BACTERIOLOGY

See Microbiology Major in Guide for information on exploring, declaring, advising, and careers within microbiology.

Microbiology, the study of microorganisms, helps us understand our world and solve major problems. Microorganisms, or microbes, were the first life forms on earth and influence our lives and our planet in innumerable ways. The field of microbiology is constantly expanding as we learn more about the role of microbes in infectious disease, environmental remediation, bioenergy, food safety, antibiotic resistance, biotechnology and much more. Communities of microbes (or "microbiomes") are critically important in human health, global warming, agricultural yield, criminal justice, economic development and other issues of national concern.

The **microbiology major**, offered by the Department of Bacteriology, is a rigorous path of study, providing a curriculum packed with deep knowledge on broad aspects of microbiology and emphasizing modern laboratory skills. The core courses focus on the diversity, genetics, biochemistry, and physiology of microorganisms. A variety of elective courses provide the opportunity to study environmental microbiology, food microbiology, microbial pathogenesis, immunology, virology, microbiomes and microbial biotechnology, as well as advanced topics in microbial genetics and physiology. In the instructional laboratory courses, students learn beginning through advanced laboratory techniques—gaining the type of hands-on experiences with modern equipment that employers and graduate schools seek. Additionally, students can conduct mentored and independent research projects in faculty laboratories.

The bachelor's degree provides a strong background in the biological sciences for students planning to enter medical, dental, veterinary or other professional schools, as well as those planning graduate studies in any branch of microbiology or other biological sciences such as biochemistry, pathology, and molecular or cell biology.

Students who end their training with a bachelor's degree are well-prepared for a variety of career opportunities, including laboratory positions in pharmaceutical and biotechnology firms, and in university and government laboratories. They also work as specialists in industrial quality testing and control, and as regulatory workers in government agencies and public health laboratories. Exposure to the scientific process, as well as training in microbiology, allows microbiology graduates to enter fields as diverse as business, technical service, sales, and technical writing.

The department also serves as the administrative home for the biology major in the College of Agricultural and Life Sciences.

DEGREES/MAJORS/CERTIFICATES

- Biology, B.S. (CALS) (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/bacteriology/biology-bs/)
- Microbiology, B.S. (CALS) (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/bacteriology/microbiology-bs/)

PEOPLE

RESEARCH FACULTY

Daniel Amador-Noguez
Karthik Anantharaman
Jean-Michel Ané
Briana Burton
Kerri Coon
Cameron R. Currie
Timothy J. Donohue
Katrina T. Forest (Chair)
David Hershey
Betül Kaçar
Charles W. Kaspar
Erica L-W Majumder
Katherine D. McMahon
Charlie Mo
Sabine Pellett
Federico E. Rey
Garret Suen
Michael G. Thomas
Jade Wang
Karen M. Wassarman
Jae-Hyuk Yu

TEACHING FACULTY

Melissa Christopherson
Timothy D. Paustian
Jon T. Roll
Michelle R. Rondon
Betty Slinger

ACADEMIC ADVISORS

Biochemistry & Microbiology Undergraduate Advising Hub (https://biochemmicrobio.wisc.edu/advising/)
For more information, see the Department of Bacteriology directory (https://bact.wisc.edu/people.php).