Biology (Science Education), B.S.

This program is designed for students interested in science education and certification to teach secondary science.

Requirements for a Major in Biology (Science Education)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BIO 1305</td>
<td>Modern Concepts of Bioscience and Modern Concepts of Bioscience Laboratory</td>
<td>4</td>
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<tr>
<td>or BIO 1405</td>
<td>Investigations of Modern Biology Concepts I</td>
<td></td>
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<tr>
<td>BIO 1306</td>
<td>Modern Concepts of Bioscience, continued and Modern Concepts of Bioscience Laboratory</td>
<td>4</td>
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<tr>
<td>&amp; BIO 1106</td>
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<tr>
<td>or BIO 1406</td>
<td>Investigating Modern Biology Concepts II</td>
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<tr>
<td>BIO 2306</td>
<td>Genetics and Genetics Laboratory</td>
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<tr>
<td>BIO 3366</td>
<td>Foundations of Evolutionary Biology and Topics in Evolution</td>
<td>3</td>
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<tr>
<td>or BIO 4365</td>
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<tr>
<td>BIO 4333</td>
<td>Science Leadership: Improvement of Science Education</td>
<td>3</td>
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<tr>
<td>BIO 3V9R</td>
<td>Research</td>
<td>1</td>
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<tr>
<td>BIO 4001</td>
<td>Achievement Test</td>
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</tbody>
</table>

Select four hours from each group (a course may not be used to fulfill more than one group): 12

- **Group 1**
  - BIO 3324: Entomology and Laboratory for Entomology
  - BIO 3124: Comparative Chordate Anatomy
  - BIO 4308: Genes and Development and Genes and Development Laboratory
  - BIO 4426: Vertebrate Histology
  - BIO 4432: General Human Anatomy

- **Group 2**
  - BIO 3322: Human Physiology and Human Physiology Lab
  - BIO 4306: Molecular Genetics and Genomics and Molecular Genetics and Genomics Laboratory
  - BIO 4332: Comparative Vertebrate Physiology

- **Group 3**
  - BIO 3303: Ecology and Ecology Laboratory
  - BIO 3324: Entomology and Laboratory for Entomology
  - BIO 4405: Limnology
  - BIO 4406: Aquatic Biology
  - BIO 4418: Biology of Wetland and Aquatic Vascular Plants

BIO 4422: Ichthyology
BIO 4327: Biology of Mammals

| Subtotal | 31 |

**Required Courses in Other Fields**

- CHE 1301: Basic Principles of Modern Chemistry I and General Chemistry Laboratory I 4
- CHE 1302: Basic Principles of Modern Chemistry II and General Chemistry Laboratory II 4
- CHE 3331: Organic Chemistry I 3
- CHE 3332: Organic Chemistry II 3
- CHE 3238: Organic Chemistry Laboratory 2
- GEO 1306: The Earth Through Time and The Earth Through Time, Laboratory 4
- & GEO 1106: Molecular Genetics and Genomics and Molecular Genetics and Genomics Laboratory 4
- or GEO 1307 & GEO 1106: Evolution and Extinction and The Earth Through Time, Laboratory 4
- GEO 1408: Earth Science 4
- or PHY 1455: Descriptive Astronomy 4
- MTH 1321: Calculus I 3
- MTH 1322: Calculus II 3
- or STA 2318: Introductory Statistical Methods 3

Select one of the following sequences: 8

- PHY 1408: General Physics for Natural and Behavioral Sciences I and General Physics for Natural and Behavioral Sciences II 4
- & PHY 1409: General Physics I and General Physics II 4
- PHY 1420: General Physics I and General Physics for Natural and Behavioral Sciences II 4
- & PHY 1430: General Physics I and General Physics II 4

**Completion of the Minor in Science Education**

| Completion of the Minor in Science Education | 3 |

**Total Hours** 69

1. A grade of “C” or better in 31 hours of biology courses used in the major and a GPA of 2.0 or higher on all BIO courses.
2. A grade of “C” or better in all courses required in other fields.
3. School of Education - contact the advising department in the School of Education - Office of Student and Information Services, located in Draper 100.
4. A maximum of 3 hours total from 3V9R and 3V90 may be used for elective credit.
5. A maximum of 2 credit hours of BIO 3111 may be used towards major.