Advanced Standing for Transfer Students

If space is available, students from other accredited schools of pharmacy may be admitted, provided they meet the prerequisite course requirements of the WVU School of Pharmacy, have at least a 2.5 professional grade point average, are in good academic and professional standing at the school of origin, and are eligible for continuation toward a degree in pharmacy at the school initially attended. Grades of D in professional courses cannot be transferred.

Provisional Admission

An applicant accepted into the first year, or an advanced standing transfer student, is expected to have met all entrance requirements and satisfactorily completed all pre-pharmacy coursework in progress prior to matriculation. A satisfactory performance in the completion of such coursework is defined as one that is consistent with the student's previous academic record and must include no grades of D or lower in prerequisite courses. While it is preferred that all prerequisite coursework be completed by the end of the spring term prior to matriculation, it is possible to complete up to two non-sequential prerequisite courses before the start of pharmacy student orientation in the fall semester of matriculation. Failure to do so will result in revocation of the acceptance by the Admissions Committee.

Admitted students must remain free of any violations of local, state, or federal law that would prohibit their ability to obtain an intern license from the West Virginia Board of Pharmacy.

Furnishing or causing to furnish false or incorrect information for the purpose of gaining admission to the School of Pharmacy constitutes grounds for disciplinary action including, but not limited to, expulsion or revocation of acceptance.

Students in the School of Pharmacy agree to abide by the provisions of the Student Code of Academic and Professional Integrity. Upon admission, each student is required to return a signed statement to the Office of Student Services indicating the student has read and understands the Policy on Academic and Professional Standards and the Student Code of Academic and Professional Integrity of the West Virginia University School of Pharmacy. The code and copies of the statement are available in the Office of Student Services in the School of Pharmacy, and on the School of Pharmacy website.

Academic and Technical Standards and Policies

<http://pharmacy.hsc.wvu.edu/student-services/description-of-the-professional-program/>

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Pre-Pharmacy Curriculum Requirements

Biochemistry Requirement

Select one of the following:		3
AGBI 410	Introductory Biochemistry	
BIOC 339	Introduction to Biochemistry	

Select one of the following BIOL 115 preferred - (May fulfill GEF 2): *		4
BIOL 115	Principles of Biology	
BIOL 101 & BIOL 102 & BIOL 103 & BIOL 104	General Biology and General Biology and General Biology Laboratory and General Biology Laboratory	
BIOL 117	Introductory Physiology (May fulfill GEF 8)	4
CHEM 115	Fundamentals of Chemistry (May fulfill GEF 8)	4
PSIO 241 or BIOL 235	Elementary Physiology Human Physiology	4
CHEM 116	Fundamentals of Chemistry (May fulfill GEF 8)	4
CHEM 233 & CHEM 235	Organic Chemistry and Organic Chemistry Laboratory	4
CHEM 234 & CHEM 236	Organic Chemistry and Organic Chemistry Laboratory	4
ECON 201	Principles of Microeconomics (May fulfill GEF 4)	3
ENGL 101	Introduction to Composition and Rhetoric (May fulfill GEF 1)	3
ENGL 102	Composition, Rhetoric, and Research (May fulfill GEF 1)	3
Math Requirement		
Select one of the following (May fulfill GEF 3):		3
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
Microbiology Requirement		
Select one of the following:		3
AEM 341	General Microbiology	
AEM 401	Environmental Microbiology	
MICB 200	Medical Microbiology	
CSAD 270	Effective Public Speaking	3
STAT 211 or ECON 225	Elementary Statistical Inference Elementary Business and Economics Statistics	3
WVUE 191	First Year Seminar (or equivalent)	1
General Education Foundations		
GEF Requirements 5, 6, 7		9
Total Hours		62

* BIOL 101, 102, 103, and 104 are equivalent to BIOL 115.

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
BIOL 115	4 BIOL 117	4
CHEM 115	4 CHEM 116	4
MATH Requirement	3 ENGL 101	3
CSAD 270	3 STAT 211 or ECON 225	3
WVUE 191 (or equivalent)	1	
	15	14

Second Year

Fall	Hours Spring	Hours
Select one of the following:	3 Select one of the following:	3
AEM 341	AGBI 410	
AEM 401	BIOC 339	

MICB 200	CHEM 234	3
CHEM 233	3 CHEM 236	1
CHEM 235	1 ECON 201	3
ENGL 102	3 GEF #7	3
GEF #5	3 BIOL 235 or PSIO 241	3-4
GEF #6	3	
<hr/>		
	16	16-17
<hr/>		

Total credit hours: 61-62

College of Physical Activity and Sport Sciences

Degree Offered

- Bachelor of Science

Nature of Program

Students in athletic coaching education, athletic training, physical education teacher education, sport and exercise psychology, and sport management examine the relationship of play, games, sport, athletics, fitness, and dance to our culture and cultures throughout the world. Their preparation includes the acquisition of knowledge and skills from a vast array of movement activities in addition to an understanding of associated physiological, biomechanical, sociological, psychological, historical, philosophical, and pedagogical principles. Preparation in athletic training is designed to enable students to prevent and treat injuries related to athletic competition.

Graduates in physical education with teaching certification are generally employed as elementary or secondary health and/or physical education teachers and athletic coaches. Graduates in sport and exercise psychology and sport management are employed with professional and collegiate sport enterprises, fitness centers, recreation programs, sporting goods stores, or commercial sporting goods manufacturers, or pursue graduate training in sport and exercise psychology. Athletic coaching education graduates are employed as coaches, strength and conditioning specialists, and work in the health and fitness industry. Athletic training graduates often work in high school, college, professional, and health/medical facilities to help treat and prevent injury.

Programs

Baccalaureate programs offered in the College of Physical Activity and Sport Sciences (CPASS) include athletic training, athletic coaching education, physical education teacher education, sport and exercise psychology, and sport management. The College of Physical Activity and Sport Sciences has available to students minors including:

- personal trainer
- group fitness instructor
- sport and exercise psychology
- sport communication
- aquatic facility management
- strength and conditioning
- sport coaching
- adventure sports leadership
- youth physical activity leadership
- adapted physical activity.

Facilities

The facilities of the College of Physical Activity and Sport Sciences include the gymnasium, dance studio, and swimming pool in E. Moore Hall; a gymnasium and fitness center in Stansbury Hall; bowling lanes and billiard area in the Mountainlair; indoor track and sports area in the Shell Building; outdoor areas including the stadium, tennis courts, soccer and field hockey fields, and outdoor track; and the Natatorium with its pool and diving well. The College of Physical Activity and Sport Sciences moved into a new building bordering the Student Recreation Center and intramural fields in the summer of 2014. The new building has nine technology based classrooms, three large seminar/conference rooms, a 46 seat computer lab, research space, a consulting/observation room, multipurpose instructional room, an instructional fitness lab, and faculty offices. Additional faculty and staff offices are in E. Moore Hall, Stansbury Hall, the Natatorium, and the Shell Building.

Credit Load Per Semester

The minimum workload per semester for a full-time student is twelve hours and the maximum workload per semester is twenty hours. However, an advisor may register a student as a part-time student if fewer than twelve hours are required to meet all requirements for the bachelor's degree. Other exceptions to these regulations may be requested by petitioning the Committee on Academic Standards.

Physical Education Basic Instruction

Physical education classes are open to all students of the University. A wide variety of team, individual, and leisure sports and recreational activities in the form of aquatics, fitness, martial arts, and outdoor adventure are offered. The motto of the Basic Instruction Program is "Play to be fit, and be fit to play" so the aims of the program are to develop:

- An appreciation of the body and its capacity to move
- Movement skills of games, sport, dance, and aquatics

- An appreciation of the value of continued activity throughout all age periods in an individual's life
- An understanding of the cultural significance of sport and dance
- Concepts of the physiological characteristics of sport and movement

All courses numbered PE 101–293 are at a beginner's level unless otherwise specified. Repeating an activity is not allowed except at a more advanced level.

ADMINISTRATION

DEAN

- Dana D. Brooks - Ed.D. (West Virginia University)
Dean

DEPARTMENT CHAIR FOR SPORT SCIENCES

- Jack Watson - Ph.D. (Florida State University)
Chair, Sport Sciences

DEPARTMENT CHAIR FOR COACHING & TEACHING STUDIES

- Valerie Wayda - Ed.D. (West Virginia University)
Chair, Coaching and Teaching Studies

PROFESSORS EMERITI

- William Alsop - Ed.D. (West Virginia University)
- William Bonsall - M.S. (West Virginia University)
- J. William Douglas - Ph.D. (Ohio State University)
- Andrew Hawkins - Ph.D.
(Ohio State University)
- Lynn Housner - Ph.D.
(University of Pittsburgh)
- Beatrice Hurst - M.A. (Columbia University)
- Andrew C. Ostrow - Ph.D. (University of California)
- Daniel Ziatz - Ph.D.
(University of Utah)

Degree Designation Learning Goals

BACHELOR OF SCIENCE (BS)

A mission of the College of Physical Activity and Sport Sciences is to prepare our students to become effective practitioners and leaders in their respective fields and to enhance the quality of life of the citizens of West Virginia and beyond. The college offers emphasis areas in Athletic Coaching Education, Athletic Training, Physical Education Teacher Education, Sport and Exercise Psychology, and Sport Management. These programs are characterized by curricular experiences which are designed to broaden perspectives, enrich awareness, deepen understanding, establish disciplined habits of thought, prepare for meaningful careers, and thus help individuals become informed, responsive and productive citizens.

Students in Bachelor of Science degree programs in CPASS

- Participate in professional development activities to become engaged professionals within community and professional field of practice
- Demonstrate ability to utilize technology to advance own professional growth and practice
- Engage in diverse thinking and generation of ideas with the goal of promoting critical inquiry
- Demonstrate professional program competencies, where appropriate, aligned with national accreditation agencies
- Apply knowledge to promote healthy lifestyles

The College of Physical Activity and Sport Sciences offers eight different minors. To complete any minor, you must notify your department to declare your minor.

ADVENTURE SPORTS LEADERSHIP MINOR**MINOR CODE - U083**

This minor is designed to provide students with the solid base of knowledge, skills, and experiences sought by many employers within the adventure sports industry. Adventure Sports Internship can not be completed until required courses (ACE 451, ACE 452, ACE 454, PE 169, and PE 189) are completed with a letter grade of C or higher. Student must possess valid WFA or WFR and CPR certifications upon graduation. Other electives may be approved and accepted. Contact Valerie Wayda, Chair, Coaching & Teaching Studies at (304) 293-0830 or e-mail at valerie.wayda@mail.wvu.edu or Carol Straight, Advising Center at (304) 293-0839 or email at cstraig@mail.wvu.edu.

