

PHYSICS, ASSOCIATE OF SCIENCE

The Associate of Science degree with physics emphasis is designed to give students interested in pursuing STEM programs in physics a more complete transfer path than the existing AAOT bulk transfer degree.

Graduation Requirements

Students must complete a minimum of 93 credit hours with a cumulative Grade Point Average (GPA) of 2.0 or better. All courses must be completed with a grade of 'C' or better. Twenty-four (24) credits must be completed at Southwestern before the AS degree is awarded.

Courses that are developmental in nature, (designed to prepare students for college transfer courses), are not applicable to this degree.

Students must complete the graduation application process one term prior to the term of completion (e.g., spring term graduates must apply during winter term).

Pre-Program Courses

Students are required to take the following courses *prior* to the program courses, depending on students' college placement information. See advisor for details:

Code	Title	Credits
WR90R	Academic Literacy (or placement in higher writing course)	4
CS160	Computer Science Orientation	4
MTH112	Trigonometry	4

Program Guide

Course	Title	Credits
First Year		
Fall		
WR121	English Composition	3
CHEM221	General Chemistry I	5
MTH251	Calculus I Differential Calculus	4
Specific Elective ¹		3
Credits		15
Winter		
WR227	Report Writing	3
CHEM222	General Chemistry II	5
MTH252	Calculus II Integral Calculus	4
SP111	Fundamentals of Public Speaking	3
Credits		15
Spring		
CHEM223	General Chemistry III	5
BI203	Introductory Biology	4
MTH253	Calculus III Infinite Sequences And Series	4
Specific Elective ²		3
Credits		16

Second Year		
Fall		
PH211	General Physics w/Calculus I	5
MTH254	Vector Calculus I	4
CS161	Introduction to Computer Science I	4
Specific Elective ³		3
Credits		16
Winter		
PH212	General Physics w/Calculus II	5
MTH255	Vector Calculus II	4
Specific Elective ³		3
Specific Elective ⁴		3
Credits		15
Spring		
PH213	General Physics w/Calculus III	5
MTH256	Differential Equations	4
MTH260	Matrix Methods and Linear Algebra	4
PE231	Wellness for Life	3
Credits		16
Total Credits		93

¹ Western Culture - Specific Elective options: ART204 History of Western Art: Introduction to Art History, ART205 History of Western Art: Introduction to Art History, ART206 History of Western Art: Introduction to Art History, ENG201 Shakespeare, ENG204 Survey of English Literature, ENG205 Survey of English Literature, ENG206 Survey of English Literature, HST101 History of Western Civilization, HST102 History of Western Civilization, HST103 History of Western Civilization, HST201 History of the United States, HST202 History of the United States, HST203 History of the United States, PHL101 Introduction to Philosophy Philosophical Problems, PHL102 Ethics.

² Difference, Power, and Discrimination - Specific Elective options: SOC206 Social Problems and Issues, SOC210 Marriage and Family, SOC213 Racial and Ethnic Relations, HDFS140 Contemporary American Families, WS101 Introduction to Women's Studies Gender and Power, HST201 History of the United States, HST202 History of the United States, OR HST203 History of the United States.

³ Cultural Diversity - Specific Elective options: Students must select one course from any discipline studies that is designated as meeting the statewide criteria for cultural literacy. For a complete list of courses that meet the Cultural Literacy requirement, see the AAOT Cultural Literacy (<http://ecatalog.socc.edu/archive/2018-2019/programsaz/associate-arts-oregon-transfer-aaot/#graduationrequirementstext>) list.

⁴ Literature and the Arts - Specific Elective options: Any ART, ASL, ENG, HUM, J, MUS, PHL, SP, SPAN and WR course that is not part of the degree plan.

Program Student Learning Outcomes

1. Apply foundational conceptual knowledge and models of physical principles to analyze and/or predict phenomena.
2. Understand and apply proper mathematical interpretation of physical principles and computation methods to analyze and/or predict phenomena
3. Interpret and communicate scientific information via written, spoken, and/or visual representations

4. Describe the relevance of specific scientific principles to the human experience.
5. Form and test a hypothesis in the laboratory or field using discipline-specific tools and techniques for data collection and/or analysis.