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Office hours: MTWR 15:00 - 17:00

<table>
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<tr>
<th>Lecture</th>
<th>Day</th>
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<td>Lecture 1</td>
<td>MWF</td>
<td>11:00 - 11:50</td>
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Materials:
In-class handouts can be accessed at
Software: R, RStudio.

Outline
Spatial statistics is one of the fastest growing areas of statistics and has applications across a wide range of disciplines. The term geostatistics evolved in mineral exploration and mining. However, geostatistics can be applied to tackle many problems in other disciplines such as hydrology, air and water pollution, epidemiology, economics, geography, waste management, forestry, oceanography, meteorology, agriculture, etc., and in general to every problem where data are observed at geographic locations. The main purpose of the course is to reinforce the importance of Statistics through applications of theory and methods to interesting real problems of spatial data.

COURSE TOPICS
1. Introduction.
2. Variogram.
3. Covariogram.
5. Isotropy, anisotropy.
6. Spatial prediction.
8. Simulations.
10. Lattice data.
11. Point pattern data.
12. Spatio-temporal data.
13. Extensive use of the R packages geoR and gstat to analyze real spatial data.

COURSE POLICIES:
Please remember to turn off cell phones. You may use electronic devices for note-taking. Students needing academic accommodations based on a disability should contact the Center for Accessible Education (CAE) at (310) 825-1501 or in person at Murphy Hall A255. For more information visit http://www.cae.ucla.edu.

ACADEMIC INTEGRITY:
You are expected to adhere to the honor code and code of conduct. As a student and member of the University community, you are here to get an education and are, therefore, expected to demonstrate integrity in your academic endeavors. All students must uphold University of California Standards of Student Conduct as administered by the Office of the Dean of Students. Students are subject to disciplinary action for several types of misconduct, including but not limited to: cheating, multiple submissions, plagiarism, prohibited collaboration, facilitating academic dishonesty, or knowingly furnishing false information. You may have assignments or projects in which you work with a partner or with a group. For example, you are welcome, and even encouraged, to work with others to solve homework problems. Even though you are working together, the assignment you submit for a grade must be in your own words, unless you receive specific instructions to the contrary. For more information about academic integrity, please go to http://www.deanofstudents.ucla.edu.
COURSE GRADES:
There will be a midterm exam, a final exam, homework or labs that will be assigned every week, and a final project on a spatial
data set of your choice. Homework assignments, labs, and projects must be uploaded on ccle (https://ccle.ucla.edu). Late
homework or labs will not be accepted and make-up exams will not be given. Being in class on time and fully participating
is important for your understanding of the material and therefore for your success in the course. The dates for the exams are
shown below.

Final Project:
Each student will select a spatial data set from an area of interest to analyze using the techniques learned in class. You are
advised to find a data set as early as possible.

The course grade will be based on the calculation:
Final score = 0.15 × Homework/Labs + 0.15 × Project + 0.30 × Midterm + 0.40 × Final

COMMUNICATION:
Please keep a current e-mail address with my.ucla.edu in order to receive class announcements and reminders.

IMPORTANT DATES:
First lecture: Monday, 06 January.
Last lecture: Friday, 13 March.
Holidays: Monday, 20 January (Martin Luther King, Jr.) and Monday, 17 February (Presidents’ Day).

EXAMS:
Midterm: Week 6
Final exam: Tuesday, 17 March, 08:00-11:00

Good Luck !!