Microbial Systems Option

All Biotechnology Options have the same Freshman and Sophomore year requirements.

Freshman Year	Credits
WRIT 101W - College Writing I	3
BIOB 105CS - Introduction to Biotechnology	3
BIOB 170IN - Principles of Biological Diversity	4
CHMY 141 - College Chemistry I & CHMY 142 - College Chemistry I Lab or CHMY 151 and CHMY 152	4
Select one of the following:	3
BIOB 318 - Biometry*	
STAT 216Q - Introduction to Statistics*	
M 165Q - Calculus for Technology I*	
BIOB 160 - Principles of Living Systems or BIOB 260 - Cellular and Molecular Biology	4
CHMY 143 - College Chemistry II & CHMY 144 - College Chemistry II Lab or CHMY 153 and CHMY 154	4
Select one of the following:	3-4
M 161Q - Survey of Calculus*	
M 166 - Calculus for Technology II*	
University Core and Electives	1-2
Year Total:	29-31
Sophomore Year	**Credits**
BIOB 375 - General Genetics	3
CHMY 321 - Organic Chemistry I & CHMY 322 - Organic Chemistry I Lab or CHMY 211 and CHMY 212	4
BIOM 360 - General Microbiology	5
CHMY 323 - Organic Chemistry II & CHMY 324 - Organic Chemistry II Lab**	4
ECNS 101IS - Economic Way of Thinking	3
University Core and Electives	11
Year Total:	30
Total Program Credits:	**59-61**

* If a student takes BIOB 318 Biometry or STAT 216Q Introduction to Statistics, then the student must take M 161Q Survey of Calculus. If a student takes M 165Q Calculus for Technology I, then the student must take M 166 Calculus for Technology II.

** If a student takes CHMY 321 Organic Chemistry I, the student must take CHMY 323 Organic Chemistry II.

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Junior Year	Credits	
	Fall	**Spring**
BCH 380 - Biochemistry & BCH 381 - Biochemistry Lab	5	
PHSX 205 - College Physics I	4	
BIOB 410 - Immunology	3	
University Core and Electives	3	
PHSX 207 - College Physics II		4
University Core and Electives		11
Year Total:	15	15
Senior Year	**Credits**	
	Fall	**Spring**
BIOM 450 - Microbial Physiology	3	
BIOM 494 - Seminar/Workshop	1	
BIOM 490R - Undergraduate Research	3	
University Core and Electives	8	
BIOM 430 - Applied and Environmental Microbiology		4
BIOM 452 - Soil & Envirnmntl Microbiology or BIOM 415 - Microbial Diversity, Ecology, and Evolution		3
BIOM 410 - Microbial Genetics		3
BIOM 494 - Seminar/Workshop		1
University Core and Electives		4
Year Total:	15	15
Total Program Credits:		**60**

Select at least three of the following:

BCH 441	Biochemistry of Macromolecules
BCH 442	Metabolic Regulation
BCH 444R	Biochemistry & Molecular Biology Methods
BIOB 424	Ethical Practice of Science
BIOH 405	Hematology
BIOH 445	Introduction to Pharmacology
BIOM 405	Host-Associated Microbiomes
BIOM 425	Toxicology: Science of Poisons
BIOM 431	Medical Bacteriology
BIOM 435	Virology
BIOM 455R	Research Mthds in Microbiology
EBIO 438	Bioprocess Engineering
EMAT 251	Materials Structures and Prop
ENSC 245IN	Soils
ENSC 272CS	Water Resources
ENSC 353	Environmental Biogeochemistry

A minimum of 120 credits is required for graduation; 42 of these credits must be in courses numbered 300 and above.