REQUIRED COURSES

ACE 389	Introduction to Adventure Sports	1
ACE 451	Plan/Risk Management for Adventure Sport	3
ACE 452	Outdoor Leader/Group Dynamics	3
ACE 454	Advanced Sport Instruction Techniques	3
PE 169	Outdoor Navigation and Survival	1
PE 183	Wilderness First Aid Basics	1-3
or RPTR 148	Wilderness First Responder	
PE 189	Outdoor Living Skills	1
ACE 455	Adventure Sports Internship (Internship)	2-6

ELECTIVES (minimum of four courses) 4-6

PE 120	Canoeing	
PE 171	Caving Basics	
PE 172	Cycling Basics	
PE 177	Adventure Racing Basics	
PE 181	Rock Climbing Basics	
PE 184	Snow Sport Basics	
RPTP Course - Group Facilitation Dynamics		

Total Hours

19-27

AQUATIC FACILITY MANAGEMENT MINOR**MINOR CODE - U080**

The Aquatic Facility Management minor prepares students to manage an aquatic facility effectively and efficiently. The students will have the opportunity to receive four different certifications needed for pool operation. The certifications students can obtain are American Red Cross Lifeguard, Water Safety Instruction, Certified Pool Operator, and Aquatic Aerobics Instructor. Students will get hands-on experience working with pool managers and aquatic directors during their internship. The Aquatic Facility Management Minor requires the completion of all required courses with a letter grade of C or higher. Most of the content for the courses is completed on line with skills assessments on weekends or evenings. For more information, contact Valerie Wayda, Chair, Coaching & Teaching Studies at (304) 293-0830 or e-mail at valerie.wayda@mail.wvu.edu or Carol Straight, Advising Center at (304) 293-0839 or email at cstraig@mail.wvu.edu.

A minimum GPA of 2.0 is required in all minor courses

REQUIRED COURSES

PE 175	Lifeguard Training	2
PET 324	Water Safety Instructorships	2
ACE 482	Certified Pool Operator	3
ACE 483	Aquatic Exercise Professional	3
ACE 484	Aquatic Staff and Programming	3
ACE 485	Aquatic Design and Budget	3
ACE 486	Aquatic Management Internship	3

Total Hours

19

SCHOLASTIC COACHING MINOR**MINOR CODE - U137**

The Scholastic Coaching minor is designed for students who are education majors, in the MDS program, sport and exercise psychology majors, sport management majors, and in any other sport or exercise related profession who may be interested in coaching at the interscholastic or recreational

levels. Upon completion of the minor, students will fulfill the West Virginia Secondary School Activities Commission (WVSSAC) coaching certification requirements. Students must earn a letter grade of a C or higher in all courses in the minor. In addition, students must provide proof of current First Aid, AED, and CPR certifications prior to enrolling in and through the duration of Practicum Coaching Youth Sports. For more information, contact Valerie Wayda, Dept Chair for Coaching & Teaching Studies at (304) 293-0830 or e-mail at valerie.wayda@mail.wvu.edu (Valerie.Wayda@mail.wvu.edu) or Carol Straight, Advising Center at (304) 293-0839 or email at cstraig@mail.wvu.edu.

A grade of C- or higher must be earned in all minor courses

REQUIRED COURSES		
ACE 256	Principles and Problems of Coaching (offered in summer only)	3
PET 244	Motor Learning and Performance	2
ACE 330	Coaching Education Administration	3
or SM 485	Sport Management	
SM 426	Liability in Sport	3
ACE 489	Practicum Coaching Youth Sport	3
One of the following Techniques of Coaching classes:		2
ACE course - Techniques of Coaching Lacrosse		
ACE 357	Techniques of Coaching: Swimming	
ACE 359	Techniques of Coaching: Track	
ACE 361	Techniques of Coaching: Soccer	
ACE 362	Techniques of Coaching: Basketball	
ACE 364	Techniques of Coaching: Football	
ACE 365	Techniques of Coaching: Baseball	
ACE 366	Techniques of Coaching: Volleyball	
Total Hours		16

GROUP FITNESS MINOR

MINOR CODE - U089

The Group Fitness minor is designed to prepare students for a professional career in designing and conducting comprehensive group fitness exercise programs. Students must earn a letter grade of C or higher in all courses.

Students will demonstrate the necessary professional competencies to design and teach group fitness exercise classes in step, hi/lo, interval, and use of resistance equipment using appropriate music tempo and progressive choreography. In addition, students will specialize in three of the following: Fitness Yoga, Indoor Cycling, Mat Pilates, Boxing, and Aqua Fitness. Students will learn to design safe and effective group fitness exercise programs that adhere to all codes, laws, regulations, and procedures within the recognized scope of practice for group fitness instructors set by the American College of Sports Medicine (ACSM) and the American Council on Exercise (ACE). Students must sit for the American Council on Exercise National Certification Exam. For more information, contact Nancy Naternicola, Coordinator at (304) 293-0858 or e-mail at Nancy.Naternicola@mail.wvu.edu.

REQUIRED COURSES		
ACE 373	Fitness Management	3
ACE 470	Methods of Aerobic Instruction	3
ACE Course - Methods of Group Fitness 2		3
ACE 463	Group Fitness Internship	6
Total Hours		15

PERSONAL TRAINING MINOR

MINOR CODE - U068

The Personal Trainer minor is designed for individuals who want a professional career in the fitness/wellness industry. Students are trained to screen clients, evaluate their clients' current fitness abilities, and to individualize an exercise program to fit client goals. The goal is to provide guided practical skills application to those students who wish to teach fitness related concepts to individuals (clients). Students will be prepared for and required to sit for the American Council on Exercise National Certification Exam. Students must earn a letter grade of C or higher in all coursework. For more information, contact Nancy Naternicola, Coordinator at (304) 293-0858 or e-mail at Nancy.Naternicola@mail.wvu.edu.

A grade of C or higher must be earned in all minor courses

REQUIRED COURSES		
ACE 373	Fitness Management (only offered in summer)	3

ACE 374	Fitness Field Testing (only offered in summer)	3
ACE 375	Lifestyle and Weight Management (only offered in summer)	3
ACE 472	Methods of Personal Training (only offered in summer)	3
ACE 476	Fitness Internship	3-6
Total Hours		15-18

SPORT AND EXERCISE PSYCHOLOGY MINOR

MINOR CODE - U056

A grade of C or higher must be earned in all minor courses

REQUIRED COURSES

SEP 271	Sport in American Society (Pre-requisite Courses)	3
SEP 272	Psychological Perspectives of Sport (Pre-requisite Course)	3
Choose three of the following:		9
SEP 373	African Americans in Sports	
SEP 383	Exercise Psychology	
SEP 385	Social Psychology of Sport	
SEP 420	Sport Performance Enhancement (Can only be taken in summer for minor)	
SEP 425	Psychological Aspects of Sport Injury	
SEP 493	Special Topics (Must be 3 credit hour course)	
COUN 303	Introduction to Helping Professions	
Total Hours		15

SPORTS COMMUNICATION MINOR

MINOR CODE - U088

The sport communication minor requires courses offered by the WVU College of Physical Activity and Sport Sciences and the College of Media. This blended minor includes both on-campus and online courses, and summer coursework is typically required to complete it.

To earn a minor in sport communication, a minimum grade of C- is required in all minor courses.

Students who double or triple minor in any two or three College of Media minors may only count each course towards one specific minor. In the case of overlapping curricula, students must replace the redundant course(s) with one of the College of Media's online 200-level or higher open-enrollment courses.

A grade of C- or higher must be earned in all minor courses

Requirements

One of the following:		3
ADV 201	Advertising and Society	
ADV 215	Principles of Advertising	
PR 215	Introduction to Public Relations	
Required:		3
JRL 361	Media Relations In Sport	
One of the following:		3
JRL 412	Sport Journalism	
PR 412	IMC for Sport	
Required: offered by the College of Physical Activity and Sports Sciences		3
SEP 271	Sport in American Society	
Two of the following offered by the College of Physical Activity and Sports Sciences:		6
SM 426	Liability in Sport (Only offered in spring and summer for minors)	
SM 485	Sport Management (Only offered in fall and summer for minors)	
SM 486	Sport Marketing & Sales (Only offered in summer for minors)	

Total Hours		18
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STRENGTH AND CONDITIONING MINOR

MINOR CODE - U091

The Strength and Conditioning minor is designed for individuals who would like to be a strength coach at the high school, college, or professional level or a strength and conditioning professional in the fitness/wellness fields. The minor provides students with in-depth understanding of the theory and practical consideration associated with physical training in the areas of speed, agility, strength, endurance, flexibility, and power.

The completion of the minor prepares students to take the Strength and Conditioning Specialist Certification exam offered by the National Strength and Conditioning Association (NSCA). Certification in CPR is required for the CSCS exam. EXPH 364 (or PET 124 & PET 125) and EXPH 365 (or EXPH 369) are pre-requisite courses for ACE 369. ACE 369 is a pre-requisite course for ACE 371 and ACE 372. ACE 371 and ACE 372 are pre-requisites for ACE 475. For more information, contact Guy Hornsby, Coordinator at William.Hornsby@mail.wvu.edu or Carol Straight, Advising Center at (304) 293-0839 or email at cstraig@mail.wvu.edu.

An overall SPA of 2.0 with a letter grade of "C-" or better in all required courses.

REQUIRED COURSES

EXPH 365	Exercise Physiology 1	3
Select one of the following sequences:		3-4
EXPH 364	Kinesiology	
Or		
PET 124 & PET 125	Human Body: Structure and Function and Principles of Human Movement	
All of the following coursework MUST be completed:		
ACE 369	Basic Strength/Condtnng-Coaches (EXPH majors can substitute EXPH 369 for 4 cr)	3
ACE 371	Strength and Conditioning Coaching Techniques (only offered during summer)	3
ACE 372	Sport Specific Strength and Conditioning (only offered during summer)	3
HN&F 200	Nutrition/Activity/Health (NH&F 171 is pre-req)	3
ACE 475	Strength and Conditioning Internship (Culminating course in minor)	3
Total Hours		21

Athletic Coaching Education

Bachelor of Science in Athletic Coaching Education

The Athletic Coaching Education (ACE) major prepares students interested in pursuing a variety of roles in the coaching profession. These roles include but are not limited to:

- An athletic coach at the youth or interscholastic level
- Coaching older master athletes
- Coaching individuals with disabilities
- Strength coaching
- Fitness coach

The Bachelor's Degree consists of a sequenced curriculum that focuses on professional knowledge, sport-specific science, and pedagogical skills mixed with practicum experiences that provide students with several opportunities to learn and apply the principles and practices of coaching across a wide range of health, recreation, and performance-based professions, as well as to develop professional networking and social skills. The ACE curriculum follows the National Standards for Sport Coaches 2nd Edition published by the National Association for Sport and Physical Education (NASPE).

