

**University of Wyoming; College of Business
Department of Economics**

**ECON 4230/5230
Intermediate Econometric Theory
Spring 2019**

Instructor: David Aadland

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Class Homepage: <https://www.aadecon.com/classes/econ4230/>

Course Description: Covers simple and multiple regression models, problems of estimation, hypothesis and diagnostic testing, dummy variable, autoregressive and distributed lag models, and time-series analysis. The objective is to understand the underlying theory of econometric modeling and obtain operational ability to construct, estimate, and test econometric models.

Course Prerequisites: Calculus (MATH 2350), Basic Statistics (STAT 2050 or 2070), Intermediate Micro Theory (ECON 3020)

Primary Texts:

Basic Econometrics by Damodar N. Gujarati and Dawn C. Porter (5th edition)
A Guide to Econometrics by Peter Kennedy (6th edition)

Course Objectives:

The primary objective of this course is to teach you how to apply econometrics in your own research. To do this we will need to cover some econometric theory, but the focus is definitely on the application of econometrics. We will work extensively with real data sets and the econometric issues that arise in applied research.

Course Requirements:

- Computer Software Packages. We will use R and STATA throughout the course.
- Examination. There will be one closed-book, in-class exam approximately 2/3 of the way through the semester.
- Problem Sets. There will be a total of five problem sets, which will be made available on our class webpage. The due date will be clearly printed at the top of each assignment. No late assignments will be accepted. Collaborative work is fine; however, each student is required to write up their own answers.
- Research Project. Each student is required to write a short research paper and present the findings. Additional information about the research project is available on our class website.

- Graduate Student Expectations for ECON 5230. Each problem set will have one additional challenge question that must be answered by graduate students. For the research project, graduate students must include 1) a more thorough literature review with a minimum of five citations and 2) a simple theoretical model to motivate the econometric analysis.

Grading: Examinations, problem sets and the research project will be weighted as follows:

5 Problem Sets	(100 pts)	33%
Exam	(100 pts)	33%
Research Project	(100 pts)	33%
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	(300 pts)	100%

I am using the +/- grading method. A score of 90% or above guarantees an A; a score between 80-89 guarantees and B+, B or B-; a score of 70-79 guarantees a score of C+, C or C-; etc.

Attendance Policy: Regular attendance is expected.

Academic Dishonesty Policy:

UNIREG 802, Revision 2, defines academic dishonesty as “an act attempted or performed which misrepresents one’s involvement in an academic task in any way, or permits another student to misrepresent the latter’s involvement by assisting the misrepresentation.” Academic dishonesty will not be tolerated in this class; any instances will be referred to the university’s established procedure for judging such cases, with severe penalties as found appropriate.

Disclaimer:

Subsequent changes may be made to any aspect or detail of this Syllabus if and when necessary. Any changes will be announced in class as soon as practical.

Course Outline (tentative schedule; chapters are from *Basic Econometrics*):

Single Equation Regression Models (Chapters 1-9)

- Two-variable regression model
- Classical assumptions
- Hypothesis testing
- Multiple regression analysis
- Dummy variables

Relaxing the Classical Assumptions (Chapters 10-13)

- Multicollinearity
- Heteroscedasticity
- Autocorrelation
- Model specification

Panel Data (Chapter 14)

Qualitative Response Regression Models (Chapter 15)

Simultaneous Equation Models (Chapters 18-20)

Time Series Methods (Chapters 21-22)