B.S. Microbiology
2020 -2021 Catalog

University of Wyoming B.S. Microbiology	cr	Min Grade	Notes
USP - University Studies Program Requirements			
USP: First Year Seminar	3		FYS
USP: Communications I	3		C1
USP: Communications II	3		C2
USP: Communications III (MICR4321/MOLB4320 built into major)			C3
USP: US & Wyoming Constitutions	3		V
USP: Human Culture	3 3		H H
USP: Quantitative **(**MATH 1450 Algebra and Trigonometry built into major)			Q (MATH 1400&1405 ***or*** MATH 2200 may be substituted with advisor approval)
USP: Physical & Natural World (LIFE 1010 General Biology built into major) (CHEM 1020 General Chemistry I built into major)			PN PN
	Credit hours subtotal:		12
Basic Science & Quantitative Reasoning			
CHEM 1020 General Chemistry I	4		
CHEM 1030 General Chemistry II	4		
CHEM 2420 Organic Chemistry I	4		
CHEM 2440 Organic Chemistry II	4		
LIFE 1010 General Biology	4		
Choose one: LIFE 2022 Animal Biology LIFE 2023 Biology of Plants and Fungi	4		
LIFE 3050 Genetics	4		
MOLB 3000 Introduction to Molecular Biology	3		
Choose MOLB 3610 or MOLB 4600 & 4610: MOLB 3610 Principles of Biochemistry MOLB 4600 Biochemistry 1: Bioenergetics and Metabolism MOLB 4610 Biochemistry 2: Molecular Mechanisms	4-6		
PHYS 1110 General Physics I	4		
PHYS 1120 General Physics II	4		
MATH 1450 Algebra and Trigonometry	5		
STAT 2050 Fundamentals of Statistics	4		
	Credit hours subtotal:		52
Microbiology Core Requirements			

Choose one: MICR/MOLB 2021 General Microbiology MICR/MOLB 2240 Medical Microbiology	4	
Choose one: MICR 4321 Microbiology Capstone MOLB 4320 Investigations in Molecular Biology	4	C3
PATB 2220 Pathogenic Microbiology	3	
MOLB 4440 Microbial Genetics	3	
PATB/MOLB 4400 Immunology	4	
PATB 4710 Medical Virology	3	
MOLB 4460 Microbial Physiology and Metabolism	3	
Choose one: PATB 4150 Seminar 1 MOLB 4050 Student -Seminar MOLB 4051 Departmental Seminar MOLB 4052 Summer Seminar	1 (X2)	
MICR Electives (options below)		
	Credit hours subtotal:	26

Microbiology Electives (Complete 6 credit hours from the following three areas)		
Medical Microbiology		
PATB 4001 Epidemiology (Diseases in Population)	3	
PATB 4110 Diseases of Food Animals	3	
PATB 4120 Diseases of Wildlife	3	
PATB 4130 Mammalian Pathobiology	3	
PATB 4140 Principles of Toxicology	3	
PATB 4200 Diagnostic Bacteriology	1	
PATB 4240 Disease Ecology	3	
PATB 4360 Parasitology	4	
PATB 4500 Veterinary Parasitology	3	
PATB 4220 Molecular Mechanisms of Bacterial Pathogenesis	3	
PHCY 3450 Pathophysiology	4	
ZOO 4110 HIV/AIDS: The Disease and the Dilemma	3	
Molecular and Cell Biology		
LIFE 3600 Cell Biology	4	
MOLB 4260 Quantitative Microscopy	1	
MOLB 4450 Cell and Developmental Genetics	3	
MOLB 4670 Advanced Molecular Cell Biology	3	
Environmental and Applied Microbiology		
BOT 4200 Plant-Microbe Interactions	3	
BOT 4300 Mycology	4	
BOT 4390 Fungal Physiology	3	
MOLB 4540 Microbial Diversity and Ecology	4	
SOIL 4140 Soil Microbiology	4	
PLNT 3220 Plant Pathology	3	
PLNT 4000 Plant Diseases Control	3	
FDSC 4090 Food Microbiology	3	
FDSC 4100 Laboratory Techniques in Food Microbiology	1	
	Credit hours subtotal:	6

General Electives		
Elective	23-25	Electives should work to fulfill upper division requirement.
	Credit hours subtotal:	25
	B.S. Microbiology total credit total:	121

B.S. Microbiology Program Notes:

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.

• The major requires students to earn a total of 124 credit hours; 42 credit hours or more must be at the 3000-level or above.

• See the "Prerequisite and MPE Cut Score Reference Chart" on the math Placement website for the most up-to-date math placement equivalencies: http://uwyo.edu/mathstats/math-placement

• Students may not take a couse for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.

• 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/nath 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 mircobiology and/or molecular biology at the 4000/5000 level.**

University of Wyoming Requirements

• Students must have a minimum cumulative GPA of 2.0 to graduate.

• Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming.

• Courses must be taken for a single letter grade unless offered only for S/U.

• University Studies Program (USP), Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

College of Agriculture and Natural Resources

• At least 30 hours in the major subject must be completed with a grade of C or better (individual majors may require more).

The University of Wyoming Office of the Registrar provides final approval of degree completion requirements prior to the awarding of any degree.