

CHEMISTRY AND BIOCHEMISTRY

Phillips 430

715-836-3417

Department Website (<https://www.uwec.edu/academics/college-arts-sciences/departments-programs/chemistry-biochemistry/>)

The degree programs in the Department of Chemistry and Biochemistry offer the rare opportunity to build a useful and marketable set of technical skills, while obtaining a well-rounded liberal arts education that will provide communication and “people” skills. The department offers a variety of majors and interdisciplinary programs, with varying degrees of specialization designed to meet the needs and interests of a broad range of students. The A.C.S. certified majors are ideal for students seeking a rigorous and focused course of study, and are well-suited to those seeking immediate employment in the chemical industry or planning graduate study in chemistry or biochemistry. The liberal arts major offers broader professional options, is more flexible in terms of elective coursework, and is paired with a minor or second major. The liberal arts major is also an excellent choice for pre-pharmacy, pre-medicine, pre-dentistry, and other pre-professional students. Students interested in biological chemistry may also consider the interdisciplinary comprehensive major in biochemistry/molecular biology offered jointly with the Biology Department.

The Chemistry with Business Emphasis major offers a unique course of study that is ideal for those seeking a business career in a technical industry. This program offers a powerful combination of technical training in the field of chemistry, a core of business classes, and a targeted course sequence focused on industrial chemistry. This renders students incredibly well-prepared to enter sales, marketing, or customer support roles immediately upon graduation.

Faculty/student collaborative research is the hallmark of the Chemistry Department. These hands-on learning opportunities are key to acquainting students with the day-to-day activities of practicing chemists and often lead to summer employment and internship opportunities. Many students also have the opportunity to present their work at professional meetings prior to graduation.

The Chemistry Department is accredited by the American Chemical Society (A.C.S.) to certify its comprehensive degrees as meeting the breadth and depth requirements of the A.C.S. There are two A.C.S. certified options, including one focused on biological chemistry.

Honor Societies and Student Organizations:

The UW-Eau Claire student affiliate chapter of the American Chemical Society (ACS-SA) is a national award-winning organization that involves students in social, professional, and service activities at the university and in the community. This group has continued since the A.C.S. incorporated ACS-SA members into its general membership as Student Members. The UW-Eau Claire ACS-SA helps inform fellow students of curricular options and career opportunities and coordinates a tutoring program serving students in lower-level chemistry courses. All chemistry and biochemistry/molecular biology students are encouraged to become members of ACS-SA.

Departmental Honors in Chemistry and Biochemistry

Open to students in all programs in the Department of Chemistry and Biochemistry who meet the following *requirements*:

1. GPA of 3.50 or higher, both cumulative and in chemistry courses. Participation in a collaborative research project with a chemistry faculty member that results in:
 2. a presentation at an off-campus research conference, and
 3. completion of CHEM 497 with a favorable review of the manuscript by the research advisor and at least two additional faculty members.

Procedure: Students seeking Departmental Honors must:

1. Complete all requirements listed above.
2. Complete the Departmental Honors Application: This is submitted as an eform that is approved by faculty reviewers and the Chair; a transcript, and copies of the CHEM 497 manuscript and presentation abstract are attached to the form.
3. Forward a completed application to the *Student Affairs Committee Chair* by the date specified on the form.

Note: Names of Departmental Honors graduates must be forwarded to the University Honors Program Director and Registrar at least three weeks prior to commencement.

Information for All Students about General Chemistry Placement

NOTE 1: CHEM 105 is the first course in a two-semester general chemistry sequence that includes CHEM 105, CHEM 106 and CHEM 109, while CHEM 115 combines material from this two-semester sequence into a single one-semester course. Students, especially chemistry, biochemistry/molecular biology (B/MB), and materials science majors (see Note 5), who meet the enrollment criteria described in NOTES 2 and 3 are strongly encouraged to take CHEM 115 to complete their general chemistry requirement in a single semester.

NOTE 2: High school math performance is the best predictor of success in all 100-level chemistry courses. Students who place into MATH 114 or higher should almost always take CHEM 115. Students who place into MATH 109 or lower should take CHEM 105 and CHEM 106 as their first semester, followed by CHEM 109. Students who place into MATH 112 or MATH 113 should consider their chemistry background and anticipated degree program when choosing between CHEM 105/CHEM 106 and CHEM 115. Students with a strong high school chemistry background (see NOTE 3), and who are planning to major (or minor) in chemistry, B/MB, or materials science should usually take CHEM 115. Students with less chemistry preparation, or who are not planning on majoring (or minoring) in chemistry, B/MB, or materials science should probably start by taking CHEM 105 and CHEM 106.

NOTE 3: A “strong background” in high school chemistry can take several forms. Successful completion of an AP chemistry course or similarly enriched chemistry course constitutes a strong background. Successful completion of two years of high school chemistry; or one year of high school chemistry and one year of high school physics generally provides a strong background as well.

NOTE 4: Students who take CHEM 115, and after consultation with their CHEM 115 instructor in the first 2 of weeks of the course determine that CHEM 105/CHEM 106 is the more appropriate starting point for them in chemistry, will be allowed to transfer to CHEM 105/CHEM 106. Therefore,

for close decisions between original enrollment in CHEM 105/CHEM 106 or CHEM 115, students are encouraged to enroll in CHEM 115.

NOTE 5: Chemistry, B/MB, and materials science majors and minors receive 6 credits toward the major for CHEM 115 or a combination of CHEM 105, CHEM 106, and CHEM 109. Therefore, these students should take CHEM 115 if they meet the enrollment criteria so that they can move on sooner to other courses in their major.

Faculty

Jennifer Dahl, Chair

Scott Bailey-Hartsel

Sudeep Bhattacharyay

Michael Carney

Patricia Cleary

Anna Cook

Bart Dahl

Tyler Doyon

Stephen Drucker

Deidra Gerlach

Jason Halfen

Sanchita Hati

Krysti Knoche Gupta

James Phillips

Kurt Wiegel

Majors

- Comprehensive Major: Chemistry, A.C.S. Certified - B.A./B.S. (<http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry-biochemistry/chemistry-acs-comprehensive-major-general-ba-bs/>)
- Comprehensive Major: Chemistry, A.C.S. Certified, Biochemistry Emphasis - B.A./B.S. (<http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry-biochemistry/chemistry-acs-comprehensive-major-biochemistry-ba-bs/>)
- Major: Chemistry, Liberal Arts - B.A./B.S. (<http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry-biochemistry/chemistry-major-ba-bs/>)
- Comprehensive Major: Chemistry with Business Emphasis - B.A./B.S. (<http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry-biochemistry/chemistry-comprehensive-major-business-ba-bs/>)
- Comprehensive Major: Biochemistry/Molecular Biology, Liberal Arts - B.A./B.S. (College of Arts and Sciences Interdisciplinary Major) (<http://catalog.uwec.edu/undergraduate/arts-sciences/interdisciplinary/biochemistry-molecular-biology-comprehensive-major-ba-bs/>)
- Comprehensive Major: Science Teaching, Chemistry Emphasis - B.S. (College of Education and Human Sciences Secondary Education Program) (<http://catalog.uwec.edu/undergraduate/arts-sciences/interdisciplinary/science-teaching-comprehensive-major-chemistry-t-bs/>)

Minors

- Minor: Chemistry, Liberal Arts (<http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry-biochemistry/chemistry-minor/>)