DEPARTMENT: Environmental Health

COURSE NUMBER: EH583 / ENVS483 / ENV583
SECTION NUMBER: 000
SEMESTER: Spring 2015

CREDIT HOURS: 4

COURSE TITLE: Spatial Analysis in Disease Ecology

Lead INSTRUCTOR: Gonzalo Vazquez-Prokopec
LAB CO-INSTRUCTOR: Julie A Clennon

INSTRUCTOR CONTACT INFORMATION

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SCHOOL ADDRESS OR MAILBOX LOCATION: ENVS, Math & Science Center, 400 Dowman Dr. Suite E330.

OFFICE HOURS: Thursdays Noon-1pm

BRIEF COURSE DESCRIPTION

- patterns of health and disease in place and time
- application of geospatial technologies and methods for epidemiology
- analysis of time-space relations
- clusters and diffusion of disease
- geographical epidemiology of selected infectious and noninfectious diseases.

LIST SCHOOL LEVEL, DEPARTMENT, AND/ OR PROGRAM COMPETENCIES

Increased proficiency in GIS and its applications

Basic familiarity with remote sensing

Skills in spatial analysis and its applications

Understanding of spatial distribution of disease and disease risk factors

Ability to conduct disease risk mapping

Understanding the role of spatial analysis as an important quantitative approach in public health and of its applications in environmental health.
LIST LEARNING OBJECTIVES ASSOCIATED WITH THE COMPETENCIES

Explain general principles of environmental sciences and apply them to human health;

Identify and explain major environmental risks to human health, ranging from the small scale to the global scale, explain how to access the magnitude of these hazards, and explain approaches to presentation and control;

Apply ecological and epidemiologic principles to environmental and occupational exposures, and critically review the published literature.

EVALUATION

Grade will be based on participation in discussions and labs and the term project. Grading will be as follows: Class attendance and participation (15%), Lab exercises and quiz (35%), Final project (50%). For the project, graduate students will be expected to pose a substantive question related to spatial epidemiology, develop appropriate methods and data, perform an analysis, and report their results in a paper and as an oral presentation. Further details will be provided in class. (For the undergraduate students, the expectations from the paper are more modest, and it will be based on data provided to them).

ACADEMIC HONOR CODE

The RSPH requires that all material submitted by a student in fulfilling his or her academic course of study must be the original work of the student.