Instructor: Nicolas Christou
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WWW: http://www.stat.ucla.edu/~nchristo/statistics100C/
Office hours: M 17:00-18:00, TWRF 16:00-18:00

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Day</th>
<th>Class Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Lecture 1</td>
<td>MWF</td>
<td>15:00 - 15:50</td>
<td>WGYOUNG CS76</td>
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<tr>
<th>Lecture</th>
<th>Day</th>
<th>Discussion Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>1A</td>
<td>R</td>
<td>10:00 - 10:50</td>
<td>PAB 1749</td>
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<tr>
<td>1B</td>
<td>R</td>
<td>11:00 - 11:50</td>
<td>PAB 1749</td>
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RESOURCES:
Textbooks (optional):
Handouts can be accessed at http://www.stat.ucla.edu/~nchristo/statistics100C/.
Software:
R (can be downloaded freely from http://cran.stat.ucla.edu/).
R (can be downloaded freely from https://www.rstudio.com/).

COURSE PREREQUISITES:
Statistics 100B.

COURSE DESCRIPTION AND OBJECTIVES:
The focus of this course is on regression analysis and the analysis of variance. Emphasis will be given to the matrix
approach of regression analysis and in analyzing data sets from various fields using the open source statistical pack-
age R. Students are expected to be familiar with discrete and continuous random variables, expectation, variance,
covariance, and correlation, joint, marginal, and conditional distributions (Statistics 100A), Central limit theorem,
$\chi^2$, $t$, and $F$ distributions, properties of estimators, method of maximum likelihood, statistical tests (Statistics 100B).

COURSE TOPICS
2. Statistical properties of least squares.
3. Assessing the fit.
4. Multiple regression.
5. Bivariate and multivariate normal distribution.
10. When is least squares a good method?
11. Assumptions of the regression model - complications.
12. Heteroscedasticity, multicollinearity.
13. Weighted and generalized least squares.
15. Variable selection.
COURSE POLICIES:
Please remember to turn off cell phones. The use of laptop computers or other electronic devices will not be permitted in class. You are expected to adhere to the honor code and code of conduct. If you have a disability that will require academic accommodation, please contact the UCLA Office for Students with Disabilities (OSD).

ACADEMIC INTEGRITY:
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 two midterm exams, a final exam, and homework or labs that will be assigned every week. Please write your name and staple your homework and labs. 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. You are required to attend all the lectures. Attendance will be taken at random times during the course and it will count for 5% of your grade. The dates/times for the exams are shown below.

The course grade will be based on the calculation:

\[
\text{Final score} = 0.10 \times \text{Homework/Labs} + 0.25 \times \text{Exam1} + 0.25 \times \text{Exam2} + 0.40 \times \text{Exam3}
\]

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

IMPORTANT DATES:
First day of classes: 25 September.
Last day of classes: 04 December.
Holidays: 11 November (Veterans Day), 26-27 November (Thanksgiving).

EXAMS:
Exam 1: Tuesday, 20 October, 17:00 - 18:50.
Exam 2: Tuesday, 17 November, 17:00 - 18:50.
Final Exam: Friday, 04 December, 17:00 - 18:50.

Good Luck !!!