

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 92 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).

PROGRAM STUDENT LEARNING OUTCOMES

- Apply foundational conceptual knowledge and models of physical principles to analyze and/or predict phenomena.
- Understand and apply proper mathematical interpretation of physical principles and computation methods to analyze and/or predict phenomena.
- Interpret and communicate scientific information via written, spoken, and/or visual representations.
- Describe the relevance of specific scientific principles to the human experience.
- Form and test a hypothesis in the laboratory or field using discipline-specific tools and techniques for data collection and/or analysis.

Math and writing placement are unique to each student and are determined during the admissions and intake advising process. Additional math or writing courses may be required prior to taking the math or writing program requirements in this degree.

PROGRAM GUIDE

Course	Title	Credits
First Year		
Fall		
CHEM221	General Chemistry I	5
MTH251	Calculus I Differential Calculus	4
WR121Z	Composition I	4
Credits		13
Winter		
CHEM222	General Chemistry II	5
COMM111Z	Public Speaking	4
MTH252	Calculus II Integral Calculus	4
WR227Z	Technical Writing	4
Credits		17

Spring		
CHEM223	General Chemistry III	5
BI203	Introductory Biology ⁴	4
MTH253	Calculus III Infinite Sequences And Series ⁶	4
or MTH264	or Introduction to Matrix Algebra and Power Series	
Social Science ⁶		3
Credits		16
Second Year		
Fall		
MTH254	Vector Calculus I	4
PH211	General Physics with Calculus I	5
Social Science ⁶		3
Arts and Letters ²		3
Credits		15
Winter		
ENGR112	Engineering Computation	4
or CS161	or Computer Science I	
MTH255	Vector Calculus II	4
PH212	General Physics with Calculus II	5
Cultural Diversity ¹		3
Credits		16
Spring		
MTH256	Differential Equations	4
PE231	Wellness for Life	3
PH213	General Physics with Calculus III	5
Arts and Letters ²		3
Credits		15
Total Credits		92

¹ Social Science Cultural Diversity: ANTH224, ANTH230, ANTH231, ANTH232, HST104.

² Must be chosen from the AS Arts and Letters course list.

³ MTH264 may be substituted for MTH253 for students transferring to OSU.

⁴ Any Biology lab course can substitute for BI203.

⁵ 3 credits for PE 185 may substitute for PE231.

⁶ Must be chosen from the AS Social Science course list.