Bachelor of Science (BS) Non-Teaching  
Majors Degree Code 259D  

Program of Study for Geology

**I. GENERAL EDUCATION CURRICULUM**

Chemistry 1101/1110 & 1102/1120 fulfill the Science Inquiry perspective. MAT 1110 fulfills the Quantitative Literacy requirement.

**II. MAJOR REQUIREMENTS** (not including 12 hours counted in Area I, above)

2.0 major GPA required for graduation. Major GPA calculation includes all courses taken in the major department, plus any other courses under II. Minimum of 18 semester hours of courses taken to fulfill major requirements must be courses offered by Appalachian.

**A. Geology (37 semester hours):**
Choose one 1000-level geology course:
- GLY 1101 (4) Introduction to Physical Geology
- GLY 1102 (4) Introduction to Historical Geology
- GLY 1103 (4) Environmental Change, Hazards, & Resources
- GLY 2250 (4) Evolution of the Earth (Pre: GLY 1101,1102,1103,1104, or 1105)
- GLY 3025 (3) Principles of Paleontology (Pre: GLY 2250 or 6 sh ≥ 2000 BIO or ANT)
- GLY 3150 (3) Principles of Structural Geology and Tectonics (Pre: GLY 2250, 2745)
- GLY 3220 (3) Fundamentals of Mineralogy (Pre: GLY 2250)
- GLY 3715 (3) Petrology and Petrography (Pre: CHE 1101/1110; GLY 2250, 2745, 3220)
- GLY 3800 (3) Sedimentology and Stratigraphy (Pre: GLY 2250)
- GLY 4210 (1) Geology Seminar [CAP] (Pre: Sr. standing)
- GLY 4835 (6) Summer Field Geology or other approved field course (Pre: GLY 3150, 3715, 3800)

And choose 3 semester hours geology electives at or above 3000 level from the list below

- GLY 3333 (3) Geomorphology (Pre: 6 s.h. GLY)
- GLY 4501 (1-3) Senior Research (Pre: 3.25 GPA in GLY)
- GLY 4630 (3) Hydrogeology (Pre: 6 s.h. GLY ≥ 2000)
- GLY 3530-49 (3) Special Topics

**B. Evolutionary Component (18 semester hours)**

- BIO 1801 (4) Biological Concepts I (Co: CHE 1101)

And 14 hours evolutionary science from the following list:

- ANT 2230 (3) Biological Anthropology (Pre: ENG 2001)
- ANT 3200 (3) Zooarchaeology (Pre: ANT 2221)
- ANT 3300 (3) Human Osteology (Pre: ANT 2230 w/min grade "C")

- BIO 1802 (4) Biological Concepts II (Co: CHE 1101)

Any BIO course above the 2000 level (except BIO 2800, 3520, 4550, 4563)

**C. Mathematics/Chemistry/Physics (26 semester hours)**

- MAT 1110 (4) Calculus with Analytic Geometry I (Pre: MAT 1025 w/min grade C-)
- MAT 1120 (4) Calculus with Analytic Geometry II (Pre: MAT 1110 w/min grade C-)
- CHE 1101/1110 (4) Introductory Chemistry I & Lab (Pre: MAT 1025)
- CHE 1102/1120 (4) Introductory Chemistry II & Lab (Pre: CHE 1101/1110)
- PHY 1150 (5) Analytical Physics I (Co: CHE 1101)
- PHY 1151 (5) Analytical Physics II (Co: MAT 1120)

**D. Computer science/programming, GIS, or statistics courses (Choose 6-7 semester hours)**

- C S 1440 (4) Computer Science I (Pre: MAT 1020/1025 w/minimum grade "C-")
- C S 1445 (4) Intro to Programming w/Interdisciplinary Applications (Pre: MAT 1020 or 1025 with C- or higher)
- GHY 2812 (3) Geospatial Data & Technology
- GHY 3310 (3) Environmental Remote Sensing
- GHY 3812 (3) Introduction to GIS (Pre: GHY 2310, 2812)
- GLY/ENV 3455 (3) Quant Data Analysis for Earth & Env Sci (Pre: GLY 2250; MAT 1110; PHY 1150)
- STT 2810 (3) Introduction to Statistics (Pre: MAT 1010)
- STT 3820 (3) Statistical Methods I (Pre: STT 2810/2820)

During the senior year the B.S. (non-teaching) student must take and achieve a satisfactory score on a COMPREHENSIVE EXAMINATION covering theoretical and practical aspects in areas of geology. Students who are unsuccessful on portions or all of the examination may retake appropriate portions up to two additional times prior to graduation.

**III. MINOR (optional)**

**IV. ELECTIVES (taken to total 125 hours for the degree)**

2 semester hours of free electives must be outside the major discipline. Total hours must equal 125

Total major requirements – 87-88; Gen Ed courses that may count in major (depends on choices) – 12; net major 75-76 hours;