

# Microbiology

Departments  
and Programs  
in the College  
of Science

Biochemistry &  
Biophysics

Biology

Botany & Plant  
Pathology

Chemistry

Environmental  
Sciences

Geosciences

Mathematics

Microbiology

Molecular &  
Cellular Biology\*

Physics

Pre-professional  
Programs in the  
Health Sciences

Professional  
Science Masters\*

Science &  
Mathematics  
Education\*

Statistics\*

Zoology

\*graduate program only

...the life of microorganisms. Microbiology is the study of minute, single-celled forms of life that affect our health and well being. Microbiologists examine a large and diverse group of microorganisms—bacteria, viruses, protozoa, algae, and fungi (yeasts and molds). Some of these organisms cause diseases, while others are helpful in many ways. For example, some microorganisms add nitrogen to soils, produce antibiotics, clean up pollutants, or manufacture important chemicals. In recent years, viruses and bacteria have become very important for their role in biotechnology and genetic engineering.

## Career Opportunities

Microbiologists use their training in diverse applications. They may investigate soil fertility, marine environments, food or dairy production and processing, industrial fermentation processes, sanitation, ecology, immunology, or viral and bacterial diseases. Career opportunities have been and continue to be excellent for OSU graduates, in part because students receive a diverse background and are thus employable in a variety of areas. With a bachelor's degree in microbiology, you have many options. Some recent OSU graduates are employed as:

Health officers

Sanitarians

Microbiologists with the wine industry

Hospital microbiologists

Microbiologists for a dairy or a food processing plant

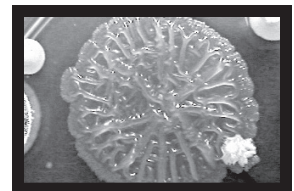
Research microbiologists for biomedical and biotechnology laboratories

The Department of Microbiology at Oregon State University grants undergraduate and advanced degrees. The department strives to provide an academic climate where a student can develop the skills and understanding needed in this demanding field.

Faculty members are involved in a variety of research projects that study marine bacteria; diseases of fish, plants and animals; animal vaccines; ways to manipulate genes; starter cultures for the dairy industry; and other areas. The Department of Microbiology is located in Nash Hall.

The Microbiology Student Association provides students extracurricular experience with field trips and social events. Several students attend a national microbiology meeting each year.

A bachelor's degree in microbiology is also excellent preparation for advanced study in a specific area of microbiology or for the study of medicine or dentistry, pharmacy, clinical laboratory science, or other medically related areas.



# Microbiology

## Course of Study

The first two years of study provide students with a solid background in chemistry, biology, mathematics, and liberal arts. Students are encouraged to get experience in a research laboratory during their junior or senior year. Requirements for graduation also include 48 credits of baccalaureate core (BC) courses, consisting of writing/speech (9 cr.), mathematics (3 cr.), fitness (3 cr.), physical and biological sciences (12 cr.), western culture/cultural diversity/literature & arts/social processes/difference, power and discrimination (15 cr.), and contemporary global issues/science, technology and society (6 cr.). Microbiology majors have enough chemistry credit to declare a minor.

## Sample Curriculum

An official graduation checklist may be obtained from an advisor.

Freshman Year		credits
General Chemistry	CH 221, 222, 223	15
Calculus	MTH 251, 252	8
BC: Writing I, II		6
BC: Fitness		3
Biology	BI 211, 212, 213	12
Freshman Orientation	MB 110	1
Sophomore Year		credits
Organic Chemistry	CH 331, 332, 337	12
Statistics	ST 351	4
Quantitative Analysis	CH 324	4
Cell and Molecular Biology	BI 314	4
General Microbiology	MB 302, 303	5
BC courses and electives		18
Junior Year		credits
General Biochemistry	BB 450, 451	7
Adv. General Microbiology	MB 310, 311, 312	9
General Physics	PH 201, 202, 203	15
BC courses and electives		14
Senior Year		credits
Approved 400-level microbiology		22
Electives, upper division		23

\* Microbiology majors may also consult a microbiology advisor about pre-medical studies and clinical laboratory science (medical technology).

## What to know about Oregon State University

Head Advisor  
College of Science  
128 Kidder Hall  
541-737-4811

OSU Admissions  
104 Kerr Administration  
541-737-4411  
800-291-4192

OSU Financial Aid  
Student Employment  
Loans & Scholarships  
College Work Study  
218 Kerr Administration  
541-737-2241

OSU Registrar  
102 Kerr Administration  
541-737-4331

OSU Housing  
102 Buxton Hall  
541-737-4771

OSU Website  
<http://oregonstate.edu>

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Experience.  
Explore.  
Discover  
Achieve.

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