

Chemistry

Major

Minor

Track in:

- TRADITIONAL CHEMISTRY

Concentrations in:

- PROFESSIONAL CHEMISTRY
- BIOCHEMISTRY

Teaching certification option

Professors:

Larivee (Chair), F. Senese

Associate Professors:

Biser, Mumper, Simon

Assistant Professor:

Norris

- All chemistry majors must take the core courses and select either the Traditional Track, Professional Concentration, Biochemistry Concentration or Teaching Certification Option to fulfill requirements for the major. The Traditional Track is recommended for students wishing to double major.
- Chemistry is often selected as a major by students planning to enter health professions careers. The Biochemistry Concentration is a suitable choice. (See the section on Health Professions Preparation of this catalog.)
- The Professional Concentration is a strong program for graduate school preparation.

	MAJOR			Teaching Certification	MINOR
	Trad. Track	Profess. Con.	Biochem. Con.		
Hours Required in Chemistry:	39	52	41	42	25
Hours Required in Other Departments:	20	24	31	66.5	0
Total Hours Required:	59	76	72	108.5	25

Summary of Requirements for Major/Minor in Chemistry

Major	Minor
<p>1. Core Introductory Level Courses: (8 hours) CHEM 201 General Chemistry I (<i>GEP Group C</i>) CHEM 202 General Chemistry II</p> <p>2. Core Advanced Courses: (23 hours) CHEM 301 Organic Chemistry I CHEM 302 Organic Chemistry II CHEM 304 Computational Tech. in Chem. (<i>Tech. Fluency</i>) CHEM 305 Research Methods in Chemistry CHEM 320 Quantitative Anal. Chem. CHEM 441 Physical Chem. Lecture I CHEM 445 Physical Chemistry Lab I CHEM 491 Seminar in Chemistry CHEM 492 Capstone Experience</p> <p>3. Required Courses in Other Departments: Mathematics: (8 hours) MATH 236 Calculus I (<i>Core Skill 3</i>) MATH 237 Calculus II Physics: (8 hours) PHYS 215, 216 General Physics I, II (<i>215: GEP Group C</i> <i>or PHYS 261, 262 Principles of Physics I, II (261: GEP Group C)</i>)</p> <p>4. Choice of Specialization: (12-61.5 hours) Majors must choose the Traditional Track, Professional Concentration, Biochemistry Concentration or Teaching Certification Option. Requirements listed below.</p> <p>5. All majors must earn a C or better in CHEM 201, 202, 301, 302, 320.</p>	<p>1. Core Introductory Level Courses: (8 hours) CHEM 201 General Chemistry I (<i>GEP Group C</i>) CHEM 202 General Chemistry II</p> <p>2. Core Advanced Courses: (17 hours) CHEM 301 Organic Chemistry I CHEM 302 Organic Chemistry II <i>and 9 additional hours in Chemistry, 300 level or above, except CHEM 491 Seminar in Chemistry, CHEM 492 Capstone Experience, CHEM 493 Advanced Chemical Research, CHEM 495 Internship in Chemistry and CHEM 499 Special Problems in Chemistry</i></p>

Requirements for the Traditional Track for Chemistry Majors

1. Core Courses: (47 hours)

Required of all Chemistry majors, listed above

2. Advanced Courses: (8 hours)

CHEM 421 Instrumental Analysis
 CHEM 442 Physical Chemistry II
 CHEM 446 Physical Chemistry Lab II

3. Required Courses in Mathematics: (4 hours)

MATH 238 Calculus III

4. All majors in this track must earn a C or better in CHEM 441.

CHEMISTRY

Requirements for the Professional Concentration for Chemistry Majors

1. Core Courses: (47 hours)

Required of all Chemistry majors, listed above.

2. Advanced Courses: (16 hours)

CHEM 411 Advanced Inorganic Chemistry
 CHEM 421 Instrumental Analysis
 CHEM 442 Physical Chemistry II
 CHEM 446 Physical Chemistry Lab II
 CHEM 455 Biochemistry I
 CHEM 493 Advanced Chemistry Research (1 hour)

3. Required Elective Courses (5-6 hours)

A minimum of 5 hours in at least two courses:

CHEM 420 Environmental Chemical Analysis
 CHEM 438 Advanced Organic Chemistry
 CHEM 456 Biochemistry Lab
 CHEM 457 Biochemistry II
 CHEM 460 Environmental Chemistry
 CHEM 490 Selected Topics in Chemistry
 CHEM 493 Advanced Chemistry Research (2 additional hours)

4. Required Course in Other Departments: (8 hours)

BIOL 149 General Biology
 MATH 238 Calculus III

5. All majors in this concentration must earn a C or better in CHEM 441.

Requirements for the Biochemistry Concentration for Chemistry Majors

1. Core Courses: (47 hours)

Required of all Chemistry majors, listed above.

2. Advanced Courses: (9 hours)

CHEM 455 Biochemistry I
 CHEM 456 Biochemistry Lab
 CHEM 457 Biochemistry II

3. Required Courses in Biology: (15 hours)

BIOL 149 General Biology I (GEP Group C)
 BIOL 304 Microbiology
 BIOL 350 Genetics
 BIOL 435 Molecular Biology

4. Required Electives: (1-4 hours)

Select from among:

CHEM 411 Advanced Inorganic Chemistry
 CHEM 420 Environmental Chemical Analysis
 CHEM 421 Instrumental Analysis
 CHEM 442 Physical Chemistry II
 CHEM 493 Advanced Chemistry Research (1-3 hours)
 MATH 238 Calculus III

5. All majors in this concentration must earn a C or better in CHEM 455.

Requirements for the Teaching Certification Option in Chemistry

1. Core Courses: (47 hours)

Required of all Chemistry majors, listed above.

2. Advanced Courses: (11 hours)

CHEM 442 Physical Chemistry II
 CHEM 446 Physical Chemistry Lab II
 CHEM 455 Biochemistry I
 CHEM 460 Environmental Chemistry
 CHEM 493 Advanced Chemistry Research (1 hour)

3. Required Courses in Other Departments (8 hours)

MATH 238 Calculus III
 BIOL 149 General Biology (GEP Group C)

4. Required Courses in Education (42.5 hours)

See Professional Education sequence for Secondary Programs in the Educational Professions section of this catalog.