AECN 896-004

Instructor:

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TA:

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Lectures and Labs:

- Lectures: MW 3:00 - 4:30 PM Course Website
- Labs: F 1:00 - 2:30 PM Lecture Notes

Office Hours: Wednesday, 10:00 to 11:30 pm or by appointment

Course Description: The main goal of this course is to learn how to conduct empirical research fairly independently by the end of the semester. In order to achieve this goal, students will be introduced to basic econometric theories through lectures. Further, students will be given plenty opportunities to apply econometric theories to actual empirical problems both during lectures and through assignments. Laboratory sessions lead primarily by TAs are designed, so students learn how to use statistical software to conduct econometric analysis independently, along with data management and visualization.

Reading Materials:

Required: Wooldridge, Jeffrey M. 2006. "Introductory Econometrics: A Modern Approach (5th edition)." Mason, OH: Thomson/South-Western.

Prerequisites: Intermediate calculus and statistics

Grading:

Assignments (4 assignments) :	40%
Midterm exams (2):	20%
Final Paper:	40 %
Total:	100%

- **Assignments:** There will be 4 assignments. Late submissions will have 1/3 of a letter grade deducted from the grade for that submission, increasing by an additional 1/3 grade for each 24 hours beyond the deadline.
- **Midter exams:** There will be two smalls-size open-book midterms to test your understanding of course materials held during regular class hours.
- **Final Paper:**

  For this assignment, you are asked to write a method-focused paper on the topic your choice using a real world data set (due: Dec, 16). You are encouraged to use the datasets you are using for your Master's thesis (talk with your advisor). Otherwise, you must find and use a panel data set.

  You may be able to find a panel dataset that fits your interest from the following sources (not all datasets are panel datasets):

  - OPENICPSR
  - Replication Wiki
  - woolrdridge R package

  You also write a small paper proposal for your final paper (due: Oct, 24). This assignment is for keeping you on track for making timely progress on your final paper. Before you write a proposal, you will need to consult with me for your research topic and datasets to be approved (due: Oct, 17). This ensures that your final paper is feasible and avoid last-minute panic.

Tentative Schedule:

- Week 1 (Aug, 22)
  - M: Introduction to econometrics
  - W: Simple univariate regression
  - F: Lab 1: Introduction to R
- Week 2 (Aug, 29)
  - M: Simple univariate regression
  - W: Simple univariate regression
  - F: Lab 2: Rmarkdown
- Week 3 (Sep, 5)
  - M: Labor Day: No Class
  - W: Monte Carlo Simulation
  - F: Assignment 1 review
- Week 4 (Sep, 12)
  - M: Multivariate regression
  - W: Multi-collinearity and omitted variable
  - F: Lab 3: Data management I
- Week 5 (Sep, 19)
  - M: Hypothesis Testing
  - W: Hetereoskedasticity and robust standard error estimation
  - F: Lab 4: Data management II
- Week 6 (Sep, 26)
  - M: Clustered error and bootstrap
  - W: Functional form and scaling
  - F: Assignment 2 review
- Week 7 (Oct, 3)
  - M: Dummy variables
  - W: Panel data methods
  - F: Lab 5: Data management practice
- Week 8 (Oct, 10)
  - M: Midterm 1
  - W: Panel data methods

  - F: Lab 6: Data visualization I
- Week 9 (Oct, 17)
  - M: Fall semester break: no class
  - W: Panel data methods
  - F: Assignment 3 review
- Week 10 (Oct, 24)
  - M: Panel data methods
  - W: Panel data methods (paper expectation)
  - F: Lab 7: Data visualization II
- Week 10 (Oct, 31)
  - M: Causal Inference
  - W: Causal Inference
  - F: Lab 8: Data visualization practice
- Week 11 (Nov, 7)
  - M: Causal Inference
  - W: Causal Inference
  - F: Assignment 4 review
- Week 12 (Nov, 14)
  - M: Causal Inference
  - W: Causal Inference
  - F: Lab 9: Research Flow and R
- Week 13 (Nov, 21)
  - M: Midterm 2
  - W: Student Holiday: No class
- Week 14 (Nov, 28)
  - M: Limited dependent variable
  - W: Limited dependent variable
- Week 15 (Dec, 5)
  - M: No class: work on the final paper
  - W: No class: work on the final paper

Academic Honesty:
Students are expected to adhere to guidelines concerning academic dishonesty outlined in Section 4.2 of University's Student Code of Conduct (`http://stuafs.unl.edu/ja/code/`). Students are encouraged to contact the instructor for clarification of these guidelines if they have questions or concerns. The Department of Agricultural Economics has a written policy defining academic dishonesty, the potential sanctions for incidents of academic dishonesty, and the appeal process for students facing potential sanctions. The Department also has a policy regarding potential appeals of final course grades. These policies are available for review on the department's website (`http://agecon.unl.edu/undergraduate`)

Students with disabilities:
Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY.