

# Bachelor of Arts: Biology (84K)

2017 -2018

58 hours

The Bachelor of Arts major provides a broad training in biology and allows specializations through choice of electives. It offers basic preparation for entry-level employment positions, graduate work or an advanced degree in all health-related areas. The combination of required and elective courses needs to equal a minimum of 58 credit hours

## Introductory Track

- \_\_\_ BIOL2051 General Biology: Organismal Diversity, 4 hrs
- \_\_\_ BIOL2052 General Biology: Cell Structure and Function, 4 hrs
- \_\_\_ BIOL3100 Evolution, Ecology & the Nature of Science, 3 hrs
- \_\_\_ BIOL3140 Genetics, 4 hrs

## Required Chemistry\*

- \_\_\_ CHEM1110 General Chemistry I, 4 hrs
- \_\_\_ CHEM1120 General Chemistry II, 4 hrs

## Required Advanced Chemistry Coursework

(choose one option)

1. \_\_\_ CHEM2040 Applied Organic & Biochemistry, 4 hrs
- OR**
2. \_\_\_ CHEM2210 Organic Chemistry I, 3 hrs  
\_\_\_ CHEM2230 Organic Chemistry Lab, 2 hrs

## Required Math (choose one option)

1. \_\_\_ MATH1120 Math for the Biological Sciences, 3 hrs **AND**  
\_\_\_ MATH1130 Trigonometry, 2 hrs

**OR**

2. \_\_\_ MATH1140 Precalculus, 4 hrs

**OR**

3. \_\_\_ MATH1420 Calculus I, 4 hrs

## Required Earth Science or Physics

(choose one option)

1. \_\_\_ EARTHSCI11300 Intro to Geology, 4 hrs  
**AND**  
\_\_\_ EARTHSCI11320 Earth History, 4 hrs

**OR**

2. \_\_\_ PHYSICS1511 General Physics I, 4 hrs  
**AND**  
\_\_\_ PHYSICS1512 General Physics II, 4 hrs

## Major Elective Credit Courses

(17-19 hours to total 58)

- \_\_\_ List of biology electives on reverse side
- \_\_\_ Science courses at Iowa Lakeside Laboratory satisfy elective requirements. Check with your advisor for specific information.

Chemistry courses that satisfy elective requirement:

- \_\_\_ CHEM4510 Biochemistry I, 3 hrs
- \_\_\_ CHEM2220 Organic Chemistry II, 3 hrs

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## NOTES:

- Must have a UNI cumulative & UNI major/plan GPA of 2.5, higher, with a grade of C- (1.67), or better in all courses applied to the major.
- A minimum of 7 credits of 4000 level biology electives required: BIOL4xxx  
--BIOL4198 Independent Study and --  
CHEM4510 Biochemistry I; do not count toward the 4000 level biology elective requirement.
- At least 4 credits of biology electives at the 4000 level need to be taken at UNI.
- BIOL3101 Anatomy & Physiology I counts as university elective credit, not as a biology major elective.
- Cannot count more than a combined **4 credits** toward the biology major elective requirements:  
-BIOL3185 Readings in Biology  
-BIOL3190 Undergraduate Research  
-BIOL4198 Independent Study
- If \*CHEM 1130 General Chemistry I-II, 5 hrs, is taken, then 3 additional biology electives are required to reach a 58 credit major.
- Students invited to do Honors Research will complete 4 credit hours of BIOL3190 Undergraduate Research and 1 credit hour of BIOL3191 Senior Thesis. Students must declare the Honors Research Emphasis in order for it to reflect on the degree.

## 3000 & 4000 BIOLOGY COURSE OFFERINGS

**BIOL3100** Evolution, Ecology & Nature of Science  
(Fall/Spring) 3 hrs  
**BIOL 3102** Anatomy & Physiology II\* (Fall/Spring), 4 hrs  
**BIOL 3106** Vertebrate Anatomy (Fall/Spring), 4 hrs  
**BIOL 3107** Environmental Physiology (Fall), 3 hrs  
**BIOL 3108** Vertebrate Histology (Even Springs), 4 hrs  
**BIOL 3112** Invertebrate Zoology (Spring), 4 hrs  
**BIOL 3118** Marine Biology (Fall), 3 hrs  
**BIOL 3120** Plant Diversity and Evolution (Spring), 4 hrs  
**BIOL 3140** Genetics (Spring/Fall), 4 hrs  
**BIOL 3147** Cancer and Emerging Infectious Diseases  
(Spring), 3 hrs  
**BIOL 3151** General Microbiology (Fall/Spring), 4 hrs  
**BIOL 3160** Field Zoology of Vertebrates (Spring), 4 hrs  
**BIOL 3170** Entomology (Even Falls), 3 hrs

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**BIOL 4105** Wildlife Ecology & Mngmt (Odd Falls), 4 hrs  
**BIOL 4108** Biodiversity Conservation Policy & Regs  
(Even Falls), 3 hrs  
**BIOL 4114** Comparative Animal Physiology# (Even  
Falls) 4 hrs  
**BIOL 4116** Neurobiology (Spring), 3 hrs  
**BIOL 4121** Plant Biotechnology (Odd Falls), 4 hrs  
**BIOL 4122** Plant Physiology (Spring), 4 hrs  
**BIOL 4127** Bioinformatics Applications for Biology,  
(Even Springs), 3hrs  
**BIOL 4128** Cell Biology# (Spring), 4 hrs  
**BIOL 4129** Genomics & Proteomics (Even Falls), 3 hrs

