

# DEPARTMENT OF CHEMISTRY

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## ABOUT THE DEPARTMENT AND ITS ACADEMIC PROGRAMS

The UW-Platteville Department of Chemistry offers several different majors as well as a minor in chemistry.

Seven organized programs of chemistry coursework are offered to meet the varied needs of our students. They include: the standard chemistry major; the American Chemical Society (ACS) certified chemistry major; the biochemistry and biotechnology emphasis; the ACS biochemistry emphasis; the health science emphasis; two alternative forensic chemistry emphases (with DNA emphasis or ACS); and the chemistry minor.

### MAJORS

- Chemistry Major, Standard, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/#standard>)<sup>1</sup>
- Chemistry Major, Biochemistry and Biotechnology Emphasis, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/#biochemistry-and-biotechnology>)
- Chemistry Major, Forensic Chemistry with DNA Emphasis, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/#forensic-dna-emphasis>)
- Chemistry Major, Health Science Emphasis, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/#health-science-emphasis>)
- Chemistry Major, American Chemical Society (ACS) Certified, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-ac-approved-bs/#acs>)
- Chemistry Major, Biochemistry Emphasis, ACS Certified, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-ac-approved-bs/#biochemistry-ac>)
- Chemistry Major, Forensic Chemistry Emphasis, ACS Certified, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-ac-approved-bs/#forensic-ac>)

<sup>1</sup> In order to be licensed to teach science, students must complete the Science Education Major (<https://catalog.uwplatt.edu/undergraduate/liberal-arts-education/environmental-sciences-and-society/science-education-bs/>). This major requires students to acquire depth in a science discipline via completion of a 2nd major or minor, such as the Chemistry Major, Standard, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/>) or the Chemistry Minor (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/minor/>). This will improve marketability. Finally, students will also need to complete Middle-Secondary Education emphasis (<https://catalog.uwplatt.edu/undergraduate/liberal-arts-education/education/teacher-education/middle-and-secondary-education/>) through School of Education to acquire necessary professional education training.

### MINOR

- Chemistry Minor (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/minor/>)

### GENERAL REQUIREMENTS, BACHELOR OF SCIENCE DEGREES

Course	Title	Credits
Total for graduation		120 credits
General education		26-39 credits
Major requirements		38-72 credits

### ADMISSION

For admission to the chemistry program, students must either declare chemistry as their major at initial registration, or else submit a change of major form to the Registrar's Office.

### ACADEMIC STANDARDS

Once admitted to the chemistry program, students must maintain a satisfactory level of academic performance in order to continue in the major. The following standards are required for chemistry degree programs.

1. All chemistry majors are required to participate in either an independent-research or industrial-work experience during their junior or senior year. This requirement can be satisfied either by CHEMISTRY 4000 or CHEMISTRY 4660.

## EDUCATIONAL MISSION

The curriculum offered by the chemistry department is intended to help its students develop a sound grasp of the basic concepts and applications that relate to the properties of matter and its chemical transformations, as well as exposing them to relevant experimental methods and analytical techniques. The department is committed to providing a strong foundation in the chemical sciences to all its students, both majors and non-majors.

Therefore, the chemistry program cultivates an intellectual environment and educational experiences that:

1. provide students majoring in chemistry with high-quality preparation that is equally well suited for either successful professional practice in chemistry, or admission to graduate/professional school;
2. provide students majoring in other areas that specifically require chemistry as part of their curricula with a broad-based knowledge of chemistry, meeting the needs of their majors;
3. provide general education students with both a broad-based introduction to chemistry, as well as insight into the nature and limitations of scientific inquiry and knowledge.

## EXPECTED STUDENT OUTCOMES

By the time they graduate, UW-Platteville chemistry majors should:

1. be scientifically literate and possess a broad-based knowledge of chemical principles and techniques,
2. be able to solve problems through creative and analytical thinking,
3. be effective communicators,
4. be intellectually curious and value lifelong learning,
5. value and appreciate the importance of professional ethics,
6. be able to work independently as well as cooperatively.

Non-chemistry science or engineering majors who complete their appropriate sequence of chemistry coursework should be able to apply their knowledge of chemistry to their own majors.

Non-science majors who take a chemistry course in satisfaction of their general-education requirements should discover the patterns, principles, and dynamics that find expression in empirical science; assess the character, possibilities, and limitations of the scientific method; and engage directly in the observation and study of natural phenomena.

## MAJORS

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- Chemistry Major, Forensic Chemistry with DNA Emphasis, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/#forensic-dna-emphasis>)
- Chemistry Major, Health Science Emphasis, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/#health-science-emphasis>)
- Chemistry Major, ACS Certified, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-ac-approved-bs/#acs>)
- Chemistry Major, Biochemistry Emphasis, ACS Certified, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-ac-approved-bs/#biochemistry-ac>)
- Chemistry Major, Forensic Chemistry Emphasis, ACS Certified, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-ac-approved-bs/#forensic-ac>)

## RELATED MAJOR

- Computer Science + Chemistry (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/#chemistry>)

## MINOR

- Chemistry Minor (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/minor/>)

## FOUR-YEAR PLANS

- Chemistry Major, Standard, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/four-year-plan/>)
- Chemistry Major, Biochemistry and Biotechnology Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/biochem-and-biotech-emphasis-four-year-plan/>)
- Chemistry Major, Forensic Chemistry with DNA Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/forensic-chemistry-dna-emphasis-four-year-plan/>)
- Chemistry Major, Health Science Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-standard-bs/health-science-emphasis-four-year-plan/>)
- Chemistry Major, ACS Certified, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-accs-approved-bs/accs-four-year-plan/>)
- Chemistry Major, Biochemistry Emphasis, ACS Certified, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-accs-approved-bs/accs-biochemistry-four-year-plan/>)
- Chemistry Major, Forensic Chemistry Emphasis, ACS Certified, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/chemistry/major-accs-approved-bs/accs-forensic-chemistry-four-year-plan/>)

## FACULTY AND LECTURERS

Additional information about the Faculty and Lecturers below may be found in the Faculty and Academic Staff (<https://catalog.uwplatt.edu/faculty-academic-staff/>) section of this catalog.

Chattopadhyay, Soma

Cornett, Charles R.

Hamilton, James P.

Mackenzie, Ian A.

Marni, Farzana

Maunnamalai, Raja

Mendis, Chanaka A.

Pugh, Raymond J.

Pugh, Samantha N.

Pulkrabek, Kimberly A.

Rabbani, Mohammad G.

Swallen, Stephen F.

Wu, Tsungshueh (Joseph)