

# 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

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.

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. For more information on placement methods used, visit our college placement policy here.

## PROGRAM GUIDE

Course	Title	Credits
<b>First Year</b>		
<b>Fall</b>		
WR121	English Composition	4
CHEM221	General Chemistry I	5
MTH251	Calculus I Differential Calculus	4
HD102	College Nuts and Bolts	1
<b>Credits</b>		<b>14</b>
<b>Winter</b>		
WR227	Report Writing	4
CHEM222	General Chemistry II	5
MTH252	Calculus II Integral Calculus	4

SP111	Fundamentals of Public Speaking	3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
CHEM223	General Chemistry III	5
BI203	Introductory Biology	4
MTH253	Calculus III Infinite Sequences And Series <sup>6</sup>	4
Difference, Power, and Discrimination <sup>2</sup>		3
<b>Credits</b>		<b>16</b>
<b>Second Year</b>		
<b>Fall</b>		
PH211	General Physics with Calculus I	5
MTH254	Vector Calculus I	4
Social Processes and Institutions <sup>3</sup>		3
Literature and Arts <sup>5</sup>		3
<b>Credits</b>		<b>15</b>
<b>Winter</b>		
PH212	General Physics with Calculus II	5
MTH255	Vector Calculus II	4
ENGR112	Engineering Computation	4
or CS161 or Introduction to Computer Science I		
Cultural Diversity <sup>4</sup>		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
PH213	General Physics with Calculus III	5
MTH256	Differential Equations	4
PE231	Wellness for Life	3
Western Culture <sup>1</sup>		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>92</b>

<sup>1</sup> Western Culture: ART204, ART205, ART206, ENG201, ENG204, ENG205, ENG206, HST101, HST102, HST103, HST201, HST202, HST203, PHL101, PHL102.

<sup>2</sup> Difference, Power, and Discrimination: SOC206, SOC213, HST201, HST202, OR HST203.

<sup>3</sup> Social Processes and Institutions: ANTH221, ANTH222, ANTH223, ECON201, ECON202, HST101, HST102, HST103, PS201, PS205, PSY201, PSY202, PSY203, SOC204, SOC205.

<sup>4</sup> Cultural Diversity: ANTH224, ANTH230, ANTH231, ANTH232, HST104, HUM204, HUM205, HUM206.

<sup>5</sup> Literature and the Arts: ART204, ART205, ART206, ENG104, ENG105, ENG106, ENG107, ENG108, ENG109, ENG201, ENG204, ENG205, ENG206, ENG262, MUS201, MUS202, MUS203.

<sup>6</sup> MTH264 may be substituted for MTH253 for students transferring to OSU.

\* All Honors courses may substitute for their equivalent requirements.