Course Description: The goal of this course is to provide you with basic tools for the analysis of cross-section and panel data. The course includes a general overview of regression analysis using ordinary least squares (OLS) estimation. Within that part of the course, we will discuss properties of the OLS estimator, interpretation of results, and hypothesis testing. A substantial part of the course will be devoted to the discussion of more advanced topics, such as instrumental variables estimation, panel data methods, and limited dependent variable (e.g. binary response) models. The emphasis of the course is on the practical usefulness and intuition behind various estimation methods. However, some degree of technicality should be expected. At the end of the course you should be able to choose the estimation method that is most appropriate for answering a particular policy question. You should also be able to formulate and estimate econometric models, test hypotheses, and interpret results.


Class Web Page: can be accessed through Canvas. Please check it regularly. Announcements, homework assignments, and other course-related materials will be posted there.

Evaluation: homework - 30%, midterm exam - 30%, final exam - 40%.

There will be five problem sets, which will be posted on FSU blackboard at least a week before the due date (each worth 6%). Regarding the first four problem sets, you are welcome to form study groups and discuss them with each other, but everyone should complete his/her own work independently. The last problem set will have to be completed in groups of three students, where the group assignment will be random. Problem sets will contain both theoretical questions and computer exercises. The software that we are going to use in this class is Stata. It is available on computers in the graduate computer lab, as well as on the FSU Virtual Lab (https://its.fsu.edu/service-catalog/desktop-and-mobile-computing/its-software/myfsuvlab). You can also purchase a Stata license if you like (see https://www.stata.com/order/gradplan-sites/).

Problem set schedule:

Problem set 1: Due Thursday, September 15
Problem set 2: Due Tuesday, October 11
Problem set 3: Due Thursday, November 3
Problem set 4: Due Thursday, November 17
Problem set 5: Due Thursday, December 1
The midterm exam will take place on Thursday, October 13th, during the regular class time. No make-up midterm will be scheduled. Should you miss the midterm because of the illness or other valid excuse, the weight of the midterm will be shifted to the final exam. In such a case documentation will be required. Whenever possible, you should contact me before the exam regarding your absence.

The final exam will be on Thursday, December 8th, from 12:30 - 2:30 p.m. There will be no make-up final scheduled, except for the cases of serious health problems, family emergency or exam conflict (see University policy).

Class attendance is strongly encouraged, although will not be enforced. Some of the covered topics will be rather advanced. By attending classes you will have a chance to not only hear the explanation of the material, but also ask questions and participate in class discussions. I strongly encourage you to attend all classes.

**Course Outline and Reading Assignments:**

1. Ordinary least squares (approximately 7 classes).
   - Basic concepts in probabilities and statistics in application to regression analysis
   - Simple and multiple regressions: Chapters 1, 2, and 3 (skim)
   - Dummy variables: Chapter 7
   - Hypothesis testing: Chapter 4
   - Heteroskedasticity: Chapter 8

2. Instrumental variables estimation and two stage least squares (approximately 7 classes): Chapter 15.
   - Motivation for using instrumental variables
   - Instrumental variables estimation
   - Potential problems with instrumental variables estimation
   - Testing for endogeneity and checking validity of the instruments

   - Pooling independent cross sections over time
   - Policy analysis and difference-in-differences estimator
   - First-difference estimator
   - Fixed effects and random effects estimators

4. Limited dependent variable models and sample selection corrections (approximately 5 classes): Chapters 7 and 17.
   - Linear probability model
   - Logit and Probit models for binary response
   - Goodness-of-fit measures for binary response models
   - Binary response models for panel data
University Attendance Policy
Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy
The Florida State University Academic Honor Policy outlines the University’s expectations for the integrity of students’ academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to “... be honest and truthful and ... [to] strive for personal and institutional integrity at Florida State University.” (For more details see the FSU Academic Honor Policy and procedures for addressing alleged violations, https://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy)

Academic Success
Your academic success is a top priority for Florida State University. University resources to help you succeed include tutoring centers, computer labs, counseling and health services, and services for designated groups, such as veterans and students with disabilities. The following information is not exhaustive, so please check with your advisor or the Dean of Students office to learn more.

Americans With Disabilities Act
Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

1. must register with and provide documentation to the Office of Accessibility Services (OAS);
2. must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
3. should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided. This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the Office of Accessibility Services
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu
Confidential Campus Resources
Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

Victim Advocate Program
University Center A,
Room 4100, (850) 644-7161,
Available 24/7/365,
Office Hours: Monday-Friday 8am-5pm
https://dsst.fsu.edu/vap

Counseling & Psychological Services
Askew Student Life Center, 2nd Floor
942 Learning Way
(850) 644-8255 / (850) 644-TALK
https://counseling.fsu.edu/

University Health Services
Health and Wellness Center,
(850) 644-6230
https://uhs.fsu.edu/

FSU Food Pantries
FSU has established Food Pantries where students in need can pick up non-perishable food items freely and anonymously. The Food Pantry is available during the pandemic, and it is free and open to all students to take what they need. Donations for collection of non-perishable food items are encouraged.
For more information about the Tallahassee Food Pantry, visit the Tallahassee Food for Thought Pantry website (https://dos.fsu.edu/resources/food-for-thought-pantry). The pantry is located at University Center A, Suite 4148. If you have questions or concerns, contact the Department of Student Support and Transitions at dsst@fsu.edu or (850) 644-2428.

Syllabus Change Policy
Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.