

**BIOLOGY**  
**B.S. in Biology (Secondary Certification Option)**

| Course   | Number       |   | Credit Hours |
|--|--------------|---|--------------|
| <b>I. CORE CURRICULUM (62 semester hours)</b>                    |              |   |              |
| <b>AREA A Essential Skills (9 semester hours)</b>                |              |   |              |
| ENGL   | 1101         | English Composition I   | 3            |
| ENGL   | 1102         | English Composition II  | 3            |
| MATH   | *1113        | Precalculus Mathematics   | 3            |
| <b>AREA B Institutional Options (4 semester hours)</b>           |              |   |              |
| COMM   | 1110         | Fundamentals of Speech  | 3            |
| Elective   |              | BIOL 1001, COMM 1120, ENGL 1105, 1110, HIST 1050, 1051, HUMN 1000, 1100, PHED 1030, SOCI 1000   | 1            |
| <b>AREA C Humanities/Fine Arts (6 semester hours)</b>            |              |   |              |
| Electives  |              | ENGL 1201, 2111, 2112, 2120, 2121, 2130, 2131; HUMN 1201, MUSC 1100, or THEA 1100   | 6            |
| <b>AREA D Science/Mathematics/Technology (12 semester hours)</b> |              |   |              |
| MATH   | 2253         | Calculus & Analytical Geometry I  | 4            |
| CHEM   | 1211K        | Principles of Chemistry I   | 4            |
| CHEM   | 1212K        | Principles of Chemistry II  | 4            |
| <b>AREA E Social Sciences (12 semester hours)</b>                |              |   |              |
| HIST   | 2111 or 2112 | United States History   | 3            |
| POLS   | 1101         | American Government   | 3            |
| GEOG   | 1111         | Physical Geography  | 3            |
| Electives  |              | ANTH 1103, ECON 2105, 2106, GEOG 1100, 1101, or 1111, HIST 1111, 1112, 2111, 1221, PHIL 1101, 1102, 1103, POLS 2101, 2201, 2301, 2401, PSYC 1101, 2101, 2103, 2204, 2250, SOCI 1101, 1160 | 3            |
| <b>AREA F Major Related (18 semester hours)</b>                  |              |   |              |
| BIOL   | 1107K        | Principles of Biology I   | 4            |
| BIOL   | 1108K        | Principles of Biology II  | 4            |
| CHEM   | 2211K        | Organic Chemistry I   | 4            |
| CHEM   | 2212K        | Organic Chemistry II  | 4            |
| BIOL   | 2270         | Ethical Issues in Science   | 2            |
| <b>PHYSICAL EDUCATION (1 semester hour)</b>                      |              |   |              |
| PHED   |              | Activity Elective   | 1            |
| <b>II. UPPER LEVEL COURSES (31 or 32 semester hours)**</b>       |              |   |              |
| <b>Required (25)</b>   |              |   |              |
| BIOL   | 3200K        | Cellular Biology  | 4            |
| BIOL   | 3500K        | Ecology   | 4            |
| BIOL   | 4250         | Evolution   | 3            |
| BIOL   | 3400K        | Genetics  | 4            |

|      |       |                    |   |
|------|-------|--------------------|---|
| BIOL | 4000  | Senior Seminar     | 2 |
| GEOL | 1121K | Physical Geology   | 4 |
| GEOL | 1122K | Historical Geology | 4 |

**Electives (6 or 7 semester hours total)**

**Select 6 or 7 hours from the following:**

|      |       |  |   |
|------|-------|--|---|
| BIOL | 3510K | Plant Biology  | 4 |
| BIOL | 4360K | Comparative Anatomy and Physiology<br>of Vertebrates | 4 |
| BIOL | 3520K | Invertebrate Zoology                                 | 4 |
| BIOL | 3340  | General Microbiology                                 | 4 |
| BIOL | 3300  | Developmental Biology                                | 4 |
| BIOL | 4500K | Biotechnology  | 4 |
| BIOL | 4900  | Special Topics in Biology                            | 3 |

**EDUCATION COURSES (36 semester hours)**

Students must be admitted to the Education Program prior to taking upper division (3000-4000) education courses.

|      |       |   |   |
|------|-------|---|---|
| EDUC | 2110C | Investigating Critical and Contemporary<br>Issues in Education                | 3 |
| EDUC | 2120  | Exploring Socio-Cultural Perspectives<br>on Diversity in Educational Contexts | 3 |
| EDUC | 2130  | Exploring Teaching and Learning   | 3 |
| EDUC | 3120  | Teaching Secondary Students Who<br>Are Exceptional, Diverse, and At-Risk      | 3 |
| EDUC | 3272  | Classroom Management in Secondary<br>Education/Field Experience I             | 2 |
| EDUC | 3273  | Classroom Management in Secondary<br>Education/Field Experience II            | 2 |
| EDUC | 3274  | Classroom Management in Secondary<br>Education/Field Experience III           | 2 |
| EDUC | 3902  | Curriculum and Assessment for<br>Secondary Math/Science Teachers              | 3 |
| EDUC | 4901  | Methods and Strategies for Secondary<br>Math/Science Teachers                 | 3 |
| EDUC | 4952  | Internship  | 8 |
| EDUC | 4953  | Senior Seminar  | 1 |
| READ | 3456  | Reading Across the Curriculum for<br>Secondary Teachers                       | 3 |

\* Math 2253 may be used if the student meets the prerequisites. The additional hour of credit will be applied to the upper level curriculum electives.