

B.S. Microbiology Four-Year Sample Curriculum 2024-2025

Requirements subject to change. See UI Catalog for complete degree requirements and additional information. Updated 3/14/24.

1 st Year – Fall Semester			1 st Year – Spring Semester		
BIOL 101	Opportunities in Biological Sciences	1	BIOL 115/115L	Cells & the Evolution of Life & Lab <i>Prereq:</i> CHEM 101 or CHEM 111 <u>minimum 'C' required to graduate</u>	4
BIOL 114	Organisms and Environments <u>minimum 'C' required to graduate</u>	4	CHEM 112/112L	Principles of Chemistry II & Lab <i>Prereq:</i> Chem 111/111L	5
CHEM 111/111L	Principles of Chemistry I & Lab <i>Prereq:</i> math test or min 'C' in CHEM 101, MATH 143 or 170	4	STAT 251 or STAT 301*	Statistical Methods or Probability & Statistics <i>Prereq:</i> MATH 108, 137, 143, 160, or 170 or math test (SM); ^MATH 175 (P & S)	3
MATH 170	Analytic Geometry and Calculus I <i>Prereq:</i> math test or min 'C' in MATH 143 and MATH 144 (co-req possible).	4		General Education Course/Elective	3
ENGL 102	College Writing and Rhetoric <i>Prereq:</i> ENGL 101 or test scores	3			
Total Credits		16	Total Credits		15
2 nd Year – Fall Semester			2 nd Year – Spring Semester		
BIOL 250/255 <i>(250 Fall only)</i>	General Microbiology & Lab <i>Prereq:</i> BIOL 115/115L and CHEM 101/101L or 111/111L	5		General Education Course/Elective	3
CHEM 277/278	Organic Chemistry I & Lab <i>Prereq:</i> CHEM 112/112L	4	CHEM 372 <i>(Spring only)</i>	Organic Chemistry II <i>Prereq:</i> CHEM 277	3
PHYS 111/111L or PHYS 211/211L	General Physics I & Lab or Engineering Physics I & Lab <i>Prereq:</i> MATH 143 (GP); MATH 170 (EP)	4	BIOL 350 <i>(spring only)</i>	Microbiomes <i>Prereq:</i> BIOL 250	3
	General Education Course/Elective	3		General Education Course/Elective	3
				General Education Course/Elective	3
Total Credits		16	Total Credits		15
3 rd Year – Fall Semester			3 rd Year – Spring Semester		
BIOL 310/315 <i>(Fall only)</i>	Genetics & Lab <i>Prereq:</i> BIOL 115/115L or BIOL 250	4	BIOL 312 <i>(Spring only)</i>	Molecular and Cellular Biology <i>Prereq:</i> BIOL 115/115L and BIOL 310/315 or GENE 314 or BIOL 250	3
BIOL 380 <i>(Fall only)</i>	Biochemistry I <i>Prereq:</i> CHEM 112/112L and CHEM 277	4	* (see below)	Microbiology Elective	3
ENGL 202 or 207 or 208 or 317 or 318 or 320	Writing Course <i>Prereq:</i> ENGL 102; Soph. stand. for 320; Junior stand. for 317,318	3	* (see below)	Microbiology Elective	3
	General Education Course/Elective	3		General Education Course/Elective	3
BIOL 382	Laboratory Requirement Option	2	BIOL 313	Laboratory Requirement Option	1
Total Credits		14- 16	Total Credits		12- 13
4 th Year – Fall Semester			4 th Year – Spring Semester		
* (see below)	Microbiology Elective	3	BIOL 400	Seminar	1
* (see below)	Microbiology Elective	3	Capstone Experience	BIOL 401 or BIOL 407 or BIOL 408 <i>(fall or spring)</i> or BIOL 411 <i>(Spring only)</i>	2
	General Education Course/Elective	3	* (see below)	Microbiology Elective	3
	General Education Course/Elective	3		General Education Course/Elective	3
	General Education Course/Elective	3		General Education Course/Elective	3
Total Credits		15	Total Credits		13

***Microbiology Electives:** Immunology, Pathogenic Microbiology, Virology, Genomics, Protein Structure and Function, Pathophysiology, Prokaryotic Molecular Biology, Cellular and Molecular Basis of Disease, Veterinary & Medical Entomology, Medical Parasitology, Food Microbiology and Food Microbiology Laboratory, Advanced Laboratory Techniques, Mathematical Biology, Cell Biology, Genetic Engineering, Microbial Ecology, Computer Skills for Biologists, Ecology and population Biology, Wine Microbiology and Processing and Lab, Advanced Evol, Microbial physiology, Professional Ethics, Ethics in Science

Additional classes can be substituted with prior approval from advisor and chairperson.