BIOLOGY - B.A.

College of Sciences and Humanities
Department of Biological Sciences
www.kent.edu/biology

About This Program

Explore the fascinating world of biology with Kent State's Biology B.A. program. Gain a deep understanding of the complexities of life, from the molecular level to the ecosystem level, through engaging coursework and hands-on experience. Our program prepares you for a variety of career paths, from healthcare to research and beyond. Enroll now for endless opportunities in biology. Read more...

Contact Information

- **Edgar Kooijman** | ekooijma@kent.edu | 330-672-8568
- Speak with an Advisor
  - Kent Campus
  - Stark Campus
- Chat with an Admissions Counselor: Kent Campus | Regional Campuses

Program Delivery

- **Delivery:**
  - In person
- **Location:**
  - Kent Campus (major and optional concentration)
  - Stark Campus (major only)

Examples of Possible Careers and Salaries*

Biological scientists, all other

- 1.2% slower than the average
- 63,700 number of jobs
- $93,330 potential earnings

Biological technicians

- 3.5% about as fast as the average
- 82,700 number of jobs
- $52,000 potential earnings

Secondary school teachers, except special and career/technical education

- -1.6% decline
- 1,094,500 number of jobs
- $64,580 potential earnings

* Source of occupation titles and labor data comes from the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

Admission Requirements

The university affirmatively strives to provide educational opportunities and access to students with varied backgrounds, those with special talents and adult students.

First-Year Students on the Kent Campus: First-year admission policy on the Kent Campus is selective. Admission decisions are based upon cumulative grade point average, strength of high school college preparatory curriculum and grade trends. Students not admissible to the Kent Campus may be administratively referred to one of the seven regional campuses to begin their college coursework. For more information, visit the admissions website for first-year students.

First-Year Students on the Regional Campuses: First-year admission to Kent State's campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Twinsburg Academic Center, is open to anyone with a high school diploma or its equivalent. For more information on admissions, contact the Regional Campuses admissions offices.

International Students: All international students must provide proof of proficiency of the English language (unless they meet specific exceptions) through the submission of an English language proficiency test score or by completing English language classes at Kent State's English as a Second Language Center before entering their program. For more information, visit the admissions website for international students.

Former Students: Former Kent State students who have not attended another institution since Kent State and were not academically dismissed will complete the re-enrollment process through the Financial, Billing and Enrollment Center. Former students who attended another college or university since leaving Kent State must apply for admissions as a transfer or post-undergraduate student.

Transfer Students: Students who attended an educational institution after graduating from high school or earning their GED must apply as transfer students. For more information, visit the admissions website for transfer students.

Admission policies for undergraduate students may be found in the University Catalog's Academic Policies.

Students may be required to meet certain criteria to progress in their program. Any progression requirements will be listed on the program's Coursework tab

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		
BSCI 10110	BIOLOGICAL DIVERSITY (ELR) (KBS) (KLAB)	4
BSCI 10120	BIOLOGICAL FOUNDATIONS (ELR) (KBS) (KLAB)	4
BSCI 30105	CAREER PATHWAYS IN BIOLOGY	1
BSCI 30156	ELEMENTS OF GENETICS	3
BSCI 40163	EVOLUTION	3
BSCI 40600	WRITING IN THE BIOLOGICAL SCIENCES (WIC) [1]	1
CHEM 10058	GENERAL CHEMISTRY FOR LIFE SCIENCES I (KBS) [2]	4

or CHEM 10060	GENERAL CHEMISTRY I (KBS)	
CHEM 10062	GENERAL CHEMISTRY I LABORATORY (KBS) (KLAB)	1
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
Biology (BSCI) Electives [3]		5
Biology (BSCI) Upper-Division Electives (30000 or 40000 level) [3]		10
Additional Requirements (courses do not count in major GPA)		
UC 10001	FLASHES 101	1
Foreign Language (see Foreign Language College Requirement below)		10-16
American Civic Literacy Requirement [4]		3
Kent Core Composition		6
Kent Core Humanities and Fine Arts (minimum one course from each) [4]		6-9
Kent Core Social Sciences (must be from two disciplines) [4]		3-6
General Electives (total credit hours depends on earning 120 credit hours, including 39 upper-division credit hours)		26
Additional Requirements or Concentration		
Choose from the following:		23
Additional Requirements for Students Not Declaring a Concentration		
Animal Ecology Concentration		
Minimum Total Credit Hours:		**120**

1 A minimum C grade must be earned to fulfill the writing-intensive requirement.

2 Students who plan to attend a professional or graduate program are strongly encouraged to take CHEM 10060.

3 Students should consult with a faculty advisor to determine the most appropriate courses given their disciplinary interests and career aspirations. A maximum 6 credit hours of any combination of BSCI 40192, BSCI 40196 and BSCI 40199 may be used to fulfill electives.

