# Cell & Molecular Biology Microbiology Option EL\_CMBI\_BS THE UNIVERSITY OF RHODE ISLAND

120 Earned Credits Total

Student:	
Student ID:	
Advisor:	

# **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	3 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 leve	   or higher CMB course; Bl	0 341 or	(9	Credits)
Course Name	Course #	Semester	Credits	Grade

Minimum 2.0 cumulative GPA	required in
major and overrall for gradua	tion.
Major GPA =	
Overall GPA =	

<sup>\*</sup>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	

# AND

Course	Semester	Credits	Grade
CHM 112		3	
CHM 114		1	
OR			
CHM 192		5	

## 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		
Preferred		4		

**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	2		
Preferred		3	
*PHY 273			
Preferred		1	

# AND

Course	Semester	Credits	Grade
*PHY 112		3	
*PHY 186		1	
OR			
*PHY 204		2	
Preferred		3	
*PHY 274		1	
Preferred			

\*Course fulfills general education and a major requirement

			FREE EI	ECTIVES	
Course	Semester	Credits	Grade		

Course	Semester	Credits	Grade

Microbiolo	gy Option	n				 Student ID	:	
L20 Total E						Advisor:		
General E	ducation	Guidelir	nes:					
nay meet nust be a	more tha Grand Ch	n one out allenge (G	come, but ca ). No more t	nnot be han twel	double co ve credits	s (A1-D1) must be met by at least 3 crounted towards the 40 credit total. At can have the same course code. General or minor when appropriate.	least one co	urse
IST COUR	SES THAT	MEET GE	NERAL EDUC	ATION:				
	Genera	al Education	on Credit Co	unt		LIST COURSE AS EACH OUTCOME IS	MET:	
At			more than 1			General Education Outcome	1	
			course code		1		Course	Grad
Course	Credits	Grade	Course	Credits	Grade	KNOWLEDGE	1	
						A1. STEM		
						A2. Social & Behavioral Sciences		
						A3. Humanities		
						A4. Arts & Design		
						COMPETENCIES	1	
						<b>B1.</b> Write effectively		
	1					<b>B2.</b> Communicate effectively		
						<b>B3.</b> Mathematical, statistical, or		
						computational strategies		
						<b>B4.</b> Information literacy		
						RESPONSIBILITIES	1	
			Total			C1. Civic knowledge &		
			Credits			responsibilities		
						<b>C2.</b> Global responsibilities		
IOTE: BECA	USE MOST	COURSES	MEET MORE	THAN ONE	:	C3. Diversity & Inclusion		
			OIT MIGHT BE			INTEGRATE & APPLY	1	
			EDITS. HOWE		MUST	<b>D1.</b> Ability to synthesize		
			GENERAL EDU			GRAND CHALLENGE		T
course fu	lfills gene	ral educat	ion and a m	ajor requ	irement	<b>G. A</b> t least one course of your 40 credits is an approved "G" course		
-	30 credi				•	ollege for Academic Success is: 2.0 or better.	•	

Effective: 2023-2024

# B.S. Cell & Molecular Biology-Microbiology Option Sample 4 Year Plan - Effective Fall 2023 College of the Environment & Life Sciences

#### Freshman Year Fall Semester

## Freshman Year Spring 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

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.

### Sophmore Year Fall Semester

### Sophmore Year Spring 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

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

#### Junior Year Spring 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

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

### Senior Year Spring 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

	<u> </u>	
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.