

**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 clinical internship at a regional biotechnology or biomedical company/organization.

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

Course	Semester	Credits	Grade
MLS 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 341	Fall	3	
BIO/CMB 352			

**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 sequeneces:

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 MLS Course Requirements: (40 credits)**

Course	Semester	Credits	Grade
CMB 110	Fall	4	
*CMB 190		3	
CMB 211		4	
CMB 311		3	
CMB 333	Fall	3	
CMB 405	Spring	3	
CMB 437	Spring	3	
MLS 195		5	
**MLS 199		12	

\*\*The **12 credit MLS 199 internship** can be taken in the summer following either after Freshman, Sophomore, 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, CMB 482.

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

Course	Semester	Credits	Grade



**B.S. Biotechnology**  
**Sample 4 Year Plan - Effective Fall 2019**  
**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
CMB 110	Introduction to Biotechnology	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
MLS 102	Intro to Clinical Lab Science	1
MLS 195	Biotech. Manufacturing Methods	5
CMB 190	Issues in Biotechnology	3
		17

**Freshman or later Summer\***

Course Code	Description	Credits
**MLS 199	Internship	12

**Year 1 Milestones:** Complete **BIO** 101, 103, 102, 104, **CHM** 112/114 **CMB** 110,190 **MLS** 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 341	Cell Biology	3
CMB 333	Immunology	3
	General Education or Elective	3-4
	General Education or Elective	3-4
		12-14

**Junior Year Spring Semester**

Course Code	Description	Credits
CMB 437	Fundamentals of Molecular Bio.	3
CMB 405	Drug Discovery and Development	3
	General Education or Elective	3-4
	General Education or Elective	3-4
		12-14

**Year 3 Milestones:** Complete **BIO** 341, **CMB** 333, 405, 437, **PHY** 111, 185. 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/MLS concentration courses.

\*\*The 12 credit **MLS 199 internship** can be taken either after Freshman, Sophomore, 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, CMB 482.