

Bachelor of Arts: Biology – Ecology, Evolution and Organismal Emphasis (84G)

2023-2024
53-58 hours

The Ecology, Evolution and Organismal Biology emphasis provides education for students interested in a career with private and governmental organizations conducting endangered species recovery, ecological restoration, biological surveys, toxicity evaluations, environmental impact analyses, field research, museum or herbarium curation, or who wish to work in zoos, nature centers, museums, or botanical gardens. This emphasis also provides suitable background for students wishing to pursue graduate degrees in animal behavior, botany, conservation biology, ecology, environmental toxicology, evolutionary biology, systematics, population biology, and zoology.

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 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 below)

- EARTHSCI 1300 – Introduction to Geology, 4 hrs.
- OR**
- PHYSICS 1511 – General Physics I, 4 hrs.

Major Elective Credit Courses

(Choose *26 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 Courses that satisfy elective requirement:

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

One of the following courses can count as major elective credits as well:

- *GEOG 2410 – Geographic Info. Systems I, 3 hrs.
- OR**
- *GEOG 4220 – Soils & Landscapes, 3 hrs.

Notes:

- Must have a UNI cumulative and UNI major/plan GPA of 2.0, or higher, with a grad 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, CHEM 2040, CHEM 2210, CHEM 2230, GEOG 2410, or GEOG 4220 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 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 (84J) in order for it to reflect on the degree.

Choose 26 hrs. of Elective Credits

BIOL 3106	Vertebrate Anatomy	Fall	4 hrs.
BIOL 3107	Environmental Physiology	Variable	3 hrs.
BIOL 3112	Invertebrate Zoology	Variable	4 hrs.
BIOL 3118	Marine Biology	Variable	3 hrs.
BIOL 3120	Plant Diversity & Evolution	Spring	4 hrs.
BIOL 3160	Field Zoology of Vertebrates	Spring	4 hrs.
BIOL 3170	Entomology	Even Falls	3 hrs.
BIOL 3174	Field Biology: _____	Variable	1 – 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 4122	Plant Physiology	Variable	4 hrs. #
BIOL 4137	Vertebrate Physiology	Odd Falls	4 hrs. #
BIOL 4142	Evolutionary Biology	Spring	3 hrs.
BIOL 4146	Developmental Biology of Animals	Spring	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 2040, CHEM 2210, CHEM 2230, GEOG 2410, or GEOG 4220 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 3190	Undergraduate Research in Biology	Fall, Spring, Summer	1 – 3 hrs. ***

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 3190 - Undergraduate Research in Biology and BIOL 4198 – Independent Study require students to contact faculty members to inquire about available opportunities.
4. The official degree requirements as well as policies and procedures can be found at www.uni.edu/catalog
5. 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.