

## Secondary Chemistry Education

<b>Courses required for the first year:</b> CHEM 131, CHEM 132; BIOL 130, BIOL 140; PSYC 100; second language requirement
<b>Courses recommended for the first year:</b> Courses Designated with a PA, PP, PL, or G
<b>Contact:</b> Dr. Mike Egan, Education Chair (mikeegan@augustana.edu)

### The Major in Secondary Chemistry Education

32 credits, including CHEM 131, CHEM 132, CHEM 321, CHEM 322, CHEM 255, CHEM 361 or CHEM 365, CHEM 441, and CHEM 435. Required supporting courses (36 credits): ASTR 145, BIOL 130 and BIOL 140, PHYS 151 or PHYS 211, PHYS 152 or PHYS 212, GEOL 101, GEOG 105, and MATH 160, MATH 220 and MATH 230.

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

### Required Courses in Chemistry

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
CHEM 131*	General Chemistry 1			4
CHEM 132*	General Chemistry 2		CHEM 131	4
CHEM 321	Organic Chemistry I		CHEM 132	4
CHEM 322	Organic Chemistry II		CHEM 321	4
CHEM 255	Quantitative Analysis		CHEM 132	4
CHEM 441	Biochemistry I		CHEM 322, BIOL 130	4
CHEM 361 <b>or</b> CHEM 365	Physical Chemistry 1 <b>or</b> Physical Chemistry 2		CHEM 131, PHYS 152 or PHYS 212, MATH 220	4
CHEM 435	Advanced Inorganic Chemistry			4

\*Depending on high school preparation, students may take CHEM 235 instead.

### Required Supporting Courses

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
ASTR 145	Stars and Galaxies			4
BIOL 130	Molecules to Cells			4
BIOL 140	Organisms to Ecosystems			4
PHYS 151 or PHYS 211	Principles of Physics I or Foundational Physics I			4
PHYS 152 or PHYS 212	Principals of Physics II or Foundational Physics II			4
GEOL 101	Physical Geology			4
GEOG 105	Weather, Climate and Society			4
MATH 160	Calculus			4
MATH 220	Integration Methods			2
MATH 230	Infinite Series			2

**Education Professional Sequence (Required)**

<b>Course Number</b>	<b>Course Name</b>	<b>Learning Perspective</b>	<b>Prerequisites</b>	<b>Credits</b>
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.

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