

# Chemistry (CHE)

## Division of Science and Mathematics

- **Major: 55 credit hours**
- **Minor: 30 credit hours**
- **Major/Minor GPA required for graduation: 2.50**
- **All courses for the major and minor must be completed with a grade of C- or better.**

### PROGRAM REQUIREMENTS:

- **Capstone: Chemistry Research Methods (W) (CHE 455)**
- **Research: Chemistry Research Methods (W) (CHE 455)**

**Mission:** The mission of this program is to prepare students with complete core knowledge and skills in chemistry and with supplementary applicable skills in mathematics and physics for success in graduate school, professional school, or employment in chemical industry or technology.

**Description of Major:** Courses in the program are designed to make students competent in the areas of content, critical thinking, laboratory work, and research. Chemistry content courses span the five major fields of general chemistry, organic chemistry, analytical chemistry, physical chemistry, and biochemistry. Supplementary courses establish a strong background in physics and mathematics.

### Student Learning Outcomes

*Students will:*

- Mastery the core concepts of chemistry and integrate them across the major areas of chemistry.
- Develop and practice critical thinking skills in scientific problem solving.
- Comprehend the process of scientific inquiry and develop the ability to conduct original research in chemistry.
- Promote appreciation of the role of chemistry in our society.

**Preparation:** The degree prepares students to enter graduate school in specialized fields of chemistry such as organic chemistry, physical chemistry, analytical chemistry, biochemistry, materials chemistry, computational chemistry, polymer chemistry, environmental chemistry, atmospheric chemistry, medicinal chemistry, and nuclear chemistry. Chemistry majors may also choose employment in chemical and biochemical research and technology upon graduation.

### CHEMISTRY MAJOR REQUIREMENTS

**55 crs.**

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CHE 105	GENERAL CHEMISTRY I	(4)
CHE 106	GENERAL CHEMISTRY II	(4)
CHE 205	ORGANIC CHEMISTRY I	(4)
CHE 206	ORGANIC CHEMISTRY II	(4)
CHE 300	ANALYTICAL CHEMISTRY	(4)
CHE 303	PRINCIPLES OF BIOCHEMISTRY	(4)
CHE 305	PHYSICAL CHEMISTRY I	(4)
CHE 306	PHYSICAL CHEMISTRY II	(4)
CHE 455	CHEMISTRY RESEARCH METHODS	(3)
MTH 210	CALCULUS I	(4)
MTH 211	CALCULUS II	(4)
MTH 212	CALCULUS III	(4)
PHY 211	GENERAL PHYSICS I	(4)
PHY 212	GENERAL PHYSICS II	(4)

### RECOMMENDED ELECTIVES

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CHE 310	INTRODUCTION TO MOLECULAR MODELING AND BIOINFORMATICS	(2)
CHE 380-389	SPECIAL TOPICS IN CHEMISTRY	(1-3)

**CHEMISTRY MINOR REQUIREMENTS****30 crs.**

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CHE 105	GENERAL CHEMISTRY I	(4)
CHE 106	GENERAL CHEMISTRY II	(4)
CHE 205	ORGANIC CHEMISTRY I	(4)
CHE 206	ORGANIC CHEMISTRY II	(4)
CHE 300	ANALYTICAL CHEMISTRY	(4)
CHE 303	PRINCIPLES OF BIOCHEMISTRY	(4)
CHE 310	INTRODUCTION TO MOLECULAR MODELING AND BIOINFORMATICS	(2)
MTH 210	CALCULUS I	(4)

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