



BIOCHEMISTRY/MOLECULAR BIOLOGY

UW-EAU CLAIRE UNDERGRADUATE FACT SHEET

Biochemistry/molecular biology involves the study of life processes at the molecular level. Students study how molecules such as DNA and proteins control our heredity, development, aging and mental activity, and how abnormalities in these molecules can lead to diseases such as cancer.

WHY STUDY BIOCHEMISTRY?

- The major leads to entry-level employment opportunities in research and development in industrial and government laboratories as well as in the biotechnology industry.
- You will be well prepared to enter graduate studies in molecular studies in molecular biology, genetics and related fields as well as for admission to professional schools in medicine, osteopathy and dentistry.
- In addition to knowledge of your subject and practical technical skills, you will strengthen your ability for problem solving, analyzing data and communicating new information, and gain a greater understanding of statistics and computing.
- Apply your molecular biochemical knowledge to life-changing endeavors, such as producing vaccines and novel drugs and improving crops and livestock through genetic engineering.

THE EAU CLAIRE ADVANTAGE

- UW-Eau Claire has an excellent reputation of producing well-trained graduates.
- Fully equipped laboratories are available for teaching and research in genetics, recombinant DNA techniques, plant and animal

physiology, microbiology, biochemistry, organic chemistry and physical chemistry.

- The laboratories are well-equipped with up-to-date instruments not often found in undergraduate laboratories, including a DNA synthesizer and sequencer, a gas chromatograph/ mass spectrometer, a 3-D molecular graphics workstation, a superconducting nuclear magnetic resonance spectrometer, a Fourier transform infrared spectrometer, and transmission and scanning electron microscopes.
- Through laboratory-based education, students receive hands-on experience in problem solving and in modern techniques, experimental design and data analysis.

UW-EAU CLAIRE FACTS AT A GLANCE

- Location: Eau Claire, Wis.; city pop. 64,000, metro. pop. 151,000
- Average enrollment: 10,500
- Undergraduates: 10,063
- Graduate students: 503
- International students: 124
- Multicultural students: 485
- Average men-women ratio: 2-to-3
- Students who spend at least a semester studying abroad: 24%
- Students doing undergraduate research with faculty/staff: 710+
- ACT composite average: 24+
- Average high school rank: 77%
- Average class size: 28
- Faculty-student ratio: 1-to-20
- Computers-student ratio: 1-to-9
- Student organizations: 224
- Walk across campus: About 10 minutes
- Nickname: Blugolds
- Colors: Navy and old gold

- Internships provide students the opportunity to gain real world experience at university research laboratories, biotechnology firms and clinical laboratories.
- The UW-Eau Claire Molecular Movement Club provides students with leadership opportunities, job search assistance and information about professional schools.
- Students participate in weekly seminars featuring presentations by top researchers.
- Through our student/faculty collaborative research program, students participate in fascinating research projects while working one-on-one with a professor in their field and gaining in-depth knowledge for their careers or graduate school.
- Small classes and individual attention.
- Unlike many other public universities, classes are not taught by teaching assistants. Students work alongside interesting professors who inspire learning.

CAREER OPTIONS

- Diagnose and treat human diseases and develop new therapeutic agents in the medical or pharmaceutical fields.
- Conduct research in biotechnology firms, pharmaceutical companies, universities, government agencies, foundation laboratories, hospitals or clinics.
- Work in sales and purchasing or marketing and marketing research for a scientific manufacturing company.
- Teach chemistry and/or biology in secondary schools, or obtain a doctorate degree to be eligible for research/teaching positions at universities, foundations and clinics.

UNDERGRADUATE PROGRAMS

In partnership, the UW-Eau Claire biology department and chemistry department offer a comprehensive, multidisciplinary major in biochemistry/ molecular biology. For other majors and minors offered by these two departments, see fact sheets for biology and chemistry.

HIGH SCHOOL PREPARATION

- Successful completion of high school courses in English, algebra, geometry, physics, chemistry and biology are especially important for students interested in biochemistry and molecular biology.
- All students who enroll at UW-Eau Claire are required to have a minimum of 17 college preparatory units including:
 - 4 years of English (at least 3 composition and literature)
 - 2 years of a single foreign language
 - 3 years of math (algebra, geometry, 1 advanced college preparatory math)
 - 3 years of natural science
 - 3 years of social science (1 must be world or American history)
 - 2 additional units in the areas already mentioned or other academic areas

FRESHMAN COURSE WORK

Most students take 30 credits (15 credits each semester) their freshman year. Many biochemistry/molecular biology students take the following courses during their first year:

Sample First Year

FALL SEMESTER

COURSE#	TITLE	CREDIT
Chem 115	Chemical Principles	5
Biol 111	Cell Biology and Genetics	4
Math 114	Calculus and Analytical Geometry	4
Humanities	general education course	3

SPRING SEMESTER

COURSE#	TITLE	CREDIT
Chem 213	Quantitative Analysis	5
Biol 211	Organismal Form and Function, (or equivalent approved 5-credit course)	5
Engl 110	Introduction to College Writing	5
Social science	general education course	3

FOR MORE INFORMATION

For more information about the biochemistry/molecular biology program:

BIOLOGY

Phillips Hall 330
UW-Eau Claire
Eau Claire, WI 54702-4004
715-836-4166
www.uwec.edu/biology

For more information about campus including costs, housing, admission requirements and tours:

ADMISSIONS

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Experience the Eau Claire Advantage.