

Cell & Molecular Biology

THE UNIVERSITY OF RHODE ISLAND

Student: _____

Microbiology Option

Student ID: _____

EL_CMBI_BS

Advisor: _____

120 Earned Credits Total

ABOUT Cell & Molecular Biology - Microbiology Option:

Microbiology is the study of microscopic organisms including bacteria, viruses, archaea, fungi, and protists. These are the most successful organisms on the planet and colonize all environments where liquid water exists. Activities of microorganisms drive the biogeochemistry of the earth. Microbes also affect our health and well being from birth in a number of ways including activating and training our immune system and causing or preventing disease. Students choosing to specialize in microbiology within the Cell and Molecular Biology major will become knowledgeable in all aspects of microbiology including microbial physiology, molecular biology and genetics, pathogenics, microbial ecology, immunology, and virology.

Step 1: REVIEW YOUR PROGRAM REQUIREMENTS

Cell & Molecular Biology (CMB) - Microbiology				37-38 Credits	
Concentration Courses				(25 Credits)	
Course Name	Course #	Semester	Credits	Grade	
Introductory Microbiology	*CMB 211		4		
Introductory Biochemistry	CMB 311		3		
Immunology and Serology	CMB 333		3		
General Genetics	CMB (BIO) 352		4		
Advanced Microbiology Lecture I	CMB 413		3		
Advanced Microbiology Laboratory I	CMB 415		2		
Advanced Microbiology Lecture II	CMB 414		3		
Advanced Microbiology Laboratory II	CMB 416		2		
Seminar in Cell and Molecular Biology	CMB 495		1		
Professional Electives				(12-13 Credits)	
Select one course from the following: CMB 332, 412, 432, 435, 450, 576				(3-4 credits)	
Course Name	Course #	Semester	Credits	Grade	
Select an additional 9 credits from any Any 300 level or higher CMB course; BIO 341 or 437				(9 Credits)	
Course Name	Course #	Semester	Credits	Grade	

Minimum 2.0 cumulative GPA required in major and overall for graduation.

Major GPA = _____

Overall GPA = _____

*Course fulfills general education and a major requirement

Step 1: REVIEW YOUR PROGRAM REQUIREMENTS CONTINUED:

Introduction Requirement (1 credit)			
Course	Semester	Credits	Grade
URI 101		1	

BIOLOGY (8 credits)			
Course	Semester	Credits	Grade
*BIO 101		3	
*BIO 103		1	
*BIO 102		3	
*BIO 104		1	

CHEMISTRY Requirement: (16-18 credits)			
Course	Semester	Credits	Grade
*CHM 101		3	
CHM 102		1	

OR

CHM 191		5	
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AND

Course	Semester	Credits	Grade
CHM 112		3	
CHM 114		1	

OR

CHM 192		5	
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AND

Course	Semester	Credits	Grade
CHM 227		3	
CHM 228		3	
CHM 226		2	

MATH Requirement: (6-8 credits)			
Course	Semester	Credits	Grade
*MTH 131		3	

OR

*MTH 141		4	
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Preferred

AND 1 OF THE FOLLOWING: MTH *111, 132, *142; *CSC 201; STA 307, 308, or 409

Course	Semester	Credits	Grade

PHYSICS Requirement: (8 credits)			
Course	Semester	Credits	Grade

*PHY 111		3	
*PHY 185		1	

OR

*PHY 203		3	
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Preferred

*PHY 273		1	
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Preferred

AND

Course	Semester	Credits	Grade
*PHY 112		3	
*PHY 186		1	

OR

*PHY 204		3	
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Preferred

*PHY 274		1	
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Preferred

***Course fulfills general education and a major requirement**

FREE ELECTIVES							
Course	Semester	Credits	Grade	Course	Semester	Credits	Grade

B.S. Cell & Molecular Biology-Microbiology Option
Sample 4 Year Plan - Effective Fall 2024
College of the Environment & Life Sciences

Freshman Year *Fall* Semester

Course Code	Description	Cr
URI 101	Planning for Academic Success	1
*BIO 101/103	Principles of Biology I/Lab	4
*MTH ____	Precalculus, Applied Calculus I, or Introductory Calculus	3-4
*CHM 101/102	General Chemistry I/Lab	4
	*General Education	3-4
		15-17

Freshman Year *Spring* Semester

Course Code	Description	Cr
*BIO 102/104	Principles of Biology II/Lab	4
*CHM 112/114	General Chemistry II/Lab	4
	2nd required CSC, MTH, or STA course	3-4
	*General Education	3-4
	*General Education	3-4
		15-17

Year 1 Milestones: Complete **BIO** 101, 103, 102, 104, **CHM** 101, 102, 112, 114, **MTH** 131 or 141. Earn 30 credits with a cumulative GPA of 2.0 or higher.

Sophomore Year *Fall* Semester

Course Code	Description	Cr
CHM 227	Organic Chemistry Lecture I	3
*CMB 211	Introductory Microbiology	4
*PHY ____	General Physics I Lecture/Lab	4
	*General Education	3-4
	*General Education	3-4
		15-17

Sophomore Year *Spring* Semester

Course Code	Description	Cr
CHM 228	Organic Chemistry Lecture II	3
CMB 311	Introductory Biochemistry Lecture	3
*PHY ____	General Physics II Lecture/Lab	4
	Professional Elective	3
	*General Education	3-4
		15-17

Year 2 Milestones: Complete **CMB** 211, and 311. Begin Organic Chemistry sequence. Begin Physics sequence. Meet with a CMB Faculty advisor to discuss research opportunities and plan year 3 and 4 courses. Earn 60 total credits with a cumulative GPA of 2.0 or higher.

Junior Year *Fall* Semester

Course Code	Description	Cr
CHM 226	Organic Chemistry Lab	2
CMB 333	Immunology and Serology	3
	Professional Elective	3-4
	Professional Elective	3-4
	*General Education/Free Elective	3-4
		15-17

Junior Year *Spring* Semester

Course Code	Description	Cr
CMB 352	General Genetics	4
	Professional Elective	3-4
	Professional Elective	3-4
	*General Education/Free Elective	3-4
	*General Education/Free Elective	3-4
		15-17

Year 3 Milestones: Complete **CMB** 333, & 352. Complete Organic Chemistry sequence. Meet with a CMB Faculty advisor to plan year 3 and 4 courses. Earn 90 total credits with a cumulative GPA of 2.0 or higher. Prepare intent to graduate with faculty advisor for Fall submission.

Senior Year *Fall* Semester

Course Code	Description	Cr
CMB 495	Seminar in Cell & Molecular Biology	1
CMB 413	Advanced Microbiology Lecture I	3
CMB 414	Advanced Microbiology Laboratory I	2
	*General Education/Free Elective	3-4
	*General Education/Free Elective	3-4
		15-17

Senior Year *Spring* Semester

Course Code	Description	Cr
CMB 415	Advanced Microbiology Lecture II	3
CMB 416	Advanced Microbiology Laboratory II	2
	*General Education/Free Elective	3-4
	*General Education/Free Elective	3-4
	Professional Elective	3-4
		15-17

Year 4 Milestones: Complete **CMB** remaining microbiology concentration courses. Earn total 120 credits with a cumulative GPA of 2.0 or higher. Minimum 2.0 cumulative gpa in CMB concentration courses.