4 If students complete the American Civic Literacy requirement by taking HIST 12061, the course will apply to the Kent Core Humanities category. If they complete it with POL 10101, the course will apply to the Kent Core Social Sciences category.

Additional Requirements for Students Not Declaring a Concentration

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		
CHEM 10059	GENERAL CHEMISTRY FOR LIFE SCIENCES II [1]	4
or CHEM 10061	GENERAL CHEMISTRY II (KBS)	
CHEM 10063	GENERAL CHEMISTRY II LABORATORY (KBS) (KLAB)	1
MATH 11022	TRIGONOMETRY (KMCR)	3
Additional Requirements (courses do not count in major GPA)		
General Electives		15
Minimum Total Credit Hours:		**23**

1 Students who took CHEM 10058 must take CHEM 10059. Students who took CHEM 10060 must take CHEM 10061.

Animal Ecology Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
BSCI 30360	GENERAL ECOLOGY	4
Botany Elective, choose from the following:		3-4
BSCI 30267	PLANT PHYSIOLOGY	
BSCI 30270	GENERAL PLANT BIOLOGY	
BSCI 30274	FORESTRY	
BSCI 30277	ECONOMIC BOTANY	
BSCI 40270	PLANT ECOLOGY	
Conservation and Management Elective, choose from the following:		3-4
BSCI 30362	INTRODUCTION TO BIOLOGY OF THE TROPICS	
BSCI 30370	CLIMATE CHANGE BIOLOGY	
BSCI 40170	STREAM BIOLOGY	
BSCI 40364	LIMNOLOGY	
BSCI 40368	WETLAND ECOLOGY AND MANAGEMENT (ELR)	
BSCI 40374	CONSERVATION BIOLOGY (ELR)	
BSCI 40375	ENVIRONMENTAL BIOLOGY AND MANAGEMENT	
General Animal Ecology Electives, choose from the following:		6-8
BSCI 30361	BIOGEOGRAPHY	
BSCI 30560	INVERTEBRATE ZOOLOGY	
BSCI 40430	ANIMAL PHYSIOLOGY	
BSCI 40515	ANIMAL BEHAVIOR	
BSCI 40556	VERTEBRATE ZOOLOGY	
Zoology Electives, choose from the following:		6-8
BSCI 30580	ENTOMOLOGY	
BSCI 30582	ORNITHOLOGY	
BSCI 40360	ICHTHYOLOGY	
BSCI 40558	MAMMALOGY	
BSCI 40560	HERPETOLOGY	
Additional Requirements (courses do not count in major GPA)		
Kent Core Additional		1
Minimum Total Credit Hours:		**23**

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.000	2.000

The following Biological Sciences (BSCI) courses may NOT be used in the elective category for majors or minors in the Department of Biological Sciences:

Code	Title	Credit Hours
BSCI 10001	HUMAN BIOLOGY (KBS)	3
BSCI 10002	LIFE ON PLANET EARTH (KBS)	3
BSCI 10003	LABORATORY EXPERIENCE IN BIOLOGY (KBS) (KLAB)	1
BSCI 10005	SMALL ANIMAL ANATOMY AND PHYSIOLOGY FOR VETERINARY TECHNICIANS	4
BSCI 11010	FOUNDATIONAL ANATOMY AND PHYSIOLOGY I (KBS) (KLAB)	3
BSCI 11020	FOUNDATIONAL ANATOMY AND PHYSIOLOGY II (KBS) (KLAB)	3
BSCI 16001	HORTICULTURAL BOTANY	3
BSCI 20019	BIOLOGICAL STRUCTURE AND FUNCTION	4

BSCI 20021	BASIC MICROBIOLOGY	3
BSCI 20022	BASIC MICROBIOLOGY LABORATORY	1
BSCI 21010	ANATOMY AND PHYSIOLOGY I (KBS) (KLAB)	4
BSCI 21020	ANATOMY AND PHYSIOLOGY II	4
BSCI 26002	ECOLOGICAL PRINCIPLES OF PEST MANAGEMENT	3
BSCI 26003	PLANT IDENTIFICATION AND SELECTION I	3
BSCI 26004	PLANT IDENTIFICATION AND SELECTION II	3
BSCI 30050	HUMAN GENETICS	3
BSCI 40020	BIOLOGY OF AGING	3

Foreign Language College Requirement, B.A.

