

BIOLOGY - GENERAL - ASSOCIATE OF SCIENCE DEGREE (AS)

Explore More About This Program: <https://cwi.edu/program/biology>

Degree Quick Facts

- **Instructional School:** Math and Science
- **Department:** Biological Sciences
- **Program Code:** BIOL.AS
- **Program Type:** Academic Transfer
- **Available Fully Online:** No
- **Eligible for Federal Financial Aid:** Yes

Degree Requirements

Course	Course Title	Min Credits
General Education Requirements		
<i>Complete the following course to fulfill the Connecting with Ideas requirement:</i>		
CWI 101	Connecting With Ideas	3
<i>Complete the following courses to fulfill the GEM 1 requirement:</i>		
GEM 1 - Written Communication course		3
GEM 1 - Written Communication course		3
<i>Complete the following course to fulfill the GEM 2 requirement:</i>		
GEM 2 - Oral Communication course		2
<i>Complete one of the following courses to fulfill the GEM 3 requirement:</i>		
Select one of the following:		3-5
MATH 143	College Algebra	
MATH 147	College Algebra and Trigonometry	
MATH 160	Survey of Calculus	
MATH 170	Calculus I	
<i>Complete the following courses to fulfill the GEM 4 requirement:</i>		
BIOL 111	Biology I	3
BIOL 111L	Biology I Lab	1
Select one of the following options:		4
Option 1:		
CHEM 101	Introduction to Chemistry ¹	
CHEM 101L	Introduction to Chemistry Lab ¹	
Option 2:		
CHEM 111	General Chemistry I ¹	
CHEM 111L	General Chemistry I Lab ¹	
<i>Complete the following courses to fulfill the GEM 5 requirement:</i>		
GEM 5 - Humanistic & Artistic Ways of Knowing course		3
GEM 5 - Humanistic & Artistic Ways of Knowing course ²		3
<i>Complete the following courses to fulfill the GEM 6 requirement:</i>		
SCIE 102	Ethics in Science ³	3
GEM 6 - Social & Behavioral Ways of Knowing course ²		3
<i>Complete the following course to fulfill the Global Perspectives requirement:</i>		
Global Perspectives course		3
Major Requirements		
BIOL 112	Biology II	3
BIOL 112L	Biology II Lab	1
CHEM 111	General Chemistry I ⁴	3
CHEM 111L	General Chemistry I Lab ⁴	1
Select one of the following options:		4
Option 1:		
BIOL 113	Biology III: Principles of Structure and Function	

BIOL 113L	Biology III: Principles of Structure and Function Lab	
Option 2:		
ENVI 260	General Ecology	
ENVI 260L	General Ecology Lab	
Select one of the following:		3-4
BIOL 280	Pathophysiology	
ENVI 280L	Field Biology	
MMBS 280 & 280L	Genetics and Genetics Lab	
Select 5-12 credits from the Major Electives course list below to bring the total credits earned to 60		5-12
Minimum Credit Hours Required		60

- ¹ Students who have prior experience with chemistry are strongly encouraged to take the Chemistry Placement exam at the CWI Assessment Center. Passing the Chemistry Placement exam will allow students to register directly into CHEM 111 General Chemistry I and will enable them to complete additional credits from the Major Electives list.
- ² Course must come from a different discipline.
- ³ This course fulfills the Ethical Reasoning requirement for an associate degree from CWI.
- ⁴ If students completed CHEM 111 General Chemistry I to fulfill their GEM 4 requirement, they must take an additional four (4) credits of coursework from the Major Electives course list below.

Biology - General: Major Electives

Course	Course Title	Min Credits
BIOL 104	Professions in Biology	3
BIOL 113	Biology III: Principles of Structure and Function	3
BIOL 113L	Biology III: Principles of Structure and Function Lab	1
BIOL 280	Pathophysiology	4
BIOL 293	Biology Internship	1-3
CHEM 112	General Chemistry II	3
CHEM 112L	General Chemistry II Lab	2
CHEM 253	Quantitative Analysis	3
CHEM 253L	Quantitative Analysis Lab	2
ENGL 202	Technical Communication	3
ENVI 100	Environmental Science	3
ENVI 100L	Environmental Science Lab	1
ENVI 260	General Ecology	3
ENVI 260L	General Ecology Lab	1
ENVI 280L	Field Biology	3
MATH 144	Trigonometry	2
MATH 147	College Algebra and Trigonometry	5
MATH 153	Statistical Reasoning	3
MATH 170	Calculus I	5
MATH 175	Calculus II	4
MMBS 250	General Microbiology	3
MMBS 250L	General Microbiology Lab	1
MMBS 260	Introduction to Cell Biology	3
MMBS 260L	Introduction to Cell Biology Lab	1
MMBS 270	Introduction to Pharmacology	3
MMBS 280	Genetics	3
MMBS 280L	Genetics Lab	1
PHYS 111	General Physics I	3
PHYS 111L	General Physics I Lab	1
SCIE 225	Essential Principles of Scientific Research	1

Plan of Study Guide

The course sequence listed below is strongly recommended in order to complete your program requirements. Please register for each semester as shown using the Student Planning tool in myCWI. Plans may be modified to fit the needs of part-time students by adding additional semesters. Consult your Student Success Advisor for any questions regarding this course sequence plan.

