

B.S. Microbiology

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A Major Academic Plan (MAP) illustrates an efficient path toward completing this degree in four years and includes only required courses and credits. A list of Major, General Education, and Elective credits, as well as a summary of credit categories, are shown on page two of each MAP. Individual customization of the MAP is generally expected to occur. For example, math remediation, English remediation, number of credits attempted per semester, or the addition of a Minor program will require the student and advisor to make adjustments to the original MAP.

Use the MAP:

- to understand the structure of a degree
- as a guide to complete a degree in four years
- as a checklist for graduation requirements
- to identify course sequences
- to structure elective credits for additional academic opportunities (e.g. Associate Degree, Minor, Study Abroad, Second Major)

Sample Degree MAP. Course sequence should be adjusted for individual needs. See your faculty/departmental advisor (www.isu.edu/bios)

First Semester			Second Semester		
Course	Credits	Grade	Course	Credits	Grade
GE Objective 5: BIOL 1101, 1101L Biology I	4		BIOL 1102, 1102L Biology II	4	
GE Objective 3: Either MATH 1160 (Applied Calculus Or MATH 1170 Calculus I	3 or 4		GE Objective 2: COMM 1101 Principles of Speech	3	
GE Obj: 5 CHEM 1111, 1111L General Chemistry I	5		CHEM 1112, 1112L General Chemistry II	4	
GE Objective 1: ENGL 1102 Critical Reading and Writing	3		**GE Objective (choose one course to satisfy GE Objectives)	3	
Electives	0 or 1				
Total	16		Total	14	

Third Semester			Fourth Semester		
Course	Credits	Grade	Course	Credits	Grade
BIOL 2235, 2235L General Microbiology	4		CHEM 2232, 2234 Quantitative Analysis	4	
PHYS 1111, 1113 General Physics	4		PHYS 1112, 1114, General Physics II	4	
CHEM 3301, 3303 Organic Chem I and Lab	4		*CHEM 3302, 3304 Org Chem II, Lab	4	
**GE Objective (choose one course to satisfy GE Objectives)	3		Electives	3	
Total	15		Total	15	

Fifth Semester			Sixth Semester		
Course	Credits	Grade	Course	Credits	Grade
BIOL 3358 Genetics	3		Microbiology Elective (<i>App & Envir Microbiology</i>)	3	
Microbiology Elective	1		Microbiology Elective (<i>Pathogenic Microbiology</i>)	5	
BIOL 4432 Biochemistry	3		Biology Elective	4	
**GE Objective (choose one course to satisfy GE Objectives)	3		**GE Objective (choose one course to satisfy GE Objectives)	3	
Electives	4				
Total	14		Total	15	

Seventh Semester			Eighth Semester		
Course	Credits	Grade	Course	Credits	Grade
BIOL 4444, 4444L Cell and Molecular Biology	5		Microbiology Elective (<i>Advanced Genetics</i>)	3	
BIOL 4433, 4433L Microbial Physiology	4		Microbiology Elective (<i>Microbial Diversity</i>)	4	
BIOL 4494 Seminar in Microbiology	1		Microbiology Elective (<i>Seminar in Biochemistry</i>)	1	
Microbiology Elective (<i>Virology</i>)	3		Biology Elective	4	
**GE Objective (choose one course to satisfy GE Objectives)	3		**GE Objective (choose one course to satisfy GE Objectives)	3	
Total	16		Total	15	

Microbiology Electives in Italics can be Substituted for any Upper Division Microbiology Elective

Date Approved by Department: September 4, 2014

Notes:

1. Degree Maps demonstrate a **recommended configuration** of required courses to complete a degree in four years.
2. 15 credits each semester of required courses is recommended.
3. Students may need to (or choose to) customize the Degree Map to their needs.
4. Students must register for the appropriate English and math courses according to their placement test (ACT, SAT, COMPASS) results.
5. Students should enroll in English and math courses each semester until General Education Objectives 1 (English) & 3 (Math) have been satisfied.
6. Students are advised to refer to the course description in the current online catalog (<http://coursecat.isu.edu>) for the semester a course will be offered (e.g. F = Fall or S = Spring).
7. Completion of **red bolded** Gateway/Milestone courses as outlined is considered a critical component of MAP sequencing.
8. Refer to the link below for GE Objective course choices:

[2014-2015 General Education \(Objectives\)](#)

