INTRODUCTION
Microbiology is the study of microorganisms, usually organisms that are too small to be seen with the naked eye. Microorganisms, including bacteria, viruses, parasites, yeasts and molds, affect many aspects of life on Earth to the extent that life would not be possible in the absence of microbes. Though a small percentage of microbes are capable of causing diseases in plants and animals, many perform beneficial functions and can also be used to manufacture chemicals and medical products.

Microbiology is a large discipline with many different subspecialties that have applications in medicine, ecology, agriculture, pharmaceutical development, biotechnology, and the food industry, among others.

WHY STUDY MICROBIOLOGY?
- Students with a microbiology comprehensive major will develop skills valued by employers in a wide variety of industries.
- The microbiology emphasis is excellent preparation for students who wish to enter medical, dental, veterinary, physician assistant, or other health care related programs after graduation.
- The microbiology emphasis is excellent preparation for students who wish to pursue a Master's or Ph.D. in a subspecialty of microbiology or molecular biology.
- Microbiologists focus on understanding biological processes leading to ways to improve our health and environment.

CAREER OPTIONS
Microbiologists work in a wide range of settings. You can find them working in industries from food, agriculture and pollution control to biotechnology, pharmaceuticals, and health. They also work in government agencies and labs, such as the National Institutes of Health, the Environmental Protection Agency, water treatment facilities, and hospitals. The education sector employs microbiologists as teachers and researchers.

UW-EAU CLAIRE FACTS AT A GLANCE
- Location: Eau Claire, WI.; city pop. 65,000, pop. of metro area 151,000
- Average enrollment: 10,500
- Undergraduates: 10,000
- Graduate students: 500
- International students: 262
- Multicultural students: 847
- Men to women ratio: 7-to-10
- Students studying abroad: 289
- Students doing undergraduate research with faculty/staff: 800+
- ACT composite average: 24+
- Average high school rank: 75%
- Average class size: 28
- Faculty-student ratio: 1-to-22
- Student organizations: 250+
- In-state tuition/fees, room and board (two semesters): $14,991
- Walk across campus: About 10 minutes
- Nickname: Blugolds
- Colors: Navy and Old Gold

THE EAU CLAIRE ADVANTAGE
- Students work with professors who are excellent and inspirational teachers. Unlike many other public universities, classes are not taught by teaching assistants, and class sizes are small.
- The Department of Biology prides itself in its faculty-undergraduate student collaborative research program. Students have the opportunity to engage in research with faculty in the lab and/or field. Students work on projects across the state, country, and world. They conduct independent studies, co-author publications, and present results at professional scientific meetings. Such experience is invaluable for pursuing a graduate degree or a career in the discipline.
- UW-Eau Claire is a top-ranked comprehensive university nationwide among comparable university undergraduate biology programs for producing future female Ph.D.s.
- Generous gifts and grants from a variety of foundations and governmental agencies have helped to supply the biology department with new and advanced equipment for innovative instruction.
- The Department is housed within Phillips Science Hall, where it occupies the entire third floor. Departmental facilities include six general laboratories and 10 specialized laboratories, numerous research labs, three modern greenhouses, an animal care facility, the James Newman Clark Bird Museum, and shared access to electron and fluorescence microscopes, and a geographic information system lab.
- Students participate in seminars featuring presentations by researchers in microbiology.
Microbiology related student organizations include Biology Club, Molecular Movement, and Beta Beta Beta National Biology Honor Society.

HIGH SCHOOL PREPARATION

Successful completion of high school courses in English, algebra, geometry, physics, chemistry and biology are especially important for students interested in microbiology.

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 of course work

*Students interested in a biology major should have 4 years of HS math. Students who have not had sufficient HS math may be required to complete appropriate coursework prior to starting biology courses at UWEC. Entry level college math course is determined by score on mathematics placement test taken prior to summer orientation.

COURSEWORK IN THE MICROBIOLOGY MAJOR

At least 60 credits are required. The Microbiology major provides an in depth exposure to topics of virology, immunology, general microbiology, and human disease caused by microbes. It is excellent preparation for a career in health science, microbiology or industry, or for graduate training in microbiology or a related field.

Biology core:

- Biol 221 Foundations of Biology I
- Biol 222 Foundations of Biology II
- Biol 223 Foundations of Biological Inquiry

Advanced courses:

- Biol 304 Molecular Biology
- Biol 305 Molecular and Cell Biology
- Biol 306 Infectious Disease Ecology
- Biol 323 Genetics
- Biol 353 Biotechnology
- Biol 361 Biology of Microorganisms
- Biol 402 Current Topics in Virology and Immunology
- Biol 405 Advanced Cell and Molecular Lab
- Biol 409 Molecular Genetics
- Chem 325 & 326 Organic Chemistry
- Chem 352 Biochemistry

FRESHMAN COURSEWORK

Sample First-Year Program:

FALL SEMESTER

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<tr>
<th>COURSE #</th>
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<tbody>
<tr>
<td>Biol 221 – Foundations I</td>
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<tr>
<td>(Math 109 is a pre-req; Chemistry is a co-requisite)</td>
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<td>Chem 103 - General Chem I or Chem 115 - Chem. Principles</td>
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<td>Writing 114 - College Writing or a course in mathematics*</td>
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<td>General education course</td>
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SPRING SEMESTER

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<tr>
<td>Biol 223 – Foundations of Inquiry</td>
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<td>Chem 104 - General Chem II</td>
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<td>Writing 114 - College Writing or a course in mathematics*</td>
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FOR MORE INFORMATION

Contact:

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UW-Eau Claire
Eau Claire, WI 54701
Phone (715) 836-4166

The Department of Biology Web site can be found at: [www.uwec.edu/biology](http://www.uwec.edu/biology)

For general information about the UWEC campus, contact:

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Schofield Hall 112
UW-Eau Claire
Eau Claire, WI 54701
(715) 836-5415
E-mail: admissions@uwec.edu

UW-Eau Claire’s web site is [www.uwec.edu](http://www.uwec.edu)

Revised 12/16