

CHEMISTRY

Chemistry

Major

Minor

Track in:

- TRADITIONAL CHEMISTRY

Concentrations in:

- PROFESSIONAL CHEMISTRY
- BIOCHEMISTRY

Teaching certification option

Professors:

Larivee (Chair), F. Senese, Weser

Associate Professors:

Mumper, Simon

Assistant Professor:

Biser

- 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:	38	48	40	41	25
Hours Required in Other Departments:	20	20	31	66.5	0
Total Hours Required:	58	68	71	107.5	25

Summary of Requirements for Major/Minor in Chemistry

Major

1. Core Introductory Level Courses: (8 hours)

CHEM 101 General Chemistry I (*GEP Group C*)
CHEM 102 General Chemistry II

2. Core Advanced Courses: (22 hours)

CHEM 300 Computational Tech. in Chem
CHEM 301 Organic Chemistry I
CHEM 302 Organic Chemistry II
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

3. Required Courses in Other Departments:

Mathematics: (8 hours)

MATH 236 Calculus I (*Core Skill 3*)
MATH 237 Calculus II

Physics: (8 hours)

PHYS 215, 216 General Physics I, II (*215: GEP Group C*)
or PHYS 261, 262 Principles of Physics I, II (*261: GEP Group C*)

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.

5. All majors must earn a C or better in CHEM 101, 102, 301, 302, 320.

Minor

1. Core Introductory Level Courses: (8 hours)

CHEM 101 General Chemistry I (*GEP Group C*)
CHEM 102 General Chemistry II

2. Core Advanced Courses: (17 hours)

CHEM 301 Organic Chemistry I
CHEM 302 Organic Chemistry II
and 7 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

Requirements for the Traditional Track for Chemistry Majors

1. Core Courses: (46 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.

Requirements for the Professional Concentration for Chemistry Majors

1. Core Courses: (46 hours)

Required of all Chemistry majors, listed above.

2. Additional Core Courses: (12 hours)

CHEM 411 Advanced Inorganic Chemistry
CHEM 421 Instrumental Analysis
CHEM 442 Physical Chemistry II
CHEM 446 Physical Chemistry Lab II

3. Advanced Courses (6-7 hours)

CHEM 455 Biochemistry I
CHEM 493 Advanced Chemistry Research (1-3 hours)

If less than three hours of CHEM 493 are taken, then one additional advanced course from among the following is required:

CHEM 438 Advanced Organic Chemistry
CHEM 457 Biochemistry II
CHEM 460 Environmental Chemistry
CHEM 490 Selected Topics in Chemistry

4. Required Courses in Other Departments

Mathematics: (4 hours)

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: (46 hours)

Required of all Chemistry majors, listed above.

2. Advanced Courses: (7 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: (3-4 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 (3 hours minimum)
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: (46 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.