

## Secondary Teaching Physics

<b>Courses required for the first year:</b> Chem 131, Math 160, Math 220, Phys 211; PSYC 100; second language requirement
<b>Courses recommended for the first year:</b> POLS 101; Courses Designated with a PA, PP, PL, or G
<b>Contact:</b> Cecilia Vogel, Physics Advisor ( <a href="mailto:ceciliavogel@augustana.edu">ceciliavogel@augustana.edu</a> ) or Mike Schroeder* ( <a href="mailto:michaelschroeder@augustana.edu">michaelschroeder@augustana.edu</a> )

\*Students interested in this major are strongly encouraged to contact Dr. Schroeder prior to registration for Spring Semester.

### The Major in Teaching Physics

28 credits, including PHYS-211, PHYS-212, PHYS-213, PHYS-360, PHYS-366, and PHYS-368 and two of the following: PHYS-300, PHYS 339, PHYS-313. See the Director of Secondary Education for more details. 100-level courses do not count toward the major. Required supporting courses (40 credits): ASTR-145; BIOL-130 and BIOL-140; CHEM-131 and CHEM-132; GEOL-101 and GEOG-105; MATH-160, MATH-220, MATH-230, 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

### Required Courses

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
Phys 211	Foundational Physics I	PN	Math 160	4
Phys 212	Foundational Physics II	PN	Math 220	4
Phys 213	Foundational Physics III		Math 220 & Math 260	4
Phys 366	Advanced Lab I		Phys 213	2
Phys 368	Advanced Lab II (SI)		Phys 366	2
Phys 360	Classical Mechanics		Phys 211, Phys 212, Math 260, Math 320 (suggested) & Math 350 (suggested)	4
Phys 300**	Optics		Phys 212 & Math 350 (suggested)	4
Phys 313**	Thermodynamics		Phys 212 & Math 220	4
Phys 339**	Electronics		Phys 212	4

## Required Supporting Courses

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
Astr 145	Stars and Galaxies	PN		4
Biol 130	Molecules to Cells			4
Biol 140	Organisms to Ecosystems			4
Chem 131	General Chemistry I	PN		4
Chem 132	General Chemistry II		Chem 131	4
Geol 101	Physical Geology	PN		4
Geog 105	Weather, Climate, and Society	PN		4
Math 160	Calculus			4
Math 220	Integration Methods		Math 160	2
Math 230	Infinite Series		Math 160	2
Math 260	Multivariable Calculus		Math 160	4

## Education Professional Sequence (Required)

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
EDUC 301	Educational Psychology and Assessment			4
EDUC 310	Computers in Education		EDUC 301; Retention in Teacher Education	1
EDUC 340	Methods of Inclusion	D	EDUC 301; Retention in Teacher Education	4
EDUC 370	General Methods		EDUC 301; Retention in Teacher Education	4
EDUC 386	Methods 5-8 Science		EDUC 301; Retention in Teacher Education	4
EDUC 396	Clinical Experience 5-8		EDUC 301 and EDUC 340; Retention in Teacher Education	1
EDUC 397	Clinical Experience 9-12		EDUC 301 and EDUC 340; Retention in Teacher Education	1
EDUC 412	Methods of Literacy: 5-12		EDUC 301; Retention in Teacher Education	4
INTR-EDA90	Student Teaching	PH	EDUC 396 and EDUC 397; Retention in Teacher Education	10
EDUC 422	Clinical Seminar	PH	Co-requisite: Student Teaching and EDUC 450	1
EDUC 450	School and Society	PH	Co-requisite: Student Teaching and EDUC 422	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.