3032 Introduction to Sedimentology and Depositional Environments (3) Prereq.: GEOL 1001, 1601, CHEM 1201, or equivalent; GEOL 2081; or consent of instructor. Two field trips and one field exercise in nearby areas. Sediment types, textures, sedimentary structures, and major minerals used to understand sedimentary processes leading to different depositional environments.


4023 Coastal and Shallow-Marine Depositional Systems (3) Also offered as GEOG 4023. Dynamics of sediment transport in coastal zones and on continental shelves; sea-level changes; principles of modern and ancient sedimentary basin analysis; theoretical basin models and comparison with modern and ancient sedimentary basins.

4068 Reflection Seismology (3) Prereq.: GEOL 3071 and 3083 or consent of instructor. Principles of seismic reflection, seismic migration, and its response to climatic and tectonic changes. Reviews seismic attributes, sequence stratigraphy, unconformity detection, and facies interpretation.

4071 Advanced Structural Geology (3) Prereq.: CSC 2262, MATH 1552, and GEOL 4064; or equivalent. Principles of structural geology and thermodynamics applied to problems of folding, faulting, rock mechanics, and plate interactions. Fluid flow, sediment transport, and fluvial processes; seismic reflection, magnetics, electrical properties, and their use in subsurface exploration.

5010 Advanced Physical Geology (3) Prereq.: GEOG 4019. Geophysical and geochemical properties and their application to problems of folding, faulting, rock mechanics, and plate interactions.