WATER RESOURCES CONCENTRATION
The curriculum should include courses in Water Policy and Planning and Hydrological Sciences

Courses (ERP)

**500-3 Physical and Biological Environmental Systems.** Application of principles of systems analysis, including chaos and complex adaptive systems, to Earth biogeochemical cycles (e.g. energy, carbon, water, nutrients), inter-relations among them and disruptions to them. Topical focus will vary among: the analysis of how contaminants travel, especially through ground water, and become dispersed in the environment; the origin of soils and the movement of nutrients among plants, water and soils; the origin and distribution of natural resources such as metals and fossil fuels and of natural hazards such as flooding, earthquakes, landslides and volcanism; the global carbon cycle, especially its role in global climate change.

**502-3 Environmental Decision Making.** (Same as ABE 502) The objective of the course is twofold. The first part of the class will be devoted to case studies of environmental decision making which use a variety of approaches to environmental policy. Topics to be covered include market-based environmental management versus regulatory approaches, climate change, conservation and floodplain management policy. The second part of the class will focus on the challenges of interdisciplinary communication and collaboration, methodological research issues and the role of integrated modeling. We will consider different issues such as qualitative and quantitative evidence, validation, and the role of values and objectivity in the scientific process.

**590-1 to 8 Readings in Environmental Resources and Policy.** Readings in a specialized topic under the direction of an approved graduate faculty member. Graded S/U only.

**598-1 Applied Environmental Resources and Policy.** Invited speakers from federal, state, or local agencies; nongovernmental organizations; academic institutions; and Environmental Resources and Policy faculty will present case studies on the conduct of environmental research, the development of environmental laws and regulation, and the implementation of environmental policies. Additionally, students will present dissertation proposals and defend their dissertations. Taken for one credit each year in residence in the Environmental Resources and Policy program. Restricted to enrollment in the Environmental Resources and Policy program.

**599-1 to 3 Individual Research in Environmental Resources and Policy.** Individual investigation under faculty guidance in environmental resources and policy other than that for the dissertation. Only three hours may be credited toward the degree. Restricted to admission to Environmental Resources and Policy Program.

**600-1 to 24 (1 to 12 hours per semester) Dissertation.** Research for and writing of the doctoral dissertation. Special approval needed from the instructor.

**601-1 Continuing Enrollment.** For those graduate students who have not finished their degree and who are in the process of working on their dissertation. The student must have completed a minimum of 24 hours of dissertation research before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Finance
(See Business Administration for program description)