

Statistics 662: Environmental Statistics – – Spring Quarter 2006

SYLLABUS

Instructor

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Grader

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Course Description

This course aims to provide an introduction to the types of statistical analyses used in environmental studies. Topics include sampling design, causality, limits of detection, toxicology, risk analysis, time series, spatial statistics, and hierarchical modeling. The course focuses on applications in a variety of different areas including ecology, environmental health, environmental monitoring, and remote sensing of the environment.

Prerequisites

Stat 530 or equivalent

Website <http://www.stat.ohio-state.edu/~calder/stat662/>

Important announcements, lecture notes, homework problems and solutions, computing references, and other information about the class are posted on the course website.

Lectures TTh 10:00-11:18am in 0254 Central Classrooms (CC)

Lecture notes will be posted on the course website before class. Please read the sections of the textbook that will be covered, and print out a copy of the lecture notes before each class. There may be parts of the notes that you should fill in during lecture, and you may need to take separate notes on examples that are not in the lecture notes. Unless instructed otherwise, you are responsible for all of the material in the sections of the book that are covered in lecture even if some of the material in the book section is not covered in class. If you are unsure if you are responsible for a particular topic, be sure to ask the instructor.

Required Textbook *Environmental Statistics, Methods and Applications* (2004)

By Vic Barnett

A copy of the textbook has been placed on 2-hour reserve in the Science and Engineering Library.

Midterm Exam

There will be an in-class midterm tentatively given on Thursday, May 4th. Re-grade requests on the midterm exam must be submitted to the grader in writing within one week of the day the midterms are handed back. Please bring a **calculator** to the midterm exam.

Project

Each student is required to complete a final project in the course involving an analysis of an environmental dataset. The project will be introduced in class on or around Tuesday, May 9th and will be due on Thursday, June 1st.

Homework Assignments

There will be four homework assignments for the course. You are encouraged to work together on the problems, but each student must hand in his or her own work. **DO NOT COPY** any part of another student's homework including computer output.

Solutions to the homework problems will be posted on the course website. Late homework assignments will be accepted until the solutions have been posted on the website. Once the solutions have been posted, late homework will not be accepted. If you are unable to come to class the day a homework assignment is due, please contact the instructor. Re-grade requests on the homework problems must be submitted in writing to the course grader within one week of the day the solutions are posted.

Grading

The following is a breakdown of your final course grade:

Midterm	30 %
Final Project	30 %
Homework	40 %

Grades on the midterm exam might be curved if necessary.

Computing

We will be using the R statistical computing package, which is freely available. No prior knowledge of R is required, although some experience with R (or S-plus) will be helpful. R is available in the Department of Statistics computing laboratory, although this facility is only available to Statistics students. Links to the R website (where you can download R) and other computing resources are available on the course website. Most homework assignments will require some computing. Please cut and paste your computer output and graphs into your homework solutions.

Special Accommodations

If you need any accommodations based on the impact of a documented disability contact the instructor privately to discuss your specific needs. You should also contact the Office of Disability Services to coordinate special accommodations.

Academic Misconduct

Academic misconduct **will not be tolerated** and will be dealt with procedurally in accordance with university policy.