

# BIOLOGY, BS

## Bachelor of Science in Biology

More on the Biology major (<https://www.uakron.edu/biology/academics/undergraduate/biology/>)

The BS biology program is designed to provide students with a broad understanding of the principles of biology, from the molecular and cellular level to the ecological and evolutionary levels. Through a combination of lectures, labs, and discussions, students will explore the fundamental concepts of biology, including the scientific method, biochemistry, genetics, evolution, ecology, and physiology. The program will also cover the diversity of life and the relationships between organisms and their environment. Students will learn to think critically and analytically, and develop skills in observation, experimentation, data analysis, and communication. This program is suitable for students pursuing careers in the life sciences, health professions, or related fields.

## Requirements for Admission

Freshman admission at the Akron campus is selective. Admission decisions are based on:

- grade point average (cumulative GPA, grade trends), and
- strength of high school curriculum.

High school students applying to UA for the spring, summer or fall semesters will not be required to submit an ACT or SAT test score for admission consideration.

The following information has official approval of **The Department of Biology** and **The Buchtel College of Arts & Sciences**, but is intended only as a supplemental guide. Official degree requirements are established at the time of transfer and admission to the degree-granting college. Students should refer to the Degree Progress Report (Stellic) which is definitive for graduation requirements. *Completion of this degree within the identified time frame below is contingent upon many factors, including but not limited to: class availability, total number of required credits, work schedule, finances, family, course drops/withdrawals, successfully passing courses, prerequisites, among others.* The transfer process is completed through an appointment with your academic advisor.

**Three year accelerated option:** for first time students who have earned credits for at least the first year of courses. Credits can be earned through qualifying scores on appropriate Advanced Placement (AP) exams or through College Credit Plus Program (CCP) courses. Credits for qualifying AP scores or CCP courses are determined by the appropriate academic department. Departments may assign varied course credit, depending on the student's score on an AP exam or grade in a CCP course. Students may also receive credit by examination or via placement tests, where appropriate.

## Requirements Summary

Code	Title	Hours
	General Education Requirements ( <a href="https://bulletin.uakron.edu/undergraduate/general-education/">https://bulletin.uakron.edu/undergraduate/general-education/</a> )	36
	College of Arts & Sciences Requirements	8
	Biology Core Requirement	47-50
	Biology Electives	19

Additional Credits for Graduation *	10-7
<b>Total Hours</b>	<b>120</b>

\* Bachelor's degrees require a minimum of 120 credit hours for graduation

## General Education Requirements

Code	Title	Hours
Students pursuing a bachelor's degree must complete the following General Education coursework		
Breadth of Perspectives courses may also fulfill major or Breadth of Knowledge requirements. Integrated and Applied Learning courses may also fulfill requirements in the major.		
<b>Academic Foundations</b>		<b>12</b>
<i>Mathematics, Statistics and Logic: 3 credit hours</i>		
<i>Speaking: 3 credit hours</i>		
<i>Writing: 6 credit hours</i>		
<b>Breadth of Knowledge</b>		<b>19</b>
<i>Arts: 3 credit hours</i>		
<i>Humanities: 3 credit hours</i>		
<i>Natural Sciences: 7 credit hours</i>		
<i>Social Sciences: 6 credit hours</i>		
<b>Breadth of Perspectives</b>		
U.S. Perspectives		
Global Perspectives		
Civic Literacy		
<b>Integrated and Applied Learning</b>		<b>1-3</b>
<i>Select one class from one of the following subcategories:</i>		
Complex Issues Facing Society		
Capstone		
<b>General Education Elective <sup>1</sup></b>		<b>4-2</b>
<i>Review the General Education Requirements page for detailed course listings.</i>		
<b>Total Hours</b>		<b>36</b>

<sup>1</sup> Credits may be selected from any approved General Education course not already accounted for.

## College of Arts & Sciences Requirements

Code	Title	Hours
<b>Degree requirements for this Bachelor of Science in Arts &amp; Sciences include the demonstration of ability to use another language by completion of the first year of a foreign language.</b>		
<i>1 Year Language Proficiency</i>		<b>8</b>
101 Beginning I		
102 Beginning II		
SLPA 222	Survey of Deaf Culture in America (American Sign Language option only)	
<b>Students must also complete a minimum of 40 credits (excluding workshops) consisting of either:</b>		
Upper-level (300/400) courses both in and outside of the student's major;		

or other courses outside the major department approved by the student's major department chair (permission should be obtained prior to enrollment); these may not include workshops