FACULTY

ASSOCIATE PROFESSORS

- Kristen Dieffenbach - Ph.D. (University of North Carolina - Greensboro)
- Valerie Wayda - Ed.D. (West Virginia University)
Chair, Coaching and Teaching Studies

ASSISTANT PROFESSORS

- Jason Bishop - Ph.D. (University of Virginia)
- Ryan Flett - Ph.D. (Michigan State University)

TEACHING ASSISTANT PROFESSOR

- William (Guy) Hornsby III - Ph.D. (East Tennessee State University)
- Tobin Richardson - Ed.D. (Ball State)

ADJUNCT INSTRUCTORS

- Jerry Handley - M.S. (West Virginia University)
- Nancy Naternicola - M.S. (West Virginia University)

ASSOCIATE PROFESSOR EMERITUS

- Daniel Ziatz

Admission Requirements

ACE offers a direct admission option to students who earned scores of 1125 or higher on the SAT or 26 or higher on the ACT. There is no application to the direct admit program. Students who qualify will be invited by the program to join as incoming freshmen which will make them eligible for additional CPASS scholarships. Direct admits will have to complete the same requirements as the pre-ACE majors before they can begin taking upper major classes.

Students who do not meet direct admission requirements enter the University as pre-ACE majors. They must complete the following to be considered for admission into the ACE major:

- Twenty-five credit hours of probationary ACE courses with a letter grade of C- or higher
- Fourteen credits (of the required 32 credits) of GEF courses
- Proof of current Red Cross First Aid, CPR, and AED certification
- Proof of NFHS Coaching Fundamentals and NFHS Sport First Aid Certification or WVSSAC Coaching Certification (ASEP Coaching Principles, ASEP Sport First Aid, and WV Rules and Regulations) which are completed as part of ACE 106 Introduction to Coaching Profession.
- Overall current GPA of 2.5 or better at the time of application, completed application including a statement of professional/career aspirations, and a personal coaching philosophy.

Students not granted admission may reapply the following semester with the same procedure in effect. With advisor approval, students may be admitted when they are within nine hours of completing requisite courses (excluding ACE probationary courses). The application deadline is September 15 for spring admission and February 15 for fall admission.

Click here to view the Suggested Plan of Study (p. 879)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

GEF 1, 2, 3, 5, & 6 (may vary depending on overlap)		16
HN&F 171	Introduction to Human Nutrition	3
WVUE 191	First Year Seminar	1
Pre-Major Requirements (must have 2.5 gpa or higher after completing pre-reqs and a minimum grade of C- is required in all courses)		
SEP 272	Psychological Perspectives of Sport (GEF 4)	3
ACE 106	Athletic Coaching Education	3
ACE 168	Sport Officiating	2
ACE 256	Principles and Problems of Coaching	3
ACE 265	Diversity and Sport	3
ATTR 121	Sport Injury Control and Management	3
PE 220	Striking and Field Games	1
PE 221	Invasion Games	1
PE 223	Net and Wall Games	1
PET 124	Human Body: Structure and Function	2
PET 125	Principles of Human Movement	2
PET 175	Motor Development	2
PET 244	Motor Learning and Performance	2
Major Requirements (Minimum grade of C- required in all courses)		
ACE 315	Sport for Exceptional Athlete (GEF 7)	3
ACE 330	Coaching Education Administration (Fulfills Writng and Communication Skills Requirement)	3
ACE 368	Sport Movement Analysis	3
ACE 369	Basic Strength/Condtnng-Coaches	3
ACE 410	Training Theories for Coaches	3
ACE 450	Career Planning in Sport	3
ACE 488	Practicum Coaching Exceptional Athletes	3
ACE 489	Practicum Coaching Youth Sport	3
ACE 491	Professional Field Experience	6
Select Two Courses (2 hrs. each)		4
ACE 357	Techniques of Coaching: Swimming	
ACE 359	Techniques of Coaching: Track	
ACE 360	Techniques of Coaching: Wrestling	
ACE 361	Techniques of Coaching: Soccer	
ACE 362	Techniques of Coaching: Basketball	
ACE 364	Techniques of Coaching: Football	
ACE 365	Techniques of Coaching: Baseball	
ACE 366	Techniques of Coaching: Volleyball	
EXPH 365	Exercise Physiology 1	3
SM 426	Liability in Sport	3
Complete a Minor		15
Electives (to reach 120 minimum for degree)		17
Proof of certifications *		
Total Hours		120

* Students must provide proof of current First Aid, AED, and CPR certifications from admission into major through graduation.
Students must provide proof of WVSSAC or NFHS certifications from admission into major through graduation.

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 GEF 2B	4
HN&F 171	3 GEF 6	3

ACE 106	3 ATTR 121	3
ACE 168	2 PET 125	2
PET 124	2 PE 220	1
WVUE 191	1 Minor	3
	14	16
Second Year		
Fall	Hours Spring	Hours
GEF 3	3 ENGL 102 (GEF 1)	3
SEP 272	3 GEF 5	3
ACE 256	3 ACE 265	3
PET 175	2 PET 244	2
PE 221	1 PE 223	1
Minor	3 Minor	3
	15	15
Third Year		
Fall	Hours Spring	Hours
GEF 8 (Minor)	3 GEF 8 (Minor)	3
Techniques of Coaching Course 1	2 ACE 315	3
ACE 368	3 Techniques of Coaching Course 2	2
ACE 450	3 ACE 369	3
EXPH 365	3 ACE 410	3
Elective or 2nd Minor	1 Elective or 2nd Minor	1
	15	15
Fourth Year		
Fall	Hours Spring	Hours
ACE 330	3 ACE 488	3
ACE 491	6 ACE 489	3
Elective or 2nd Minor	6 SM 426	3
	Elective or 2nd Minor	6
	15	15

Total credit hours: 120

Major Learning Goals

ATHLETIC COACHING EDUCATION

The goal of the program is for students to graduate with the essential skills and knowledge to work with athletes in a variety of contexts across their lifetime.

- **Content Knowledge** – Students will demonstrate technical and tactical knowledge and concepts related to the pedagogy of coaching a variety of sports.
- **Reflection and Critical Thinking** – Students will demonstrate reflection and critical thinking in order to refine professional practice.
- **Programming and Assessment** – Students will demonstrate evidence-based knowledge for designing, implementing and evaluating practice plans that address individual student's needs determined by various forms of assessment.
- **Professionalism and Ethics** – Students will demonstrate professional behaviors, including commitment to excellence, valuing diversity and collaboration, service to others, and techniques for lifelong learning.
- **Technology** – Students will be able to demonstrate the use of different forms of technology to assess skills and provide meaningful feedback.

Athletic Training

Bachelor of Science in Athletic Training

The undergraduate athletic training major at West Virginia University (WVU) is a four-year program within the College of Physical Activity and Sport Sciences in the Department of Sports Sciences. The program is designed to prepare the student to become a professional health care practitioner. Students may combine athletic training with another major; however, an additional one to two years may be required to complete both areas of study.

The athletic training major at WVU is accredited through the Commission on Accreditation of Athletic Training Education (CAATE). West Virginia is one of the more than 300 institutions in the United States with an accredited undergraduate curriculum.

The program also requires students to complete various clinical experiences in the WVU athletic training rooms, local sports medicine clinics, high schools, small college, and general medical rotation. Upon graduating from the athletic training major, students are eligible to sit for the Board of Certification (BOC) examination would allow the successful candidate to seek employment within the high school, college, professional, clinical, military or industrial settings. Students may also pursue additional education by attending graduate school or enrolling in a health professions program such as physical therapy, physician assistant, or medical school.

FACULTY

ASSOCIATE PROFESSORS

- Damien Clement - Ph.D. West Virginia University
- Michelle Sandrey - Ph.D. (University of Kansas)
Graduate Program Director
- Vincent G. Stilger - HSD, ATC (Indiana University)
Undergraduate Program Coordinator

CLINICAL INSTRUCTOR

- Allison Hetrick - M.S. (University of Cincinnati)

ADJUNCT INSTRUCTORS

- Amelia Adams, ATC
- Erin Asbury, ATC - M.S.
- Greg Dahmer - M.A. (West Virginia University)
- Amy Hile, ATC - M.A. (University of Connecticut)
- Randall Meador, ATC - M.S. (West Virginia University)
- Samantha Young - M.S. (University of Arizona)

ADJUNCT ASSOCIATE PROFESSOR

- John C. Spiker - M.Ed. (University of Pittsburgh)

Application Requirements

An individual desiring to become an athletic training student must first spend time in the prospective athletic training student (PATS) program by enrolling in and successfully completing ATTR 101. In order to gain a basic working knowledge of the athletic training profession, PATS complete observation hours in the athletic training rooms in combination with other course requirements. The application process includes:

- A minimum cumulative GPA of 2.75 or better
- Two reference evaluation forms must be submitted
- An application to the program must be submitted
- Students must complete a minimum of seventy-five observational hours in the WVU athletic training rooms under the direct supervision of a certified athletic trainer.
- Current enrollment in or successful completion of all prerequisite courses prior to making application to the program (BIOL 101/BIOL 103, BIOL 102/BIOL 104; ATTR 101, ATTR 121, ATTR 122; ENGL 101)
- Students must have a C- grade or better in BIOL 101/103, BIOL 102/104, and ENGL 101, and a grade of B- or better in ATTR 101, 121, and 122 to be considered a viable candidate.

Each student applying to the program will be interviewed in the presence of full-time faculty/staff athletic trainers and the educational graduate assistant.

Selection for admission into the program is based on interviews and other criteria. These criteria include: academic performance, reference evaluation forms, outside experience, WVU experiences, and a written case study. Students are eligible to apply to the athletic training program during the spring semester of their first year at WVU. An average of fifteen students are accepted annually; however, the accepted class size may be greater or less than fifteen students. The WVU Athletic Training Education Program has established technical standards. These standards are the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills and competencies of an entry-level athletic trainer, as well as meet the expectations of the programs' accrediting agency (Commission on Accreditation of Athletic Training Education (CAATE)). In the event a student is unable to fulfill these technical standards, with or without reasonable accommodation, the student will not be admitted into the program. Please visit our athletic training website (http://cpass.wvu.edu/bachelors/athletic_training) to view these standards.

Click here to view the Suggested Plan of Study (p. 883)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

A minimum overall GPA of 2.75 is required.

GEF 1, 3, 5, 6, & 7 (may vary depending on overlap)

WVUE 191	First Year Seminar	1
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Pre-Major Requirements (Minimum GPA of 2.75)

ATTR 101	Prospective Athletic Training (Minimum Grade C-)	1
ATTR 121	Sport Injury Control and Management (Minimum Grade C-)	3
ATTR 122	Sports Injury Control and Management Lab (Minimum Grade C-)	1
BIOL 101 & BIOL 103	General Biology and General Biology Laboratory (GEF 2 - Minimum grade of C-)	4
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory (GEF 8 - Minimum grade of C-)	4
ENGL 101	Introduction to Composition and Rhetoric (Minimum grade of C-)	3

Minimum of 75 observation hours are also required.

