



### Grading:

Examinations and assignments for the course will total approximately 700 points. The approximate distribution of these points is as follows.

First Examination	100 points
Second Examination	100 points
Mini-Projects	250 points
Problem Sets	100 points
Final Examination	150 points

The instructor reserves the right to change the percentage of points in the course requirements. The most likely change will be to mini-project and problem sets. Quizzes and additional in-class assignments may be added. It is most likely that the points allocated to out-of-class assignments will be increased. But, any changes will be communicated.

Final grades for the course will be determined on the standard modification to the 90-80-70-60 scale that accompanies Graduate School courses. Any student receiving less than 80% on the graded course material will receive an "C." There are no exceptions and no negotiation. (In addition, any student receiving less than 60% on the graded course material will receive an "F." This rule will be exercised in unique cases.) If a student shows strong improvement in exam scores over the semester, the instructor reserves the right to weigh the end-of-semester exams more heavily when calculating that student's final grade. The instructor will make minimal use of the +/- grading system.

### Assignments:

There will be three in-class examinations. There will be two 100-point exams given during the semester. Make-up exams will be the option of the instructor. If any student must miss an exam due to an emergency, or due to a scheduling conflict, which is communicated to the instructor prior to the exam then the student's final grade may be based on the other exams taken. There will be a 150-point final exam at the end of the semester.

There will be two types of graded out-of-class assignments. Student teams will be assigned approximately five mini-projects. Teams will consist of two individuals. This work will expose the teams to a variety of methods and data types. The instructor will provide the data and ask a variety of questions related to the modeling process and economic interpretation. Student teams will perform the analysis and write a short professional report describing the results of the analysis and answering the questions. I expect the teams to work together to a limited degree but each team must have a unique report. Assignments will be about one week in duration and made about every two weeks. Students will need to become familiar with at least one spreadsheet and statistical regression software package.

Students will also complete other problem sets. These assignments will be less lengthy, will involve derivations, will give each student the opportunity to practice and display individual skills, and will not necessarily be software based. Students will complete this work independently.

### Academic Integrity Policy:

University academic integrity policies will be strictly enforced and enforced with maximum penalty. Students should read and know these policies. The policies are published in the General Catalog.

### Final Exam:

The final exam is scheduled for Tuesday, December 15, from 7:00-9:00 a.m. Any exceptions to this must be cleared with the instructor by Monday the last week of class. The exam will be comprehensive or with a slightly heavier influence on the last portion of the course.

### Course Philosophy:

My approach to teaching econometrics is to teach applications and examples. Theory is important, both economic and econometric. Forgetting your theory will lead you to make enormous mistakes. But, I believe students can be motivated to learn theory through applied problem solving. You probably chose the profession you did because of a desire to get a good job or to do something good rather than because you want to be a scholar. Further, this is a Land Grant university. We are supposed to do applied research at Land Grant universities. I want you to leave this course with a set of skills and an ability to conduct applied research using econometric methods. This goal will be addressed through the two types of graded out-of-class assignments, readings, and the material covered in lectures.

The mini-projects are to expose the student to a breadth of topics. Different economic problems require different methods. Likewise, different models have different problems which must be attended to for the researcher to draw the correct conclusions from those models. Linear regression is a good tool for an applied economist to know how to use, but it is not the only tool they must know how to use. The problem sets are to develop the students skills in thinking and producing analytical work. Econometrics is not all about getting the answer out of your computer software. It is also about using the tools of statistics and mathematics to focus computational efforts and economic thinking.

The instructor will periodically digress into discussions of professional expectations and philosophy of science. Students are expected to be interested, ask and answer questions, contribute to the discussion, and link the big picture to the mechanics of course materials.

## Course Outline

### Topics

### Reading Assignments

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Introduction to Econometrics  
What is econometrics?

Regression Estimation  
Least Squares and Maximum Likelihood  
Goodness of Fit  
Model Interpretation and Use

Regression Estimation and Inference  
Significance Testing  
Model Building

Regression Basics  
Dummy Variables  
Collinearity and Influential Data

Exam 1

Serial Correlation  
Testing, Consequences, Correction  
Generalized Least Squares

Heteroskedasticity  
Testing, Consequences, Correction  
Maximum Likelihood Models

Dynamic Models  
Lagged Dependent Variables, Distributed Lags

Panel Data  
Fixed and Random Effects

Exam 2

Probit and Logit  
Estimation and Interpretation

Simultaneous Equations  
Identification  
2SLS and 3SLS

Time Series  
Autoregressive and Moving Average Processes  
Stationarity and Co-integration

**COLORADO STATE UNIVERSITY  
DEPARTMENT OF AGRICULTURAL & RESOURCE ECONOMICS**

*Survey*

**Agricultural & Resource Economics / Economics 535  
Applied Econometrics**

*Fall 2009*

Name: \_\_\_\_\_

Department and Degree Sought: \_\_\_\_\_

Time in Program: \_\_\_\_\_

Previous Course Work (List graduate or highest level undergraduate courses):

Agricultural Economics: \_\_\_\_\_

Economics: \_\_\_\_\_

Statistics: \_\_\_\_\_

Mathematics: \_\_\_\_\_

List statistical and spreadsheet software with which you are familiar:

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