## Biology Core Requirements

Code	Title	Hours
BIOL 111	Principles of Biology I	4
BIOL 112	Principles of Biology II	4
BIOL 211	General Genetics	3
BIOL 217	General Ecology	3
BIOL 311	Cell & Molecular Biology	4
BIOL 316	Evolutionary Biology	3
CHEM 151	Principles of Chemistry I	3
CHEM 152	Principles of Chemistry I Laboratory	1
CHEM 153	Principles of Chemistry II	3
CHEM 154	Principles of Chemistry II Laboratory	2
CHEM 263	Organic Chemistry Lecture I	3
CHEM 264	Organic Chemistry Lecture II	3
CHEM 265	Organic Chemistry Laboratory I	2
CHEM 266	Organic Chemistry Laboratory II	2
MATH 149	Precalculus Mathematics	3-4
or MATH 154	Technical Algebra and Trigonometry 2	
or MATH 221	Analytic Geometry-Calculus I	
STAT 250	Statistics for Everyday Life	2-4
or STAT 260	Basic Statistics	
or STAT 261	Introductory Statistics I	
STAT 262	Introductory Statistics II	2
<b>Total Hours</b>		<b>47-50</b>

## Biology Electives

Code	Title	Hours
<b>Complete 19 credits:</b> <sup>1</sup>		<b>19</b>
BIOL 3xx/4xx		
<b>Total Hours</b>		<b>19</b>

<sup>1</sup> Credits must be at the 300/400 level and must not be used in the core.

## Recommended Sequence

1st Year		
Fall Semester		Hours
ENGL 111	English Composition I	3
MATH 149	Precalculus Mathematics	4
BIOL 111	Principles of Biology I	4
CHEM 151	Principles of Chemistry I	3
CHEM 152	Principles of Chemistry I Laboratory	1
<b>Hours</b>		<b>15</b>
Spring Semester		
ENGL 112	English Composition II	3
COMM 105	Introduction to Public Speaking	3
BIOL 112	Principles of Biology II	4
CHEM 153	Principles of Chemistry II	3

CHEM 154	Principles of Chemistry II Laboratory	2
<b>Hours</b>		<b>15</b>

### 2nd Year

Fall Semester		
BIOL 211	General Genetics	3
BIOL 217	General Ecology	3
CHEM 263	Organic Chemistry Lecture I	3
CHEM 265	Organic Chemistry Laboratory I	2
Elective Credit or Credit Toward a Minor		3
<b>Hours</b>		<b>14</b>

### Spring Semester

BIOL 316	Evolutionary Biology	3
CHEM 264	Organic Chemistry Lecture II	3
CHEM 266	Organic Chemistry Laboratory II	2
STAT 261	Introductory Statistics I	2
STAT 262	Introductory Statistics II	2
Elective Credits or Credits Toward a Minor		3
<b>Hours</b>		<b>15</b>

### 3rd Year

Fall Semester		
BIOL 311	Cell & Molecular Biology	4
Upper Level Biology Elective Credit		4
Social Science Requirement <sup>1</sup>		3
Arts Requirement		3
Foreign Language or Elective Credit or Credit Toward a Minor		4
<b>Hours</b>		<b>18</b>

### Spring Semester

Upper-Level Biology Elective		4
Humanities Requirement		3
Social Science Requirement		3
Foreign Language or Elective Credits or Credits Toward a Minor		4
<b>Hours</b>		<b>14</b>

### 4th Year

Fall Semester		
Upper-level Biology Elective		4
Upper-level Biology Elective		4
Arts/Humanities Requirement		4
Complex Issues Requirement		3
<b>Hours</b>		<b>15</b>
Spring Semester		
Upper-level Biology elective		4
Upper-level Biology elective		4
Global Perspectives Requirement		3
US Perspectives Requirement		3
<b>Hours</b>		<b>14</b>
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> Course could also count for Domestic or Global Perspectives

If not at the level of Precalculus Math, postpone taking Principles of Biology I and II and Chemistry I and II until the sophomore year and

Organic Chemistry until the junior year. In the freshman year, take your social science, and/or humanities requirements instead. In your freshman year, be sure to reach the level of Precalculus math as soon as possible.

A minimum of 19 credits of 300/400 level biology courses is required beyond the biology core and excludes BIOL 311 Cell & Molecular Biology, BIOL 316 Evolutionary Biology, BIOL 470 Lab Animal Regulations Lab Regulations or Workshops. May include up to 4 credits of Biological Problems (i.e., independent research).