

# GEOLOGY (GEOL)

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**GEOL 5306 Thesis 3 SCH (3)**

Designed for thesis option students. The course requires completion of thesis research. Prerequisite: departmental approval. May be repeated for maximum of 6 semester hours.

**GEOL 5310 Advanced Topics in Geology 1-3 SCH (1-3)**

Intensive study at a graduate level of selected advanced topics. May be repeated for credit under different topics.

**GEOL 5311 Geochemistry 3 SCH (2-3)**

Study of the occurrence, distribution and behavior of major and minor elements in the earth's atmosphere, hydrosphere and lithosphere.

Prerequisites: GEOL 3409, GEOL 3411, CHEM 1312 and CHEM 1112

Laboratory fee.

Fee: \$30.00

**GEOL 5312 Geographic Info Systems 3 SCH (3)**

Principles and practice of geographic information systems (GIS) using vector-based GIS as the primary software package. Students will demonstrate the use of GIS through individual class projects oriented toward their area of interest.

**GEOL 5313 Advanced GIS 3 SCH (2-3)**

Research applications of advanced techniques of Geographic Information Systems. Vector-and raster-based GIS modeling: terrain modeling, hydrological modeling, 3-D modeling: hands-on research topics. GIS programming for problem solving in students' research applications.

Prerequisite: GEOL 5312 or permission of instructor.

**GEOL 5319 Geology of Ground Water 3 SCH (3)**

Principles and practice of physical and chemical hydrogeology in uncontaminated and contaminated settings. This includes the influence of geologic conditions on groundwater quality, production, contamination and resource evaluation. Emphasis will be placed on a geology/hydrology course involving the presentation of theory, the collection of field data, the use of industry-validated computerized models for the analysis of the field data and the presentation of reports. Prerequisite: graduate standing, GEOL 1303/1103 and GEOL 1304/1104.

**GEOL 5352 Remote Sensing 3 SCH (3)**

Principles and practice of remote sensing involving analysis and interpretation of aerial photos and digital images. Students will demonstrate the use of remote-sensed through individual class projects oriented toward their area of interest.