

Department of Microbiology

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College of Science

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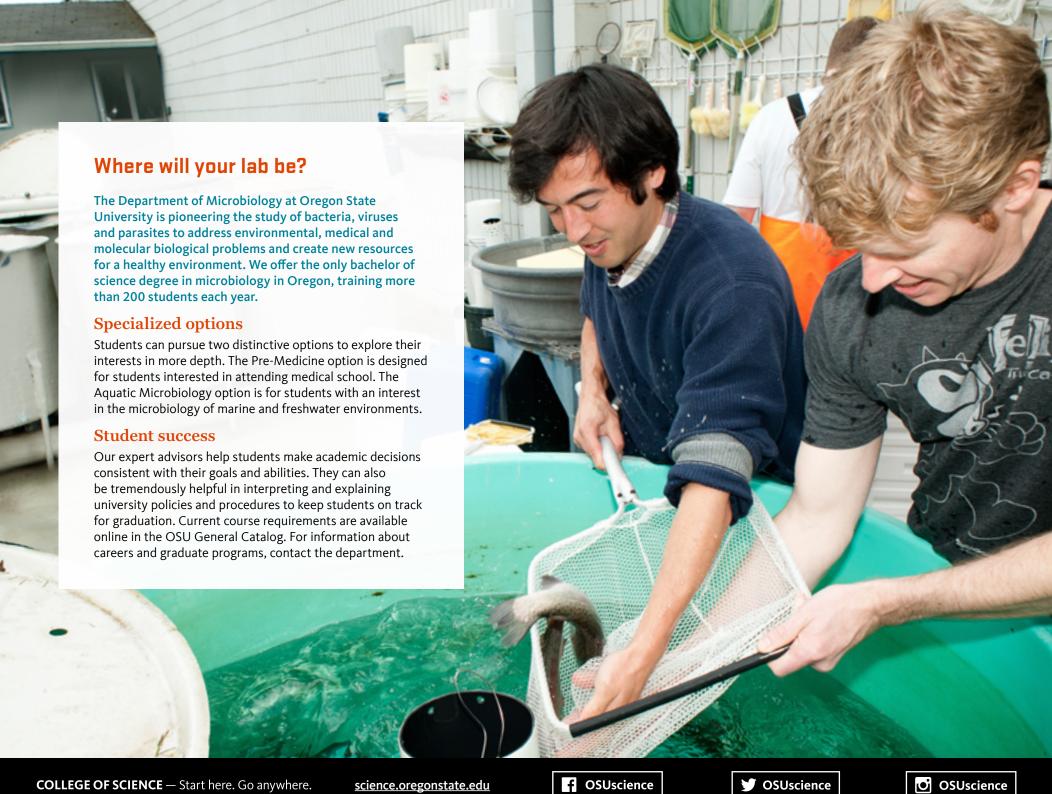
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Research opportunities

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 handson 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 YEAR ONE General Chemistry Calculus Freshman Orientation General course: Environmental Economics & Policy Study abroad YEAR TWO Organic Chemistry

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

YEAR THREE

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

YEAR FOUR

22 credits of approved upper-level microbiology courses, such as Immunology, The Human Microbiome, Parasitology, Microbial Biotechnology, Virology, Fermentation Microbiology 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 worldrenowned 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.