Major Requirements (Minimum GPA of 2.75)

Minimum grade of C- in all ATTR major required courses

CHEM 115	Fundamentals of Chemistry (GEF 8)	4
CHPR 170	Health of the Individual	3
EXPH 365	Exercise Physiology 1	3
HN&F 171	Introduction to Human Nutrition	3
PATH 300	Introduction to Pathology	3
PHYS 101	Introductory Physics (GEF 8)	4
PSIO 441	Mechanisms of Body Function	4
PSYC 101	Introduction to Psychology (GEF 4)	3
SEP 425	Psychological Aspects of Sport Injury	3
ATTR 218	Gross Anatomy Lab	1
ATTR 219	Gross Anatomy	3
ATTR 220	Taping/Bracing and Padding	2
ATTR 221	Advanced Athletic Training 1	3
ATTR 222	Orthopedic Assessment 1	3
ATTR 281	Athletic Training Practicum 1	2

ATTR 282	Athletic Training Practicum 2	2
ATTR 301	Athletic Training Practicum 3	2
ATTR 302	Athletic Training Practicum 4	2
ATTR 321	Therapeutic Modalities	3
ATTR 323	Athletic Injury Rehabilitation	2
ATTR 324	Athletic Injury Rehabilitation 2	2
ATTR 325	Organization & Administration	3
ATTR 326	Clinical Drug Application	1
ATTR 332	Orthopedic Assessment 2	3
ATTR 403	Athletic Training Practicum 5	2
ATTR 404	Athletic Training Practicum 6	2
ATTR 424	Athletic Training Senior Seminar (Fulfills Writing and Communication Skills and Capstone Requirements)	3
ATTR 426	Medical Aspects of Athletic Training	3
ATTR 427	Biomechanics	3
Electives (to reach minimum 120 credits for degree)		11
Total Hours		120

SUGGESTED PLAN OF STUDY

Once accepted into the athletic training program, the student will have a minimum of three years to complete both the clinical and didactic portion of the program.

First Year

Fall	Hours Spring	Hours
ATTR 101	1 ATTR 121	3
BIOL 101 & BIOL 103 (GEF 2)	4 ATTR 122	1
ENGL 101 (GEF 1)	3 BIOL 102 & BIOL 104 (GEF 8)	4
PSYC 101 (GEF 4)	3 HN&F 171	3
WVUE 191	1 GEF 5	3
MATH 126A, 126B, 126C, or 128 (GEF 3) <small>Dependent upon MATH Placement exam scores. MATH 128 is a prerequisite for PHYS 101. Students not placing into MATH 128 will need to take additional courses until they are able to take MATH 128.</small>	3	
	15	14

Second Year

Fall	Hours Spring	Hours
ATTR 218	1 ATTR 221	3
ATTR 219	3 ATTR 282	2
ATTR 220	2 ATTR 332	3
ATTR 222	3 ENGL 102 (GEF 1)	3
ATTR 281	2 SEP 425	3
CHPR 170	3 EXPH 365	3
	14	17

Third Year

Fall	Hours Spring	Hours
ATTR 301	2 ATTR 302	2
ATTR 321	3 ATTR 324	2
ATTR 323	2 ATTR 325	3
PSIO 441	4 ATTR 326	1
GEF 7	3 ATTR 427	3
Elective	3 CHEM 115 (GEF 8)	4
	17	15

Fourth Year

Fall	Hours Spring	Hours
ATTR 403	2 ATTR 404	2
ATTR 424	3 GEF 6	3
ATTR 426	3 Electives	8
PATH 300	3	
PHYS 101 (GEF 8)	4	
15		13

Total credit hours: 120

Major Learning Goals

ATHLETIC TRAINING

The goal of the program is for students to graduate with the essential skills and knowledge necessary to prepare them to successfully complete the BOC exam and to be able to work successfully in the field of athletic training.

- **Content Knowledge**- Students will demonstrate knowledge and disciplinary concepts related to athletic training.
- **Reflection and Critical Thinking** - Students will demonstrate reflection and critical thinking in order to refine professional knowledge and practice.
- **Programming and Assessment** - Students will demonstrate evidence-based knowledge and skills (and best practices) for assessing needs and for designing, implementing and evaluating injury prevention and treatment approaches in a clinical setting.
- **Professionalism and Ethics** - Students will demonstrate professional behaviors, including commitment to excellence, valuing diversity and collaboration, service to others, techniques for lifelong learning, and will develop the knowledge and skills necessary to allow them to be successful with regard to working as an athletic trainer or applying to graduate school and/or professional programs to help advance their careers.
- **Technology** - Students will be able to demonstrate the use of different forms of technology to assess skills and provide meaningful feedback.

Multidisciplinary Studies

Degree Offered

- Bachelor of Multidisciplinary Studies (B.MdS.)

The CPASS Multidisciplinary Studies (MDS) program offers students the flexibility to create a program of study to meet their sport and physical activity related career aspirations. Students develop a breadth of knowledge in the areas of physical activity and sport sciences (PASS) by combining three minors of which two minors must be from CPASS.

The flexibility and potential course offerings available through this major will help students succeed in both traditional and non-traditional employment opportunities in sport and physical activity professions. CPASS offers students a variety of minors leading to an extensive number of career paths. It is important to know that the possibilities are only constrained by one's imagination.

The CPASS MDS provides:

- a personalized plan of study for the ideal career.
- students with the opportunity to turn their passion of physical activity or sport into a dream career.
- students with the academic flexibility to explore unique educational opportunities offered at the University.

Admissions Requirements

To apply to the MDS program, students will be required to have a minimum overall GPA of 2.0 after having completed a minimum of 29 credit hours. Students who fall below this 2.0 GPA will be placed on academic probation and subject to additional requirements such as required meetings with academic advisers and a retention specialist, study halls and tutoring, meeting with peer advisers, and meetings with the CPASS academic standards committee.

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

GEF Requirements		34
PASS 191	First Year Seminar	1
PE Activities Courses		3
CPASS Minor 1		15
CPASS Minor 2		15
Additional Minor		15
PASS 300	Career Exploration in Physical Activity and Sport Sciences	3
PASS 489	Capstone Experience in PASS	3
Electives (needed to reach 120 credit minimum)		31
Total Hours		120

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
PASS 191	1 GEF 2	4
GEF 1	3 GEF 6	3
GEF 5	3 GEF 8	3
GEF 7	3 PE Activity Course	1
PE Activity Course	1 Elective	3
Elective	3 Elective	1
	14	15

Second Year

Fall	Hours Spring	Hours
GEF 3	3 GEF 1	3
GEF 4	3 PASS Minor 1	3
GEF 8	3 PASS Minor 1	3
GEF 8	3 PE Activity Course	1
Elective	3 Elective	3
	Elective	3
	15	16

Third Year

Fall	Hours Spring	Hours
PASS 300	3 PASS Minor 1	3
PASS Minor 1	3 PASS Minor 2	3
PASS Minor 1	3 PASS Minor 2	3
PASS Minor 2	3 Minor 3	3

Elective	3 Elective	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
PASS Minor 2	3 PASS 489	3
PASS Minor 2	3 Minor 3	3
Minor 3	3 Minor 3	3
Minor 3	3 Elective	3
Elective	3 Elective	3
	15	15

Total credit hours: 120

Major Learning Goals

MULTIDISCIPLINARY STUDIES

The goal of the program is for students to graduate with the essential skills and knowledge necessary to prepare them for a career within the field of physical activity and sport.

- **Content Knowledge** – Students will demonstrate knowledge and articulate issues relevant to physical activity and sport sciences.
- **Reflection and Critical Thinking** – Students can critically assess their marketability within the sport and physical activity industries.
- **Programming and Assessment** – Students will demonstrate evidence-based knowledge and skills (and best practices) for assessing needs and for designing, implementing and evaluating physical activity and/or sport related settings/organizations.
- **Professionalism** – Students will build the propensity to acquire new knowledge and abilities which align with the accepted practice of a professional in physical activity and sport sciences.
- **Technology** – Students will be able to demonstrate the use of different forms of technology to assess skills and provide meaningful feedback.

Physical Education Teacher Education

Bachelor of Science in Physical Education Teacher Education

Physical educators make an impact on the health, well-being, and quality of life of future generations. The Physical Education Teacher Education (PETE) program at WVU prepares students to teach, motivate, and shape the lives of Pre-K through adult learners in physical education, movement, wellness, and sport-based environments.

Students in the PETE program learn to use and integrate technology into their classwork, gain hands-on, real world experience, and learn how to design and deliver physical education programs. Upon program completion, graduates are eligible for dual certification in PreK-adult Physical Education and 5-12 Health Education.

Program graduates are physical activity and wellness leaders in their school, communities, and states who promote healthy, active lifestyles for children and adults alike. The WVU PETE faculty is proud of the strong undergraduate PETE program that is nationally accredited by the Council for the Accreditation of Educator Preparation (CAEP) and the National Association for Sport and Physical Education (NASPE).

FACULTY

ASSOCIATE PROFESSORS

- Sean Bulger - Ed.D. (West Virginia University)
- Andrea Talliaferro - Ph.D. (University of Virginia)

CLINICAL PROFESSOR

- Eloise Elliott - Ph.D. (Virginia Polytechnic Institute and State University)
Ware Distinguished Professor

CLINICAL INSTRUCTOR

- Byron Towner - M.S. (West Virginia University)
National Board Certified Physical Education Teacher

TEACHING ASSISTANT PROFESSOR

- Tobin Richardson - Ed.D. (Ball State)

PROFESSORS EMERITI

- Linda Carson
Ware Distinguished Professor
- Andrew Hawkins
- Lynn Housner
- Robert Wiegand

ASSOCIATE PROFESSOR EMERITUS

- Bruce Wilmoth

Admission Requirements

B.S. PHYSICAL EDUCATION TEACHER EDUCATION

PETE offers a direct admission option to students who have earned scores of 1125 or higher on SAT or 26 or higher on the ACT. There is no application to the direct admit program, students who qualify will be invited by the program to join as incoming freshmen. Students directly admitted into the program will have to complete all coursework while maintaining a minimum 2.5 gpa. In the first three semesters of the program, they must complete the following:

- All six PETE courses with a grade of C or higher.
- Complete twenty-nine credit hours of GEF courses and should have a grade of C or higher in all coursework.

