BIOLOGY, ASSOCIATE IN SCIENCE DEGREE

Banner Code: 1_AS_BIOL
Financial Aid Eligible

The Biological Associate of Science degree is intended to instill a desire in our students to learn more about the biological sciences, encourage critical thinking about how life functions in the natural world, and help students become scientifically literate citizens who can make informed decisions about biologically related issues.

Program Outcomes

1. Use the scientific method to design, carry out, summarize & evaluate tests of biological hypotheses using modern laboratory equipment.
2. Describe the biological processes that occur within or among organisms (e.g., protein synthesis, cell-to-cell communication, genetic transmission, digestion, reproduction, and nutrient flow through an ecosystem).
3. Describe the variations observed in organisms and explain how populations have evolved through time.

Review Graduation Requirements (https://catalog.cccd.edu/orange-coast/graduation-requirements/associate-degree/) and General Education (https://catalog.cccd.edu/orange-coast/general-education-patterns/).

Course	Title	Units
Required Courses		
Core Courses-List A		
Select one option of the following:		9-12
Option 1		
BIOL A180	Introduction to Biology for Majors 1: Cell and Molecular Biology	
BIOL A185	Introduction to Biology for Majors 2: Ecology, Evolution, Diversity, and Physiology	
Option 2		
BIOL A180	Introduction to Biology for Majors 1: Cell and Molecular Biology	
BIOL A182	Zoology	
BIOL A182L	Zoology Lab	
BIOL A183	Botany	
BIOL A183L	Botany Lab	
Core Courses-List B		
Select one of the following:		2-5
BIOL A210	General Microbiology	
BIOL A220	Human Anatomy	
BIOL A221	Anatomy-Physiology	
BIOL A225	Human Physiology	
BIOL A280	Evolutionary Ecology	
BIOL A281	Biochemistry	
BIOL A282	Molecular Biology	
BIOL A283	Genetics	
Restricted Electives		
Select a minimum of five units of Chemistry and four units of Math:		9-10
CHEM A180	General Chemistry A	
CHEM A185	General Chemistry B	
CHEM A220	Organic Chemistry A	
CHEM A220L	Organic Chemistry A Lab	
CHEM A225	Organic Chemistry B	
CHEM A225L	Organic Chemistry B Laboratory	
MATH A180/ A180H	Calculus 1	
MATH A185/ A185H	Calculus 2	
MATH A280/ A280H	Calculus 3	
MATH A285/ A285H	Introduction to Linear Algebra and Differential Equations	
Total Units		**20-27**

Requirement	Units
Program Major Units	20-27
AS General education Option 1, 2, or 3	Varies
Transferable electives as needed to satisfy unit requirement	Varies
Total Minimum Degree Units	60

Program Sequence

These sequences at Orange Coast College are general course curriculum maps for students to finish all major and general education requirements for two-year completion of degrees, and/or fulfillment of transfer requirements. The course sequence may include course prerequisites and other placement requirements. **Students are advised to meet with an Orange Coast College Counselor to review course selections and sequences to ensure that completion of this program will meet a student's transfer and career goals.**

Course	Title	Units
Year 1		
Semester 1		
CHEM A180	General Chemistry A [3]	5
MATH A180 or MATH A180H	Calculus 1 [3] or Calculus 1 Honors	4
OCC AS GE AREA A1 - CHOOSE ONE		3
OCC AS GE AREA C1 - CHOOSE ONE		3
	Units	**15**
Semester 2		
BIOL A180	Introduction to Biology for Majors 1: Cell and Molecular Biology	4
OCC AS GE AREA C2 - CHOOSE ONE		3
OCC AS GE AREA D - CHOOSE ONE		3
ELECTIVES (DEGREE APPLICABLE)		5
	Units	**15**

Course	Title	Units
Year 2		
Semester 1		
Select one of the following:		4-5
BIOL A185 or BIOL A182 ***and*** BIOL A182L	Introduction to Biology for Majors 2: Ecology, Evolution, Diversity, and Physiology or Zoology ***and*** Zoology Lab	
ELECTIVES (DEGREE APPLICABLE)		9-10
	Units	**13-15**
Semester 2		
Select one of the following: [1]		4
BIOL A183 & A183L	Botany and Botany Lab	
OR ELECTIVE (DEGREE APPLICABLE)		
Core Course List B (See Requirements) - CHOOSE ONE		2-5
ELECTIVES (DEGREE APPLICABLE) [2]		11
	Units	**17-20**
	Total Units	**60-65**

[1] If you chose BIOL A185 in a previous semester, you can take any degree applicable units

[2] VARIES REACH MINIMUM 60 DEGREE UNITS

[3] These courses meet required restricted electives for Chemistry and Mathematics (See Requirements)