

BIOLOGY, B.S.

Credits: 122
CIP Code: 260101

Program Description

The Bachelor of Science Degree in Biology curriculum is designed to prepare students interested in the study of biological sciences and health-related fields such as medicine, dentistry, veterinary, and pharmacy. The core courses include molecular biology, biochemistry, genetics, and cell biology.

Admissions Requirements

Applicants must meet the General Admissions Requirements as published in this Catalog.

Student Learning Outcomes

Graduates of the Biology Program will be able to:

1. Demonstrate an understanding of biology at the anatomical, biochemical, physiological, and ecological levels.
2. Communicate mastery of basic biological principles through written research papers and oral presentations.
3. Interpret observations and tests, and analyze a specific hypothesis through completion of individual research experiences.

Degree Requirements

In addition to the General Degree Requirements as published in this Catalog, students pursuing the Bachelor of Science Degree in Biology must complete all *science and mathematics courses with minimum final grades of "C"*.

Code	Title	Hours
Required Courses		
CBIO 111	General Biology I & Lab	4
CBIO 112	General Biology II & Lab	4
CBIO 233	Microbiology	4
CBIO 312	Genetics I	3
CBIO 375	Cell and Molecular Biology	3
CBIO 390	Introductory Biochemistry	3
CBIO 480	Research in Biology	3
CBIO 482	Seminar in Biology	1
CBIO 331	Plant Biology & Lab	4
CBIO 478	Cell Biology Laboratory	3
Recommended Biology Electives		
Select 5-7 courses from the following:		25
CBIO 230 & CBIO 231	Anatomy and Physiology and Anatomy & Physiology II	
CBIO 231	Anatomy & Physiology II	
CBIO 255	Invertebrate Zoology	
CBIO 261	Environmental Biology	
CPSY 218	Human Growth & Development	
CPSY 313	Statistics I	
CBIO 465	Endocrinology	
CBIO 476	Human Physiology	

CBIO 484	Eukaryotic Gene Control	
CBIO 492	Biochemistry	
CBIO 499	Special Topics in Biology	
Required Cognate Courses		
CCHE 111	Gen Chem I & Recitation	4
CCHE 112	Gen Chem II Lec & Recitation	4
CCHE 231	Organic Chemistry	4
CCHE 232	Organic Chemistry	4
CPHY 111	General & Modern Physics I	4
CPHY 112	General & Modern Physics II	4
Total Hours		81

Note: Upper level 300 and 400 Level Courses are only for juniors and seniors.

General Education Requirements

Code	Title	Hours
Area A: Humanities/Fine Arts		
Select three credits of the following:		3
CART 150	Art Appreciation	
CHUM 228		
CHUM 230		
CMUS 120	Music Appreciation	
CSTA 252	Theater Appreciation	
CREL 103	Afr Amer Religious Experiences	
CHIS 201	United States, Africa & World	
CHIS 211	History of the United States	
CPHI 105	Critical Thinking	
Area B: Social/Behavioral Sciences		
Select six credits of the following:		6
CSCJ 215	Intro. to Sociology	
CSCJ 216	Intro. to Anthropology	
CSCJ 218	Contemporary Social Problems	
	or CPSY 211 General Psychology	
Area C: Natural Sciences/Mathematics/Statistics		
Select two of the following:		7-8
CMAT 107	Precalculus (Accelerated)	
CMAT 111	Calculus I	
CMAT 112	Calculus II	
Area D: Communication: English Literature		
Select nine credits of the following:		9
CENG 105	College Composition I	
CENG 106	College Composition II	
CENG 201	Intro to World Literature I	
CENG 202	Intro to World Literature II	
CSTA 101	Fundamentals of Speech	
Area E: Financial/Technological		
CCIS 101	Introduction to Computers	3
CBUS 250	Personal Finance	3
Total Hours		31-32

Other University Requirements

Code	Title	Hours
CGED 100	First Year Seminar ¹	1
CGED 101	1st-Year Seminar ²	1
Total Hours		2

Free Electives: 6 Credits

Note: Free Electives should be chosen in consultation with faculty advisor depending on the choice of minor or stackable credentials.

