



B.S. Molecular Biology 2020-2021 Catalog

| University of Wyoming B.S. Molecular Biology | 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 (MOLB 4320 built into major) | | | C3 |
| USP: US & Wyoming Constitutions | 3 | | V |
| USP: Human Culture | 3 | | H |
| | 3 | | H |
| USP: Quantitative MATH 2200 Calculus I | 4 | | Q (MATH 1450 or MATH 1400&1405 may be substituted with advisor approval) |
| USP: Physical & Natural World LIFE 1010 General Biology | 4 | | PN |
| | 4 | | PN |
| Credit hours subtotal: | | | 30 |
| MOLB Requirements (General Science Requirement) | | | |
| CHEM 1030 General Chemistry II | 4 | | |
| CHEM 2420 Organic Chemistry I | 4 | | |
| CHEM 2440 Organic Chemistry II | 4 | | |
| LIFE 3050 Genetics | 4 | | |
| MOLB 2021 General Microbiology | 4 | | |
| PHYS 1110 General Physics I | 4 | | |
| PHYS 1120 General Physics II | 4 | | |
| STAT 2050 Fundamentals of Statistics | 4 | | |
| Credit hours subtotal: | | | 32 |
| MOLB Core Requirements | | | |
| MOLB 3000 Introduction to Molecular Biology | 3 | | |
| MOLB 4600 Biochemistry 1: Bioenergetics and Metabolism | 3 | | |
| MOLB 4610 Biochemistry 2: Molecular Mechanisms | 3 | | |
| MOLB 4320 Investigations in Molecular Biology | 4 | | C3 |
| MOLB 4485 Computers in Biology | 1 | | |
| Choose MOLB 4050 and 4051 or MOLB 4052: | | | |
| MOLB 4050 Student -Seminar | | | |
| MOLB 4051 Departmental Seminar | | | |
| MOLB 4052 Summer Seminar | 2 | | |
| Credit hours subtotal: | | | 16 |

MOLB Advanced Core Requirement

Choose one:

| | |
|---|-----|
| MOLB 4440 Immunology | |
| MOLB 4450 Cell and Developmental Genetics | |
| MOLB 4670 Advanced Molecular Cell Biology | 3-4 |

Credit hours subtotal: 3

MOLB Elective Requirement (10 credits - see MOLB Elective Note below)

| | | |
|--|-----|---------|
| MOLB 4010 Laboratory Research in Molecular Biology | 1-3 | (Max 3) |
| MOLB 4100 Clinical Biochemistry | 4 | |
| MOLB 4260 Quantitative Microscopy | 1 | |
| MOLB 4400 Immunology | 4 | |
| MOLB 4440 Microbial Genetics | 3 | |
| MOLB 4450 Cell and Developmental Genetics | 3 | |
| MOLB 4460 Microbial Physiology and Metabolism | 3 | |
| MOLB 4540 Microbial Diversity and Ecology | 4 | |
| MOLB 4670 Advanced Molecular Cell Biology | 3 | |

Credit hours subtotal: 10

General Electives

| | | |
|----------|-------|---|
| Elective | 28-29 | Electives should work to fulfill upper division requirement. See MOLB Biology Interest Area note below. |
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Credit hours subtotal: 29

B.S. Molecular Biology

total credit total: 120

B.S. Molecular Biology Program Notes:

To obtain a B.S. degree in molecular biology, a student, with the aid of a molecular biology adviser, designs a program of study that includes courses from the Molecular Biology Core Requirements and Electives. Additional course lists are provided as an aid in developing an individualized program of study in key Interest Areas such as Biochemistry, Cell and Molecular Genetics, Computational Molecular Biology, Microbiology, and Preprofessional Health Sciences studies. Courses listed under the Interest Areas are optional and the student and adviser will design a unique curriculum suited to the student's personal interests. Flexibility in course selection also permits students to fulfill the various requirements for postgraduate and professional schools. Completion of a B.S. in Molecular Biology provides a student with the tools needed to open the door to exciting futures in science, medicine and agriculture.

- The major requires students to earn a total of 120 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>
- **MOLB Elective Requirement:** Courses on this list that were not used to fulfill the MOLB Advanced Core Requirement may be applied to the MOLB Elective Requirement. A maximum of 3 credits of MOLB 4010 may be counted towards this requirement.
- **MOLB Biology Interest Areas:** After discussing individual interests with a molecular biology adviser, a student should enroll in additional courses that will enhance preparation for a chosen career objective. The catalog lists recommended courses that are not required but will further develop a student's skills and understanding in five Interest Areas. http://www.uwyo.edu/registrar/university_catalog/1gmmolb.html
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.

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.