

# BIOLOGY - MICROBIOLOGICAL, MOLECULAR, AND BIOMEDICAL SCIENCES - ASSOCIATE OF SCIENCE DEGREE (AS)

## Degree Quick Facts

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

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

## Degree Requirements

Course	Course Title	Min Credits
<b>General Education Requirements</b>		
<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>		
<u>GEM 1 - Written Communication course</u>		3
<u>GEM 1 - Written Communication course</u>		3
<i>Complete the following course to fulfill the GEM 2 requirement:</i>		
<u>GEM 2 - Oral Communication course</u>		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 <sup>1</sup>	
CHEM 101L	Introduction to Chemistry Lab <sup>1</sup>	
Option 2:		
CHEM 111	General Chemistry I <sup>1</sup>	
CHEM 111L	General Chemistry I Lab <sup>1</sup>	
<i>Complete the following courses to fulfill the GEM 5 requirement:</i>		
<u>GEM 5 - Humanistic &amp; Artistic Ways of Knowing course</u>		3
<u>GEM 5 - Humanistic &amp; Artistic Ways of Knowing course</u> <sup>2</sup>		3
<i>Complete the following courses to fulfill the GEM 6 requirement:</i>		
SCIE 102	Ethics in Science <sup>3</sup>	3
<u>GEM 6 - Social &amp; Behavioral Ways of Knowing course</u> <sup>2</sup>		3
<i>Complete the following course to fulfill the Global Perspectives requirement:</i>		
MMBS 106	Making Sense of the Micro-biotic-me	3
<b>Major Requirements</b>		
BIOL 112	Biology II	3
BIOL 112L	Biology II Lab	1
CHEM 111	General Chemistry I <sup>4</sup>	3
CHEM 111L	General Chemistry I Lab <sup>4</sup>	1

CHEM 112	General Chemistry II	3
CHEM 112L	General Chemistry II Lab	2
Select one of the following options:		4
Option 1:		
MMBS 250	General Microbiology	
MMBS 250L	General Microbiology Lab	
Option 2:		
MMBS 260	Introduction to Cell Biology	
MMBS 260L	Introduction to Cell Biology Lab	
MMBS 280	Genetics	3
MMBS 280L	Genetics Lab	1
Select 0-6 credits from the Major Electives course list below to bring the total credits earned to 60, if needed		0-6

**Minimum Credit Hours Required** **60**

- <sup>1</sup> 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.
- <sup>2</sup> Course must come from a different discipline.
- <sup>3</sup> This course fulfills the Ethical Reasoning requirement for an associate degree from CWI.
- <sup>4</sup> 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 - Microbiological, Molecular, and Biomedical Sciences: 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 227	Human Anatomy and Physiology I	3
BIOL 227L	Human Anatomy and Physiology I Lab	1
BIOL 293	Biology Internship	1-3
CHEM 253	Quantitative Analysis	3
CHEM 253L	Quantitative Analysis Lab	2
CHEM 298	Organic Chemistry I	3
CHEM 298L	Organic Chemistry I Lab	2
ENGL 202	Technical Communication	3
ENVI 260	General Ecology	3
ENVI 260L	General Ecology Lab	1
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
PHYS 111	General Physics I	3
PHYS 111L	General Physics I Lab	1
SCIE 225	Essential Principles of Scientific Research	1