

BIOTECHNOLOGY

Requirements for a Major in Biotechnology

Code	Title	Credits
BI-141	Intro to Cellular and Molecular Biology	4
BI-204	Microbiology	4
BT-375	Tissue Culture	4
BT-376	Biotechnology	4
BT-410	Biotechnology Seminar	1
CH-120 & CH-121	General Chemistry I and General Chemistry II	8
CH-201 & CH-203	Organic Chemistry I (lecture) and Organic Chemistry Laboratory I	5
CH-210	Chemical Analysis: an Introduction to Modern Methods	5
CH-410	Biochemistry I	4
Major Electives		(8 credits)
Select 8 credits from the following electives: 8		
BI-313		
BI-398	Cancer Biology	
BI-372	Immunology	
BI-371	Advanced Topics in Cell and Molecular Biology	
BI-375	Virology	
CH-350	Medicinal Chemistry	
CH-202 & CH-204	Organic Chemistry II (lecture) and Organic Chemistry Laboratory II (5)	
PY-310	Modern Physics	
CH-411	Biochemistry II	
BT-377	Fermentation Technology	
BT-378	Bioinformatics	
BT-450	Internship in Biotechnology	
CH-335	Green Chemistry	
CH-450	Computational Chemistry	
CH-455	Special Topics in Chemistry (Organometallics in Organic Synthesis)	
And certain other BI-300, CH-300 and PY-300 level courses with Biotech coordinator approval.		
Ancillary courses		(26 credits)
MA-150	Statistics I	3
MA-190	Pre-calculus (may be waived)	4
MA-200	Calculus I	4
MA-201 or BI-203	Calculus II Genetics	4
Select one of the following: 3		
EN-252	Technical Writing	
EN-253	Business Communications	
CS-120	Microcomputer Applications	
Select one of the following: 8		
PY-221 & PY-222	General Physics I and General Physics II (8)	
PY-241 & PY-242	Physics I (Mechanics) and Physics II (Electricity, Magnetism and Optics) (8)	
Total Credits		73

Sample Timeline for Completion of Degree

Year One		
Semester One		Credits
EN-101	College Writing I ¹	3
CH-120	General Chemistry I	4
MA-180 or MA-190	Introduction to Functions (LASC QR) ² or Pre-calculus	3-4
LASC	LASC Elective (HBS)	3
LASC	First-Year Seminar	3
Credits		16-17
Semester Two		
EN-102	College Writing II ¹	3
CH-121	General Chemistry II	4
MA-190 or MA-200	Pre-calculus (LASC QR) or Calculus I	4
BI-141	Intro to Cellular and Molecular Biology	4
Credits		15
Year Two		
Semester Three		
BI-204	Microbiology	4
CH-201	Organic Chemistry I (lecture)	3
CH-203	Organic Chemistry Laboratory I	2
Select One of the Following		3-4
LASC	LASC Elective ³	
MA-200	Calculus I	
Select One of the Following		3
EN-252	Technical Writing	
EN-253	Business Communications	
CS-120	Microcomputer Applications	
Credits		15-16
Semester Four		
LASC	LASC Elective	3
LASC	LASC Elective	3
MA-150	Statistics I ⁴	3
Select One of the Following		4
BI-203	Genetics	
MA-201	Calculus II	
Select One of the Following		3-5
LASC	LASC Elective	
CH-202 & CH-204	Organic Chemistry II (lecture) and Organic Chemistry Laboratory II	
Credits		16-18
Year Three		
Semester Five		
CH-210	Chemical Analysis: an Introduction to Modern Methods	5
PY-221	General Physics I (NSP)	4
LASC	LASC Elective ³	3
LASC	LASC Elective ³	3
Credits		15
Semester Six		
CH-410	Biochemistry I	4
PY-222	General Physics II (NSP)	4
LASC	LASC Elective ³	3

LASC	LASC Elective ³	3
Credits		14
Year Four		
Semester Seven		
BT-376	Biotechnology	4
BI-440	Advanced Research Experience for Undergraduates	1-6
BI/BT-3XX+	BI or BT Upper Level Elective	4
LASC	LASC Elective ³	3
LASC	LASC Elective ³	3
Credits		15-20
Semester Eight		
BT-375	Tissue Culture	4
BI-440	Advanced Research Experience for Undergraduates	1-6
BT-410	Biotechnology Seminar	1-4
LASC	LASC Elective ³	3
SELECT	LASC or Major Elective	3
Credits		12-20
Total Credits		118-135

¹ EN-101 and EN-102 satisfies LASC writing.

² MA-180 requires Accuplacer score of 5 or higher.

³ The sequence of LASC courses marked with ³ is a suggestion but serves as a reminder that LASC designated courses must be taken to satisfy the LASC requirements.

⁴ MA-150 requires an Accuplacer score of 4 or higher.

Course	Title	Credits
Year One		
Semester One		
EN-101	College Writing I ¹	3
CH-120	General Chemistry I	4
MA-180 or MA-190	Introduction to Functions (LASC QR) ² or Pre-calculus	3-4
LASC	LASC Elective (HBS)	3
LASC	First-Year Seminar	3
Credits		16-17
Semester Two		
EN-102	College Writing II ¹	3
CH-121	General Chemistry II	4
MA-190 or MA-200	Pre-calculus (LASC QR) or Calculus I	4
BI-141	Intro to Cellular and Molecular Biology	4
Credits		15
Year Two		
Semester Three		
BI-204	Microbiology	4
CH-201	Organic Chemistry I (lecture)	3
CH-203	Organic Chemistry Laboratory I	2
Select One of the Following		3-4
LASC	LASC Elective ³	
MA-200	Calculus I	
Select One of the Following		3
EN-252	Technical Writing	
EN-253	Business Communications	

CS-120	Microcomputer Applications	
Credits		15-16
Semester Four		
LASC	LASC Elective	3
LASC	LASC Elective	3
MA-150	Statistics I ⁴	3
Select One of the Following		4
BI-203	Genetics	
MA-201	Calculus II	
Select One of the Following		3-5
LASC	LASC Elective	
CH-202 & CH-204	Organic Chemistry II (lecture) and Organic Chemistry Laboratory II	
Credits		16-18
Year Three		
Semester Five		
CH-210	Chemical Analysis: an Introduction to Modern Methods	5
PY-221	General Physics I (NSP)	4
LASC	LASC Elective ³	3
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Credits		15

Semester Six		
CH-410	Biochemistry I	4
PY-222	General Physics II (NSP)	4
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Credits		14

Year Four		
Semester Seven		
BT-376	Biotechnology	4
BI-440	Advanced Research Experience for Undergraduates	1-6
BI/BT-3XX+	BI or BT Upper Level Elective	4
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BT-375	Tissue Culture	4
BI-440	Advanced Research Experience for Undergraduates	1-6
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LASC	LASC Elective ³	3
SELECT	LASC or Major Elective	3
Credits		12-20
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Students are required to meet with their academic advisor to review their courses for the upcoming semester. A minimum of 120 credits is required for graduation. First-year and transfer students with 45 or fewer

credits at the time of admission shall complete two academic programs (a major/major or major/minor) to qualify for graduation. For more information, please view the MajorPlus section of this catalog.