Accelerated B.S. Microbiology

Accelerated BS to MS Program

Students accepted into an accelerated undergraduate program may take departmentally approved graduate coursework as part of their undergraduate curriculum. These credits will count towards both their bachelor's and master's degrees and can fulfill major requirements, upper-division requirements, and/or free electives. For details on accelerated programs at Idaho State University, please see (Degree Requirements (https://coursecat.isu.edu/undergraduate/degreerequirements/)).

Once accepted into an accelerated degree program, it is strongly recommended for students to stay in close communication with their advisor regarding pursuit of acceptance into the Graduate School and the master's degree program at Idaho State University. Acceptance into an accelerated program during the bachelor's degree program is the first step in the admissions process. A separate application to the Graduate School is necessary for all accelerated programs. For more information regarding application and admission to the Graduate School at Idaho State University, please see the Graduate Admissions section of the graduate catalog (http://coursecat.isu.edu/graduate/graduateadmissions/).

Microbiology Accelerated Criteria

This accelerated program gives outstanding bachelor's degree students in Microbiology a "fast-track" option to pursue their Master of Science in Microbiology degree.

Students accepted into the accelerated program may take up to 8 credit hours of 5000 level courses during the last two semesters of their bachelor's program that will apply to both the bachelor's and master's degree requirements. Students have to meet all requirements for both the bachelor's degree and master's degree.

Additional requirements for students in this program are:

- Students need to identify a suitable advisor for their program (see https://www.isu.edu/biology/degree-programs/graduate-degrees/ms-microbiology/).
- Students must earn at least a "B" (3.0) in each graduate-level course counted for the program.

Eligibility for this program:

- Completion of at least 70 undergraduate credits applicable to the Bachelor of Science in Microbiology program at the time of application.
- Overall GPA of at least 3.0 on a 4.0 scale at the time of application.

Students who wish to enroll in this program should submit an application no later than the end of the second semester of their junior year. Applicants are not required to take the Graduate Record Examination (GRE) test.

Meeting these eligibility requirements does not guarantee acceptance into the accelerated master's degree programs.

Core Requirements

Students pursuing a Bachelor of Science degree must satisfy the General Education Objectives (a minimum of 37 credits). Students must also satisfy the core requirements listed below and at least 13 credits of elective courses in Microbiology. (Need 36 upper division course hours.) In order to make timely progress toward the degree, it is imperative that the student work closely with a major advisor.

General Education

The listing below includes program requirements that also fulfill General Education requirements.

Code	Title	Credits
Objective 1		6
Objective 2		3
Objective 3- MATH 1160 or MATH 1170		3-4
Objective 4		6
Objective 5 - BIOL 1101, BIOL 1101L, PHYS 1111		7
Objective 6		6
Students must fulfill Objective 7 or Objective 8		**3**
Objective 7		
Objective 8		
Objective 9		3
Total Credits		**37-38**

Required Courses in Biological Sciences:

Code	Title	Credits
BIOL 1101 & 1101L	Biology I and Biology I Lab (Partially satisfies General Education Objective 5)	4
BIOL 1102 & 1102L	Biology II and Biology II Lab	4
BIOL 1191	Wonder about Biology	1
BIOL 2233 & 2233L	Principles of Microbiology and Principles of Microbiology Lab	4
BIOL 3358	Genetics	3
Choose either:		**3-6**
BIOL 4432	Biochemistry	
OR		
BIOL/CHEM 4445	Biochemistry I	
AND		
BIOL/CHEM 4447	Biochemistry II	
BIOL 4433 & 4433L	Microbial Physiology and Microbial Physiology Laboratory	4
BIOL 4434 & 4434L	Microbial Diversity and Microbial Diversity Lab	4
BIOL 4444 & 4444L	Molecular Biology and Molecular Biology Lab	4
BIOL 4451 & 4451L	Immunology and Immunology Laboratory	4
OR		
BIOL 4455 & 4455L	Pathogenic Microbiology and Pathogenic Microbiology Laboratory	
BIOL 4498	Seminar in Biochemistry, Microbiology, and Molecular Biology	1
Total Credits		**36-39**

Required Courses in Chemistry, Mathematics, and Physics:

Code	Title	Credits
CHEM 1111 & 1111L	General Chemistry I and General Chemistry I Lab	5
CHEM 1112 & 1112L	General Chemistry II and General Chemistry II Lab	4
CHEM 2232 & CHEM 2234	Quantitative Analysis and Quantitative Analysis Laboratory	4
CHEM 3301 & CHEM 3303	Organic Chemistry I and Organic Chemistry Laboratory I	4
CHEM 3302 & CHEM 3304	Organic Chemistry II and Organic Chemistry Laboratory II	4
MATH 1160	Survey of Calculus (Satisfies General Education Objective 3)	3-4
or MATH 1170	Calculus I	
PHYS 1111 & PHYS 1113	General Physics I and General Physics I Laboratory (Partially satisfies General Education Objective 5)	4
PHYS 1112 & PHYS 1114	General Physics II and General Physics II Laboratory	4
Total Credits		**32-33**

Students in the Bachelor of Science in Microbiology degree program must take a minimum of 13 credits from the Microbiology Electives course list. These 13 credits require a minimum of six credits of BIOL electives.

Microbiology Electives (13 Credits)

Code	Title	Credits
BIOL 4423/5523	General Parasitology	
BIOL 4436	Food Microbiology	
BIOL 4437/5538	Experimental Biochemistry	
BIOL 4451/5551	Immunology [1]	
BIOL 4451L/5551L	Immunology Laboratory [1]	
BIOL 4454/5554	Advanced Immunology	
BIOL 4455/5555	Pathogenic Microbiology [1]	
BIOL 4455L/5555L	Pathogenic Microbiology Laboratory [1]	
BIOL 4461/5561	Microbial Genetics	
BIOL 4469/5569	Special Topics in Microbiology	
BIOL 4473/5573	Applied and Environmental Microbiology	
BIOL 4473L/5573L	Applied Environmental Microbiology Lab	
BIOL 4475/5575	General Virology	
BIOL 4480/5580	Vertically Integrated Project	
BIOL 4481/5581	Independent Problems	
BIOL 4482/5582	Independent Problems	
CHEM 2211 & CHEM 2213	Inorganic Chemistry I and Inorganic Chemistry I Laboratory	
CHEM 3311 & CHEM 3312	Introduction to Research and Introduction to Research	
CHEM 3331 & CHEM 3334	Instrumental Analysis and Instrumental Analysis Laboratory	
CHEM 3341	Topics in Physical Chemistry I	
CHEM 3342	Topics in Physical Chemistry II	
CHEM 4465 & CHEM 4466	Synthetic Methods and Synthetic Methods Laboratory	
CHEM 4407	Inorganic Chemistry II	
CHEM 4433	Environmental Chemistry	
CHEM 4437 & 4437	Environmental Chemistry Laboratory and Environmental Chemistry Laboratory	

[1] One of these courses may be taken as an elective, providing the other course is used to fulfill the core requirement.

Degree Totals

Code	Title	Credits
Program Admission Requirements		0
General Education		37-38
Major Requirements (Required General Education credits removed.)		58-62
Upper Division Free Electives		2-5
Free Electives		15-23
Total Credits		**120**

ISU Degree Requirements (http://coursecat.isu.edu/undergraduate/degreerequirements/)

ISU General Education (http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/)

Major Academic Plan (MAP) (https://www.isu.edu/advising/maps/)