

APPLIED BIOLOGICAL SCIENCES (B.S.)

Unless otherwise noted, 120 credits of coursework is required for a baccalaureate degree with a minimum 2.0 overall GPA, and a minimum 2.0 major GPA.

Degree Requirements Overview

Code	Title	Credits
New Student Seminar		3
SEEDS General Education Requirements		24-27
Major Requirements		71-76
Free Electives		22-14
Total Credits		120

Major Requirements

Code	Title	Credits
Required Courses		
BIO 111	General Biology: Cell	4
BIO 121	General Biology: Diversity	4
BIO 200	Microbiology	4
BIO 205	Human Anatomy and Physiology I	4
BIO 206	Human Anatomy and Physiology II	4
BIO 213	Molecular and Cellular Biology	4
BIO 320	Ecology	4
BIO 450	Bioseminar	4
CHM 111	General Chemistry I	4
CHM 112	General Chemistry II	4
CHM 301	Organic Chemistry I	3-4
CHM 302	Organic Chemistry II	3-4
PHY 105	General Physics I	4
PHY 106	General Physics II	4
MTH 200	Applied Statistics I	4
MTH 221	Calculus I	4
Electives		
Complete three courses from the following:		9-12
BIO 309	Genetics	
BIO 317	Immunology	
BIO 401	Biochemistry I	
BIO 402	Biochemistry II	
BIO 430	Advanced Selected Topics in Biology	
BIO 460	Bioresearch	
Total Credits		71-76

New Student Seminar

Code	Title	Credits
FYS 100	First Year Seminar	3
Total Credits		3

SEEDS General Education Requirements

Click here for a list of courses that fulfill the SEEDS requirements. (<http://catalog.montclair.edu/programs/seeds-general-education-requirements/>)

Code	Title	Credits
Foundations		
<i>Effective Writing I</i>		
Complete one Effective Writing I course.		3
<i>Effective Writing II</i>		
Complete one Effective Writing II course.		3
<i>Interactive Communication</i>		
Complete one Interactive Communication course.		3
<i>Quantitative Reasoning</i>		
Fulfilled by MTH 221 in the major.		
<i>Political and Civic Life</i>		
Complete one Political and Civic Life course.		3
<i>World Language</i>		
Complete two sequential classes in one World Language when starting at the Beginner I or Beginner II level. Complete one class when starting at the Intermediate/Advanced Level.		3-6
Exploration		
Complete one course from four different Exploration categories:		9
<i>Analyzing Cultures and Societies</i>		
<i>Creative Expression</i>		
<i>Ethical Inquiry</i>		
<i>Historical Thinking</i>		
<i>Literary and Artistic Analysis</i>		
<i>Scientific Reasoning</i>		
Fulfilled by BIO 111 in the major.		
Total Credits		24-27

Recommended Roadmap to Program of Study Completion

This recommended degree plan is provided as an outline for students to follow in order to complete their program of study requirements within **four years** and 120 credits. This plan is a recommendation and must be used in consultation with their academic advisor. Important note: Students should be aware this plan assumes no pre-requisite coursework is required. If pre-requisite coursework is needed, students may have additional requirements to fulfill which do not appear on the plan.

First Year

Fall	Credits Spring	Credits
FYS 100	3 SEEDS: Effective Writing 2 (WRT 109 recommended)	3
SEEDS: Effective Writing 1 (WRT 105 recommended)	4 MTH 221 (Fulfills SEEDS: Quantitative Reasoning)	4
MTH 161	4 BIO 121	4
BIO 111 (Fulfills SEEDS: Exploration 1 - Scientific Reasoning)	4 SEEDS: Interactive Communication	3

Second Year

Fall	Credits Spring	Credits
CHM 111	4 CHM 112	4
BIO 213	4 BIO 200	4
PHY 105	4 PHY 106	4
SEEDS: Political and Civic Life	3 SEEDS: Exploration 2	3
	15	15

Third Year

Fall	Credits Spring	Credits
BIO 205	4 BIO 206	4
CHM 301	3 CHM 302	3
Major Elective 1	3 MTH 200	4
SEEDS: Exploration 3	3 SEEDS: Exploration 4	3
Free Elective	2 Free Elective	2
	15	16

Fourth Year

Fall	Credits Spring	Credits
BIO 320	4 BIO 450	4
BIO 309	4 BIO 317	4
SEEDS: World Language 1	3 SEEDS: World Language 2 or Free Elective	3
Free Elective	3 Free Elective	3
Free Elective	2	
	16	14

Total Credits 120