

Bachelor of Arts: Biology (84K)

2023-2024

53-59 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 equals 53-59 credit hours.

Introductory Track

- ☐ BIOL 2051 – General Biology: Organismal Diversity, 4 hrs.
- ☐ BIOL 2052 – General Biology: Cell Structure & Function, 4 hrs.
- ☐ BIOL 3100 – Evolution, Ecology, & the Nature of Science, 3 hrs.
- ☐ BIOL 3140 – Genetics, 4 hrs.

Required Chemistry*

- ☐ CHEM 1110 – General Chemistry I, 4 hrs.
 - ☐ CHEM 1120 – General Chemistry II, 4 hrs.
- OR**
- ☐ CHEM 1130 – General Chemistry I-II, 5 hrs.

Required Advanced Chemistry

(Choose one of the options below)

- ☐ CHEM 2040 – Applied Organic & Biochemistry, 4 hrs.
- OR**
- ☐ CHEM 2210 – Organic Chemistry I, 3 hrs. **AND**
 - ☐ CHEM 2230 – Organic Chemistry Lab, 2 hrs.

Required Math

(Choose one of the options below)

- ☐ MATH 1120 – Math for the Biol. Sciences, 3 hrs.
- AND**
- ☐ MATH 1130 – Trigonometry, 2 hrs.
- OR**
- ☐ MATH 1140 – Precalculus, 4 hrs.
- OR**
- ☐ MATH 1420 – Calculus, 4 hrs.
- OR**
- ☐ STAT 1772 – Intro to Statistical Methods, 3 hrs.

Required Earth Science or Physics

(Choose one of the options)

- ☐ EARTHSCI 1300 – Intro to Geology, 4 hrs. **AND**
 - ☐ EARTHSCI 1320 – Earth History, 4 hrs.
- OR**
- ☐ PHYSICS 1511 – General Physics I, 4 hrs. **AND**
 - ☐ PHYSICS 1512 – General Physics II, 4 hrs.

Major Elective Credit Courses

(Choose *18 hrs. of elective credits)

- ☐ Biology electives are listed on reverse side
- ☐ Science courses at Iowa Lakeside Laboratory satisfy elective requirements. Check with your advisor for more information.

Additional Chemistry courses that satisfy elective requirement:

- ☐ *CHEM 4510 – Biochemistry I, 3 hrs.
- ☐ *CHEM 2220 – Organic Chemistry II, 3 hrs.

Notes:

- Must have a UNI cumulative and UNI major/plan GPA of 2.0, or higher, with a grade of C- (1.67), or better, in all courses applied to the major.
- *A minimum of 7 credits of BIOL 4000 electives are required (BIOL 4198 – Independent Study, CHEM 4510 – Biochemistry I, or CHEM 2220 – Organic Chemistry II, cannot be counted toward this 7 credits). At least 4 credits of BIOL 4000 electives need to be taken at UNI.
- Cannot count more than a combined **4 credits** of the following courses toward the biology major elective requirements:
 - BIOL 3185 – Readings in Biology
 - BIOL 3190 – Undergraduate Research
 - BIOL 4198 – Independent Study

Students invited to do Honors Research will complete 4 credit hours of BIOL 3190 – Undergraduate Research and 1 credit hour of BIOL 3191 – Senior Thesis. Students must declare the Honors Research Emphasis (84R) in order for it to reflect on the degree.

Choose 18 hrs. of Elective Credits

BIOL 3102	Anatomy & Physiology II	Fall & Spring	4 hrs. *
BIOL 3106	Vertebrate Anatomy	Fall	4 hrs.
BIOL 3107	Environmental Physiology	Variable	3 hrs.
BIOL 3108	Vertebrate Histology	Variable	4 hrs.
BIOL 3112	Invertebrate Zoology	Variable	4 hrs.
BIOL 3118	Marine Biology	Variable	3 hrs.
BIOL 3120	Plant Diversity & Evolution	Spring	4 hrs.
BIOL 3147	Cancer & 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.
BIOL 4105	Wildlife Ecology & Management	Odd Falls	4 hrs.
BIOL 4108	Biodiversity Conservation Policy	Even Springs	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	Variable	4 hrs. #
BIOL 4127	Bioinformatics Applications for Biology	Variable	3 hrs.
BIOL 4128	Cell Biology	Spring	4 hrs. #
BIOL 4129	Genomics	Even Falls	3 hrs.
BIOL 4130	Genetic Technologies in Medicine	Odd Springs	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	Spring	4 hrs.
BIOL 4150	Immunology	Fall	4 hrs.
BIOL 4157	Biostatistics	Fall	3 hrs.
BIOL 4164	Mammalogy	Fall	4 hrs.
BIOL 4166	Plant Systematics	Odd Falls	4 hrs.
BIOL 4167	Conservation Biology	Spring	3 hrs.
BIOL 4168	Ecology	Fall	4 hrs.
BIOL 4172	Developmental Plant Anatomy	Even Falls	4 hrs.
BIOL 4180	Restoration Ecology	Odd Springs	4 hrs.
BIOL 4198	Independent Study	Fall, Spring, Summer	1 – 6 hrs. ***

7 credits of BIOL 4000 electives are required (BIOL 4198, CHEM 4510, or CHEM 2220 cannot be counted toward this 7 credits). At least 4 credits of BIOL 4000 electives need to be taken at UNI.

Research Associated Credits:

BIOL 3185	Readings in Biology	Fall, Spring, Summer	1 – 3 hrs.
BIOL 3189	Seminar	Variable	1 – 2 hrs.
BIOL 3190	Undergraduate Research in Biology	Fall, Spring, Summer	1 – 3 hrs. ***
BIOL 3191	Senior Thesis	Fall, Spring, Summer	1 hr.

Cannot count more than a combined 4 credits of BIOL 3185, 3190, 4198 toward the biology major electives requirements

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

Notes:

1. Prerequisite for 3000 level courses include completion of BIOL 2051, BIOL 2052, CHEM 1110 and CHEM 1120. All with a 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), BIOL 3100 – Evolution, Ecology & the Nature of Science, and BIOL 3140 – Genetics. All with a C- or higher.
 - c. Courses with # have additional prerequisites. Check courses catalog for complete details.
3. * BIOL 3101 – Anatomy and Physiology I counts as university elective credit, not biology 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 count as biology elective credit for a major or minor.
4. *** BIOL 3190 - Undergraduate Research in Biology and BIOL 4198 – Independent Study require students to contact faculty members to inquire about available opportunities.
5. The official degree requirements as well as policies and procedures can be found at 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 or minor. Additionally, students must have a UNI Major/Plan GPA and UNI Cumulative GPA of 2.0 or better at the time of graduation