Statistics 662: Environmental Statistics – Spring Quarter 2010

SYLLABUS

Instructor
Dr. Kate Calder
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Grader
Aritra Sengupta
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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
Grad standing in statistics or Stat 529 or Geog 683 or Geog 883.01 or equiv.

Website
http://www.stat.osu.edu/~calder/stat662-sp010/
The class schedule, important announcements, lecture notes, homework problems and solutions, and other information about the course will be posted on Carmen (http://www.carmen.osu.edu).

Lectures
TTh 9-10:18am in 0713 Dreese Lab (DL)
Lecture notes will be posted on Carmen 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

Final Project
Each student is required to complete a final project, which will involve both an oral and written component. More information on the final project will be distributed in class.
Homework Assignments
There will be six 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.

Homework assignments may be typed or hand-written. Most homework assignments will require some computing. Please place all computer output and graphs in an appropriate location in your solutions to homework problems. An appendix providing your R code (with comments) should also be submitted with each assignment.

Solutions to the homework problems will be posted on Carmen. Late homework assignments will be accepted until the solutions have been posted. 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.

Grading
The following is a breakdown of your final course grade:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Final Project</td>
<td>35 %</td>
</tr>
<tr>
<td>Homework</td>
<td>60 %</td>
</tr>
<tr>
<td>Class Participation</td>
<td>5 %</td>
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</tbody>
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Computing
We will be using the R statistical computing package, which is freely available. No prior knowledge of R is required. R is available in the Department of Statistics computing laboratory (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.

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.