School of Information Sciences
College of Communication & Information

SYLLABUS

IS 590: Problems in Information Sciences: Environmental Informatics (Section 005)

ONLINE ONLY Summer 2009

Instructor: Mike Frame
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Availability: By Appointment
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Catalog Description

The course will focus on the application of information science practices, policies, and knowledge as it relates to the interdisciplinary field of environmental informatics.

Course Description

The course will focus on the interdisciplinary field of environmental informatics. When information science encountered the capabilities of computers and telecommunications in the late twentieth century, the discipline of informatics came into being. As does information science, informatics addresses the collection, classification, storage, retrieval, and dissemination of recorded knowledge. Application of computers and telecommunications—especially the Internet and the World Wide Web — to these functions has created new opportunities and new challenges for information management and delivery. And in the natural sciences, information science and computing technology are joined by the relatively new technology of geographic information systems to allow for an even greater depth of knowledge to be stored and applied.

A real world approach, through case studies, class projects, and guest lectures, will be employed to allow the students to experience the challenges facings researchers, land managers, decision makers, information professionals, and policy makers in the area of biological data acquisition, management, and delivery. The emphasis of the class will be on the data and information science aspects of environmental informatics through discussions in the areas of: information life cycle, metadata management, data and information standards, geospatial technologies, web technologies, and project management.

Prerequisites
None.

Course Goals/Objectives

Upon satisfactory completion of the course, the student will:

1. Understanding of the field of environmental informatics and the challenges that exist;

2. Knowledge of information standards and practices as they are applied to emerging environmental science issues;

3. Ability to develop and implement an environmental science monitoring program with emphasis on the information, computational, and geospatial challenges;

4. Understanding of geospatial standards, concepts, and terminologies;

5. Understanding of semantic principles, practices, standards, and applications;

6. Application of project management concepts and principles within the field of environmental informatics.

Course Materials

Optional texts

Gunther, Oliver. (2001). Environmental Information Systems. Published by Springer

Michener, William (2000). Ecological Data: Design, Management and Processing (Ecological Methods and Concepts) Published by Wiley-Blackwell; 1 edition (February 17, 2000)

Project Materials

Each student will be provided a “rain gauge” in support of their class project.

Assignments and Evaluation Criteria

Format: All assignments should be typed and handed-in via the designated space identified on the Blackboard class website. Use a 12-point font and single or 1.5 spacing. Submissions without identity cannot be credited.

- ♣ **Class Project 40%**
- ♣ **Midterm Exam 20%**
- ♣ **Final Exam 20%**
- ♣ **Contributions on Discussion Board and Class Participation 20%**