First Year

Fall		Credit Hours
BIOL 111	Biology I (GEM 4)	3
BIOL 111L	Biology I Lab (GEM 4)	1
Select one of the following options (GEM 4):		4
Option 1:		
CHEM 101	Introduction to Chemistry ¹	
CHEM 101L	Introduction to Chemistry Lab ¹	
Option 2:		
CHEM 111	General Chemistry I ¹	
CHEM 111L	General Chemistry I Lab ¹	
CWI 101	Connecting With Ideas	3
Select one of the following (GEM 3):		3-5
MATH 143	College Algebra	
MATH 147	College Algebra and Trigonometry	
MATH 160	Survey of Calculus	
MATH 170	Calculus I	
Total Semester Credit Hours		14

Spring

BIOL 112	Biology II ²	3
BIOL 112L	Biology II Lab ²	1
ENGL 101	Writing and Rhetoric I (GEM 1)	3
SCIE 102	Ethics in Science (GEM 6) ³	3
GEM 5 - Humanistic & Artistic Ways of Knowing course		3
Global Perspectives course		3
Total Semester Credit Hours		16

Second Year

Fall		Credit Hours
Select one of the following options:		4
Option 1:		
BIOL 113	Biology III: Principles of Structure and Function ⁴	
BIOL 113L	Biology III: Principles of Structure and Function Lab ⁴	
Option 2:		
ENVI 260	General Ecology ⁴	
ENVI 260L	General Ecology Lab ⁴	
CHEM 111	General Chemistry I ⁵	3
CHEM 111L	General Chemistry I Lab ⁵	1
ENGL 102	Writing and Rhetoric II (GEM 1)	3
GEM 5 - Humanistic & Artistic Ways of Knowing course ^{6,7}		3
Total Semester Credit Hours		14

Spring

Select one of the following:		3-4
BIOL 280	Pathophysiology ⁷	
ENVI 280L	Field Biology ⁷	
MMBS 280 & 280L	Genetics and Genetics Lab ⁷	

GEM 2 - Oral Communication course		2
GEM 6 - Social & Behavioral Ways of Knowing course ⁶		3
Major Electives	Select 5-12 credits from the list below to bring the total credits earned to 60 ^{4,8}	5-12
Total Semester Credit Hours		16
Minimum Credit Hours Required		60

¹ Students who have prior experience with chemistry are strongly encouraged to take the Chemistry Placement exam at the CWI Assessment Center. Passing the Chemistry Placement exam will allow students to register directly into CHEM 111 General Chemistry I and will enable them to complete additional credits from the Major Electives list.

² BIOL 112 and BIOL 112L are best taken within a semester of completing BIOL 111 and BIOL 111L to ensure greater success.

³ This course fulfills the Ethical Reasoning requirement for an associate degree from CWI.

⁴ BIOL 113 and BIOL 113L are not offered on a consistent basis. ENVI 260 and ENVI 260L are only offered in Fall. Depending on your start term and desired course, you may choose to take a course from the Major Electives list in your third semester and the major requirement in your fourth semester.

⁵ If CHEM 111 General Chemistry I was completed to fulfill your GEM 4 requirement, you should complete four (4) credits of coursework from the Major Electives course list instead.

⁶ Course must come from a different discipline.

⁷ ENVI 280L, MMBS 280 and MMBS 280L are only offered in spring. Depending on your start term, you may be required to take your capstone course in your third semester and the GEM 5 course in your fourth semester.

⁸ See catalog and possible transfer institution for elective options. To determine which elective is appropriate, consult your advisor and refer to the applicable 2+2 guide.

Biology - General: Major Electives

Course	Course Title	Min Credits
BIOL 104	Professions in Biology	3
BIOL 113	Biology III: Principles of Structure and Function	3
BIOL 113L	Biology III: Principles of Structure and Function Lab	1
BIOL 280	Pathophysiology	4
BIOL 293	Biology Internship	1-3
CHEM 112	General Chemistry II	3
CHEM 112L	General Chemistry II Lab	2
CHEM 253	Quantitative Analysis	3
CHEM 253L	Quantitative Analysis Lab	2
ENGL 202	Technical Communication	3
ENVI 100	Environmental Science	3
ENVI 100L	Environmental Science Lab	1
ENVI 260	General Ecology	3
ENVI 260L	General Ecology Lab	1
ENVI 280L	Field Biology	3
MATH 144	Trigonometry	2
MATH 147	College Algebra and Trigonometry	5
MATH 153	Statistical Reasoning	3
MATH 170	Calculus I	5
MATH 175	Calculus II	4
MMBS 250	General Microbiology	3
MMBS 250L	General Microbiology Lab	1
MMBS 260	Introduction to Cell Biology	3
MMBS 260L	Introduction to Cell Biology Lab	1
MMBS 270	Introduction to Pharmacology	3
MMBS 280	Genetics	3
MMBS 280L	Genetics Lab	1
PHYS 111	General Physics I	3
PHYS 111L	General Physics I Lab	1
SCIE 225	Essential Principles of Scientific Research	1

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Know evolution, biology's core theme, as a pattern and a process and understand relationships that characterize the diversity of life. (*Addresses V&C Con 1*)
- Know and apply the concepts of structure and function; information flow, exchange, and storage; and pathways and transformations of energy and matter. (*Addresses V&C Con 2, 3, 4*)
- Apply the scientific method, quantitative reasoning, and modeling to analyze and evaluate problems in biology. (*Addresses V&C Comp 1, 2, 3*)
- Recognize the interdisciplinary nature of science, communicate and collaborate with others, and understand the relationship between biology and critical issues affecting human populations. (*Addresses V&C Comp 4, 5, 6*)

(Outcomes map to Vision and Change [V&C] Core Concepts published by the National Science Foundation and the American Association for the Advancement of Science 2011.)

NOTE: These outcomes apply to all students graduating with a Biological Sciences degree. Specific degrees may have additional and/or specialized outcomes.