For students not offered direct admission, they are admitted to WVU as pre-PETE majors and can apply for admission into the PETE program when they successfully complete the criteria listed below. Admission is competitive, so to be considered for admission, students must meet the following:

- Complete (or currently enrolled in) the six PETE courses with a grade of C or higher in each course at time of application.
- Complete twenty-nine credit hours of GEF courses and should have a grade of C or higher in all coursework.
- Have passed all three parts of the Core Academic Skills for Educators (CORE; formerly known as PRAXIS I) with a score of 156 or higher on Reading (test number or CDT Code 5712); a score of 162 or higher on Writing (test number or CDT Code 5722), and a score of 150 or higher on Mathematics (test number or CDT Code 5732).
- Have at least a 2.5 GPA

Students indicate their intent to seek admission by completing an application and submitting CORE scores by October 1 for spring admission. The PETE Program only admits students once a year. From the applicant pool, the 27 students with the highest GPAs are admitted to the PETE teacher certification program and granted access to the first block of classes in the major. Upon admission to the program, students will complete their courses with the same cohort of students. Students not granted admission may reapply the following year by October 1 for spring admission with the same procedure in effect.

ACCELERATED B.S./M.S. PHYSICAL EDUCATION TEACHER EDUCATION

Students must complete an internal application for admission to the accelerated B.S./M.S. (ABM) program. Students may apply for regular admission to the ABM in PETE program in the fall semester following the completion of 60 credits. Only enrolled WVU PETE majors may be considered for regular admission to the program. Transfer students must complete at least 24 credit hours as degree-seeking students at WVU before applying. The minimum GPA requirement for regular admission is GPA of 3.0, with no provisional admissions allowed. Additional criteria include acceptable performance on the PETE Professionalism Assessment used to monitor undergraduate student dispositions each semester in the major by a designated faculty member. Regular admission will not be offered to students with less than 2 semesters to complete the bachelor's degree. The ABM in PETE program is not available to students seeking a second (or subsequent) bachelor's degree. Internal application is due by October 1 with program admissions decisions communicated by December 15. Applications will be reviewed by a three member work group (2 PETE faculty and 1 academic adviser) and presented to the program faculty for a final admissions decision.

Click here to view the Suggested Plan of Study (p. 889)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric

ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing
---------------------------------------	---

3-6

F2A/F2B - Science & Technology	4-6
F3 - Math & Quantitative Skills	3-4
F4 - Society & Connections	3
F5 - Human Inquiry & the Past	3
F6 - The Arts & Creativity	3
F7 - Global Studies & Diversity	3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)	9
Total Hours	31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Minimum GPA of 2.5 required for graduation

GEF (may vary depending on overlap)	22
WVUE 191 First Year Seminar	1
ENGL 101 Introduction to Composition and Rhetoric (GEF 1)	3
ENGL 102 Composition, Rhetoric, and Research (GEF 1)	3
HN&F 171 Introduction to Human Nutrition (GEF 8)	3

Pre-Major Requirements (Minimum GPA of 2.5 is required)

Minimum grade of C- or higher required in all courses.

PET 124 Human Body: Structure and Function	2
PET 125 Principles of Human Movement	2
PET 167 Introduction to Physical Education	3
PET 175 Motor Development	2
PET 244 Motor Learning and Performance	2
PET 276 Special Physical Education	2

Major Requirements

Minimum grade of C- required in all courses.

Minimum GPA of 2.5 required in all major courses.

PET 228 Curriculum in Physical Education (Fulfills Writing and Communication Skills Requirement)	3
PET 233 Pedagogy Theory and Application	4
PET 346 Teaching Physical Activities 1	3
PET 347 Teaching Physical Activities 2	3
PET 349 Fitness Education	3
PET 350 Teaching Primary Physical Education	2
PET 369 Teaching K-2 Physical Education	3
PET 379 Teaching 3-5 Physical Education	3
PET 441 Technology in Physical Education	3
PET 447 Teaching Physical Activities 3	3
PET 449 Teaching Physical Activities 4	3
PET 477 Adapted Physical Education Practicum	3
EXPH 365 Exercise Physiology 1	3
RDNG 422 Reading in the Content Areas	3
SPED 304 Special Education in Contemporary Society (GEF 4)	3
SHED 401 Elementary School Health Program	4
SHED 402 Secondary School Health Program	4
SHED 403 Health in the School Community	3

Minor or Electives

Complete Licensure Track or Non-Licensure Track 12

Licensure Track:

C&I 491 Professional Field Experience	
PET 487 Student Teaching: K-5 Physical Education	

PET 488	Student Teaching: 6-12 Physical Education
PET 489	Student Teaching Seminar
Non-Licensure Track:	
ACE 491	Professional Field Experience

Total Hours 120

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
PET 124	2 PET 125	2
ENGL 101 (GEF 1)	3 PET 175	2
PET 167	3 GEF 3	3
GEF 5	3 GEF 8	3
GEF 6	3 GEF 8	3
WVUE 191	1 HN&F 171 (GEF 8)	3
	15	16

Second Year

Fall	Hours Spring	Hours
PET 244	2 PET 228	3
PET 276	2 PET 233	4
ENGL 102 (GEF 1)	3 PET 349	3
GEF 2	4 EXPH 365	3
GEF 7	3 SHED 403	3
Minor or Elective	1	
	15	16

Third Year

Fall	Hours Spring	Hours
PET 350	2 PET 346 Teaching Phys Acty 1	3
PET 369	3 PET 347 Teaching Phys Acty 2	3
PET 379	3 PET 441	3
RDNG 422	3 SHED 402	4
SHED 401	4 SPED 304 (GEF 4)	3
	15	16

Fourth Year

Fall	Hours Spring	Hours
PET 447	3 PET 487 or ACE 491	3
PET 449	3 PET 488 or ACE 491	3
PET 477	3 PET 489 or ACE 491	2
Minor or Elective	6 C&I 491 or ACE 491	4
	15	12

Total credit hours: 120

RECOMMENDATION FOR TEACHER CERTIFICATION

Students in the Licensure track must satisfy the requirements in physical education and professional education. Teacher certification in physical education is provided for grades Pre-K through adult. Community health promotion certifies students to teach health in grades 5-12. Students are required to pass the Core Academic Skills for Educators (CORE) prior to program admission, and pass PRAXIS II (5091 exam) in physical education prior to student teaching. To be eligible for certification to teach in West Virginia, prospective teachers must also pass the PRAXIS III (Principles of Learning and Teaching). Students are eligible to take the PRAXIS II (5550 exam) in health for health certification. Students wanting to teach in another state will need to complete that state's certification requirements for licensure.

Accelerated B.S./M.S. Degree Requirements

Minimum cumulative GPA of 3.0 is required.

GEF Requirements		22
WVUE 191	First Year Seminar	1
ENGL 101	Introduction to Composition and Rhetoric (GEF 1)	3
ENGL 102	Composition, Rhetoric, and Research (GEF 1)	3
HN&F 171	Introduction to Human Nutrition (GEF 8)	3
Pre-Major Requirements		
PET 124	Human Body: Structure and Function	2
PET 125	Principles of Human Movement	2
PET 167	Introduction to Physical Education	3
PET 175	Motor Development	2
PET 244	Motor Learning and Performance	2
PET 276	Special Physical Education	2
Major Requirements		
PET 228	Curriculum in Physical Education	3
PET 233	Pedagogy Theory and Application	4
PET 346	Teaching Physical Activities 1	3
PET 347	Teaching Physical Activities 2	3
PET 349	Fitness Education	3
PET 350	Teaching Primary Physical Education	2
PET 369	Teaching K-2 Physical Education	3
PET 379	Teaching 3-5 Physical Education	3
PET 441	Technology in Physical Education	3
PET 447	Teaching Physical Activities 3	3
PET 449	Teaching Physical Activities 4	3
PET 477	Adapted Physical Education Practicum	3
PET 487	Student Teaching: K-5 Physical Education	3
PET 488	Student Teaching: 6-12 Physical Education	3
PET 489	Student Teaching Seminar	2
EXPH 365	Exercise Physiology 1	3
RDNG 422	Reading in the Content Areas	3
SHED 401	Elementary School Health Program	4
SHED 402	Secondary School Health Program	4
SHED 403	Health in the School Community	3
SPED 304	Special Education in Contemporary Society (GEF 4)	3
C&I 491A	Professional Field Experience	4
Total Hours		113

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours Spring	Hours
PET 124	2 PET 125	2
PET 167	3 PET 175	2
ENGL 101 (GEF 1)	3 ENGL 102 (GEF 1)	3
WVUE 191	1 HN&F 171 (GEF 8)	3
GEF 5	3 GEF 3	3
GEF 6	3 GEF 8	3
	15	16

Second Year

Fall	Hours Spring	Hours
PET 244	2 PET 228	3
PET 276	2 PET 233	4
SPED 304	3 PET 349	3

GEF 2	4 EXPH 365	3	
GEF 7	3 SHED 403	3	
GEF 8	3		
	17	16	
Third Year			
Fall	Hours Spring	Hours Summer	Hours
SHED 401	4 SHED 402	4 ACE 593 (Curriculum in PE)	3
PET 350	2 PET 346	3 ACE 593 (Principles of Effective Teaching)	3
PET 369	3 PET 347	3 ACE 593 (Teaching Physical Activities 1)	1
PET 379	3 PET 441	3	
RDNG 422	3 ACE 593 (Research Methods PE)	3	
	15	16	7
Fourth Year			
Fall	Hours Spring	Hours Summer	Hours
PET 447	3 C&I 491A	4 PET 673	3
PET 449	3 PET 487	3 PET 681	3
PET 477	3 PET 488	4 PET 679	1
ACE 593 (Standards-based Assmt PE)	3 PET 489	2	
ACE 593 (Theory of Fitness Education)	3 PET 685	3	
	15	16	7

Total credit hours: 140

NOTE: See Graduate Catalog for Master's degree requirements (M.S. in Physical Education Teacher Education, Accelerated Program).

Major Learning Goals

PHYSICAL EDUCATION TEACHER EDUCATION

The goal of the program is for students to possess the skills to teach, motivate, and shape the lives of preK to adult learners in physical education, movement, wellness, and sport-based environments.

- **Content Knowledge** – Students will demonstrate knowledge and disciplinary concepts related to the promotion of physical education and physical activity.
- **Reflection and Critical Thinking** – Students will demonstrate reflection and critical thinking in order to refine professional practice.
- **Programming and Assessment** – Students will demonstrate evidence-based knowledge and skills (and best practices) for assessing student needs and for designing, implementing and evaluating lesson plans and programs.
- **Professionalism and Ethics** – Students will demonstrate professional behaviors, including commitment to excellence, valuing diversity and collaboration, service to others, and techniques for lifelong learning.
- **Technology** – Students will be able to demonstrate the use of different forms of technology to enhance and assess student learning.

Sport and Exercise Psychology

Bachelor of Science in Sport and Exercise Psychology

If you would like to combine your love of sports and fitness with an interest in psychology, then you have found the perfect major. Students interested in pursuing a career in sport and exercise psychology know that most jobs will require that they must first complete a graduate degree before entering the job market. Thus, as a liberal arts program, the primary mission of the undergraduate major in sport and exercise psychology is to prepare students for graduate studies in sport and exercise psychology, counseling, public health, and many other disciplines.

