Oregon State University

Department of Microbiology
Oregon State University
226 Nash Hall
Corvallis, OR 97331

541-737-4441
microbiology.oregonstate.edu

College of Science
Oregon State University
128 Kidder Hall
Corvallis, OR 97331

541-737-4811
science.oregonstate.edu

School of Life Sciences / Department of Microbiology

MICROBIOLOGY

Studying the smallest organisms to solve the world's biggest problems.

COLLEGE OF SCIENCE
ACADEMIC BROCHURE / 2020

Oregon State University

Where will your lab be?

The Department of Microbiology at Oregon State University is pioneering the study of bacteria, viruses and parasites to address environmental, medical and molecular biological problems and create new resources for a healthy environment. We offer the only bachelor of science degree in microbiology in Oregon, training more than 200 students each year.

Specialized options

Students can pursue two distinctive options to explore their interests in more depth. The Pre-Medicine option is designed for students interested in attending medical school. The Aquatic Microbiology option is for students with an interest in the microbiology of marine and freshwater environments.

Student success

Our expert advisors help students make academic decisions consistent with their goals and abilities. They can also be tremendously helpful in interpreting and explaining university policies and procedures to keep students on track for graduation. Current course requirements are available online in the OSU General Catalog. For information about careers and graduate programs, contact the department.

Research opportunities

Microbiology offers highly collaborative and interdisciplinary undergraduate and graduate degrees. Students engage in both theoretical and experimental learning from outstanding teachers and researchers.

Students acquire valuable skills, such as formulating hypotheses, designing experiments and analyzing data as well as preparing and communicating their research. These skills are foundational to career success in research, medicine and industry.

Students in microbiology have an opportunity to work hands-on in a laboratory environment as well as conduct field studies, learning to use the high-tech instrumentation and to perform lab techniques necessary for careers in food science, fermentation, biotechnology and environmental sciences. Below are just a few of our labs that provide invaluable learning experiences to our majors.

Tom Sharpton's Lab studies how the human microbiome relates to human health. Students in the lab apply computational and statistical skills to characterize microbiome biology.

Martin Schuster's Lab specializes in the study of bacterial communication and cooperation and trains students in a variety of approaches ranging from genetics and biochemistry to genomics and systems biology.

Rebecca Vega-Thurber Lab, funded by National Science Foundation, studies deep-sea ecosystem and marine disease from samples collected across the Virgin Islands, Australia's Lizard Island, the Florida coast and California.

The pioneering **John L. Fryer Aquatic Animal Health Laboratory** is renowned for its study of infectious agents in salmon and other aquatic species, and prepares students for careers in aquatic animal health research labs.

The Microbiology Students Association (MSA) provides students extracurricular experiences with field trips, outreach activities and social events. Several students attend local and national microbiology conferences each year.

Sample curriculum

YEARS ONE

General Chemistry
Calculus
Freshman Orientation
General course:
Environmental Economics & Policy
Study abroad

YEARS TWO

Organic Chemistry
Statistics
Principles of Biology
General Microbiology with Lab
General course: Climate Change, Water & Society
Summer research

YEARS THREE

General Biochemistry
Bacterial Molecular Genetics
General Physics
General course: U.S. Latino Identities & Cultures
Internship

YEARS FOUR

22 credits of approved upper-level microbiology courses, such as Immunology, Parasitology, The Human Microbiome, and more.
Electives, upper division courses

Recent graduates work as:

- Biomedical/biotechnology researchers
- Health officers
- Sanitarians
- Wine microbiologists
- Clinical microbiologists
- Dairy/food microbiologists

Recent graduates have been accepted at:

- Graduate school
- Medical school
- Health professional schools

What can you do with a degree in Microbiology?

Cure debilitating diseases, work with world-renowned scientists, solve environmental and global health problems or start your own winery.

Microbes and small organisms are at the center of many of the world's urgent health and environmental problems. Modern microbiology research can illuminate solutions in medicine, public health, food, energy, environment, genetic engineering and biotechnology.

Career preparation

The Department of Microbiology is committed to helping students achieve the knowledge and skills to put them on the right career path and ensure their future success. Students earning a bachelor's degree in microbiology are prepared for a multitude of diverse careers, working as food, industrial or environmental microbiologists in a corporate, government, university or medical school lab.

Many graduates pursue studies at the graduate level or enter professional schools in medicine, pharmacy, optometry, dentistry, medical laboratory science and veterinary medicine, among other health professions. Majoring in microbiology offers students excellent preparation for technical careers in medicine, agriculture, biotechnology, pharmacology, forensics, patent law, and environmental fields.

Career prospects are excellent for microbiology graduates due to the rigorous academic training students receive that involves substantial laboratory and research experiences.

Lizard Island, Australia

John L. Fryer Aquatic Animal Health Laboratory, Corvallis