

Statistical Modeling (ECO 770)

Fall 2016: W 5:30pm-8:15pm

Course Description:

The course reviews fundamentals of mathematical statistics that are used in econometric analysis. It integrates mathematical models and statistical techniques to perform regression analysis of cross-sectional data with a policy focus. Topics include introduction to probability and mathematical statistics, empirical model building, estimation, and specification and data problems.

Course Learning Objectives:

At course completion, students will:

- Understand the statistical foundations of the classical regression model.
- Be able to explain the properties of the least-squares estimator.
- Understand the advantages and disadvantages of least squares model estimation and learn appropriate alternatives to least squares, when the assumptions underlying the classical linear model are violated.
- Be able to apply these methods to data and interpret the results.
- Develop a proficiency in STATA.

Textbook:

Required Reading: Jeffrey M. Wooldridge: *Introductory Econometrics: A Modern Approach*, 6th edition. ISBN-13: 978-1-305-27010-7.

Supplementary Reading: Cameron and Trivedi (2009): *Microeconometrics Using Stata*

Software:

STATA/IC

Prerequisites:

I assume a good working knowledge of algebra, business calculus, undergraduate statistics, and intermediate microeconomic theory.

Grading:

- 30% - Problem sets
- 20% - Exam 1
- 20% - Exam 2
- 30% - Final Exam

The final average is calculated using the weights specified above and will be rounded to the nearest integer. Letter grades are as specified below.

100% - 93%	A
92.99% - 90%	A-
89.99% - 87%	B+
86.99% - 83%	B
82.99% - 80%	B-
79.99% - 77%	C+
76.99% - 73%	C
72.99% - 70%	C-
69.99% - 60%	D
59.99% and below	F

Homework:

Problem sets will be assigned through WebCampus. They are due one week from the assigned date.

(Tentative) Course Schedule:

Week	Date	Topic	Readings
1	8/31	Basic Mathematical Tools	Appendix A
2	9/7	Fundamentals of Probability	Appendix B
3	9/14	Fundamentals of Mathematical Statistics	Appendix C
4	9/21	The Simple Regression Model	Chapter 2
5	9/28	Multiple Regression Analysis: Estimation	Chapter 3
6	10/5	<i>Exam 1 (Appendix A-C, Chapters 1-3)</i>	
7	10/12	Multiple Regression Analysis: Estimation	Chapter 3
8	10/19	No Class: Presidential Debate	
9	10/26	Multiple Regression Analysis: Inference	Chapter 4
10	11/2	Multiple Regression Analysis: Further Issues	Chapter 6
11	11/9	<i>Exam 2 (Chapters 3-6)</i>	

12	11/16	Multiple Regression Analysis with Qualitative Information: Binary (or Dummy) Variables	Chapter 7
13	11/23	Heteroskedasticity	Chapter 8
14	11/30	More on Specification and Data Problems Basic Regression Analysis with Time Series and	Chapter 9 Chapter 10.1-10.3
15	12/7	Special Topics	

*The **final exam** will be held during the week of December 12 – 17. Date and time TBD.*

University Policies (FY17)

Academic Misconduct—Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV’s function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: <https://www.unlv.edu/studentconduct/student-conduct>.

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Disability Resource Center (DRC)—The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

Religious Holidays Policy—Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

Transparency in Learning and Teaching—The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information:

<https://www.unlv.edu/provost/teachingandlearning>

<https://www.unlv.edu/provost/transparency>

Incomplete Grades—The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student’s control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving “I” grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Tutoring and Coaching—The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call 702-895-3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

UNLV Writing Center—One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student’s Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>.

Rebelmail—By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. Emailing within WebCampus is acceptable.

Final Examinations—The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: <http://www.unlv.edu/registrar/calendars>.

Syllabus Change Policy—This syllabus is a guide for the course and is subject to change.