Students pursuing the Bachelor of Arts degree* in the College of Sciences and Humanities must complete the following:

1. Elementary I and II of any language (or equivalent) **and**
2. One of the following options:
   a. Intermediate I and II of the same language
   b. Elementary I and II of a second language
   c. Any combination of two courses from the following list:
      i. Intermediate I of the same language
      ii. One to two college-level course(s) completed outside the United States
      iii. Courses: ARAB 21401, ASL 19401, CHIN 25421, MCLS 10001, MCLS 20001, MCLS 20091, MCLS 21417, MCLS 21420, MCLS 22217, MCLS 28403, MCLS 28404

*The Bachelor of Arts degree in Communication Studies is exempt from the foreign language requirement until fall 2028 due to its previous longstanding academic placement in the College of Communication and Information, which does not have a foreign language requirement.

All students with prior foreign language experience should take the foreign language placement test to determine the appropriate level at which to start. Some students may start beyond the Elementary I level and will complete the requirement with fewer courses. This may be accomplished in one of three ways:

1. Passing a course beyond Elementary I through Intermediate II level
2. Receiving credit through one of the alternative credit programs offered by Kent State University
3. Demonstrating language proficiency comparable to Elementary II of a foreign language

Certain programs may require specific languages, limit the languages from which a student may choose or require coursework through Intermediate II. Students who plan to pursue graduate study may need a particular language proficiency.

Roadmaps

Biology Major (No Concentration)

This roadmap is a recommended semester-by-semester plan of study for this program. Students will work with their advisor to develop a sequence based on their academic goals and history. Courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

	Semester One		Credits
	Note: Placement in MATH courses may require additional coursework before the spring semester during first year of enrollment		
!	BSCI 10110	BIOLOGICAL DIVERSITY (ELR) (KBS) (KLAB)	4
	MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
	UC 10001	FLASHES 101	1
	Kent Core Requirement		3
	Kent Core Requirement		3
		Credit Hours	**14**
	Semester Two		
!	BSCI 10120	BIOLOGICAL FOUNDATIONS (ELR) (KBS) (KLAB)	4
	MATH 11022	TRIGONOMETRY (KMCR)	3
	Kent Core Requirement		3
	Kent Core Requirement		3
	Kent Core Requirement		3
		Credit Hours	**16**
	Semester Three		
	BSCI 30105	CAREER PATHWAYS IN BIOLOGY	1
!	CHEM 10058 or CHEM 10060	GENERAL CHEMISTRY FOR LIFE SCIENCES I (KBS) or GENERAL CHEMISTRY I (KBS)	4
!	CHEM 10062	GENERAL CHEMISTRY I LABORATORY (KBS) (KLAB)	1
	American Civic Literacy Requirement		3
	Kent Core Requirement		3
	General Elective		3
		Credit Hours	**15**
	Semester Four		
!	BSCI 30156	ELEMENTS OF GENETICS	3
!	CHEM 10059 or CHEM 10061	GENERAL CHEMISTRY FOR LIFE SCIENCES II or GENERAL CHEMISTRY II (KBS)	4
!	CHEM 10063	GENERAL CHEMISTRY II LABORATORY (KBS) (KLAB)	1
	General Electives		7
		Credit Hours	**15**
	Semester Five		
	BSCI 40600	WRITING IN THE BIOLOGICAL SCIENCES (WIC)	1
	Biology (BSCI) Electives		5
	Foreign Language		4
	General Elective		3
		Credit Hours	**13**
	Semester Six		
	Biology (BSCI) Upper-Division Elective (30000 or 40000 level)		3
	Foreign Language		4
	General Electives		9
		Credit Hours	**16**
	Semester Seven		
	BSCI 40163	EVOLUTION	3
	Biology (BSCI) Upper-Division Electives (30000 or 40000 level)		4
	Foreign Language and/or General Elective		3
	General Electives		6
		Credit Hours	**16**
	Semester Eight		
	Biology (BSCI) Upper-Division Elective (30000 or 40000 level)		3
	Foreign Language and/or General Elective		3

	General Electives	9
	Credit Hours	**15**
	Minimum Total Credit Hours:	**120**

Animal Ecology Concentration

This roadmap is a recommended semester-by-semester plan of study for this program. Students will work with their advisor to develop a sequence based on their academic goals and history. Courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

