

**Bachelor of Science (BS) Non-Teaching
Degree Code 259*
Concentration Code 259E**

**Checksheet for Geology Majors
QUANTITATIVE GEOSCIENCE**

I. CORE CURRICULUM.....44

Math 1110 will count toward math requirement. Either Chemistry 1101 and 1110, 1102 and 1120 or Physics 1150, 1151 will count toward science requirement.

II. MAJOR REQUIREMENTS82

2.0 major GPA is required for graduation. Major GPA calculation will include 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. Since many upper level Geology courses require GLY 1101 as a prerequisite, it is highly recommended that students complete this course during their freshman year.

A. Geology (31 semester hours):

- GLY 1101 _____ (4) Introduction to Physical Geology (ND) **OR** GLY 1510 _____ (4) Geological Science Honors
- GLY 2250 _____ (4) Evolution of the Earth
- GLY 2745 _____ (4) Preparation of Geologic Reports (W, C, S)
- GLY 3150 _____ (3) Principles of Structural Geology and Tectonics (ND, C)
- GLY 3220 _____ (3) Fundamentals of Mineralogy
- GLY 3715 _____ (3) Petrology and Petrography (W)
- GLY 3800 _____ (3) Introduction to Stratigraphy and Sedimentology
- GLY 4210 _____ (1) Geology Seminar
- GLY 4835 _____ (6) Summer Field Geology or other approved field course

B. Quantitative Courses (12 semester hours)

- PHY/GLY 3160 _____ (3) Introduction to Geophysics
- GLY 4630 _____ (3) Hydrogeology (ND)
- GLY 4705 _____ (3) Advanced Environmental & Engineering Geology

3 semester hours of geology courses at or above 3000 level _____

C. Mathematics/Chemistry/Physics (33 hours)

- MAT 1110 _____ (4) Calculus with Analytic Geometry I (ND)
- MAT 1120 _____ (4) Calculus with Analytic Geometry II (ND)
- MAT 2130 _____ (4) Calculus with Analytic Geometry III (ND)
- MAT 2240 _____ (3) Introduction to Linear Algebra (C) **OR** MAT 3130 _____ (3) Intro to Differential Equations
- CHE 1101 _____ (3) Introductory Chemistry I (ND)
- CHE 1110 _____ (1) Introductory Chemistry I Lab
- CHE 1102 _____ (3) Introductory Chemistry II (ND)
- CHE 1120 _____ (1) Introductory Chemistry II Lab
- PHY 1150 _____ (5) Analytical Physics I (ND)
- PHY 1151 _____ (5) Analytical Physics II (ND)

D. Six semester hours from the following:

- STT 2810 _____ (3) Introduction to Statistics (ND, C)
- STT 3820 _____ (3) Statistical Methods I (ND, C)
- Or other Geology advisor approved courses based on statistical applications _____
- CS 1400 _____ (3) FORTRAN Programming (C)
- CS 1425 _____ (3) Overview of Computer Science (C)
- CS 1440 _____ (4) Computer Science I (C)
- GHY 3820 _____ (3) GIS for Social and Environmental Sciences

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)

<u>Major Designators</u>			
2 Writing (W)	_____	_____	
1 Speaking (S)	_____		
Certified Proficiency in Communication (CPC)	_____		
Passing grade on 2 nd speech in GLY 2745 & grade of D or better in GLY 2745			
<u>Other Designators</u>			
4 Writing (W)	_____	_____	_____
4 Multi Cultural (MC)	_____	_____	_____
2 Numerical Data (ND)	_____	_____	
2 Computer (C)	_____	_____	
1 Cross Disciplinary (CD)	_____		

IV. ELECTIVES (taken to total 122 hours for the degree)4

2 semester hours of free electives must be outside the major discipline. Total 130
 Minus hours double counted in core -8
 Total hours must equal 122