HUMAN GEOGRAPHY
*(BA candidates select two systematic and one regional course.)*

Systematic

**2010 Human Geography (3)** Survey of patterns and processes of world=s cultures and landscapes.
**2080 Humans and the Environment (3)** Exploration of geographic concepts that underlie nature-society relationships and human-dimensions of environmental change.
**4012 Elements of Cultural Geography (3)** Culturally oriented proseminar in American geographical thought during the present century.
**4060 Political Geography (3)** Systematic, cultural-political geography; emphasis on technical and philosophical aspects and on American political landscapes; territorial political entities (cadastral, civil, national, imperial); role of the lands and seas, nature and objects of war; impacts of political entities on the landscape.
**4072 Urban Historical Geography (3)** Spatial evolution of cities and city-systems in western civilization through the classical, medieval, mercantile, and industrial periods to 1945.
**4073 Urban Geography (3)** Internal arrangement, external relations, and locational aspects of urban places, with emphasis on U.S.; urban places identified by presence of tertiary economic activities.
**4074 Place and Culture (3)** *See ANTH 4074.*
**4077 Economic Geography (3)** Location, characteristics, and relationships of primary, secondary, and tertiary economic activity; measurements and theories of location of economic endeavor.
**4078 Environment and Development (3)**

taphonomy, and evolution of fossil and modern marine assemblages; adaptations and functional morphology; organism-sediment relationships.

**7117 Biostratigraphy (3)** *Prereq.: GEOL 2061 or equivalent. 2 hrs. lecture; 2 hrs. lab.* Stratigraphic concepts; modern rules and procedures in interval and assemblage zonations; distribution of stratigraphically important fossil groups; event stratigraphy and chronostratigraphic modeling using computer techniques; applications to global and regional problems.

**7120 Paleobiology (3)** *Prereq.: GEOL 2061 or equivalent.* Patterns and processes of evolution as discerned from the fossil record; tempo and mode of evolution, hierarchy and macroevolution, mass extinctions, patterns of diversification; emphasis on development of theories and case studies.

**7131 Petrology of Sandstones (3)** *2 hrs. lecture; 3 hrs. lab.* Petrology and petrography of terrigenous sandstones; applications of sediment mineralogy and texture to the analysis of provenance, deposition, and diagenesis; emphasis on the interrelationship of tectonics and sedimentation.

**7132 Dynamics of Sedimentation (3)** *2 hrs. lecture; 3 hrs. lab.* Fluid mechanics as applied to sedimentation, fluid-particle interactions, erosion, mechanics of sediment transport including fluid and sediment flows, deposition and the origin of primary structures, and hydrodynamic instability and soft-sediment deformation.

**7133 Sedimentary Petrography of Carbonates (3)** *2 hrs. lecture; 3 hrs. lab.* Principles governing formation, deposition, and diagenesis of carbonate sediments and sedimentary rocks; lab stresses textural, fabric, and mineral relationship and interpretation of depositional environments and mineral paragenesis of ancient carbonate sequences.

**7134 Clay Mineralogy (3)** *2 hrs. lecture; 3 hrs. lab/discussion.* Mineralogy; geochemistry, and geology of clay minerals; argillaceous sediments and rocks.

**7183 Physical Geochemistry of Burial Diagenesis (3)** *Prereq.: GEOL 4085 or equivalent.* Quantitative techniques in thermodynamics, kinetics, and mass transport applied to problems of burial diagenesis of sedimentary minerals and fluids.

**7195 Reservoir Characterization (3)** *Prereq.: GEOL 4182 or PETE 4051 or consent of instructor. 2 hrs. lecture; 2 hrs. lab. Also offered as PETE 7195*. Origin, description, exploration, and development of oil and gas reservoirs; topics include accommodation space, reservoir occurrence, origin of petroleum, oil and gas properties, rock properties, drilling, exploration, and appraisal, reservoir flow modeling and production engineering; emphasis on integration of geology, geophysics, and petroleum engineering.

**7200 Scientific Communication and Visualization (3)** Methods for written, oral, and visual communication with an emphasis on scientific approaches, analysis and presentation of scientific quantitative information.