What makes the undergraduate major in sport and exercise psychology unique? First, it is the only major of its kind in the state of West Virginia and one of the few undergraduate programs in the nation that allows students to specialize in sport and exercise psychology. Second, the curriculum

contains a number of exciting and innovative courses, such as the Social Psychology of Sport, Performance Enhancement, Exercise Psychology, the Psychological Aspects of Sport Injury, Physical Activity promotion, and African Americans in Sport. Several of the courses in the curriculum can be used to meet requirements of the university's liberal studies program. Third, through our major's club, students will interact with graduate students in our highly acclaimed doctoral program, meet leading professionals in the field, attend student and professional conferences, and participate in other student-centered professional and social activities. Further this program has eight faculty members dedicated to providing a quality learning experience for students. A majority of the graduates from this program attend graduate school in areas such as sport psychology, counseling, physical therapy, occupational therapy, sport management, public health, public administration, business, law and other related fields. These students often pursue employment to use their sport psychology training to help them work with athletes of all ages and ability levels, business executives, the military, and other related settings.

FACULTY

PROFESSORS

- Dana D. Brooks - Ed.D. (West Virginia University)
Dean, CPASS
- Edward Etzel, Jr. - Ed.D. (West Virginia University)
- Jack Watson - Ph.D. (Florida State University)
Chair, Department of Sport Sciences
- Samuel Zizzi - Ed.D. (West Virginia University)

ASSOCIATE PROFESSOR

- Damien Clement - Ph.D. (West Virginia University)
- Peter Giacobbi - Ph.D. (University of Tennessee - Knoxville)

ASSISTANT PROFESSORS

- Dana Voelker - Ph.D. (Michigan State University)

TEACHING ASSISTANT PROFESSOR

- Scott Barnicle - Ph.D. (University of Idaho)

Admission Requirements

Students can be directly admitted into the Sport and Exercise Psychology (SEP) program if they meet any of the following requirements:

- ACT composite score of 25 or a SAT combined (math + critical reading) score of 1140 and a minimum GPA of 3.8
- ACT score of 26 or a SAT combined (math + critical reading) score of 1180 and a minimum GPA of 3.6
- ACT score of 28 or a SAT combined (math + critical reading) score of 1260 and a minimum GPA of 3.5

Students who do not meet the above requirements for a direct admission into the SEP program will be admitted into the Pre-SEP program. This is not a competitive pre-major (All students who meet the criteria for admission will be accepted into the program). Pre-SEP courses must be completed before admission to SEP Program (see list of pre-major required courses and requirements below).

The following courses and requirements must be completed as a Pre-Sport and Exercise Psychology major in order to be accepted into the Sport and Exercise Psychology program.

- BIO 102/104 (Need a grade of C or better)
- ENGL 101 (Need a grade of C or better)
- SEP 210 (Need a grade of B or better)
- SEP 271 (Need a grade of B or better)
- SEP 272 (Need a grade of B or better)
- PSYC 101 (Need a grade of C or better)
- SOCA 101 (Need a grade of C or better)
- Minimum required GPA – 2.5 Cumulative GPA
- 20 hours of community service as verified by the West Virginia University's Center for Service and Learning

Applications will be sent out to students approximately one month prior to the deadline each Spring semester (May 15) and Fall semester (December 15).

Click here to view the Suggested Plan of Study (p. 894)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Minimum GPA of 2.5 required.

Minimum grade of C- in all required courses unless otherwise noted.

GEF 1, 5, & 6 (may vary depending on overlap)		9
WVUE 191	First Year Seminar	1
Pre-major Requirements		
ENGL 101	Introduction to Composition and Rhetoric	3
BIOL 102 & BIOL 104	General Biology and General Biology Laboratory (GEF 2)	4
PSYC 101	Introduction to Psychology	3
SEP 210	Professional Issues (Minimum grade of B-)	1
SEP 271	Sport in American Society (Minimum grade of B-; GEF 8)	3
SEP 272	Psychological Perspectives of Sport (Minimum grade of B-; GEF 4)	3
SOCA 101	Introduction to Sociology	3
Community Service (Must complete minimum of 20 hours prior to application into major) *		
Applied Area Requirements		
ACE 256	Principles and Problems of Coaching	3
ATTR 121	Sport Injury Control and Management	3
COUN 303	Introduction to Helping Professions	3
EXPH 364	Kinesiology	3
EXPH 365	Exercise Physiology 1	3
Select one of the following (GEF 3):		
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
PET 175	Motor Development	2
SEP 373	African Americans in Sports (GEF 7)	3
SEP 312	Professional Issues in Sport Psychology 3	1
SEP 383	Exercise Psychology	3
SEP 385	Social Psychology of Sport	3

SEP 425	Psychological Aspects of Sport Injury	3
SEP 474	Sport Studies Research Methods (Fulfills Writing and Communication Skills Requirement)	3
Select one of the following:		3
SEP 493	Special Topics	
SEP 420	Sport Performance Enhancement	
SEP 415	Physical Activity Promotion	
SEP 430	Cross Cultural Perspectives in Sport and Society	
Foundation Requirements		
PSYC 241	Introduction to Human Development (GEF 8)	3
PSYC 251	Introduction to Social Psychology (GEF 8)	3
PSYC 281	Introduction to Abnormal Psychology	3
One three-hour Sociology (SOCA) elective 200-400 level		3
Electives (to reach 120 minimum for degree)		39
Community Service (Minimum of fifty hours must be completed to graduate) *		
Total Hours		120

* Students must complete a minimum of fifty hours of community service to graduate (<http://cce.wvu.edu>). 20 of these hours must be completed upon application into the major

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
PSYC 101	3 SOCA 101	3
ACE 256	3 SEP 272 (GEF 4)	3
BIOL 102 & BIOL 104 (GEF 2)	4 ENGL 101 (GEF 1)	3
WVUE 191	1 PET 175	2
Elective or Minor	3 SEP 210	1
	MATH 126A (GEF 3)	3
	14	15

Second Year

Fall	Hours Spring	Hours
SEP 271 (GEF 8)	3 ENGL 102 (GEF 1)	3
GEF 5	3 PSYC 251 (GEF 8)	3
GEF 6	3 Sociology Elective 200-300 level	3
PSYC 241 (GEF 8)	3 ATTR 121	3
Elective or Minor	3 Elective or Minor	3
	15	15

Third Year

Fall	Hours Spring	Hours
PSYC 281	3 SEP 312	1
SEP 373 (GEF 7)	3 SEP 425	3
SEP 385	3 EXPH 364	3
Elective or Minor	6 Elective or Minor	8
	15	15

Fourth Year

Fall	Hours Spring	Hours
SEP 474	3 SEP 420	3
COUN 303	3 EXPH 365	3
Elective or Minor	9 SEP 383	3

Elective or Minor

7

15

16

Total credit hours: 120

Major Learning Goals

SPORT AND EXERCISE PSYCHOLOGY

The goal of the program is for students to graduate with the essential skills and knowledge necessary to prepare them for a career in the field of sport and exercise psychology and to help them gain admission into graduate school in a program of their choice. This is a graduate school preparatory program, with students attending graduate programs in sport and exercise psychology, exercise science, human services, and public health fields.

- **Content Knowledge** - Students will demonstrate knowledge and disciplinary concepts related to sport and exercise psychology.
- **Reflection and Critical Thinking** - Students will demonstrate reflection and critical thinking in order to refine professional knowledge and practice.
- **Programming and Assessment** - Students will demonstrate evidence-based knowledge and skills (and best practices) for assessing student needs and for designing, implementing and evaluating performance across domains.
- **Professionalism and Ethics** - Students will demonstrate professional behaviors, including commitment to excellence, valuing diversity and collaboration, service to others, techniques for lifelong learning, and will develop the knowledge and skills necessary to allow them to be successful with regard to applying to graduate school to help advance their careers.
- **Technology** - Students will be able to demonstrate the use of different forms of technology to assess skills and provide meaningful feedback.

Sport Management

Bachelor of Science in Sport Management

Since the WVU Sport Management undergraduate curriculum was created in 1981, it has prepared students for careers in professional sport, intercollegiate athletics, sport facilities, and many other sport-related businesses.

The curriculum has received national and international recognition as one of the best of its kind. Students are required to complete a minimum of three credit hours of internship. This “hands-on” experience is mutually beneficial, as the internship provides the student an opportunity to learn the sport business while the sport organization evaluates a potential future employee. In essence, the internship has become the cornerstone of a student’s learning experience. The curriculum is multidisciplinary. Students are required to complete courses from many other schools and colleges across campus including Journalism, Communications, Business and Economics, and Arts and Sciences. There are four full-time faculty dedicated to making your academic experiences within the College of Physical Activity and Sport Sciences the best they can possibly be.

FACULTY

ASSOCIATE PROFESSORS

- Gonzalo Bravo - Ph.D. (Ohio State University)
- Dennis Floyd Jones - Ph.D. (University of Pittsburgh)
- Cindy Lee - PhD (Ohio State University)

ASSOCIATE TEACHING PROFESSOR

- Gary Lhotsky - Ed.D. (Florida State University)

ADJUNCT INSTRUCTORS

- William Alsop - Ed.D. (West Virginia University)
- Andro Barnett - Ph.D. (Temple University)
- Philip Caskey - M.S. (West Virginia University)
- Brad Cox - M.S. (West Virginia University)
- Rosa D'Amico - Ph.D. (University of Australia)
- Anna Devito - Ph.D. (Syracuse University)
- Grant Dovey - M.S. (West Virginia University)
- Charles Fisher - M.S. (West Virginia University)
- Terri Howes - M.S. (West Virginia University)
- Todd Knisely - M.S. (West Virginia University)
- Christopher Miller - JD (West Virginia University)
- Sandra West - M.S. (University of Miami)

Admission into the Program

To Apply for Admission:

- Students are able to apply to the major during the second semester of their freshman year.
- To apply, students must complete the admission application, which can be found on the CPASS web site, (<http://cpass.wvu.edu>) by the March 1 deadline. Final admissions decisions will occur after Spring semester grades have been submitted.
- The following pre-requisite courses must be completed by the end of the spring semester in which the student is applying: Nine credits from the following list of courses ENGL 101, ECON 201 or BUSA 202, and SM 167 (Grade of "B" or higher), and three credits in Math requirement, COMM 100/COMM 102 OR COMM 104, and JRL 101. In addition to these 15 hours of required coursework, students must complete an additional 15 credits of GEF or approved elective courses for a total of 30 credits.
- Students must have a minimum GPA of 2.5 and complete the application form.
- A direct admission option is available to high achieving students coming from high school. Please see below for the criteria.

Note: All students enrolled in sport management must earn a grade of C or better in all required courses unless otherwise noted. A minimum 2.5 GPA and formal application are required for admission into the sport management program. All students must earn a minimum of 120 hours in order to graduate.

