

Bachelor of Arts: Biology Teaching (844BAT)

2023-2024

The Biology Teaching major provides a broad education in biology. Along with professional education courses & student teaching, this curriculum is a sound preparation for teaching life science, biology, & other secondary science courses.

Introductory Biology

- 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.

Animal Biology Group (choose ONE)

- BIOL 3106 – Vertebrate Anatomy, 4 hrs.
 - BIOL 4114/5114 – Comparative Animal Physiology, 4 hrs.
 - BIOL 4146/5146 – Developmental Biology of Animals, 4 hrs.
- Note: BIOL 3102 Anatomy & Physiology II will fulfill the Animal Group requirement. BIOL 3102 cannot count as biology elective credit if used to fulfill the Animal Group requirement.

Cellular Biology Group (choose ONE)

- BIOL 3151 – General Microbiology, 4 hrs.
- BIOL 4128/5128 – Cell Biology, 4 hrs.

Evolutionary Biology Group

- BIOL 4142/5142 – Evolutionary Biology, 3 hrs.

Plant Biology Group (choose ONE)

- BIOL 3120 – Plant Diversity & Evolution, 4 hrs.
- BIOL 4122/5122 – Plant Physiology, 4 hrs.
- BIOL 4166/5166 – Plant Systematics, 4 hrs.
- BIOL 4172/5172 – Developmental Plant Anatomy, 4 hrs.

Biology Elective [choose 4 additional hrs., Biology electives are listed on final page for reference, at least 7 hrs. of biology credit must be 4,000-level (includes groups + elective)]

- BIOL XXXX – must be 3000-level or above, excluding BIOL 3101 & BIOL 4198, & not duplicated above

Cognate Courses

- CHEM 1110 – General Chemistry I, 4 hrs.
 - CHEM 1120 – General Chemistry II, 4 hrs.
- Note: If CHEM 1130 is taken, then 3 additional biology electives are required to meet 131 hr. minimum for degree
- CHEM 2040 – Applied Organic & Biochemistry, 4 hrs.

- EARTHSCI 1320 – Earth History, 4 hrs.
Note: Has a prerequisite of EARTHSCI 1300. This prerequisite is waived for Biology Teaching majors.
- PHYSICS 1511 – General Physics I, 4 hrs.

Science Education

- SCI ED 3300/5300 – Orientation to Science Teaching, 4 hrs.
- SCI ED 4800/5800 – Methods for Teaching Secondary Science or MTSS, 3 hrs.

Professional Education Requirements

- SPED 3150* – Meeting the Needs of Diverse Learners in Classrooms, 2 hrs.
- TEACHING 4170/5170** – Human Relations: Awareness & Application, 3 hrs.

Level I+

- EDPSYCH 2030 – Dynamics of Human Development, 3 hrs.
- TEACHING 2017 – Level 1 Field Experience: Exploring Teaching, 1 hr.

Level II+ (Completion of Level I and Admission to Teacher Ed required)

For Teacher Ed admission requirements refer to:
teachered.uni.edu/admission-uni-teacher-education-program

- EDPSYCH 3148 – Learning & Motivation in Classroom Contexts, 3 hrs.
- MEASRES 3150 – Classroom Assessment, 2 hrs.
- TEACHING 3128 – Level 2 Field Experience: Teaching as a Change Agent, 1 hr.
- TEACHING 3129 – Secondary & Special-Area Classroom Management, 1 hr.

Level III+

- SOCFOUND 3119 – Schools & American Society, 3 hrs. (prerequisite: junior standing)

STUDENT TEACHING (Only class taken in final semester)

- TEACHING 3138 – Secondary School Teaching, 12 hrs.

*Prerequisite: EDPSYCH 2030

**Prerequisite: Full admission into teacher education and junior standing

+Courses in each level are typically taken in a single semester as they have certain pre- or co-requisite requirements.

Choose 4 hrs. of Elective Credits

BIOL 3102	Anatomy & Physiology II	Fall, Spring, Summer	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	Variable	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 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 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:

- Prerequisite for 3000 level courses include completion of BIOL 2051, BIOL 2052, CHEM 1110 & CHEM 1120. All with a C- or higher.
- Prerequisite for 4000 level courses include junior standing & completion of
 - Two semester sequence of General Biology & General Chemistry (listed above), BIOL 3100 – Evolution, Ecology & the Nature of Science, & BIOL 3140 – Genetics. All with a C- or higher.
 - Courses with # have additional prerequisites. Check courses catalog for complete details.
- * BIOL 3101 – Anatomy & Physiology I counts as university elective credit, not biology elective credit. A student must take BIOL 3101 – Anatomy & Physiology I OR BIOL 3106 – Vertebrate Anatomy & BIOL 3102 – Anatomy & Physiology II at UNI for BIOL 3102 to count as biology elective credit for a major or minor.
- *** BIOL 3190 - Undergraduate Research in Biology & BIOL 4198 – Independent Study require students to contact faculty members to inquire about available opportunities.
- The official degree requirements as well as policies & procedures can be found at www.uni.edu/catalog
- Students pursuing a biology major or minor must earn a C- or better in all coursework required for their major or minor. For the Biology Teaching major, students must have a UNI Major/Plan GPA & UNI Cumulative GPA of 2.5 or better at the time of graduation.