

BACHELOR OF SCIENCE IN MICROBIOLOGY

1. THE GENERAL EDUCATION AND TOTAL UNIVERSITY CREDIT REQUIREMENTS MUST BE MET (see Note 1 below). A minimum of 128 credits are required for graduation. 36 of these must be upper division credits.

2. COURSES IN BIOLOGICAL SCIENCES

		CREDITS
BIOL 101	Biology I	4
BIOL 102	Biology II	4
BIOL 235	General Microbiology	4
BIOL 334	Experimental Biochemistry	1
BIOL g432	Biochemistry ²	3
BIOL 433	Microbial Physiology	3
BIOL 434	Microbial Diversity	3
BIOL 451/451L	Immunology/Laboratory	3/1
BIOL 455/455L	Pathogenic Microbiology/Laboratory	3/2
BIOL 465/467	Microbial Genetics/Laboratory	3/1
BIOL 475	General Virology	3
BIOL 477	Bacterial Virology Lab	1
OR		
BIOL 478	Animal Virology Lab	1
BIOL 491	Senior Seminar	1
Or		
BIOL 492	Senior Seminar	1
BIOL 494	Senior Seminar	1

3. COURSES IN MATH

MATH 160	Brief Calculus ³	4
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4. COURSES IN CHEMISTRY

CHEM 111	General Chemistry I	5
CHEM 112	General Chemistry II	4
CHEM 301,303	Organic Chemistry I, Laboratory	4
CHEM 302,304	Organic Chemistry II, Laboratory	4
CHEM 232,234	Quantitative Analysis, Laboratory	4

5. COURSES IN PHYSICS

PHYS 111,113	General Physics I, Laboratory	4
PHYS 112,114	General Physics II, Laboratory	4

6. COURSES IN FOREIGN LANGUAGE

LANG XXX	FOREIGN LANGUAGE	8
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(Any of the foreign languages offered at ISU. This requirement is waived for those who have taken 2 or more years of high school foreign language with a grade of "C" or above. A high school transcript must be delivered to the Department of Biological Sciences).

Notes:

1. Students pursuing a Bachelor of Science degree must satisfy goals 1, 2, 3, 4, and 5, two of goals 6, 7, and 8, and three of goals 9, 10, 11, and 12. Goal 10 may be satisfied by either 10A or 10B.
2. Students electing to take BIOL 447 (Biochemistry II) are advised to take BIOL 445 as the first biochemistry course.
3. This class has a prerequisite of MATH 143, which can be satisfied by the Mathematics placement exam. Students electing to take Math 175 are advised to take Math 170 rather than Math 160 as the first calculus course.

RECOMMEND COURSE SELECTION - B.S. of MICROBIOLOGY

Fall Semester			Spring Semester		
Freshman Year					
BIOL 101	Biology I	4 cr	BIOL 102	Biology II	4 cr
CHEM 111	General Chemistry I	5 cr	CHEM 112	General Chemistry II	4 cr
MATH 160 ¹	Brief Calculus	4 cr	COMM 101	Principles of Speech	3 cr
ENGL 101	English Composition	<u>3 cr</u>	ENGL 102	English Composition	3 cr
			Goal 6, 7 or 8		<u>3 cr</u>
		16 cr			17 cr
Sophomore Year					
CHEM 301/303	Organic Chemistry I/Lab	4 cr	CHEM 302/304	Organic Chemistry II/Lab	4 cr
PHYS 111/113	General Physics I/Lab	4 cr	PHYS 112/114	General Physics II/Lab	4 cr
BIOL 235	General Microbiology	4 cr	Goal 6, 7 or 8		3 cr
Goal 9, 10, 11 or 12		<u>3 cr</u>	Goal 9, 10, 11 or 12		3 cr
		15 cr	Goal 9, 10, 11 or 12		<u>3 cr</u>
					17 cr
Junior Year					
BIOL 432	Biochemistry	3 cr	CHEM 232/234	Quantitative Analysis/Lab	4 cr
BIOL 334	Experimental Biochem	1 cr	BIOL 455/455L	Pathogenic Micro/Lab	3/2 cr
BIOL 451/451L	Immunology/Lab	3/1 cr	Foreign Language		4 cr
Foreign Language ²		4 cr	Elective		<u>3 cr</u>
Elective		<u>4 cr</u>			
		16 cr			16 cr
Senior Year					
BIOL 433	Microbial Physiology	4 cr	BIOL 465	Microbial Genetics	3 cr
BIOL 475	General Virology	3 cr	BIOL 467	Microbial Genetics Lab	1 cr
BIOL 478	Animal Virology Lab	1 cr	BIOL 494	Seminar in Microbiology	1 cr
	OR		BIOL 434	Microbil Diveristy	3 cr
BIOL 477	Bacterial Virology Lab	1 cr	Electives		<u>8 cr</u>
BIOL 491 or 492	Senior Seminar	1 cr			
Electives		<u>7 cr</u>			
		16 cr			16 cr

¹ Students electing to take Math 175 are advised to take Math 170 rather than Math 160 as the first calculus course.

² Foreign Language requirement waived if 2 years of same foreign language taken in high school with grades of C or above. Deliver high school transcript to Biological Sciences for waiver.

Students electing to take BIOL 447 (Biochemistry II) are advised to take BIOL 445 as the first biochemistry course.

Recommended electives: BIOL 303, BIOL 447, CHEM 351/352, MATH 175¹.

Students should consult with their advisors and with the current departmental list of course rotations to determine which semesters and years biological sciences electives will be taught.