A maximum of sixty students will be admitted each year from the pool of applicants to a traditional fall/spring cohort. These students will begin taking sport management coursework during the fall semester of the following year. The sixty applicants with the **highest** GPA and who **minimally** meet or exceed the aforementioned admission criteria will be accepted each year into this cohort.

Direct Admission Criteria

High school students who have earned a overall gpa of a 3.50 and scores of 1100 total on SAT or 24 ACT composite. There is no application to the direct admission program, but students will be asked to complete a form to show continued interest in the program. Students will need to complete all pre-requisite requirements to have a guaranteed spot in the program.

The College of Physical Activity and Sport Sciences uses the admission requirements of (http://adm.wvu.edu/freshman/university_admissions_requirements/#Anchor-Admission-18597)WVU.

Click here to view the Suggested Plan of Study (p. 898)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

A grade of C- or higher must be earned in all courses unless otherwise noted.

A minimum GPA of 2.5 is required in all courses.

GEF 1, 2, 5, & 6 (may vary depending on overlap)

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WVUE 191	First Year Seminar	1
Pre-major Requirements		
ENGL 101	Introduction to Composition and Rhetoric (Minimum grade of C-)	3
COMM 100 & COMM 102 or COMM 104	Principles of Human Communication and Human Communication in the Interpersonal Context (GEF 8) Public Communication	3
ECON 201 or BUSA 202	Principles of Microeconomics (GEF 4) * Survey of Accounting	3
JRL 101	Media and Society (GEF 8)	3
Select one of the following (GEF 3):		3
MATH 121	Intro Concepts Of Mathematics	
MATH 126A	College Algebra 5-Day	
MATH 126B	College Algebra 4-Day	
SM 167	Introduction to Sport Management (B- or higher)	3
Applied Area Requirements		
SEP 271	Sport in American Society	3
SEP 272	Psychological Perspectives of Sport (GEF 8)	3
SM 340	Sport Governance	3
SM 345	Technology in Sport Management	2
SM 350	Leadership in Sport Management	2
SM 355	Orientation in Sport Management	1
SM 370	Sport Finance and Economics	3
SM 375	Sport in the Global Market (GEF 7)	3
SM 380	History and Philosophy of Sport	3
SM 387	Issues in Sport Studies (Fulfills Writng and Communication Skills Requirement)	3
SM 425	Sport Facility and Event Management	3
SM 426	Liability in Sport	3
SM 485	Sport Management	3
SM 486	Sport Marketing & Sales	3
SM 491	Professional Field Experience (3 hour required)	3
BUSA 202 or ECON 201	Survey of Accounting (whichever was not completed to satisfy pre-major requirements) * Principles of Microeconomics	3
CS 101	Intro to Computer Applications (GEF 2)	4
COMM 306	Organizational Communication	3
BUSA 320	Survey of Management	3
BUSA 330	Survey of Marketing	3
PR 215	Introduction to Public Relations	3
Advisor Approved Electives		6
Minor Courses or Free Electives		23
Total Hours		120

* Students must take (ECON 201 or BUSA 201) and BUSA 202.

ADVISOR APPROVED ELECTIVES

SM 275	The Olympic Games	3
ACE 256	Principles and Problems of Coaching	3
ADV 215	Principles of Advertising	3
BUSA 310	Survey of Business Law	3
BUSA 340	Survey of Finance	3
COMM 316	Intercultural Communication	3
COMM 335	Social Media in the Workplace	3
COMM 404	Persuasion	3
DISB 385	Disability and Society	3

DSGN 140	Sustainable Living	3
DSGN 280	Sustainable Design and Development	3
DSGN 340	Design for Energy Efficiency	3
ECON 202	Principles of Macroeconomics	3
HTOR 376	Hospitality & Tourism Leadership	3
JRL 210	Visual Journalism and New Media	3
JRL 225	Media Tools & Applications	3
JRL 412	Sport Journalism	3
LDR 201	Principles of Leadership	3
LDR 330	Leadership and Athletics	3
MANG 330	Human Resource Management Fundamentals	3
MKTG 315	Buyer Behavior	3
MKTG 320	Personal Selling 1	3
PHIL 212	Philosophy of Sport	3
POLS 240	Introduction to Public Administration	3
RPTR 142	Introduction to Recreation, Parks and Tourism	2
RPTR 335	Management in Recreation, Parks and Tourism Organizations	3
SOWK 147	Human Diversity	3

Suggested Plan of Study

First Year

Fall	Hours Spring	Hours
ENGL 101 (GEF 1)	3 Select one of the following (GEF 3):	3
Select one of the following (GEF 8):	3 MATH 121	
COMM 100	MATH 126A	
& COMM 102		
COMM 104	MATH 126B	
JRL 101 (GEF 8)	3 ECON 201 or BUSA 202	3
SM 167	3 CS 101 (GEF 2)	4
WVUE 191 (University Requirement)	1 PR 215	3
GEF 6	3 SEP 271	3
	16	16

Second Year

Fall	Hours Spring	Hours
ENGL 102 (GEF 1)	3 BUSA 330	3
ECON 201 or BUSA 202	3 COMM 306	3
SEP 272 (GEF 8)	3 SEP 272	3
Approved Elective	SM 350	2
GEF 2	3 SM 380	3
GEF 5	3 Elective or Minor Course	3
	15	17

Third Year

Fall	Hours Spring	Hours
BUSA 320	3 SM 370	3
SM 340	3 SM 375 (GEF 7)	3
SM 345	2 Approved Elective	3
SM 355	1 Elective or Minor Course	3
Elective or Minor Course	3 Elective or Minor Course	3
Elective or Minor Course	3	
	15	15

Fourth Year

Fall	Hours Spring	Hours
SM 387	3 SM 486	3
SM 425	3 SM 491	3
SM 426	3 Elective or Minor Course	3
SM 485	3 Elective or Minor Course	2
Elective or Minor Course	3	
	<hr/>	<hr/>
	15	11

Total credit hours: 120

Major Learning Goals

SPORT MANAGEMENT

The goal of the program is for students to graduate with the essential skills and knowledge necessary to prepare them for a career in the field of sport management or continued studies at the graduate level.

- **Content Knowledge** - Students will demonstrate knowledge and disciplinary concepts related to sport management.
- **Reflection and Critical Thinking** - Students will demonstrate reflection and critical thinking in order to refine professional knowledge and practice.
- **Programming and Assessment** - Students will demonstrate evidence-based knowledge and skills (and best practices) for assessing needs and for designing, implementing and evaluating sport related settings/organizations.
- **Professionalism and Ethics** - Students will demonstrate professional behaviors, including commitment to excellence, valuing diversity and collaboration, service to others, techniques for lifelong learning.
- **Technology** - Students will be able to demonstrate the use of different forms of technology to allow them to function effectively within a sport management setting.

School of Public Health

Degree Offered

- Bachelor of Science

Nature of Program

The School of Public Health (SPH) offers a Bachelor of Science degree with a Public Health major, within which students select one of two Areas of Emphasis: 1) Community and Population Health or 2) Public Health Sciences. This program provides two paths to a broad pre-professional degree, typically over four years. Students in the Community and Population Health Area of Emphasis will be prepared for entry into social science-based and public health graduate programs, while students in the Public Health Sciences Area of Emphasis will be prepared for entry into graduate programs in public health sciences or clinical professional degree programs. In addition, graduates of this program will be eligible for entry-level public health positions in a wide array of agencies involved in public and private health, including local, regional and state health departments, consulting and advocacy organizations, healthcare organizations and government agencies.

The program will provide an undergraduate education that:

1. Provides a strong foundation of knowledge about public health history, principles and current issues;
2. Ensures a broad liberal education that incorporates multiple disciplines and develops both intellectual and civic capabilities;
3. Instills a strong sense of values and ethics; and
4. Builds capacity to adapt and apply acquired knowledge and abilities to address new challenges.

ADMINISTRATION

INTERIM DEAN

- Jeff Coben - MD (University of Pittsburgh)
Professor, Department of Health Policy, Management and Leadership

INTERIM ASSOCIATE DEAN FOR OPERATIONS

- Robert Duval - PhD (Florida State University)
Chair and Professor, Department of Health Policy, Management and Leadership

ASSOCIATE DEAN FOR ACADEMIC AFFAIRS

- Linda Alexander - EdD (University of Virginia)
Professor, Department of Social and Behavioral Sciences

ASSISTANT DEAN FOR UNDERGRADUATE STUDIES

- Janet B. Hunt - MPH (University of Tennessee)
Teaching Assistant Professor, Department of Social and Behavioral Sciences

DIRECTOR OF PHD PROGRAMS

- Kimberly Rauscher - ScD, MA (Univ. of MA Lowell)
Associate Professor, Department of Occupational and Environmental Health Sciences

DIRECTOR OF MPH PROGRAMS

- Michael Mann - PhD (University of Florida)
Assistant Professor, Department of Social and Behavioral Sciences

DIRECTOR OF PRACTICE-BASED LEARNING

- Bobbi Sykes - MS (West Virginia University)
Instructor, Department of Social and Behavioral Sciences

CHAIRS

- Robert Duval - Ph.D. (Florida State University)
Associate Professor, Department of Health Policy, Management and Leadership
- Thomas Hulsey - Sc.D. (Johns Hopkins University)
Professor, Department of Epidemiology, and Interim Chair for Biostatistics
- Michael McCawley - Ph.D. (New York University)
Associate Professor, Department of Occupational and Environmental Health Sciences
- Keith Zullig - Ph.D. (University of South Carolina)
Professor, Department of Social and Behavioral Sciences

SPH Admissions for BS in Public Health

The WVU School of Public Health (SPH) will admit students for fall and spring semesters.

Direct admissions relates to students applying upon graduation from high school and those with no previous undergraduate credits. Applicants who meet the minimum standards (see below) will be accepted directly into the program by WVU Admissions.

Students who do not meet direct admit minimum standards, but who are interested in pursuing a degree in public health, have two options:

- 1) Apply to transfer into the program via a WVU Academic Status Update form once a college GPA of 2.5 is established.
- 2) Apply for pre-public health status by meeting those guidelines listed below. Students in Pre-Public Health can take the same courses and can request access to the same academic advising as majors do. However, these students will have to meet internal transfer requirements of a 2.5 college GPA within 2 semesters of entering this program.

External transfer students (those who have completed undergraduate credits at another institution) who meet the transfer admission guidelines (see below) should apply to WVU as transfer students and will be accepted directly into the program by WVU Admissions.

