

Secondary Teaching Physics

<p>Courses required for the first year: CHEM-131, MATH-160, MATH-220, PHYS-211; PSYC-100; second language requirement</p>
<p>Courses recommended for the first year: Courses Designated with a PA, PP, PL, or G</p>
<p>Contact: Nathan Frank, Physics Advisor (nathanfrank@augustana.edu) or Education advisor Charlotte Shepherd, (charlotteshepherd@augustana.edu)*</p>

* Students interested in this major are strongly encouraged to contact Prof. Shepherd prior to registration for Spring Semester.

The Major in Teaching Physics

27-28 credits, including PHYS-211, PHYS-212, PHYS-213, PHYS-339, PHYS-366, and PHYS-399 (Directed Study with focus on Embedded Tutoring) and two of the following: PHYS-300, PHYS-313, PHYS-360, or PHYS-400 (Independent Study with focus on Course Development). See the Director of Secondary Education for more details. 100-level courses do not count toward the major. Required supporting courses (36 credits): ASTR-135 or ASTR-145; BIOL-130 and BIOL-140; CHEM-131 and CHEM-132; GEOL-101; ESGE-200 or ESGE-225; MATH-160, and MATH-260.

Candidates can also earn licensure to teach science in grades 5-8 by completing the major in Middle Grades: Science.

Students may not also major in Physics or Engineering Physics

Students must take 2 of the three ** courses listed below, or a 2-credit PHYS-400 (Independent Study with focus on Course Development)

***MATH-220 is taken if needed for other coursework

Required Courses

Course Number	Course Name	Learning Perspective	Prerequisites	Usually Offered: F, J, SP, SU*	Credits
PHYS-211	Foundational	PN	MATH-160 (or co-requisite)	F/SP	4

	Physics I				
PHYS-212	Foundational Physics II	PN	MATH-260 (co-requisite)	F/SP	4
PHYS-213	Foundational Physics III		PHYS-211 & MATH-260	SP	4
PHYS-366	Advanced Lab I		PHYS-213 and PHYS-200 (or permission of instructor)	F	2

PHYS-399	Directed Study with focus on Embedded Tutoring			F/SP	2
PHYS-360**	Classical Mechanics		PHYS-211, PHYS-212, MATH-260, MATH-320 (suggested) & MATH-350 (suggested)	F	4
PHYS-300**	Optics		PHYS-212 & MATH-350 (suggested)		4
PHYS-313**	Thermodynamics		PHYS-211 & MATH-220	F	4
PHYS-339	Electronics		PHYS-212	SP	4

Required Supporting Courses

Course Number	Course Name	Learning Perspective	Prerequisites	Usually Offered: F, J, SP, SU*	Credits
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ASTR-145	Stars and Galaxies	PN		SP	4
BIOL-130	Molecules to Cells			F/SP	4
BIOL-140	Organisms to Ecosystems			F/SP	4
CHEM-131	General Chemistry I	PN		F/SP	4
CHEM-132	General Chemistry II		CHEM-131	SP	4
GEOL-101	Physical Geology	PN		F/J/SP/SU	4
GEOG-105	Weather, Climate, and Society	PN	MATH-160	F/SP	4
MATH-160	Calculus			F/SP	4
MATH-220***	Integration Methods				2
MATH-260	Multivariable Calculus		MATH-160	F	4

Education Professional Sequence (Required)

Course Number	Course Name	Learning Perspective	Prerequisites	Usually Offered: F, J, SP, SU*	Credits
EDUC-301	Educational Psychology and Assessment			F/SP	4
EDUC-310	Computers in Education		EDUC-301; Retention in Teacher Education	SP	1

EDUC-340	Methods of Inclusion	D	EDUC-301; Retention in Teacher Education	F/SP	4
EDUC-370	General Methods		EDUC-301; Retention in Teacher Education	F	4
EDUC-386	Methods 5-8 Science		EDUC-301; Retention in Teacher Education	SP	4
EDUC-396	Clinical Experience 5-8		EDUC-301 and EDUC-340; Retention in Teacher Education	F/SP	1
EDUC-397	Clinical Experience 9-12		EDUC-301 and EDUC-340; Retention in Teacher Education	F/SP	1
EDUC-412	Methods of Literacy: 5-12		EDUC-301; Retention in Teacher Education	F	4
INTR-ED A90	Student Teaching	PH	EDUC-396 and EDUC-397; Retention in Teacher Education	F/SP	10
EDUC-422	Clinical Seminar	PH	Co-requisite: Student Teaching and EDUC-450	F/SP	1
EDUC-450	School and Society	PH	Co-requisite: Student Teaching and EDUC-422	F/SP	2

Major Overview

This major is required for teaching licensure in Illinois in grades 9-12. Students completing this major along with all other licensure requirements are eligible for high school teaching positions in science (Biology, Chemistry, and Physics) in Illinois. Students who complete this major will have met most requirements for licensure to teach science in grades 5-8.

*Fall, J term, Spring, Summer; see [Academic Calendar](#) for specific dates

Updated May 2026