

MINOR IN GEOGRAPHIC INFORMATION SCIENCE

Effective Fall 2009

Course Descriptions

EUGS 270 INTRODUCTION TO GIS AND REMOTE SENSING (3.0 semester hours) **(retitled from “Digital Mapping”)**

Introduces the basic principles of Geographic Information Systems with focus on digital mapping and cartographic sciences including graphic design, spatial data portrayal and inquiry, map overlays and applications (prerequisite: ENVR 109, EUGS 100, EUGS 101, EUGS 102, GEOS 107, or GEOS 112)

EUGS310: QUANTITATIVE METHODS IN GEOGRAPHY AND URBAN STUDIES

(3.0 semester hours)

Treatment of measurements and design in geography; definition of problems, hypotheses formulation and tests of hypotheses by alternative methods of measurement. Geographic applications of computer methods, multivariate analysis, systems analysis, data bank maintenance and evaluation.

(prerequisites: MATH 109 and EUGS 270)

ENVR 455 FUNDAMENTALS OF REMOTE SENSING OF THE ENVIRONMENT

(3.0 semester hours)

Provides a systematic study of remote reconnaissance of the surface of the earth from aircraft or satellite platforms, employing multi-spectral (visible, infrared, ultraviolet, microwave) forms of radiance. The course explores available data resources, applies examples of different analytical techniques, and addresses a number of environmental applications (prerequisite: EUGS 270 or permission of the instructor).

EUGS 470 GEOGRAPHIC INFORMATION SYSTEMS (3.0 semester hours)

uses spatial database management, analysis, and mapping to visualize and model environmental and social systems. The course explores a variety of techniques with applications toward planning and management of human/physical environments (prerequisite: EUGS 270 or permission of the instructor).

EUGS/GEOS 475 ADVANCED TOPICS IN GEOGRAPHIC INFORMATION SCIENCE (3.0 semester hours).

[New course proposal, to be submitted simultaneously.] This course will allow students with demonstrated knowledge and skills in the geographic information sciences (GIS and/or Spatial Analysis) to expand on those skills by applying them to a particular geological or geographical issue. Students will work closely with faculty to select appropriate project(s) based on the student's interest and the professor's expertise. Depending on the project's scope and scale, the course will use current software. Prerequisite: EUGS 270 and EITHER EUGS 455 or EUGS 470.

EUGS 467 SENIOR SEMINAR IN GISCIENCE (3.0 semester hours).

Provides students with the tools and experience to develop and complete a research or problem-solving project in geographic information science. Students will produce a senior thesis or GIS presentation portfolio.