
Math 439 – Intermediate Data Analysis

Fall 2008 - Section 1, MH 452, MW 1:00-2:15 p.m.

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Office Hours: M W 12:00-12:55 p.m., 5:00-5:25 p.m., or *by appointment*

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Text: *Applied Linear Regression*, S. Weisberg, 3rd Edition, Wiley, 2005.

Software: We will mainly use R, and occasionally use SAS, for the projects and homework assignments. Instructions for use of these packages will be given. R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To download R, go to [CRAN mirror](#). SAS is available to students in the Mathematics Department Computing Laboratory in MH 452.

Your e-mail address wanted: You are *required* to fill out the “Student Information Form” ([click here](#)) and submit it to mori@fullerton.edu no later than **Tuesday August 26th, 5:00 p.m.** Do not save the PDF file and attach to an e-mail. You need to **use the submit button** on the form and follow the instructions. **If you’re unable to submit the form**, send me an e-mail with all the required information on the form. Make sure to include your name and your course “Math 439” in your e-mail. Also, make sure to provide an e-mail address that you check frequently. I will e-mail various communiqué and last minute announcements about our class through e-mail. In particular, I will e-mail PowerPoint notes for the course through e-mail. You should always bring copies of the notes to class with you. I will send a “test e-mail” to everyone who submits the form. Please check your e-mail **Tuesday August 26th after 5:00 p.m.** If you do not receive this test e-mail, please see me on **Wednesday August 27th** to resolve any problems there may be. **Note:** Any credits that you lose due to not establishing your e-mail connection with me on time will be your responsibility.

Course Description: This course is a second course in data analysis that follows Math 338. Math 439 covers statistical methods from both theoretical and applied perspectives. It is assumed that the students are familiar with basics of inferential methods, specifically point estimation, confidence intervals, and test of hypothesis. A short review of these basics will be given, as necessary. A major portion of the course will comprise modeling of a continuous response (dependent) variable as a linear function of one or more independent variables. This is the topic of simple and multiple linear regression analysis. In this context the course will cover standard assumptions of the linear regression model, inferential consequences of the standard assumptions, testing hypotheses about a given model, dummy variables, analysis of variance and analysis of covariance, confounding and interaction, model diagnostics for checking the standard assumptions of the regression model, transformation and weighting to achieve standard assumptions, and methods of model selection. The course concludes with introducing methods of modeling discrete response variables as a function of one or more independent variables, using logistic and Poisson regression.

Course requirements and Grading Policy: Homework/projects will be assigned and graded (**30%**). Two midterm exams (**40%**) and a final exam (**30%**) will be given. Exams may be a combination of take home and in-class. For in-class exams you will be allowed to bring in one page of information during each midterm exam and five pages of information during the final exam. Letter grades will be assigned according to the distribution of the overall grades. Plus-minus grading will be used.

The tentative dates for the exams are as follows:

<i>Exam I</i>	<i>Exam II</i>	<i>Final Exam</i>
10/6 (Mon.)	11/10 (Mon.)	12/15 (Mon. 2:30-4:20)

Late homework/projects will not be accepted. Make-up exams will be given only in extreme instances and only with advanced permission of the instructor. Any student who does not take an exam at the scheduled time without prior consent of the instructor will receive a grade of zero on that exam. If any student feels that a sudden illness is sufficiently extreme to warrant a make-up exam, the instructor must be provided with documentation prepared by an appropriate authority.

Academic Integrity: Students who violate university standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the university. Since dishonesty in any form harms the individual, other students and the university, policies on academic integrity are strictly enforced. I expect that you will familiarize yourself with the academic integrity guidelines found in the current student handbook (see <http://www.fullerton.edu/deanofstudents/judicial/policies.htm>).

Examples of actions that constitute academic dishonesty include, but are not limited to:

1. Unacceptable examination behavior – communicating with fellow students, copying material from another student’s exam or allowing another student to copy from an exam, possessing or using unauthorized materials, or any behavior that defeats the intent of an exam.
2. Plagiarism – taking the work of another and offering it as one’s own without giving credit to that source, whether that material is paraphrased or copied in verbatim or near-verbatim form.
3. Unauthorized collaboration on a project, homework or other assignment.
4. Documentary falsification including forgery, altering of campus documents or records, tampering with grading procedures, fabricating lab assignments, or altering medical excuses.

Emergency Evacuation: In the event of an emergency such as earthquake or fire:

- Take all your personal belongings and leave the classroom. Use the stairways located at the east, west, or center of the building.
- Do not use the elevator. They may not be working once the alarm sounds.
- Go to the lawn area towards Nutwood Avenue. Stay with class members for further instruction.
- For additional information on exits, fire alarms and telephones, **Building Evacuation Maps** are located near each elevator.
- Anyone who may have difficulty evacuating the building, please see the instructor.

Important Dates to Remember:

- **September 8 (Monday):** Last day for students to ADD with a permit. All permits expire at midnight on September 8.
- **September 8 (Monday):** Last day for students to DROP **without** a grade of “W”. Students drop using New Titan Online.
- **October 3 (Friday):** Last day the Math Department will be flexible on the approval of late withdrawal requests. Beginning Monday, October 6, students must have a serious and compelling reason for withdrawing (e.g. medical reason) and must provide supporting documentation for their reason
- **November 14 (Friday):** Last day to withdraw with a truly serious and compelling reason that is beyond the student’s control. Students must document their reason.