B.S. - Biology
Secondary Education Certification
(Effective Fall 2009)

MAJOR REQUIREMENTS

I. Biology Requirements* (38 credits)

Core Courses (15 cr.):
- BIO 115 - Principles of Biology I (4) ____
- BIO 116 - Principles of Biology II (4) ____
- BIO 208 - Field Biology (3) ____
- BIO 260 - Genetics (3) ____
- BIO 300-302 - Seminar (1) ____

Ecology/Evolution elective (3 cr.) – choose:
- BIO 242 – Ecology (3) ____
  or
- BIO 430 – Principles of Evolution (3) ____

Physiology elective (3-4 cr.) - choose:
- BIO 351 - Animal Physiology (3) ____
  or
- BIO 350 - Human Physiology (4) ____
  or
- BIO 352 – Plant Form & Function (3) ____

Organismal elective (3 cr.) – choose:
- BIO 317 – Parasitology (3) ____
  or
- BIO 462 – Invertebrate Zoology (3) ____
  or
- BIO 463 – Vertebrate Zoology (3) ____
  or
- BIO 448 – Field Botany & Plant Tax. (3) ____
  or
- BIO 455 – Algae & Aquatic Plants (3) ____

Cellular elective (3 cr.) – choose:
- BIO 220 – Microbiology (3) ____
  or
- BIO 385 - Cell Biology (3) ____

Additional Biology Electives (10-11 cr.)

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(only 2 seminars can be used for bio credit)

NOTE: BIO 210 (Field Zoology) **and** BIO 208 cannot both count for biology credit.

* Students must earn at least a 2.0 average in Bio. 115 & 116 before upper-level Biology electives may be taken. See catalog for remediation procedure.

II. Math Requirement (4 credits)
- MAT 211 - Calculus I (4) ____

III. Chemistry Requirements (16 credits)
- CHM 121 - Chemical Bonding with lab IB (CHM 125) (4 cr total) ____
- CHM 122 - Chemical Dynamics with lab IIB (CHM 126) (4 cr total) ____
- CHM 221 - Organic Chemistry I with lab IIIB (CHM 225) (4 cr total) ____

- CHM 227 – Introduction to Biochemistry (4) ____

OR

- CHM 222 - Organic Chemistry II with lab IVB (CHM 226) (4 cr total) ____

IV. Physics Requirements (4 credits)
- PHY 121 - Introductory Physics I (3) with PHY 123 – Physics I lab (1) ____

- PHY 122 - Introductory Physics II (3) with PHY 125 – Physics II lab (1) are not required but are strongly recommended.

GENERAL EDUCATION PROGRAM

I. Required Skills and Competencies

- Fluency in Writing (3 credits) ____
- Fluency in Speech (3 credits) ____

- Mathematical Competency - (satisfied with Calculus I)

- Historical Perspective (6 credits)
  - HIS 105 - World History I (3) ____
  - HIS 106 - World History II (3) ____

II. Categories of Knowledge* (33 credits)

A. Logic and Numbers for Rational Thinking (3)
- MAT 117 – Applied Statistics (4) ____

B. Linguistics, Literary, Artistic, Cultural Traditions (9)

_____ (lit.)
_____ (humanity)
_____ (humanity)

C. Biological and Physical Sciences (9)
- satisfied by major requirements

D. Political, Economic, Geographic Sciences(6)

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E. Social and Behavioral Sciences (6)
- PSY 101 - General Psychology (3) ____

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* One course that emphasizes intergroup education must be included in the Categories of Knowledge.

* Refer to the Undergraduate Catalog to determine the courses that can be counted under each section.

PROFESSIONAL EDUCATION REQUIREMENTS
(28* credits)

NOTE: Students must maintain a 3.0 GPA to enroll in EDU 440 AND EDU 441.

- TCH 310 - Educational Psychology (3) ____
- TCH 205 - American School (3) ____
- EDU 440 - Teaching Science in Secondary Schools (4) ____
- EDU 441 - Curriculum and Evaluation in the Secondary Classroom (3) ____
- EEC 411 - Introduction to Exceptionality (3) ____
- EDU 495 - Student Teaching and Professional Practicum (15) ____

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