Note: Stacking Credential Credits may substitute for some Biology Electives. Check with department for other approved biology electives available at AUC colleges.

Plan of Study for Bachelor of Science Degree in Biology

(Students who are not prepared to complete calculus in their first year of study should arrange a revised plan of study in consultation with an advisor.)

Course	Title	Hours
First Year		
First Semester		
CBIO 111 & 111L	General Biology I & Lab and	4
CCHE 111 & 111R	Gen Chem I & Recitation and	4
CCHE 111L	General Chemistry Lab	0
Select one of the following:		4
CMAT 106	Pre-Calculus II (Area C)	
CMAT 107	Precalculus (Accelerated) (Area C)	
CMAT 111	Calculus I (Area C)	
CENG 105	College Composition I (Area D)	3
CGED 100	First Year Seminar	1
Hours		16
Second Semester		
CBIO 112 & 112L	General Biology II & Lab and General Biology II Lab	4
CCHE 112 & 112R	Gen Chem II Lec & Recitation and	4
CCHE 112L	General Chemistry II Lab	0
CMAT 111 or CMAT 112	Calculus I (Area C) or Calculus II	4
CENG 106	College Composition II (Area D)	3
CGED 101	1st-Year Seminar	1
Hours		16
Second Year		
First Semester		
CBIO 233	Microbiology ¹	4
CCHE 231 & 231R	Organic Chemistry and Organic Chemistry Recitation	4
CCHE 231L	Organic Chemistry Lab	0
CBUS 250	Personal Finance (Area E)	3
Select one of the following:		3

CHUM 228	Area A	
CHUM 230	Area A	
CART 150	Art Appreciation (Area A)	
CMUS 120	Music Appreciation (Area A)	
CSCJ 215 or CSCJ 216	Intro. to Sociology (Area B) or Intro. to Anthropology	3
Hours		17
Second Semester		
CBIO 200	Biology Elective (200 Level)	3
CCHEM 231R		4
CCHE 232L	Organic Chemistry Lab	0
CENG 201 or CENG 202	Intro to World Literature I (Area D) or Intro to World Literature II	3
CPSY 211/218	General Psychology (or CSCJ (Area B))	3
CCIS 253 & 253L	Intro. to Comp. Sim/Analysis and Intro. to Comp. Sim/Analy(Lab) (Area E)	4
Hours		17

Third Year

First Semester

CBIO 312 & 312R	Genetics I and Genetics Recitation	3
CBIO 390	Introductory Biochemistry	3
CPHY 111 & 111L	General & Modern Physics I and Gen. & Modern Physics I Lab	4
CBIO 331 & 331L	Plant Biology & Lab and Plant Morphology Lab	4
C XXX	Free Elective	3
Hours		17

Second Semester

CBIO 375	Cell and Molecular Biology	3
CPHY 122 & 122L	Physics II: Elec & Magnetism and Physics II:Electricity&Mag.Lab	4
CBIO 480 & CBIO 482	Research in Biology and Seminar in Biology ¹	4
CBIO 492	Biochemistry (or CBIO Elective)	3
Hours		14

Fourth Year

First Semester

CBIO 478L	Capstone	3
CBIO XXX	Biology Elective	3
CBIO XXX	Biology Elective	3
CBIO XXX	Biology Elective	3
Hours		12

Second Semester

CBIO XXX	Biology Elective	3
CBIO XXX	Biology Elective	3
STEM Elective	Elective for Minor or Stackable Credential ²	4
CXXX	Free Elective	3
Hours		13

Total Hours **122**

¹ CBIO 480 Research in Biology is offered each semester.

² CSTEM Electives are elective courses in the STEM (Science, Technology, Engineering or Math) fields to be applied towards Minors in other disciplines or towards Stackable Credentials.

Free Electives are any courses of interest to the student, providing prerequisites are met. Students may not use more than 3 additional credits of C BIO 480 Research in Biology to meet Free Elective requirements.