UNIVERSITY of WYOMING | Office of Transfer Relations

Catalog: 2026-2027 University of Wyoming Catalog
Program: Molecular Biology, B.S.

Wyoming Transfer Alignment Guide (WyoTAG)

Molecular Biology, B.S.

The Molecular Biology B.S. degree includes courses in basic sciences, molecular biology, biochemistry, microbiology, genetics, cell biology, electives and research opportunities, in preparation for postgraduate studies.

Degree Requirements

This degree requires 120 credits, 42 of which are upper-division credits.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

Course Name	Credits	UW Course in Major	AA/AS/AB/ADN satisfies this USP
C 1-Communication 1 (COM1)	3		X
C 2-Communication 2 (COM2)	3		X
C 3-Communication 3 (COM3)	3	(Must be completed at UW)	
Q-Quantitative Reasoning (Q)	3		X
PN-Physical and Natural World (1) (PN)	3		X
PN-Physical and Natural World (2) (PN)	3		X
H-Human Culture (1) (H)	3		X
H-Human Culture (2) (H)	3		X
V-US & WY Constitution (V)	3		X
FYS or USP Elective-Any 3-credit hour of FYS or 3-credit hours of USP electives	3		X

Note: FYS courses have been paused. 3 hours from any additional USP designated courses is still required.

Additional Information

For the B.S. in Molecular Biology, a student, with assistance from their academic adviser, will design a program of study with General Science and Molecular Biology courses. Students will acquire fundamental understanding of molecular biological processes, learn laboratory and analytical skills, and develop competency in oral and written communication of scientific results and reviews. Additional courses may be selected to enhance competency in key Emphasis Areas such as Cell Biology and Molecular Genetics, Microbiology, or Preprofessional Health Sciences. Undergraduate research opportunities develop skillsets for graduate school, biotechnology employment or medical research. Flexibility in course selection permits students to fulfill various requirements for postgraduate and professional schools.

The molecular biology program is designed to prepare students for careers in molecular biological research, teaching, and medical or other healthcare professional schools. Students may also progress from a B.S. in Molecular Biology to careers in business, law, public health policy, and genetic counseling.

General Science Requirement: 36 Hours

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
LIFE 1010 - General Biology PN	4	See Note 1	See Note 1	See Note 1	See Note 1	See Note 1	See Note 1	See Note 1
CHEM 1020 - General Chemistry I PN	4	X	X	X	X	X	X	X
CHEM 1030 - General Chemistry II PN	4	X	X	X	X	X	X	X
CHEM 2420 - Organic Chemistry I	4	X	X	X	X	X	X	X
CHEM 2440 - Organic Chemistry II	4	X	X	X	X	X	X	X
PHYS 1110 - General Physics I PN	4	X	X	X	X	X	X	X

General Science Requirement: 36 Hours continued

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
PHYS 1120 - General Physics II PN	4	X	X	X	X	X	X	X
MATH 2200 - Calculus I Q	4	X	X	X	X	X	X	X
STAT 2050 - Fundamentals of Statistics Q	4	X	X	X	X	X	X	X

MOLB Core Requirement: 32-33 Hours

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
MOLB 2021 - General Microbiology	4	See Note 2	See Note 2	See Note 2		See Note 2	See Note 2	See Note 2

Course Name	Credits	
MOLB 1020 - Genetically Modified Organisms, Present and Future	1	UW course
MOLB 3000 - Introduction to Molecular Biology	3	UW course
LIFE 3050 - Genetics	4	UW course
MOLB 3320 - Molecular Biological Methods	4	UW course
MOLB 3610 - Principles of Biochemistry OR CHEM 4400 - Biological Chemistry	3-4	UW course
MOLB 4600 - Advanced Biochemistry	3	UW course
MOLB 4053 - Communications in Molecular Biology C3	3	UW course
MOLB 4440 - Microbial Genetics OR MOLB 4450 - Cell and Developmental Genetics	3	UW course
MOLB 4670 - Advanced Molecular Cell Biology	3	UW course
MOLB 4051 - Departmental Seminar OR MOLB 4052 - Summer Seminar	1	UW course

MOLB Elective Requirement: 6 Hours

Courses from the following list that were not used to fulfill the MOLB Core Requirement may be applied to the MOLB Elective Requirement; a maximum of 3 credits of MOLB 4010 may be counted toward the MOLB Elective Requirement.

Course Name	Credits	
MOLB 4010 - Laboratory Research in Molecular Biology	1-3	UW course
MOLB 4050 - Student Seminar: Topics in ___	1	UW course
MOLB 4100 - Clinical Biochemistry	4	UW course
MOLB 4400 - Immunology	4	UW course
MOLB 4440 - Microbial Genetics	3	UW course
MOLB 4450 - Cell and Developmental Genetics	3	UW course
MOLB 4460 - Microbial Physiology and Metabolism	3	UW course
MOLB 4540 - Microbial Diversity and Ecology	4	UW course
MOLB 4680 - Signaling in Host-microbe Interaction	3	UW course

Molecular Biology Emphasis Areas

A student may take additional courses that will further develop skills or enhance preparation for a chosen career objective. Lists of recommended courses are available from a molecular biology adviser for three emphasis areas (Cell Biology and Molecular Genetics, Microbiology, or Preprofessional Health Sciences).

Notes:

Note 1: All WYCCs offer BIOL 1010 which is equivalent to LIFE 1010.
Note 2: MOLB 2210 is equivalent to LIFE/MICR/MOLB 2021; MOLB 2210 is offered at Casper, CWC, EWC, Sheridan, Northwest, and Western.

COURSE SUBSTITUTIONS: WyoTAGs reflect published equivalencies. UW academic departments occasionally arrange for course substitutions when indirect equivalencies exist. Please contact your UW Academic Advisor for details.

EFFECTIVE DATE: This document is in effect as of the 2026-2027 catalog year; it reflects the published UW curriculum as of that date. Any changes to the UW curriculum or the WYCC course equivalents will require this document to be updated. To request an updated document, faculty should contact transfer@uwyo.edu via email.