

“W” Number: _____
 Student Name: _____
 Advisor Name: _____

Catalog: 2021-2022 University of Wyoming Catalog
 Program: Microbiology, B.S.

Microbiology, B.S.

The microbiology curriculum is organized to provide students with the maximum flexibility in meeting their university studies program requirements. In addition, the curriculum is designed to prepare graduates for the future by combining a firm foundation in the basic sciences with a central core of microbiology classes, followed by the opportunity for students to specialize in areas of microbiology suiting their individual interests via the selection of electives. Prior to graduation, microbiology majors must complete the basic requirements and all microbiology core course requirements as listed below. Finally, to assure breadth of exposure in microbiology, students must complete 6 semester hours of microbiology electives.

Students pursuing the B.S. degree in microbiology who wish to pursue a dual major in both microbiology and molecular biology must satisfy the basic science/math and core/elective requirements in microbiology as well as those specified for the B.S. degree in molecular biology PLUS an additional 9 credits of electives in microbiology and/or molecular biology at the 4000/5000 level.

Basic Course Requirements for Microbiology Majors

- Total credit hours: 121 hours
- 3000-level or above credits (university requirements): 42 hours
- Completion of University Studies 2015 Program Requirements: 30-36 hours

Basic Sciences and Quantitative Reasoning

Course Name	Credits:	Term Taken	Grade	Gen Ed
MATH1450 - Algebra and Trigonometry	Credits: 5			
OR				
MATH2200 - Calculus I	Credits: 4			
OR				
MATH1400 - College Algebra	Credits: 3			
AND				
MATH1405 - Trigonometry	Credits: 3			
STAT2050 - Fundamentals of Statistics	Credits: 4			
LIFE1010 - General Biology	Credits: 4			
LIFE2022 - Animal Biology	Credits: 4			
OR				
LIFE2023 - Biology of Plants and Fungi	Credits: 4			
CHEM1020 - General Chemistry I	Credits: 4			
CHEM1030 - General Chemistry II	Credits: 4			
CHEM2420 - Organic Chemistry I	Credits: 4			
CHEM2440 - Organic Chemistry II	Credits: 4			
PHYS1110 - General Physics I	Credits: 4			
PHYS1120 - General Physics II	Credits: 4			

Microbiology Core Course Requirements

Course Name	Credits:	Term Taken	Grade	Gen Ed
MICR2021 - General Microbiology	Credits: 4			
OR				
MOLB2021 - General Microbiology	Credits: 4			
OR				
MICR2240 - Medical Microbiology	Credits: 4			
OR				
MOLB2240 - Medical Microbiology	Credits: 4			
PATB2220 - Pathogenic Microbiology	Credits: 3			
LIFE3050 - Genetics	Credits: 4			
MOLB3000 - Introduction to Molecular Biology	Credits: 3			

MOLB3610 - Principles of Biochemistry	Credits: 4			
PATB4400 - Immunology	Credits: 4			
OR				
MOLB4400 - Immunology	Credits: 4			
MOLB4440 - Microbial Genetics	Credits: 3			
MOLB4460 - Microbial Physiology and Metabolism	Credits: 3			
PATB4710 - Medical Virology	Credits: 3			
MICR4321 - Microbiology Capstone	Credits: 4			
<i>Take 2 credits total of any combination of the following 1-credit seminar courses:</i>				
PATB4150 - Seminar	Credits: 1			
OR				
MOLB4050 - Student Seminar	Credits: 1			
OR				
MOLB4051 - Departmental Seminar	Credits: 1			
OR				
MOLB4052 - Summer Seminar	Credits: 1			
• MICR Elective Credits: 6				

Microbiology Electives

In addition to completing the required microbiology courses listed above, students must complete 6 hours of microbiology electives from any of the following lists.

Medical Microbiology

Course Name	Credits:	Term Taken	Grade	Gen Ed
PATB4001 - Epidemiology (Diseases in Population)	Credits: 3			
PATB4110 - Diseases of Food Animals	Credits: 3			
PATB4130 - Mammalian Pathobiology	Credits: 3			
PATB4140 - Principles of Toxicology	Credits: 3			
PATB4170 - Diseases of Wildlife	Credits: 3			
MICR4200 - Diagnostic Bacteriology	Credits: 1			
PATB4220 - Molecular Mechanisms of Bacterial Pathogenesis	Credits: 3			
PATB4240 - Disease Ecology	Credits: 3			
MICR4360 - Medical Entomology and Parasitology	Credits: 4			
PATB4500 - Veterinary Parasitology	Credits: 4			
PHCY3450 - Foundational Pathophysiology	Credits: 4			
MOLB4100 - Clinical Biochemistry	Credits: 4			
ZOO4110 - HIV/AIDS: The Disease and the Dilemma	Credits: 3			

Molecular and Cell Biology

Course Name	Credits:	Term Taken	Grade	Gen Ed
LIFE3600 - Cell Biology	Credits: 4			
MOLB4600 - Advanced Biochemistry	Credits: 3			
MOLB4260 - Quantitative Microscopy	Credits: 1			
MOLB4450 - Cell and Developmental Genetics	Credits: 3			
MOLB4670 - Advanced Molecular Cell Biology	Credits: 3			
MOLB4680 - Signaling in Host-microbe Interaction	Credits: 3			

Environmental and Applied Microbiology

Course Name	Credits:	Term Taken	Grade	Gen Ed
MICR4540 - Microbial Diversity and Ecology	Credits: 4			
OR				
MOLB4540 - Microbial Diversity and Ecology	Credits: 4			

MICR4140 - Soil Microbiology	Credits: 4			
BOT4200 - Plant-Microbe Interactions	Credits: 3			
PLNT3220 - Plant Pathology	Credits: 3			
PLNT4000 - Plant Disease Control	Credits: 3			
FDSC4090 - Food Microbiology	Credits: 3			
FDSC4100 - Laboratory Techniques in Food Microbiology	Credits: 1			
Notes:				