

Microbiology, BS



University of Wyoming, 2016-17

Freshman Fall Semester			Hrs	Min	Grade	Notes
USP First-Year Seminar			3		C	FY
CHEM	1020	General Chemistry I *	4		C	PN
LIFE	1010	General Biology **	4		C	PN
MATH	1450	Algebra and Trigonometry ***	5		C	Q; can substitute MATH 1400 (College Algebra) *** and MATH 1405 (Trigonometry) **** or MATH 2200 (Calculus I) *****.
Credit hours subtotal:			16			

Freshman Spring Semester			Hrs	Min	Grade	Notes
USP Communication 1			3		C	C1
CHEM	1030	General Chemistry II	4		C	
LIFE	2022	Animal Biology	4		C	Can substitute LIFE 2023 (Biology of Plants & Fungi).
MOLB	2021	General Microbiology	4		C	Cross listed with MICR 2021; can substitute MOLB/MICR 2240 (Medical Microbiology).
Credit hours subtotal:			15			

Sophomore Fall Semester			Hrs	Min	Grade	Notes
USP Communication 2			3		C	C2
USP Human Culture			3			H
CHEM	2420	Organic Chemistry I	4		C	
LIFE	3050	Genetics	4		C	
MOLB	3000	Introduction to Molecular Biology	3		C	
Credit hours subtotal:			17			

Sophomore Spring Semester			Hrs	Min	Grade	Notes
USP US & Wyoming Constitutions			3			V
CHEM	2440	Organic Chemistry II	4		C	
PATB	2220	Pathogenic Microbiology	4		C	Cross listed with MICR 2220.
PATB	4150	Seminar	1		S	Offered S/U only; can substitute MOLB 4050 (Student Seminar) or MOLB 4052 (Summer Seminar); both courses are offered S/U only.
STAT	2050	Fundamentals of Statistics	4		C	
Credit hours subtotal:			16			

This is a guide for course work in the major; actual course sequence may vary by student. Please refer to the online student degree evaluation, and consult with an academic advisor. • Not all courses are offered every semester and some electives may have prerequisites. Students should review the course descriptions in the *University Catalog* and consult with their academic advisor to plan accordingly.

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 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.

Microbiology Program Notes:

* Requires MATH ACT \geq 23, MATH SAT \geq 600, Math Placement Exam \geq 3, or concurrent enrollment in MATH 1400, 1405 or 1450. (University standard)

** Requires MATH ACT \geq 21, MATH SAT \geq 600, Math Placement Exam \geq 2, or \geq C in MATH 0921. (University standard)

*** Requires MATH ACT \geq 23, MATH SAT \geq 600, Math Placement Exam \geq 3, or \geq C in MATH 0925. (University standard)

**** Requires MATH ACT \geq 25, MATH SAT \geq 600, Math Placement Exam \geq 4, or \geq C in MATH 1400. (University standard)

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Junior Fall Semester

	Hrs	Min	Grade	Notes
MOLB 3610 Principles of Biochemistry	4		C	Can substitute MOLB 4600 (Biochemistry I: Biomolecules) and MOLB 4610 (Biochemistry 2: Bioenergetics & Metabolism).
MOLB 4400 Immunology	4		C	Cross listed with PATB 4400.
PATB 4710 Medical Virology	3		C	Cross listed with MICR 4710.
PHYS 1110 General Physics I	4		C	
Credit hours subtotal:				15

Junior Spring Semester

	Hrs	Min	Grade	Notes
USP Human Culture	3		H	
PATB 4150 Seminar	1		S	Offered S/U only; can substitute MOLB 4050 (Student Seminar) or MOLB 4052 (Summer Seminar); both courses are offered S/U only.
PHYS 1120 General Physics II	4		C	
Upper Division Elective *****	3		C	Consult with academic advisor.
Elective	3			
Credit hours subtotal:				14

Senior Fall Semester

	Hrs	Min	Grade	Notes
MICR 4321 Microbiology Capstone	4		C	C3
MOLB 4460 Microbial Physiology	3		C	
Upper Division Elective *****	3		C	Consult with academic advisor.
Electives	6			
Credit hours subtotal:				16

Senior Spring Semester

	Hrs	Min	Grade	Notes
MOLB 4440 Microbial Genetics	3		C	
Upper Division Electives	9		C	
Credit hours subtotal:				12

TOTAL CREDIT HOURS: 121

Microbiology Program Notes con't:

***** Requires MATH ACT ≥ 75 , MATH SAT ≥ 600 , Math Placement Exam ≥ 5 , or $\geq C$ in MATH 1405 or 1450. (University standard)

***** **Upper Division Electives.** Students must complete at least six (6) hours of microbiology electives from among the following three (3) areas. Please consult with an academic advisor when selecting.

Medical Microbiology

- PATB 4001 Epidemiology (Diseases/Population) (3 hrs)
- PATB 4110 Diseases/Food Animals & Horses (3 hrs)
- PATB 4130 Mammalian Pathobiology (3 hrs)
- PATB 4140 Principles of Toxicology (3 hrs)
- PATB 4170 Diseases of Wildlife (3 hrs)
- PATB 4200 Diagnostic Bacteriology (1 hr)
- PATB 4220 Molecular Pathogenesis (3 hrs)
- PATB 4360 Medical Entomology & Parasitology (4 hrs)
- PATB 4500 Veterinary Parasitology (3 hrs)
- PHCY 4450 Pathophysiology (4 hrs)
- ZOO 4110 HIV/AIDS: Disease & Dilemma (3 hrs)

Molecular and Cell Biology

- LIFE 3600 Cell Biology (4 hrs)
- MOLB 4260 Quantitative Microscopy (1 hr)
- MOLB 4450 Cell & Developmental Genetics (3 hrs)
- MOLB 4670 Advanced Molecular Cell Biology (3 hrs)

Environmental and Applied Microbiology

- FDSC 4090 Food Microbiology (3 hrs)
- FDSC 4100 Lab Techniques in Food Microbiology (1 hr)
- MOLB 4540 Microbial Diversity & Ecology (4 hrs)
- PLNT 3220 Plant Pathology (3 hrs)
- PLNT 4000 Plant Disease Control (3 hrs)
- SOIL 4140 Soil Microbiology (4 hrs)