Cell & Molecular Biology
Microbiology Option
EL_CMBI_BS
120 Earned Credits Total

THE UNIVERSITY OF RHODE ISLAND

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 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	Fall _____	3	
General Genetics	CMB (BIO) 352		4	
Advanced Microbiology Lecture I	CMB 413	Fall _____	3	
Advanced Microbiology Laboratory I	CMB 415	Fall _____	2	
Advanced Microbiology Lecture II	CMB 414	Spring _____	3	
Advanced Microbiology Laboratory II	CMB 416	Spring _____	2	
Seminar in Cell and Molecular Biology	CMB 495	Fall _____	1	
Professional Electives				**(12-13 Credits)**
Select one course from the following: CMB 412, 432, 435, 450, 576; or CMB/MLS 422				**(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 overrall 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	

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	

FREE ELECTIVES			
Course	**Semester**	**Credits**	**Grade**

MATH Requirement:			(6-8 credits)
Course	**Semester**	**Credits**	**Grade**
*MTH 131		3	
OR			
*MTH 141 ***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 ***Preferred***		3	
*PHY 273 ***Preferred***		1	

AND

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

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

Cell & Molecular Biology - B.S.

Microbiology Option

120 Total Earned Credits

THE UNIVERSITY OF RHODE ISLAND

Student: _____

Student ID: _____

Advisor: _____

General Education Guidelines:

General education is 40 credits. Each of the twelve outcomes (A1-D1) must be met by at least 3 credits. A single course may meet more than one outcome, but cannot be double counted towards the 40 credit total. At least one course must be a Grand Challenge (G). No more than twelve credits can have the same course code. General education courses may also be used to meet requirements of the major or minor when appropriate.

LIST COURSES THAT MEET GENERAL EDUCATION:

General Education Credit Count						
At least 40 credits, no more than 12 credits with the same course code						
Course	**Credits**	**Grade**		**Course**	**Credits**	**Grade**
*BIO 101	3					
*BIO 103	1					
*BIO 102	3					
*BIO 104	1					
*CHM 101	3					
*MTH ____						
*PHY ____	3					
*PHY ____	1					
*PHY ____	3					
*PHY ____	1					
*CMB 211	4					
				Total Gen Ed Credits		

NOTE: BECAUSE MOST COURSES MEET MORE THAN ONE OUTCOME, YOUR OUTCOME AUDIT MIGHT BE COMPLETED BEFORE YOU REACH YOUR 40 CREDITS. HOWEVER, YOU MUST STILL COMPLETE 40 CREDITS OF GENERAL EDUCATION

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

LIST COURSE AS EACH OUTCOME IS MET:

General Education Outcome Audit	
	Course
KNOWLEDGE	
A1. STEM	BIO 101
A2. Social & Behavioral Sciences	
A3. Humanities	
A4. Arts & Design	
COMPETENCIES	
B1. Write effectively	
B2. Communicate effectively	
B3. Mathematical, statistical, or computational strategies	MTH _____
B4. Information literacy	
RESPONSIBILITIES	
C1. Civic knowledge & responsibilities	
C2. Global responsibilities	
C3. Diversity & Inclusion	
INTEGRATE & APPLY	
D1. Ability to synthesize	CMB 211
GRAND CHALLENGE	
G. At least one course of your 40 credits is an approved "G" course	

The requirement for transfer to CELS from University College for Academic Success is:

Minimum 30 credits and a minimum cumulative gpa of 2.0 or better.

Advising Notes: _____

Effective: 2019-2020

B.S. Cell & Molecular Biology -Microbiology Option
Sample 4 Year Plan - Effective Fall 2019
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.

Sophmore 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

Sophmore 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	
	*General Education/Free Elective	
		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.