Seattle University
Albers School of Business and Economics
Economics 4110 | Applied Econometrics
Fall 2019 | Tuesday & Thursday 1:30-3:35 p.m. | Pigott 201

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Office Hours: Monday-Friday by appointment

Overview, Objectives, and Prerequisites

Integrating economics, statistics, and mathematics, econometrics involves estimating economic relationships, confronting theory with empirical evidence, and testing hypotheses. Success in economics as well as a variety of other social science and business fields requires the application of econometric methods, the interpretation of econometric results, and an understanding of the limitations of these methods.

This course will enhance your ability to:

- use Excel and R to work with real-world data
- develop and estimate econometric models
- understand and assess underlying assumptions
- interpret findings
- communicate findings to technical and non-technical audiences
- recognize limitations of econometric models, methods, and findings

Success in this course requires familiarity with algebra, calculus, statistics, and Excel. Specific prerequisites include ECON 2100, ECON 3100, and MATH 1130/1334 or their equivalents.

Textbook

Assignments and Exams

The course includes four problem sets. These are individual assignments.

The course includes two group projects involving an econometric analysis of real economic data. The first project concerns labor market earnings, while the second concerns mortgage approvals. These projects have multiple components. Please submit all components on Canvas; where indicated, also bring hard copies to class. I cannot accept late submissions, in part because we will discuss the econometric models and findings in class. Along with the submission of the final paper for each project, each group will provide a summary of each group member’s contributions. At the end of the quarter, each student will submit a confidential peer review evaluating the contributions of his or her group members.

Assigned readings include chapters and sections of the textbook as well as journal and magazine articles. The end of each Canvas module will provide a list of assigned textbook chapters or sections as well as links to assigned journal or magazine articles.

As in any course, class attendance is expected. However, I understand that emergencies and other unexpected circumstances occasionally prevent students from attending class. In this case, please let me know so that we can arrange for you to catch up on missed material. If you need to miss a class for a university-sponsored activity, please make arrangements with me — beforehand — regarding any work you might miss.

The course includes numerous opportunities for participation. In addition to in-class and online discussions of journal and magazine articles, problem sets, and course projects, I welcome questions and insights during lectures.

The course includes a midterm and a comprehensive final exam. I cannot reschedule an exam unless there is an emergency or other compelling reason. If you think you need to reschedule an exam, you need to let me know prior to the scheduled date.

Please check your email regularly in case there are announcements related to assignments.
Grading

Problem Sets 15% (3.75% each)
Midterm and Final Exams 40% (20% each)
Labor Market (LMA) and Mortgage Lending (MLD) Projects
  Overall Quality of Group Project 30% (15% each)
  Quality of Contributions/Peer Reviews 10% (5% each)
Class Participation 5%

I will grade at least one problem from each set. For this portion of the grade, I will apply the following scale:

A  95%
A-  90%
B+  87%
B   83%
B-  80%
C+  77%
C   73%
C-  70%
D+  67%
D   63%
D-  60%

I will use the same or a more generous scale for the midterm and final (e.g., the minimum for a B- may fall below 80%). I will post the grading scale for the exams on Canvas.

A detailed grading rubric for the LMA and MLD projects is available on Canvas. In percentage terms, the grading scale for these assignments is as follows:

A  94%
A-  88%
B+  84%
B   80%
B-  76%
C+  72%
C   68%
C-  64%
Your class participation grade depends on your engagement in class as well as the quality of your contributions to class and online discussions. A student who regularly provides thoughtful questions and insights in class and online can earn the maximum possible participation points. A quiet but engaged and prepared student who contributes to small group discussions and provides thoughtful posts in online discussions can also earn the maximum possible participation points.

**Course Outline**

Introduction to Econometrics: Chapter 1  
Simple Linear Regression: Chapter 2  
Multiple Regression: Chapters 3, 4, and 7  
Nonlinear Models: Chapters 2, 3, 4, 6, and 7  
Heteroskedasticity: Chapter 8  
Limited Dependent Variable Models: Chapters 7 (section 5) and 17 (sections 1 and 2)

The last page of each Canvas module will tell you how to prepare for the next class session.

**Deadlines and Exam Schedule**

**Labor Market Analysis**

October 1: Review of Questionnaire; Research Questions; Selected State; Proposed Division of Labor  
October 8: Exploratory Data Analysis and Sample Selection Criteria  
October 15: Descriptive Statistics; Draft of Introduction; Draft of Data Section  
October 22: Preliminary Econometric Estimates; Draft of Econometric Model and Estimation Methods Section  
October 29: Revised Econometric Estimates and Professional Results Table (*Bring a copy of the table for each group member.*); Draft of Results Section  
November 5: Final Paper; Summary of Contributions; and Class Discussion
Mortgage Lending Decisions

November 12: Exploratory Data Analysis; Sample Selection Criteria; Descriptive Statistics by Race and Ethnicity

November 19: Logit and Probit Estimates; Odds Ratios (*Bring a copy of your table for each group member.*)

November 26: Predicted Probabilities

December 3: Final Results Tables (Probit and Logit Estimates; OR; Predicted Probabilities)

December 5: Final Paper; Summary of Contributions; Peer Reviews; Class Discussion

Problem Sets

October 10: Interpreting Parameter Estimates, Testing Hypotheses, and Assessing Fit

October 24: Thinking Critically About Model Specification and Functional Form; Interpreting Parameter Estimates in Linear and Logarithmic Models

November 26: Computing and Interpreting OR, Predicted Probabilities, and Marginal Effects

December 3: Conducting Likelihood Ratio Tests and Developing Intuition about MLE

Exams

October 31: Midterm

December 9: Final
(12:00-1:50 p.m.)
Policies

Class Etiquette

Occasionally we will use laptops to enhance a class discussion or activity. You may use laptops to enhance your engagement with course materials or for the purposes of taking notes. Otherwise, please refrain from using laptops, smart phones, or other forms of technology during class. Surfing the web, checking or sending email or texts, and similar activities are distracting to everyone and detrimental to the learning environment. Please silence and put away all devices prior to a guest lecture.

Academic Resources

- Library and Learning Commons (Research Services, Learning Assistance Programs, Writing Center, Math Lab, and Media Production Center)
- Academic Integrity Tutorial

Academic Policies

- Academic Integrity Policy
- Academic Grading Grievance Policy
- Complete Set of Policies

Accommodation for Disabilities

If you have, or think you may have, a disability (including an ‘invisible disability’ such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff located in Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process.
Religious Accommodations

It is the policy of Seattle University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see, Policy on Religious Accommodations for Students (https://www.seattleu.edu/media/policies/Policy-on-Religious-Accommodations-for-Students---FINAL.PDF).”

Office of Institutional Equity

Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle U remains committed to providing a safe and equitable learning, living, and working environment. Seattle U offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct.

Seattle U requires all faculty and staff to notify the University’s Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student.

For more information, please visit https://www.seattleu.edu/equity/. If you have any questions or concerns, you may also directly contact the Title IX Coordinator in the Office of Institutional Equity (email: oie@seattleu.edu; phone: 206.296.2824).