COLLEGE OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS BIOLOGY: MICROBIOLOGY, CELLULAR & MOLECULAR BIOLOGY, & BIOTECHNOLOGY OPTION

Bachelor of Science (BS)

This is a guide based on the 2024-2025 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use Degree Works to monitor their individual progress.

CURRICULUM CHECKLIST

"Critical Courses" are italicized and bolded. Data shows that students who have completed this course in the first two years and have earned the noted grade are most likely to complete this program of study.

49-51 Hour Major - No minor required

Required Courses:

- BI163 Evolution & Ecology (4) BI173 Cell & Organismal Biology (4)
- BI283 Genetics (4)
- BI389 Career Development in Biology (2)
- CH184 General Chemistry I Lab (1)
- CH185 General Chemistry I (3)

Choose one math course:

- MA116 Precalculus A (3) MA137 Precalculus (5)
- MA139 Applied Calculus (3) MA140 Analytical Geometry & Calculus I (5)
- Choose one additional math course:
- MA155 Statistical Reasoning (3) MAxxx Additional math (for which MA116 is a prerequisite) (3)

Experiential Learning Requirement: 2 hours

- BI551-553 Biology Field Studies (2)
- BI563-565 Experience in Museum Curation (1-3)
- BI570 Development of Instructional Materials (1)
- BI582 Internship in Biology (1-3) Microbiology, Cellular and Molecular Biology, & Biotechnology Option Required

Courses:

BI245 Lab Methods in Biotechnology (3) BI310 General Microbiology (4)

Choose 6 Hours From:

- Bl403 Medical Genetics (3) Bl404 Cell Biology (3) Bl413 Molecular Genetics (3)

- BI442 Immunology (4) BI445 Microbial Physiology (3)
- BI/BT450 Investigative Molecular Biology and Biotechnology (3)
- BI543 Pathogenic Microbiology (4)
- ZO414 Developmental Biology (4)
- **Biology Electives: Choose 10 Hours**

Any BI, BO, ZO, BT courses, 300 level and above (10)

- Non-Biology Requirements: 13 hours
- CH 186 General Chemistry II (3)
- CH 187 General Chemistry II Lab (1)
- CH341 Foundations of Organic Chemistry (4)
- CH342 Organic Chemistry Lab I (1)
- CH531/UI331 Foundations of Biochemistry (3)

General Education Requirements - some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences 6 hours
- Constitution Requirement 3 hours
- Written Communication 6 hours
- Oral Communication 3 hours
- Natural Sciences 7 hours (from two disciplines, one to include a lab)
- Mathematics 3 hours
- Humanities & Fine Arts 9 hours (from at least two disciplines)
- Additional requirements 5 hours (to include UI100 for native students)
- Civics examination

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	1	EN100	3
	BI163	4	BI173	4
	CH184/CH185	4	CH186	3
	MA116/137/139/140	3-5	CH187	1
	General Education	3	Additional Math course	3
	Total	15-17	Total	14
	Milestone: achieve a target cumulative GPA of 3.2			
SECOND YEAR	BI283	4	BI245	3
	CH341	4	BI310	4
	CH342	1	CH343#	3
	General Education	3	CH344#	2
	General Education	3	General Education	3
S	Total	15	Total	15
	Milestone: achieve a target cumulative GPA of 3.2			
THIRD YEAR	MCM option course	3	MCM option course	3
	BI389	2	PH121/021#	5
	PH120/020#	5	Biology elective	3
	General Education	3	Experiential Learning Crs	2
	General Education	3	General Education	3
	Total	16	Total	16
	Milestone: achieve a target cumulative GPA of 3.2			
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FOURTH YEAR	Biology Elective	3	CH533#	2
	Biology Elective	4	General Education	3
	UI331/CH531	3	Elective	3
	General Education	3	Elective	3
	Elective	2	Elective	3
Ľ.	Total	15	Total	14

Milestone: achieve a target cumulative GPA of 3.2

#Suggested non-biology elective courses

A "Milestone" signifies a significant stage for a student in the completion of a degree.

Degree requirements for all students: a minimum of 120 credit hours, completion of the General Education program, and completion of 39 senior division hours (300-599). Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

A minimum 2.0 GPA in the major and overall are required to graduate with a BS degree.





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SAMPLE FOUR-YEAR PLAN