

# BIOLOGY

State Code: DA

## SECONDARY MAJOR

[\* Fall only — \*\* Spring only — \*+\* Summer only — ++ Interim]

1. BIOL 141-Introductory Cell Biology and Genetics..... = 4
2. \*\* BIOL 242-Animal Biology ..... = 4
3. \* BIOL 243-Plant Biology ..... = 4
4. **FOUR** additional 300-level courses from the following two groups with at least one course from each group: ..... =16
  - a. **Group I:**
    - \*+\* BIOL 311-Field Botany
    - \*\* BIOL 313-Paleontology
    - \*\* BIOL 323-Comparative Vertebrate Anatomy
    - \*\* BIOL 331-Comparative Animal Physiology
    - \*\* BIOL 332-Plant Physiology (alternate years)
    - \*\* BIOL 338-Animal Behavior (alternate years)
    - \* BIOL 341-Entomology (alternate years)
    - \*\* BIOL 344-Vertebrate Biology
    - \* BIOL 345-Ecosystem Ecology and Management
    - \* BIOL 346-Plant Taxonomy (alternate years)
    - \* BIOL 364-Global Health, Environment, and Sustainability
    - Approved Au Sable Institute Course
  - b. **Group II:**
    - BIOL 321-Genetics and Development
    - \*\* BIOL 324-Molecular Biology
    - \*\* BIOL 333-Immunology and Hematology
    - BIOL 334-Cell and Tissue Culture
    - \* BIOL 335-Cell Biology
    - BIOL 336-General Microbiology
5. \* BIOL 357-Investigations in Biology for Teachers ..... = 4
6. \* BIOL 395-Perspectives in Biology..... = 3
7. BIOL 295-Biology Seminar (taken twice) ..... = 0
8. BIOL 359-Seminar in Secondary Teaching of Biology (concurrent with EDUC 346) ..... = 3

**TOTAL= 35 s. hrs.**

### **Required cognates for the major are:**

1. Mathematics (MATH 132 and 143 or 161-162 or PHYS 221-222) ..... = 8
2. Chemistry (CHEM 103, 104, 253 or 261, and one course from CHEM 201, 262, 271/281, 323/383, or GEOL 151) = 16
3. SCES 214-Communication and Learning in the Natural Sciences ..... = 3

**TOTAL= 27 s. hrs.min.**

**GRAND TOTAL= 62 s. hrs.**

## SECONDARY MINOR

1. BIOL 141-Introductory Cell Biology and Genetics..... = 4
2. \*\* BIOL 242-Animal Biology..... = 4
3. \* BIOL 243-Plant Biology ..... = 4
4. \* BIOL 357-Investigations in Biology for Teachers ..... = 4
5. Two advisor-approved electives, at least one of which must be a 300-level course ..... = 8
6. Required Cognate: SCES 214-Communication and Learning in the Natural Sciences..... = 3

**TOTAL= 27 s. hrs.**

The integrated science major with a biology minor is the recommended program for most students. Consult with Professor C. Bruxvoort, integrated science advisor, before completing the declaration of major form.