**BIOL 4137** Vertebrate Physiology# (Odd Falls), 4 hrs  
**BIOL 4142** Evolutionary Biology (Spring), 3 hrs  
**BIOL 4144** Virology (Even Springs), 4 hrs  
**BIOL 4146** Developmental Biology of Animals  
(Fall/Spring), 4 hrs  
**BIOL 4150** Immunology (Fall/Spring), 4 hrs  
**BIOL 4152** Microbial Molecular Bio (Odd Springs), 4 hrs  
**BIOL 4153** Recombinant DNA Tech (Even Falls), 4 hrs  
**BIOL 4154** Aquatic Ecology (Fall), 3 hrs  
**BIOL 4157** Biostatistics (Fall), 3 hrs  
**BIOL 4164** Mammalogy (Fall), 4 hrs  
**BIOL 4166** Plant Systematics (Fall), 4 hrs  
**BIOL 4167** Conservation Biology (Spring), 3 hrs  
**BIOL 4168** Ecology (Fall), 4 hrs  
**BIOL 4172** Developmental Plant Anatomy (Fall), 4 hrs  
**BIOL 4176** Microscopy Methods in Biology, 3 hrs  
**BIOL 4180** Restoration Ecology (Spring), 4 hrs  
**BIOL 4198** Independent Study\*\*\*\*

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Research Associated Credits  
**BIOL 3185** Readings in Biology, 1-3 hrs  
**BIOL 3189** Seminar, 1 hr  
**BIOL 3190** Undergraduate Research Biology, 1-3 hrs\*\*\*

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Science courses at **Iowa Lakeside Laboratory**,  
lakesidelab.org, satisfy elective requirements. Check  
with your advisor for specific information.

Full course details at: [uni.edu/catalog](http://uni.edu/catalog)

### NOTES:

1. Prerequisite for 3000 level courses include completion of: BIOL 2052, BIOL 2051, CHEM 1110 and CHEM 1120. All with a with C- or higher
2. Prerequisite for 4000 level courses include junior standing and completion of
  - a. Two semester sequence of General Biology and General Chemistry (listed above)
  - b. BIOL3100 Evolution, Ecology and Nature of Science and BIOL3140 Genetics. All with a with C- or higher
  - c. Courses with # have additional prerequisites. Check course catalog for complete details.
3. \* BIOL 3101 A & P I counts as university elective credit. A student must take BIOL 3101 Anatomy and Physiology I OR BIOL 3106 Vertebrate Anatomy and BIOL 3102 Anatomy and Physiology II at UNI for BIOL 3102 to be counted as biology elective credit for the major or minor.
4. \*\*\*Undergraduate Research in Biology -- Students must contact faculty members to inquire about available research opportunities
5. The official degree requirements and policies and procedures can be found at: [www.uni.edu/catalog](http://www.uni.edu/catalog)
6. Students pursuing a biology major or minor must earn a C- or better in all coursework required for their major and must have a UNI Major/Plan GPA and UNI Cumulative GPA of 2.5 or better at the time of graduation

## Bachelor of Arts: Biology

## Possible Plan of Study

Year 1-Freshman Year		Year1-Freshman Year	
<b>BIOL2051 Gen Bio: Organismal Diversity</b>	<b>4</b>	<b>BIOL2052 Gen Bio: Cell Structure &amp; Function</b>	<b>4</b>
<b>CHEM1110 General Chemistry I*</b>	<b>4</b>	<b>CHEM1120 General Chemistry II</b>	<b>4</b>
<b>MATH1140 Precalculus*</b>	<b>4</b>	Liberal Arts Core	3
Liberal Arts Core	3	Liberal Arts Core	3
*Based on ALEKS scores			
TOTAL HOURS = 15		TOTAL HOURS = 14	

Year 2-Sophomore Year		Year 2-Sophomore Year	
<b>BIOL3140 Genetics</b>	<b>4</b>	<b>BIOL3100 Evolution, Ecology &amp; Nature of Science</b>	<b>3</b>
<b>Upper level chemistry course</b>	<b>4</b>	<b>Biology Elective 3000 Level</b>	<b>4</b>
Liberal Arts Core	3	Liberal Arts Core	3
Liberal Arts Core	3	Liberal Arts Core	2
		University Electives	3
TOTAL HOURS = 14		TOTAL HOURS = 15	

Year 3-Junior Year		Year 3-Junior Year	
<b>General Physics I or Introduction to Geology</b>	<b>4</b>	<b>General Physics II or Earth History</b>	<b>4</b>
<b>Biology Major Elective 3000 or 4000 level</b>	<b>3</b>	<b>Biology Elective 3000 or 4000 Level</b>	<b>3</b>
Liberal Arts Core	3	Liberal Arts Core	3
Liberal Arts Core	3	Liberal Arts Core	3
University Electives	2	University Electives	3
TOTAL HOURS = 15		TOTAL HOURS = 16	

Year 4-Senior Year		Year 4-Senior Year	
<b>Biology Major Elective 4000 Level</b>	<b>4</b>	<b>Biology Major Elective 4000 Level</b>	<b>3</b>
<b>Biology Major Elective 3000 or 4000 level</b>	<b>3</b>	Liberal Arts Core	<b>3</b>
Liberal Arts Core	<b>3</b>	University Electives	10
University Electives	5		
TOTAL HOURS = 15		TOTAL HOURS = 16	

1. This is a tentative long-term plan that is not meant to replace your official advisement report found on myUNiverse.
2. UNI biology majors must have both a UNI cumulative and a UNI major GPA of 2.5 or higher, with a grade of C-(1.67) or higher in all courses that are applied to the major.
3. University Policies & Procedures can be found online: [www.uni.edu/catalog](http://www.uni.edu/catalog)
4. After earning 85+ credits, meet with your Record Analyst, Diana Harwood in 115 Gilchrist Hall to discuss graduation.