

# Statistics 6620

## Environmental Statistics

### Spring 2016

**Class Meetings:** McPherson Chemical Lab (MC), room 1005, Wed Fri 10:20am – 11:15am

**Instructor:** Dr. James Odei

**Contact:** (614)-292-0293, odei@stat.osu.edu or odei.3@osu.edu

**Office Hours:** 435 Cockins Hall (CH), Wed Fri 11:30am – 12:30pm, or by appointment

**Grader:**

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**Prerequisites:**

Graduate standing in statistics or Stat 5302 (529) or Stat 6450 (645) or Stat 6910 or Geog 683 or Geog 883.01 or permission of instructor.

**Required Textbook:**

*Environmental Statistics: Methods and Applications* (2004) by Vic Barnett.

**Website:**

The course has a web page on Carmen (<http://www.carmen.osu.edu>). The class schedule, lecture notes, homework problems and solutions, announcement, and other relevant material will be posted on the web page. Please check it on regular basis.

**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.

**Important Dates:**

January 18 is a Martin Luther King holiday (no class). February 05 is last day to drop without receiving a “W” on the student’s record. March 14 – 18 is spring break (no class).

**Grading:**

Your grade will be based on class participation, homework assignments, and a final project. The relative point/percentage-worth of these components are as follows:

Class Participation	5%
Homeworks	55%
Final Project	40%

**Homework Assignments:**

There will be at least 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.

**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.

**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.

**Academic Misconduct:**

Although you are encouraged to work together, you are expected to produce independent work for homeworks and exams. Academic misconduct for any sort will not be tolerated. If students are caught indulging in dishonest activities during the quizzes or the exams, they will be reported immediately, without any exception. Please review OSU's policies at <http://studentaffairs.osu.edu/csc/>.

**Special Accommodations:**

Students with ADA-documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Office of Disability Services (ODS) in Room 150 of the Pomerene Hall, (614) 292-3307. Please contact the ODS as early in the semester as possible. You can also contact the instructor privately to discuss your specific needs.

**NOTE:** The above schedule and procedures in this course are subject to change in the event of extenuating circumstances.

**Disclaimer:** This syllabus should be taken as a fairly reliable guide for the course content and policies. However, you cannot claim any right from it and, in particular, I reserve the right to change due dates or the methods of assessment. Official announcements will **ALWAYS** be those made in class and on CARMEN.