

5550. Advanced Geographic Information System. 3 hours. (1;3) Advanced spatial analysis through the use of specialized software and the design and development of spatial databases and applications. The course includes project planning, database development, data manipulation and analyses, model building, internet mapping, and project presentation. Students gain advanced application skills through laboratory exercises and implementation of a GIS project in the area of pertinent to the student's interests. Prerequisites: GEOG 5520 or consent of the department.

5560. Visual Programming for Geographic Information Systems. 3 hours. (1;2) Modern GIS embraces the concept of open systems, which means GIS software can be customized to fit specific requirements of individual implementation environments. To meet the high demand of this kind, this course introduces basic concepts and skills of object-oriented programming and GIS customization using Visual Basic (VB) and Visual Basic for Applications (VBA). Students gain programming skills in accessing maps, data layers, features and geometric objects in GIS. Prerequisite(s): GEOG 5500 or consent of department.

5600. Seminar in Environmental Policy. 3 hours. Analysis and evaluation of environmental policy, including spatial, historical, economic, ecological and institutional dimensions of contemporary resource management issues.

5630. Soils Geomorphology. 4 hours. (3;3) Methods and applications of soils and landform analysis. Soils classification, formation processes and relationships to landforms and vegetation are stressed. Methods of soils description, mapping and physical-chemical analysis are taught, and applications to study of landscape changes and land-use planning are emphasized. Prerequisite(s): consent of department.

5650. Environmental Geology. 3 hours. Geologic aspects of land-use planning; earthquakes, landslides, coastal processes, streams and flooding, soils, groundwater and waste disposal; planning for the future.

5700. Global Dynamics. 3 hours. (2;2) Biosphere-geosphere models on a global scale. Topics include past global changes and climate variability, assessing impacts of global change, dynamic biogeography, interdisciplinary approaches, economics and policy issues, and applications of GCM, GIS and remote sensing. Prerequisite(s): graduate standing or consent of department.

5850. Introduction to Groundwater Hydrology. 3 hours. Topics include principles of groundwater flow; aquifer properties and characteristics; geology of groundwater occurrence; groundwater development and methods for assessing and remediating groundwater contamination. Emphasis on application of basic principles.

5900. Special Problems. 1–3 hours. Research by graduate students in fields of special interest. Prerequisite(s): consent of department.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5960. Geography Institute. 3 hours. For students accepted by the university as participants in special institute courses. May be repeated for credit as topics vary.

Geology – see *Undergraduate Catalog*

Geology

see *Undergraduate Catalog*

German

see Foreign Languages and Literatures

Health Promotion

see Kinesiology, Health Promotion and Recreation

Hebrew

see *Undergraduate Catalog*

Higher Education

see Counseling, Development and Higher Education

History

History, HIST

5040. Studies in Modern European History. 3 hours. Extensive readings and study in one of the topical areas of modern European history. May be repeated for credit as topics vary.

5060. Seminar in Recent and Contemporary European History. 3 hours. Studies in European history since World War I.

5080. Seminar in Modern European History. 3 hours. Research seminar in modern European history. May be repeated for credit as topics vary.

5100. Seminar in United States History. 3 hours. Research seminar in United States history. May be repeated for credit as topics vary.

5110. Studies in United States History. 3 hours. Extensive readings and study in United States history. May be repeated for credit as topics vary.

5130. Studies in World History: Latin American or Asian. 3 hours. Extensive readings and study in either Latin American or Asian history. May be repeated for credit as topics vary.

5150. Seminar in World History: Latin American or Asian. 3 hours. Research seminar in either Latin American or Asian history. May be repeated for credit as topics vary.

5190. Studies in Near East/African History. 3 hours. Extensive readings and study in one of the topical areas of Near East/African history. May be repeated for credit as topics vary.

5220. Studies in United States Military/Diplomatic History. 3 hours. Extensive readings and study in either United States military or diplomatic history. May be repeated for credit as topics vary.

5230. Seminar in United States Military/Diplomatic History. 3 hours. Research seminar in either United States military or diplomatic history. May be repeated for credit as topics vary.

5240. Studies in European Military/Diplomatic History. 3 hours. Extensive readings and study in either European military or diplomatic history. May be repeated for credit as topics vary.