Montana State University Department of Ag. Economics and Economics	
Course:	**Professor:**
ECNS 561 –Econometrics I Fall 2019	Dr. W. Stock Office: 110 Linfield Hall Phone: 994-7984 E-mail: wstock@montana.edu Web: www.montana.edu/stock
Hours & Location:	**Office Hours:**
T & TH 1:40-2:55 LINH 109	T & TH: 3:00-4:00, or by appointment

READ THIS SYLLABUS. IT REPRESENTS A CONTRACT BETWEEN YOU AND THE INSTRUCTOR OF THIS COURSE. YOUR CONTINUED ENROLLMENT IN THE COURSE WILL BE INTERPRETED AS YOUR ACCEPTANCE OF THIS CONTRACT.

The amount of learning you gain from class is directly related to the amount of effort you put into it.

Course Description and Course Objectives: ECNS 561 provides students with a background in basic principles of econometrics, regression analysis, and applications.

Texts: Wooldridge, Introductory Econometrics (any edition); Baum, Introduction to Modern Econometrics Using Stata

Problem Sets: We will have five problem sets during the semester. The problem sets are designed to be primarily applied (as opposed to theoretical) in nature, in order to give hands on experience with the topics we discuss in class. They will involve the use of statistical software. You can choose which to use, but Stata is available on all graduate student computers and in computer labs on campus, and is the program for which I can best provide assistance. Although they will not be collected or graded, we will discuss the problem sets in class and the exams will draw from them. As with most subjects, econometrics is best learned by practicing and applying the ideas. Therefore, I strongly encourage you to work through the problem sets and come to class prepared to discuss them.

Exams: We will have one midterm and one final exam. The exams may cover any material from the assigned readings, as well as any additional material that I cover in class. You are required to take exams at the scheduled time. **No make up exams will be given.** If you miss an exam **for any reason**, the final exam grade will be applied to that midterm.

Course Project: The learning objectives of the project include developing a hypothesis, understanding of logical research sequencing, data gathering and organization, research organization and structure, improving written communication skills, and improving critical analysis skills. To meet these learning objectives, you are required to conduct an original econometric study. This involves developing a hypothesis to test using economic theory and the statistical techniques learned in the course, gathering data, identifying potential statistical problems, solving those problems where possible, and writing an original research paper on the topic.

Although your study can be a test of a new hypothesis or an extension of a published study, most students find it useful to use the project as a springboard to their master's thesis. Regardless of your stage in the program, ***the project must be new and original work for you*** (no recycling of existing work or papers, no work on an existing project for a professor, no partially completed theses) and should use **only** the estimation techniques we discuss in class (i.e., OLS or GLS).

- *Project Topic:* You are required to turn in a typed page or two describing the topic you intend to study in your paper. This should include a clear explanation of the hypothesis you intend to test.

- *Final Paper*: This should be a relatively short paper research paper (+/-10 pages, plus carefully constructed tables). The quality of writing and the clarity with which the research is presented will be important determinants of the grade on the project. The final paper is **due *in class* on 11/26/19**. **Late papers will not be accepted. If you do not turn in your paper on time, you will receive zero points**.

Grading: The midterm exam, final exam, and final paper will each count for 100 points.

Academic Integrity: Please read and comply with the student conduct expectations contained in the *Student Responsibilities* section of MSU's *"Conduct Guidelines and Grievance Procedures for Students,"* available online at http://www.montana.edu/policy/student_conduct/#studentrespon. Violations of academic integrity diminish the value of a degree earned at MSU (negative externalities!!) and cheating will result in failure on the assignment and/or the course and all other disciplinary sanctions possible.

Note: The information in this syllabus, including grading information, is not concrete. Any changes to the syllabus will be discussed in class.

Anticipated Time Schedule for Course

(WEEK) DATES	TOPIC	WOOLDRIDGE READINGS	ASSIGNMENTS
(1) 8/27-8/29	Introduction & Overview	1, 19	
(2) 9/3-9/5	Mathematical Foundations Probability Foundations	Appendix A Appendix B	Responsible Conduct of Research Due 9/5
(3) 9/10-9/12	Mathematical Statistics Foundations Fundamentals of Estimation and Hypothesis Testing	Appendix C	PS1
(4) 9/17-9/19	Fundamentals of Estimation and Hypothesis Testing Matrix Algebra	Appendix C Appendix D	Topic Due 9/17
(5) 9/24-9/26	Two Variable (Simple) Regression Model: Definition & Estimation Linear Regression in Matrix Form	2 Appendix E	PS2
(6) 10/1-10/3	Simple Regression Model: Assumptions, Properties, Functional Form	2	
(7) 10/8-10/10	Midterm Review Midterm		PS3
(8) 10/15-10/17	Multiple Regression Model: Estimation Multiple Regression Model: Properties	3	
(9) 10/22-10/24	Multiple Regression Model: Inference	4	
10/29-10/31	Multiple Regression Model: Inference	4	PS4
(10) 11/5-11/7	Multiple Regression Model: Applications & Issues	5	
(11) 11/12-11/14	Multiple Regression Model: Applications & Issues	6, 7	
(12) 11/19-11/21	Multiple Regression Model: Dummy Variables	7	PS5
(13) 11/26	Heteroskedasticity Thanksgiving 11/28	8	Paper Due 11/26
(14) 12/3-12/5	Multiple Regression Model: Specification & Data Issues	9	
(15) 12/9	Final Exam 2:00-3:50		