



# Cuyahoga Community College & West Virginia University

Associate of Science A.S. leading to  
Bachelor of Science in Physics B.S.  
Suggested Plan of Study



Cuyahoga Community College	Hours	WVU Equivalents	Hours
Year One, 1 <sup>st</sup> Semester			
ENG 1010/101H – College Composition I/Honors	3	ENGL 101 – Intro to Composition and Rhetoric	3
MATH 1610/161H – Calculus I	5	MATH 155 + MATH 1TC – Calculus I	5
CHEM 1300 & CHEM 130L, or CHEM 130H – General Chemistry I and Lab	5	CHEM 115 & CHEM 115L + CHEM 1TC: Fundamentals of Chemistry I & Lab	5
OT 36 Social and Behavioral Sciences Elective	3	Social & Behavioral Science Elective	3
<b>TOTAL</b>	16		16
Year One, 2 <sup>nd</sup> Semester			
ENG 1020/102H – College Composition II/Honors or ENG 2151 – Technical Writing	3	ENGL 102 – Composition, Rhetoric, and Research or WRIT 305 – Technical Writing	3
MATH 1620/162H – Calculus II	5	MATH 156 + MATH 1TC – Calculus II	5
CHEM 1310 & CHEM 131L, or CHEM 131H – General Chemistry II and Lab	5	CHEM 116 & CHEM 116L + CHEM 1TC: Fundamentals of Chemistry II & Lab	5
OT 36 Arts & Humanities	3	Arts & Humanities Elective	3
<b>TOTAL</b>	16		16
Year Two, 1 <sup>st</sup> Semester			
MATH 2310 – Calculus III	4	MATH 251 – Multivariable Calculus	4
MATH 2410 – Introduction to Linear Algebra	3	MATH 441 – Applied Linear Algebra	3
PHYS 2310 – General Physics I	5	PHYS 111 & PHYS 111L + PHYS 2TC – General Physics I	5
OT 36 Social and Behavioral Sciences Elective	3	Social & Behavioral Science Elective	3
<b>TOTAL</b>	15		15
Year Two, 2 <sup>nd</sup> Semester			
MATH 2520 – Differential Equations	3	MATH 261 – Elementary Differential Equations	3
PHYS 2320 – General Physics II	5	PHYS 112 & PHYS 112L + PHYS 2TC – General Physics II	5
OT 36 Arts & Humanities	3	Arts & Humanities Elective	3
Elective	2	Elective	2
<b>TOTAL</b>	15		15
<b>West Virginia University</b>			
Year Three, 1 <sup>st</sup> Semester		Year Three, 2 <sup>nd</sup> Semester	
PHYS 312 – Oscillations and Thermal Physics	3	PHYS 314 – Introductory Modern Physics	4
PHYS 331 – Theoretical Mechanics 1	4	PHYS 332 – Theoretical Mechanics 2 or Elective	3
General Elective or Minor Course (1)	3	PHYS 333 – Electricity and Magnetism 1	3
General Elective or Minor Course (2)	3	General Elective or Minor Course (3)	3
General Elective	3	General Elective	1
<b>TOTAL</b>	16	<b>TOTAL</b>	14
Year Four, 1 <sup>st</sup> Semester		Year Four, 2 <sup>nd</sup> Semester	
PHYS 341L – Advanced Physics 1 Laboratory	2	PHYS 461 – Thermodynamics and Statistical Mechanics	3
PHYS 334 – Electricity and Magnetism or Elective	3	PHYS 496 <sup>(Capstone)</sup> – Senior Thesis	3
PHYS 451 – Introductory Quantum Mechanics	3	PHYS 342L – Advanced Physics Laboratory 2	2
ASTR or PHYS Course <sup>(300/400-level)</sup>	3	General Elective or Minor Course (5)	3
General Elective or Minor Course (4)	3	General Elective	4
General Elective	1		
<b>TOTAL</b>	15	<b>TOTAL</b>	15

Course sequence may change based on the individual needs of the student and schedule type required.

New college students may be required during their first semester to participate in GEN 1070, First Year Success Seminar, a one credit hour course. See a Tri-C Counselor for details.

This represents an example of suggested courses to complete the Associate of Science to continue for a bachelor's degree, which must total at least 60 semester credits and includes 36 Ohio Transfer 36 (OT36) credits which are approved Tri-C general education requirements. OT36 details can be found at <https://www.ohiohighered.org/Ohio-Transfer-36>. Students should work closely with advisors at both institutions to discuss options.

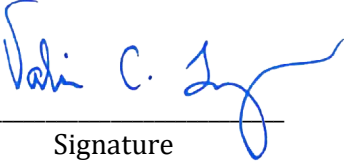
Students must have a GPA of 2.2 in all MATH and PHYS courses to be admitted directly into the Physics program upon transferring to West Virginia University.

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.

Students transferring to West Virginia University with an Associate of Arts or Associate of Science degree will have satisfied the General Education Foundation requirements at WVU.

Students who have questions regarding this articulation agreement or the transferability of coursework may contact the WVU Office of the University Registrar. All other questions should be directed to the WVU Office of Admissions (304-293-2121).

The above transfer articulation of credit between West Virginia University and Cuyahoga Community College, is approved by the Dean, or the Dean's designee, and effective the date of the signature.

<u>Valérie Lastinger</u>		<u>12/4/2023</u>
Print Name	Signature	Date

Valerie Lastinger Ph.D. Associate Dean for WVU's Eberly College of Arts & Sciences