	Semester One		**Credits**
!	BSCI 10110	BIOLOGICAL DIVERSITY (ELR) (KBS) (KLAB)	4
	MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
	UC 10001	FLASHES 101	1
	Kent Core Requirement		3
	Kent Core Requirement		3
	Credit Hours		**14**
	Semester Two		
!	BSCI 10120	BIOLOGICAL FOUNDATIONS (ELR) (KBS) (KLAB)	4
	Kent Core Requirement		3
	Kent Core Requirement		3
	Kent Core Requirement		3
	General Elective		3
	Credit Hours		**16**
	Semester Three		
	BSCI 30105	CAREER PATHWAYS IN BIOLOGY	1
!	CHEM 10058 or CHEM 10060	GENERAL CHEMISTRY FOR LIFE SCIENCES I (KBS) or GENERAL CHEMISTRY I (KBS)	4
!	CHEM 10062	GENERAL CHEMISTRY I LABORATORY (KBS) (KLAB)	1
	American Civic Literacy Requirement		3
	Kent Core Requirement		3
	Kent Core Requirement		1
	General Elective		3
	Credit Hours		**16**
	Semester Four		
	BSCI 30156	ELEMENTS OF GENETICS	3
	General Electives		12
	Credit Hours		**15**
	Semester Five		
!	BSCI 30360	GENERAL ECOLOGY	4
	BSCI 40600	WRITING IN THE BIOLOGICAL SCIENCES (WIC)	1
	Biology (BSCI) Elective		3
	Concentration Elective		3-4
	Foreign Language		4
	Credit Hours		**15**
	Semester Six		
	Concentration Electives		6-8
	Foreign Language		4
	General Electives		4
	Credit Hours		**14**
	Semester Seven		
	BSCI 40163	EVOLUTION	3
	Biology (BSCI) Elective		2
	Concentration Electives		6-8
	Foreign Language and/or General Elective		3
	Credit Hours		**14**
	Semester Eight		
	Biology (BSCI) Upper-Division Electives (30000 or 40000 level)		10
	Concentration Elective		3-4
	Foreign Language and/or General Elective		3
	Credit Hours		**16**
	Minimum Total Credit Hours:		**120**

University Requirements

All students in a bachelor's degree program at Kent State University must complete the following university requirements for graduation.

NOTE: University requirements may be fulfilled in this program by specific course requirements. Please see Program Requirements for details.

Flashes 101 (UC 10001)	1 credit hour
Course is not required for students with 30+ transfer credits (excluding College Credit Plus) or age 21+ at time of admission.	
American Civic Literacy	3 credit hours
Experiential Learning Requirement (ELR)	varies
Students must successfully complete one course or approved experience.	
Kent Core (see table below)	36-37 credit hours
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	
Upper-Division Requirement	39 credit hours
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate.	
Total Credit Hour Requirement	120 credit hours

Kent Core Requirements

Kent Core Composition (KCMP)	6
Kent Core Mathematics and Critical Reasoning (KMCR)	3
Kent Core Humanities and Fine Arts (KHUM/KFA) (min one course each)	9
Kent Core Social Sciences (KSS) (must be from two disciplines)	6
Kent Core Basic Sciences (KBS/KLAB) (must include one laboratory)	6-7
Kent Core Additional (KADL)	6
Total Credit Hours:	**36-37**

Program Learning Outcomes

Graduates of this program will be able to:

1. Understand fundamental biological principles.
2. Acquire the foundational skills necessary for laboratory and field investigations.
3. Conduct proper experimental design, analyze biological data and communicate research results.

4. Know and appreciate the role that biology plays in societal issues, such as those related to the environment, biodiversity, ethics and human health and disease.

Program Policies
Foreign Language Requirements

In general, students may elect any foreign language taught through the Department of Modern and Classical Language Studies. However, certain majors, concentrations and minors require specific languages or limit the languages from which students may choose. In addition, students who plan to pursue graduate study may need particular languages for that study. In such cases, students should seek the advice of the appropriate department before selecting a language.

Progress Toward Fulfillment

College of Sciences and Humanities students are encouraged to begin meeting the foreign language requirement as early as possible in their program to ensure timely degree completion.

Mandatory Outcomes Assessment

In addition to the other General Requirements of the college, candidates for an undergraduate degree in the College of Sciences and Humanities are required, as a condition of graduation, to participate in an outcomes assessment. These outcomes assessments are conducted by each undergraduate degree program in the College of Sciences and Humanities.

Full Description

The Bachelor of Arts degree in Biology is for students who are interested in the biological sciences, but who also want a degree with a strong liberal arts component. The program provides a basic background in biology while offering the opportunity to take a wide range of classes in other disciplines.

The Biology major includes the following optional concentration:

- The **Animal Ecology** concentration focuses on animals and their environment. Students choose electives from several categories, including zoology, conservation and environmental management and botany.

Biologists work in a variety of settings, and career opportunities are available in government agencies, privately owned companies and non-profit groups. Graduates may also choose to further their education beyond a bachelor's degree by attending graduate or professional school. The Department of Biological Sciences has several mechanisms to help students prepare for their future careers.