

## Bachelor of Science: Biology (84A)

2021-2022

68 hours

The Bachelor of Science major in Biology is especially appropriate for students planning graduate study. It is an extended major designed to prepare students for careers in areas which require a higher degree of concentration in subject matter and advanced level courses. The combination of required and elective courses need to equal a minimum of 68 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.

### Required Advanced Chemistry

- CHEM 2210 – Organic Chemistry I, 3 hrs.
- CHEM 2220 – Organic Chemistry II, 3 hrs.
- CHEM 2230 – Organic Chemistry Lab, 2 hrs.

### Required Math

- MATH 1420 – Calculus I, 4 hrs.

### Required Physics

- PHYSICS 1511 – General Physics I, 4 hrs.
- PHYSICS 1512 – General Physics II, 4 hrs.

### Required Biology

- BIOL 4157 – Biostatistics, 3 hrs.
- BIOL 3190 – Undergraduate Research, 2 hrs.

### Major Elective Credit Courses

(Choose 19-20 of elective credits to total 68)

- 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 4510 – Biochemistry I, 3 hrs.
- MATH 1421, Calculus II, 4 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 that are applied to the major.
- A minimum of 7 credits of 4000 level biology electives are required (BIOL 4198 – Independent Study and CHEM 4510 – Biochemistry I cannot be counted toward this 7 credits).
- At least 4 credits of 4000 level biology electives need to be taken at UNI.
- BIOL 3101 – Anatomy and Physiology I counts as university elective credit, not as a biology major elective.
- 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
- If \*CHEM 1130 – General Chemistry I-II, 5 hrs. is taken, then 3 additional biology electives are required to reach a 68 credit major.
- 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 in order for it to reflect on the degree.

**Choose 19-20 hrs. of Elective Credits**

<b>BIOL 3102</b>	Anatomy & Physiology II	Fall, Spring, Summer	4 hrs. *
<b>BIOL 3106</b>	Vertebrate Anatomy	Spring	4 hrs.
<b>BIOL 3107</b>	Environmental Physiology	Variable	3 hrs.
<b>BIOL 3108</b>	Vertebrate Histology	Variable	4 hrs.
<b>BIOL 3112</b>	Invertebrate Zoology	Variable	4 hrs.
<b>BIOL 3118</b>	Marine Biology	Variable	3 hrs.
<b>BIOL 3120</b>	Plant Diversity & Evolution	Spring	4 hrs.
<b>BIOL 3147</b>	Cancer & Emerging Infectious Diseases	Spring	3 hrs.
<b>BIOL 3151</b>	General Microbiology	Fall & Spring	4 hrs.
<b>BIOL 3160</b>	Field Zoology of Vertebrates	Spring	4 hrs.
<b>BIOL 3170</b>	Entomology	Variable	3 hrs.
<b>BIOL 4105</b>	Wildlife Ecology & Management	Odd Falls	4 hrs.
<b>BIOL 4108</b>	Biodiversity Conservation Policy	Even Springs	3 hrs.
<b>BIOL 4114</b>	Comparative Animal Physiology	Even Falls	4 hrs. #
<b>BIOL 4116</b>	Neurobiology	Spring	3 hrs.
<b>BIOL 4121</b>	Plant Biotechnology	Odd falls	4 hrs.
<b>BIOL 4122</b>	Plant Physiology	Variable	4 hrs.
<b>BIOL 4127</b>	Bioinformatics Applications for Biology	Variable	3 hrs.
<b>BIOL 4128</b>	Cell Biology	Spring	4 hrs. #
<b>BIOL 4129</b>	Genomics	Even Falls	3 hrs.
<b>BIOL 4137</b>	Vertebrate Physiology	Odd Falls	4 hrs. #
<b>BIOL 4142</b>	Evolutionary Biology	Spring	3 hrs.
<b>BIOL 4144</b>	Virology	Even Springs	4 hrs.
<b>BIOL 4146</b>	Developmental Biology of Animals	Fall	4 hrs.
<b>BIOL 4150</b>	Immunology	Fall	4 hrs.
<b>BIOL 4157</b>	Biostatistics	Fall	3 hrs.
<b>BIOL 4164</b>	Mammalogy	Fall	4 hrs.
<b>BIOL 4166</b>	Plant Systematics	Odd Falls	4 hrs.
<b>BIOL 4167</b>	Conservation Biology	Spring	3 hrs.
<b>BIOL 4168</b>	Ecology	Fall	4 hrs.
<b>BIOL 4172</b>	Developmental Plant Anatomy	Even Falls	4 hrs.
<b>BIOL 4180</b>	Restoration Ecology	Odd Springs	4 hrs.
<b>BIOL 4198</b>	Independent Study	Fall, Spring, Summer	1 – 6 hrs. ***

7 credits of 4000 level biology electives are required (BIOL 4198 and CHEM 4510 cannot be counted toward this 7 credits). At least 4 credits of biology elective at the 4000 level need to be taken at UNI.

**Research Associated Credits:**

<b>BIOL 3185</b>	Readings in Biology	Fall, Spring, Summer	1 – 3 hrs.
<b>BIOL 3189</b>	Seminar	Variable	1 – 2 hrs.
<b>BIOL 3190</b>	Undergraduate Research in Biology	Fall, Spring, Summer	1 – 3 hrs. ***
<b>BIOL 3191</b>	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 and CHEM 1120. All with a C- or higher.
- Prerequisite for 4000 level courses include junior standing and completion of
  - 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.
  - Courses with # have additional prerequisites. Check courses catalog for complete details.
- \* 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.
- \*\*\* BIOL 3190 - Undergraduate Research in Biology and BIOL 4198 – Independent Study require students to contact faculty members to inquire about available opportunities.
- The official degree requirements as well as policies and procedures can be found at [www.uni.edu/catalog](http://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. Additionally, students must have a UNI Major/Plan GPA and UNI Cumulative GPA of 2.0 or better at the time of graduation