

Microbiology, BS



University of Wyoming, 2015-16

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			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
		USP Human Culture	3			H
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:			18			

Sophomore Fall Semester			Hrs	Min	Grade	Notes
		USP Communication 2	3		C	C2
CHEM	2420	Organic Chemistry I	4		C	
LIFE	3050	Genetics	4		C	
MOLB	3000	Introduction to Molecular Biology	3		C	
Credit hours subtotal:			14			

Sophomore Spring Semester			Hrs	Min	Grade	Notes
		USP US & Wyoming Constitutions	3			V
CHEM	2440	Organic Chemistry II	4			
PATB	2220	Pathogenic Microbiology	4		C	Cross listed with MICR 2220.
PATB	4150	Seminar	1			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 ≥ 23 , MATH SAT ≥ 600 , Math Placement Exam ≥ 3 , or concurrent enrollment in MATH 1400, 1405 or 1450. (University standard)

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

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

**** Requires MATH ACT ≥ 25 , MATH SAT ≥ 600 , Math Placement Exam ≥ 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) <u>and</u> 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		
Credit hours subtotal:			15		

Junior Spring Semester			Hrs	Min Grade	Notes
		USP Human Culture	3	H	
MOLB	4170	DNA Cloning Lab	1		Can substitute an approved elective; consult with academic advisor.
PATB	4150	Seminar	1		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:			15		

Senior Fall Semester			Hrs	Min Grade	Notes
		USP Communication 3	4	C	C3; recommend MICR 4321 (Microbiology Capstone).
MICR	4250	Bacterial Genetics Laboratory	1		Can substitute an approved elective; consult with academic advisor.
MOLB	4460	Microbial Physiology	3	C	
		Upper Division Elective *****	3	C	Consult with academic advisor.
		Electives	7		
Credit hours subtotal:			18		

Senior Spring Semester			Hrs	Min Grade	Notes
MOLB	4440	Microbial Genetics	3	C	
PATB	4360	Medical Entomology and Parasitology	4	C	Can substitute an approved elective; consult with academic advisor.
		Upper Division Electives	9	C	
Credit hours subtotal:			16		

TOTAL CREDIT HOURS: 128

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)