Admission Guidelines

Students are eligible for **direct freshman admission** if they meet these minimum guidelines:

- 3.0 Cumulative High School GPA

OR

- ACT of 21 (superscored) and 2.75 Cumulative High School GPA

OR

- SAT of 990 (superscored) and 2.75 Cumulative High School GPA

Students are eligible for admission into **pre-public health** if they meet these minimum guidelines:

- 2.75 Cumulative High School GPA

OR

- ACT of 19 (superscored) and 2.5 Cumulative High School GPA

OR

- SAT of 910 (superscored) and 2.5 Cumulative High School GPA

External transfer students who have completed undergraduate coursework at WVU or another institution of higher education prior to applying to the Public Health major are eligible if they meet the following minimum guidelines:

- 2.5 Cumulative Undergraduate GPA

Please note, the School of Public Health reserves the right to limit student enrollment in the program but cutting off admissions based on school-wide capacity for new students.

Degree Designation Learning Goals

The Bachelor of Science in Public Health program provides an undergraduate education that provides a strong foundation of knowledge about public health history, principles and current issues; requires a broad liberal education with exposure to multiple disciplines and develops intellectual and civic capabilities; instills a strong sense of values and ethics; and builds capacity to adapt and apply acquired knowledge and abilities to address new challenges.

BACHELOR OF SCIENCE (BS)

At the conclusion of the program students will be able to:

- Provide a solid foundation of the historic milestones, core disciplines and core functions of public health.
- Increase appreciation of human cultures and social determinants of health as they relate to individual and population health.
- Explain the impact of natural processes and systems on health and patterns of disease and injury among diverse populations.
- Develop proficiency in critical and creative thinking, analysis and synthesis of information to inform, assist and promote public health.
- Enhance oral and written communication skills needed to effectively disseminate knowledge and information to address current public health issues.
- Engage students in public health-related activities with local, regional, national and/or global organizations.

PUBLIC HEALTH PRACTICE AREA OF EMPHASIS

- Recognize how environmental and occupational factors impact the health status of individuals and populations.
- Apply skills in biostatistical and epidemiologic methods in public health practice and research.

COMMUNITY AND POPULATION HEALTH AREA OF EMPHASIS

- Recognize how social and behavioral factors impact the health status of individuals and populations.
- Identify appropriate theories, methods, strategies and policies to address the public health needs of communities and populations.

Public Health

Program Overview

Public health is one of the fastest growing majors in undergraduate education and covers the five core public health disciplines: biostatistics, environmental health sciences, epidemiology, health policy and management, and social and behavioral sciences.

The public health major emphasizes problem solving skills, critical thinking, practical application, career exploration and an understanding of both clinical- and population-based ethics. Early in the program, students will build a strong foundation of knowledge in the natural and social sciences and become familiar with cultural and socioeconomic differences among populations. Further study will provide students with the knowledge and skills needed to identify evidence-based techniques for disease prevention and promotion of health, both at home and from a global perspective.

Preparing Students for Future Opportunities

The Community and Population Health Area of Emphasis prepares students for entry into social science-based and public health graduate programs.

The Public Health Sciences Area of Emphasis prepares students for entry into graduate programs in public health sciences or clinical professional degree programs.

The public health program also prepares graduates for entry-level public health positions in a wide array of agencies involved in public and private health, including local, regional and state health departments, consulting and advocacy organizations, healthcare organizations and government agencies.

At the conclusion of the program, students in the public health program will be able to:

- Provide a solid foundation of the historic milestones, core disciplines and core functions of public health.
- Increase appreciation of human cultures and social determinants of health as they relate to individual and population health.
- Explain the impact of natural processes and systems on health and patterns of disease and injury among diverse populations.
- Develop proficiency in critical and creative thinking, analysis and synthesis of information to inform, assist and promote public health.
- Enhance oral and written communication skills needed to effectively disseminate knowledge and information to address current public health issues.
- Engage students in public health-related activities with local, regional, national and/or global organizations.

PUBLIC HEALTH PRACTICE AREA OF EMPHASIS

- Recognize how environmental and occupational factors impact the health status of individuals and populations.
- Apply skills in biostatistical and epidemiologic methods in public health practice and research.

COMMUNITY AND POPULATION HEALTH AREA OF EMPHASIS

- Recognize how social and behavioral factors impact the health status of individuals and populations.
- Identify appropriate theories, methods, strategies and policies to address the public health needs of communities and populations.

Admission Guidelines for the School of Public Health's Undergraduate Program

SPH Admissions for BS in Public Health

The WVU School of Public Health (SPH) will admit students for fall and spring semesters.

Direct admissions relates to students applying upon graduation from high school and those with no previous undergraduate credits. Applicants who meet the minimum standards (see below) will be accepted directly into the program by WVU Admissions.

Students who do not meet direct admit minimum standards, but who are interested in pursuing a degree in public health, have two options:

- 1) apply to transfer into the program via a WVU Academic Status Update form once a college GPA of 2.5 is established.

2) apply for pre-public health status by meeting those guidelines listed below. Students in Pre-Public Health can take the same courses and can request access to the same academic advising as majors do. However, these students will have to meet internal transfer requirements of a 2.5 college GPA within 2 semesters of entering this program.

External transfer students (those who have completed undergraduate credits at another institution) who meet the transfer admission guidelines (see below) should apply to WVU as transfer students and will be accepted directly into the program by WVU Admissions.

Admission Guidelines

Students are eligible for **direct freshman admission** if they meet these minimum guidelines:

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OR

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OR

- SAT of 990 (superscored) and 2.75 Cumulative High School GPA

Students are eligible for admission into **pre-public health** if they meet these minimum guidelines:

- 2.75 Cumulative High School GPA

OR

- ACT of 19 (superscored) and 2.5 Cumulative High School GPA

OR

- SAT of 910 (superscored) and 2.5 Cumulative High School GPA

Internal (WVU) and External transfer students who have completed undergraduate coursework at WVU or another institution of higher education prior to applying to the Public Health major are eligible if they meet the following minimum guidelines:

- 2.5 Cumulative Undergraduate GPA

Please note, the School of Public Health reserves the right to limit student enrollment in the program but cutting off admissions based on school-wide capacity for new students.

Click the link below to view the corresponding AOE requirements and Suggested Plans of Study.

- Community and Population Health (p. 905)
- Public Health Sciences (p. 904)

GENERAL EDUCATION FOUNDATIONS

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Skills		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students are required to maintain a cumulative GPA of 2.5

General Education Foundations Requirements		25
WVUE 191	First Year Seminar	1
Required Major Courses		
A minimum Grade of C- or higher required in Major and AoE Courses		
PUBH 101	Introduction to Public and Community Health	3
PUBH 199	Orientation to Public Health	1
PUBH 201	Global Perspectives of Public Health	3
PUBH 202	Social Determinants of Health	3
PUBH 211	Biostatistics for Population Health	3
PUBH 222	Epidemiology for Public Health	3
PUBH 241	Biological Basis of Public Health	3
PUBH 243	Issues in Environmental Health	3
PUBH 331	Introduction to Health Policy	3
PUBH 491	Professional Field Experience	3
or PUBH 496	Senior Thesis	
Area of Emphasis Requirements		15
Required Minor		15
Electives		36
Writing Portfolio Review I		
Writing Portfolio Review II		
Total Hours		120

PUBLIC HEALTH SCIENCES AREA OF EMPHASIS REQUIREMENTS

Minimum grade of C- or higher required in all AoE courses

CHPR 440	Clinical Research Methods and Practice	3
PUBH 311	Health Research Data Management and Reporting	3
PUBH 423	Introduction to Modern Epidemiologic Research	3
PUBH 442	Public Health in the Workplace	3
PUBH/CHPR Elective		3
Total Hours		15

SUGGESTED PLAN OF STUDY FOR PUBLIC HEALTH SCIENCES AREA OF EMPHASIS

First Year

Fall	Hours Spring	Hours
PUBH 199	1 PUBH 202	3
WVUE 191	1 ENGL 102 (GEF 1)	3
PUBH 101	3 GEF 2	4
ENGL 101 (GEF 1)	3 GEF	3
GEF	3 GEF	3
GEF	3	
14		16

Second Year

Fall	Hours Spring	Hours
PUBH 211	3 PUBH 201	3
PUBH 241	3 PUBH 331	3
GEF	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
15		15

Third Year

Fall	Hours Spring	Hours
PUBH 243	3 PUBH 442	3
PUBH 222	3 PUBH Elective	3
Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
	15	15

Fourth Year

Fall	Hours Spring	Hours
CHPR 440	3 PUBH 423	3
PUBH 311	3 PUBH 496	3
Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
	15	15

Total credit hours: 120

COMMUNITY AND POPULATION HEALTH AREA OF EMPHASIS REQUIREMENTS**Minimum grade of C- or higher required in all AoE courses**

CHPR 305	Disease Across the Life Span	3
PUBH 333	Comparative Health Systems and Policy	3
PUBH 352	Introduction to Social and Behavioral Science and Practice	3
PUBH 454	Introduction to Public Health Research Methods	3
PUBH/CHPR Elective		3
Total Hours		15

SUGGESTED PLAN OF STUDY FOR COMMUNITY AND POPULATION HEALTH AREA OF EMPHASIS**First Year**

Fall	Hours Spring	Hours
PUBH 199	1 PUBH 202	3
WVUE 191	1 ENGL 102 (GEF 1)	3
PUBH 101	3 GEF 2	4
ENGL 101 (GEF 1)	3 GEF	3
GEF	3 GEF	3
GEF	3	
	14	16

Second Year

Fall	Hours Spring	Hours
PUBH 211	3 PUBH 201	3
PUBH 241	3 PUBH 331	3
GEF	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
	15	15

Third Year

Fall	Hours Spring	Hours
PUBH 243	3 PUBH Elective	3
CHPR 305	3 Minor/Elective	3
PUBH 222	3 Minor/Elective	3

Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
	15	15
Fourth Year		
Fall	Hours Spring	Hours
PUBH 352	3 PUBH 454	3
PUBH 333	3 PUBH 491	3
Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
Minor/Elective	3 Minor/Elective	3
	15	15

Total credit hours: 120

Major Learning Goals

PUBLIC HEALTH

The Public Health major will:

- Provide a solid foundation of the historic milestones, core disciplines and core functions of public health.
- Increase appreciation of human cultures and social determinants of health as they relate to individual and population health.
- Explain the impact of natural processes and systems on health and patterns of disease and injury among diverse populations.
- Develop proficiency in critical and creative thinking, analysis and synthesis of information to inform, assist and promote public health.
- Enhance oral and written communication skills needed to effectively disseminate knowledge and information to address current public health issues.
- Engage students in public health-related activities with local, regional, national and/or global organizations.

PUBLIC HEALTH PRACTICE AREA OF EMPHASIS

- Recognize how environmental and occupational factors impact the health status of individuals and populations.
- Apply skills in biostatistical and epidemiologic methods in public health practice and research.

COMMUNITY AND POPULATION HEALTH AREA OF EMPHASIS

- Recognize how social and behavioral factors impact the health status of individuals and populations.
- Identify appropriate theories, methods, strategies and policies to address the public health needs of communities and populations.

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