

B.A. & B.S. GEOLOGY



CHARLES E. SCHMIDT COLLEGE OF SCIENCE
DEPARTMENT OF GEOSCIENCES

ACADEMIC LEARNING COMPACT

All majors in geology are required to complete GLY 4750 (Field Methods) which includes classroom lectures on Appalachian Geology, a nine day trip to the Southern Appalachians, and two one-day field trips in the local area. This class combines classroom knowledge with field-based observations and published geological data and interpretations, and requires the student to demonstrate proficiency in integrating these sources into a final paper where they will discuss multiple hypotheses interpreting the data they have gathered.

CONTENT KNOWLEDGE (Declarative Knowledge, Technical Skills): Majors in Geology will demonstrate mastery of broad knowledge of Appalachian geology, details of specific sites within the region, and basic field techniques appropriate to the region.

Students will demonstrate mastery of basic regional geology and basic field techniques in GLY 4750 via a written examination. The examination will cover the broad regional geology of the area to be visited on the field trip, including the characteristics of the geomorphic regions, knowledge of the orogenic history of the region, and site-specific knowledge of localities visited on the Junior Field Camp.

COMMUNICATION (Written Communication, Oral Communication, and Illustrative Communication): Majors in Geology will demonstrate the following communication skills:

- Ability to produce writing that is grammatically correct, well-organized, and clear.
- Ability to effectively use illustrations to communicate their observations, hypotheses, and interpretations of geologic data.
- Ability to orally communicate their observations and exchange ideas in a clear and succinct manner.

Students will demonstrate the ability to properly present geologic observations in GLY 4750 by recording both written and illustrative notes in field notebooks. Instructors will

evaluate field notebooks based on the completeness and accuracy of the observations as well as on the clarity of writing. Students will also be required to orally summarize, at the field sites, their observations and interpretations of the geologic setting and geologic history of the field sites. Instructors will evaluate oral presentations based on the ability of the student to clearly explain his/her observations, to exchange ideas, and to explain their hypotheses and interpretations.

In addition, students will be required to complete courses designated in the university's Writing Across the Curriculum program to demonstrate general writing skills.

CONTENT KNOWLEDGE (Research skills) and CRITICAL THINKING (Analytical and Practical skills): Majors in Geology will evaluate data gathered in the field and apply scientific methodology and knowledge of basic geologic concepts and processes to the interpretation of the data. They will demonstrate their ability to interpret the geologic record from available evidence and to understand geologic history and potential for mineral exploration.

In GLY 4750, students will be required to present a written report in which they will summarize their interpretations of the geologic history of a given site. The report will be evaluated based on the ability of the student to perform data analysis, formulate a working hypothesis and clearly support it with the field data. In addition, students will be evaluated based on their abilities to apply qualitative and quantitative techniques to support their hypotheses and interpretations.