

University of Colorado at Boulder
Department of Economics

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Economics 3818
Syllabus and Schedule
17 August 2005

Welcome. I am Prof. Jeffrey S. Zax. This is Economics 3818, Introduction to Statistics With Computer Applications.

Course description:

The purpose of this course is to establish basic competency in statistical analysis. Basic competency requires familiarity with the formal properties of the covariance, the correlation coefficient, essential probability distributions, hypothesis tests, confidence intervals and regression analysis. It also requires an intuitive understanding of the value of these properties, as well as of the appropriate use of numerical data as evidence. Lastly, some capacity to distinguish between appropriate and inappropriate statistical arguments is essential.

The material to be mastered in this class is contained in the lectures and recitations, the assigned textbook, Statistics for Economics: An Intuitive Approach by Alan S. Caniglia, problem sets and computer exercises. The material on summations in Caniglia's Chapter 2 is prerequisite for this course. Assignments, solution sets to assignments and examinations and other communications will be posted at the course website, www.colorado.edu/Economics/Zax/Econ3818.

This course will meet on Tuesdays and Thursdays from 12:30 p.m. until 1:45 p.m. throughout the semester in Hellems 199. I will hold regular office hours between 11:00 a.m. and 12:00 p.m. on Tuesdays and between 2:00p.m. and 4:00 p.m. on Thursdays in my office, Economics 111. Appointments can be made for meetings at other times, if these are inconvenient.

Ms. Xiaofei Yang is the Teaching Assistant for this course. She will conduct recitations on Tuesdays from 5:00p.m. until 5:50p.m. in Economics 13, on Wednesdays from 8:00a.m. until 8:50a.m. in Duane G1B35 and on Thursdays from 4:00p.m. until 4:50p.m. in Chem 133. Ms. Yang will announce her office hours and location during the first week of class.

Performance in this course will be judged on the basis of several instruments. The final examination will take place on Saturday, December 10, from 7:30p.m. until 10:00p.m. It will require the full 2.5 hours and be worth 150 points. Any student who has three final examinations

scheduled on 10 December and wishes to reschedule the final examination in this course must meet with me immediately.¹

Two midterm examinations, worth a total of 130 points, will take place on 27 September and 1 November, unless class progress deviates from my current expectations. Problem sets or computer exercises worth 120 points, in total, will be assigned for most, if not all recitations.

Excuses for examinations and assignments will be granted only under extraordinary circumstances. If granted, the excused points will be reallocated to subsequent requirements. The course as a whole is valued at 400 points. The score attained by each student, evaluated relative to those of other students in the class and to the score that would be attained by an intelligent student of introductory statistics, will determine final letter grades.

Tentative schedule:

<u>Readings in Caniglia</u>	<u>Date</u>	<u>Content</u>
Introduction	23 August	Course logistics, prerequisites, philosophy. Review of the summation operator.
Chapters 2, 3	25, 30 August	Descriptive statistics: measures of central tendency and dispersion.
Chapter 4	1, 6 September	The relationships between populations and samples.
Chapter 5	8, 13 September	Basic probability concepts, the addition rule, the multiplication rule and Bayes' Theorem.
Chapter 6	15, 20, 22 September	Essential univariate probability distributions, especially the binomial, normal and t distributions.
Midterm examination	27 September	65 points
Chapter 7	29 September, 4, 6 October	The expectation operator.

¹ University policies regarding multiple final examinations on the same day are available at www.colorado.edu/policies/final_exam.html.

Chapter 8	11, 18, 20 October	Joint probability distributions, covariance and correlation, functions of random variables.
Chapter 9	25, 27 October	Applications of chapter 8: properties of the sample average.
Midterm examination	1 November	65 points
Chapter 10	3, 8 November	Statistical properties of estimators.
Chapter 11	10, 15 November	Confidence intervals.
Chapter 12	17, 22 November	Hypothesis tests.
Chapter 13	29 November, 1 December	The two-variable regression model.
Chapter 14	6, 8 December	The multi-variate regression model.
Final Examination	10 December, 7:30p.m.-10:00p.m.	150 points

University policies:

Campus policy regarding disabilities requires that faculty adhere to the recommendations of Disability Services. In addition, campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly accommodate all students who, because of religious obligations, have conflicts with scheduled examinations, assignments or required attendance. Any student eligible for and needing academic adjustments or accommodations because of disability or religious practice should arrange to meet with me immediately. Those with disabilities should immediately submit a letter from Disability Services describing appropriate adjustments or accommodations.²

² University policies regarding disabilities are available at www.colorado.edu/disabilityservices. Disability Services can be contacted by telephone at 303-492-8671, or in person at Willard 322. University policies regarding religious practice are available at www.colorado.edu/policies/fac_relig.html.

Students and faculty share responsibility for maintaining an appropriate learning environment. All are subject to the University's policies on Sexual Harassment and Amorous Relationships.³ Students who fail to adhere to appropriate behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which students express opinions.⁴ I am happy to discuss any issues of individual or group treatment in office hours or by appointment.

All students of the University of Colorado at Boulder are responsible for knowing and adhering to this institution's policy regarding academic integrity. Cheating, plagiarism, assistance to acts of academic dishonesty, fabrication, lying, bribery, and threatening behavior are examples of behaviors that violate this policy. All incidents of academic misconduct shall be reported to the Honor Code Council. Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions, including but not limited to university probation, suspension, or expulsion.⁵

³ University policies regarding Sexual Harassment and Amorous Relationships are available at <http://www.colorado.edu/odh>. The Office of Discrimination and Harassment can be reached by telephone at 303-492-2127. The Office of Judicial Affairs can be reached at 303-492-5550.

⁴ University policies regarding classroom behavior are available at www.colorado.edu/policies/classbehavior.html and at www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

⁵ The Honor Code Council can be contacted by email at honor@colorado.edu or by telephone at 303-725-2273. Additional information regarding the University Honor Code is available at www.colorado.edu/policies/honor.html and at www.colorado.edu/academics/honorcode/