

# CHEMISTRY - SECONDARY EDUCATION MAJOR, BACHELOR OF SCIENCE (BS)

This major satisfies the endorsement for grades 5–12.

Review School of Education (<http://catalog.ewu.edu/ps/se/>) for additional requirements.

## Secondary Education Program Prerequisites

All prerequisite courses must have been completed within the last 6 years.

A grade  $\geq$ B- in all prerequisite courses is required for admission to the Education program.

CMST 201 or CMST 340	PUBLIC SPEAKING INTERCULTURAL COMMUNICATION	5
EDUC 201	INTRODUCTION TO EDUCATION	3
ENGL 201	COLLEGE COMPOSITION: ANALYSIS, RESEARCH AND DOCUMENTATION (or approved equivalent)	5
SOST 300	PEOPLES AND GOVERNANCE OF THE PACIFIC NORTHWEST	5
SPED 363	INTRODUCTION TO SPECIAL EDUCATION	4
PSYC 204	EDUCATIONAL PSYCHOLOGY	5
Quantitative and Symbolic Reasoning proficiency*		5
<b>Total Credits</b>		<b>32</b>

\* Quantitative and Symbolic Reasoning courses (<http://catalog.ewu.edu/undergraduate-degree/#mathcompproficiencytext>)

**Grade Requirements:** A cumulative GPA  $\geq$ 2.8 for all courses,  $\geq$ C in each required chemistry course and required supporting course,  $\geq$ B- in each required education course.

## Required Chemistry Courses

CHEM 171 & 171L	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LABORATORY I	5
CHEM 172 & 172L	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LABORATORY II	5
CHEM 173 & 173L	GENERAL CHEMISTRY III and GENERAL CHEMISTRY LABORATORY III	5
CHEM 304 & 304L	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	6
CHEM 351	ORGANIC CHEMISTRY I	4
CHEM 352	ORGANIC CHEMISTRY II	4
CHEM 372	ORGANIC CHEMISTRY LABORATORY I	3
CHEM 421	PHYSICAL CHEMISTRY I	4

**Electives: choose 300- or 400-level Chemistry courses** 9

## Required Supporting Courses

MATH/HONS 161	CALCULUS I	5
MATH 162	CALCULUS II	5
MATH 163	CALCULUS III	5
PHYS 151	GENERAL PHYSICS I	4
PHYS 152	GENERAL PHYSICS II	4
PHYS 153	GENERAL PHYSICS III	4
PHYS 161	MECHANICS LABORATORY	1
PHYS 162	HEAT AND OPTICS LABORATORY	1
PHYS 163	ELECTRONICS LABORATORY I	1

## Required Education Courses

EDUC 303	FOUNDATIONS OF ASSESSMENT	3
EDUC 309	FOUNDATIONS OF SECONDARY CLASSROOM MANAGEMENT	3
EDUC 341	SECONDARY STRATEGIES, MANAGEMENT, ASSESSMENT	3
EDUC 386A	FIELD EXPERIENCE AND PRACTICUM	3
EDUC 386B	FIELD EXPERIENCE AND PRACTICUM	3

EDUC 413	CONTENT AREA LITERACY: MANAGEMENT AND ASSESSMENT FOR SECONDARY EDUCATION CANDIDATES	3
EDUC 426	SECONDARY STUDENT TEACHING 5-12	12
EDUC 427	GENERAL STUDENT TEACHING K-12	3-15
SCED 390	SCIENCE TEACHING METHODS	5
<b>Required Senior Capstone</b>		
SCED 490A	SCIENCE TEACHING CAPSTONE SEMINAR	3
SCED 490B	SCIENCE TEACHING CAPSTONE FIELD APPLICATION	2
<b>Total Credits</b>		<b>118-130</b>

### University Competencies and Proficiencies

- English (<http://catalog.ewu.edu/undergraduate-degree/#newitemtext>)
- Quantitative and Symbolic Reasoning (<http://catalog.ewu.edu/undergraduate-degree/#mathcompproficienciestext>)
- Placement and Clearance (<http://catalog.ewu.edu/placement/>)
- Prior Learning/Sources of Credit AP, CLEP, IB (<http://catalog.ewu.edu/prior-learning/>)

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### General Education Requirements (<http://catalog.ewu.edu/undergraduate-degree/#generaleducationrequirementstext>) (GER)

- Minimum Credits—180 cumulative credit hours
  - 60 upper-division credits (300 level or above)
  - 45 credits in residence (attendance) at Eastern, with at least 15 upper-division credits in major in residence at Eastern
- Minimum Cumulative GPA  $\geq 2.0$

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### Breadth Area Core Requirements (BACR)

- Humanities and Arts (<http://catalog.ewu.edu/undergraduate-degree/#humanitiesandfineartsgecrtext>)
- Natural Sciences (<http://catalog.ewu.edu/undergraduate-degree/#naturalsciencesgecrtext>)
- Social Sciences (<http://catalog.ewu.edu/undergraduate-degree/#socialsciencesgecrtext>)

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### University Graduation Requirements (<http://catalog.ewu.edu/undergraduate-degree/#universitygraduationrequirementstext>) (UGR)

- Diversity Course List (<http://catalog.ewu.edu/undergraduate-degree/#cultureandgenderdiversityintheuslisttext>)
- World Language (<http://catalog.ewu.edu/undergraduate-degree/#worldlanguagetext>) (for Bachelor of Arts)
- Global Studies Course List (<http://catalog.ewu.edu/undergraduate-degree/#internationalstudiesrequirementstext>)
- Minor or Certificate (<http://catalog.ewu.edu/undergraduate-degree/#majorminororcertificateugrtext>)
- Senior Capstone Course List (<http://catalog.ewu.edu/undergraduate-degree/#capstonecourselisttext>)

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Application for Graduation (use EagleNET (<https://inside.ewu.edu/eaglenet/>)) must be made at least two terms in advance of the term expected to graduate (undergraduate and post-baccalaureate).

Use the Catalog Archives (<http://catalog.ewu.edu/archives/>) to determine *two important catalog years*.

- The catalog *in effect at the student's first term* of current matriculation is used to determine **BACR** (Breadth Area Core Requirements) and **UGR** (Undergraduate Graduation Requirements).
- The catalog *in effect at the time the student declares a major or minor* is used to determine the program requirements.

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### Students who earn a BS in Chemistry-Secondary Education from EWU should be able to:

- demonstrate understanding of core concepts in Chemistry;
- show evidence of integrating the 3 dimensions of the Next Generation Science Standards;
- apply best practices to teach Chemistry that are outlined in the Next Generation Science Standards;
- demonstrate effective strategies for teaching Chemistry to a community of diverse students;
- describe the procedures for responding to potential safety hazards in the laboratory, classroom, and field.