

GEO 200CN: Quantitative geography, Spring 2013

Instructor: Robert Hijmans (rhijmans@ucdavis.edu).

Lectures: 166 Hunt Hall, Monday and Wednesday, 13:10-14:00

Lab: 1137 PES, Monday and Wednesday, 14:00-16:00

CRN: 45868

Preparation: Introduction to statistics (some background in regression analysis is particularly useful) and an introductory GIS course. Some previous experience with *R* is necessary.

Course summary

The course's focus is on the spatial data manipulation, modeling, and analysis (e.g. distance computations, interpolation, geostatistics, inference, point pattern analysis, cellular automata). It also briefly covers some modern statistical techniques such as machine learning, Bayesian statistics, and model selection in the context of spatial data.

Lectures Monday and Wednesday 1:10 to 2:00 PM in 166 Hunt Hall. You are required to attend the lectures and participate in the discussions. If you have a conflict with a lecture owing to your research or other professional commitment, please inform me well ahead of the date of the conflict and we will discuss how to deal with the issue.

Lab is from Monday and Wednesday from 2:10 to 4 in PES 1137. The lab/(homework) assignments are due (on smartsite) at noon of the day of the next lab. This means that you won't have much time to complete your homework / reading for the Wednesday sessions and it a good idea to keep Tuesdays open for your work for this course.

Homework

Homework consists of readings and finishing the lab assignments.

There is a midterm and a final exam

Grading

30% lab/homework, 30% midterm, 40% final

Required text (available in the campus bookstore)

O'Sullivan, D., and D. Unwin. 2010. [Geographic Information Analysis](#), 2nd Edition. Wiley. ISBN: 978-0-470-28857-3

We will also be using reading some other materials that will be on smartsite or available on-line su, including chapters from Bivand, Pebesma and Gómez-Rubio, 2008. [Applied Spatial Data Analysis with R](#) and from Plant, RE, 2012. Spatial Data Analysis in Ecology and Agriculture Using R. CRC Press