

ABOUT THE BS in BIOTECHNOLOGY

The Biotechnology major is designed to prepare students for professional careers in the biotechnology and biomedical industries in the areas of research and development, quality control, processing, operations, and technical support. This major requires some key courses to be taken at the Providence Campus. **Included is a 12-credit internship at a regional biotechnology, biomedical company/organization, or research laboratory.

Step 1: REVIEW YOUR PROGRAM REQUIREMENTS**INTRODUCTION Requirement: (2 credits)**

Course	Semester	Credits	Grade
BTC 102		1	
URI 101		1	

BIOLOGY Requirement: (15 credits)

Course	Semester	Credits	Grade
*BIO 101		3	
*BIO 103		1	
*BIO 102		3	
*BIO 104		1	
BIO/CMB 341		3	
BIO/CMB 352		4	

CHEMISTRY Requirement: (12 credits)

Course	Semester	Credits	Grade
*CHM 101		3	
CHM 102		1	
CHM 112		3	
CHM 114		1	
CHM 124		3	
CHM 126		1	

MATH Requirement: (6-8 credits)

Select 1 from the following sequenees:

Course	Semester	Credits	Grade
*MTH 103/111		3	
*MTH 131/141		3/4	
OR			
*MTH 131/141		3/4	
STA 307/308/409		3/4	

PHYSICS Requirement: (4 credits)

Course	Semester	Credits	Grade
*PHY 111		3	
*PHY 185		1	

*Course approved for general education.

Minimum 2.0 cumulative GPA required in major for graduation.

Minimum overall 2.0 cumulative GPA required for graduation.

CMB and BTC Course Requirements: (40 credits)

Course	Semester	Credits	Grade
BTC 110	Fall _____	3	
BTC 111	Fall _____	1	
*CMB 190		3	
*CMB 211		4	
CMB 311		3	
CMB 333	Fall _____	3	
BTC 405	Fall _____	3	
CMB 437	Spring _____	3	
BTC 195	Spring _____	5	
BTC 199	Summer _____	12	

****The 12 credit BTC 199 internship** can be taken in the summer following either after Freshman, Sophmore, or Junior Years. An internship cannot be guaranteed. In lieu of internship, 12 credits of selected courses from CMB 320, CMB 334, CMB 421, CMB 432, CMB 435, CMB 450, CMB 464, and/ or CMB 482

Free Electives: These are courses not required by the major and do not fulfill general education.

Course	Semester	Credits	Grade

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 111	3					
*PHY 185	1					
*CMB 190	3					
*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	Grade
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 out of University College for Academic Success:
Minimum 24 credits and cumulative 2.0 GPA.

Advising Notes: _____

B.S. Biotechnology
Sample 4 Year Plan - Effective Fall 2025
College of the Environment & Life Sciences

Freshman Year *Fall* Semester

Course Code	Description	Credits
URI 101	Planning for Academic Success	1
BIO 101/103	Principles of Biology I/Lab	4
CHM 101/102	General Chemistry I/Lab	4
MTH 103, 111, 131, OR 141	Precalculus or Calculus <i>Refer to page 1 for math sequence</i>	3/4
BTC 110/BTC111	Intro Biotech/Lab Methods	4
		16-17

Freshman Year *Spring* Semester

Course Code	Description	Credits
BIO 102/104	Principles of Biology II/Lab	4
CHM 112/114	General Chemistry II/Lab	4
BTC 102	Biotech. Internship Prep	1
BTC 195	Biotech. Manufacturing Methods	5
CMB 190	Issues in Biotechnology	3
		17

Freshman or later *Summer**

Course Code	Description	Credits
BTC 199	Internship	12

Year 1 Milestones: Complete **BIO** 101, 103, 102, 104, **CHM** 112/114, **CMB** 190, **BTC** 110, 111 and 195 and a cumulative GPA of 2.0 or higher.

Sophomore Year *Fall* Semester

Course Code	Description	Credits
CMB 211	Microbiology	4
PHY 111/185	General Physics I/Lab	4
CHM 124/126	Intro Organic Chemistry/Lab	4
	General Education Course	3
		15

Sophomore Year *Spring* Semester

Course Code	Description	Credits
BIO/CMB 352	Genetics	4
MTH 131/141 or STA 307/308/409	Calculus or Statistics <i>Refer to page 1 for math sequence</i>	3-4
CMB 311	Biochemistry	3
	General Education Course	3
		13-14

Year 2 Milestones: Complete **BIO/CMB** 352, **MTH** 131/141, **CHM** 124, 126, **CMB** 211. Meet with a Biotechnology Faculty advisor to plan year 3 and 4 courses. Earn at least 70 total credits with a cumulative GPA of 2.0 or higher.

Junior Year *Fall* Semester

Course Code	Description	Credits
BIO/CMB 341	Cell Biology	3
CMB 333	Immunology	3
BTC 405	Drug Discovery and Develop.	3
	General Education or Elective	3-4
		12-13

Junior Year *Spring* Semester

Course Code	Description	Credits
CMB 437	Fundamentals of Molecular Bio.	3
	General Education or Elective	3-4
	General Education or Elective	3-4
	General Education or Elective	3-4
		12-15

Year 3 Milestones: Complete **BIO/CMB** 341, **CMB** 333, 437, **PHY** 111, 185 and **BTC** 405, . Meet with a Biotechnology Faculty advisor to plan year 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	Credits
	General Education or Elective	3
	General Education or Elective	3
	General Education or Elective	3
	General Education or Elective	3
		12

Senior Year *Spring* Semester

Course Code	Description	Credits
	General Education or Elective	3
	General Education or Elective	3
	General Education or Elective	3
	General Education or Elective	3
		12

Year 4 Milestones: Complete remaining Biotechnology required concentration courses Earn total 120 credits with a cumulative GPA of 2.0 or higher. Minimum 2.0 cumulative GPA in BIO/CMB concentration courses.

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