Econ 320

Econometrics

MW, 1:00-2:15pm, White Hall 206

Dr. Ruixuan Liu

rliu41@emory.edu

Office Location: Rich 322A
Office Hours: 1:00-4:00pm Tuesday or by Appointment

Course Description: This course is an introduction to the statistical foundations of Econometrics. It will equip students with ground understanding of probability theory and mathematical statistics behind most econometric methods, highlighting endogeneity and heterogeneity issues associated with economic problems. The main concepts of asymptotic theory, with its applications to the classical linear regression model and other variants are also covered. By the end of the course, students should have a working knowledge of the linear regression models, discrete choice models, and sample selection models. Computing tutorials will be held during some lectures. This is designed to help students to understand the practical implications of the theoretical content of the lectures, and familiarize themselves with the use of powerful and widespread econometric software such as STATA. STATA is available on computers in the Econ lab (Rich 301), Woodruff Library, and Cox Hall.

Prerequisite(s): Econ 220.

Credit Hours: 4


Author: Jeffrey M. Wooldridge;

Course Objectives:
At the completion of this course, students will be able to:

1. Know the applicability of regression models to economic problems and dataset.
2. Have a working knowledge of large sample theory of linear regression models.
3. Implement estimation and inference in linear regression models via R or Stata.

Grade Distribution:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
</tr>
<tr>
<td>Lab Session</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Attendance</td>
<td>5%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>35%</td>
</tr>
</tbody>
</table>

Letter Grade Distribution:
<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 98.00</td>
<td>A+</td>
</tr>
<tr>
<td>93.00 - 97.99</td>
<td>A</td>
</tr>
<tr>
<td>87.00 - 92.99</td>
<td>A-</td>
</tr>
<tr>
<td>83.00 - 86.99</td>
<td>B+</td>
</tr>
<tr>
<td>80.00 - 82.99</td>
<td>B</td>
</tr>
<tr>
<td>75.00 - 79.99</td>
<td>B-</td>
</tr>
<tr>
<td>70.00 - 74.99</td>
<td>C+</td>
</tr>
<tr>
<td>65.00 - 69.99</td>
<td>C</td>
</tr>
<tr>
<td>60.00 - 64.99</td>
<td>C-</td>
</tr>
<tr>
<td>55.00 - 59.99</td>
<td>D+</td>
</tr>
<tr>
<td>50.00 - 54.99</td>
<td>D</td>
</tr>
<tr>
<td>&lt;= 49.99</td>
<td>F</td>
</tr>
</tbody>
</table>

Course Policies:

- **General**
  - All announcements, syllabus, home assignments, lecture notes, data files, and other course-related material will be posted on Canvas.
  - **No curving** in Grades. A+ is for consideration of the recommendation letter.
  - **No classes on November 14 and 19.** The class (a review session) will be rescheduled for the final exam.

- **Homework**
  - You should complete it all by yourself.
  - The solution manual is not complete and has many errors. You will lose points by copying from there.
  - For computational exercises, you should submit the corresponding code.

- **Midterm Exam**
  - **Date: Oct 17 Wednesday.** In-class.
  - This is a **closed-book** exam. You can bring your own calculator.
  - **No make-up exam.** If you missed it due to medical reasons and notified the professor in advance, it would be weighted on your final exam.

- **Final Exam**
  - **Date: Dec 19th Wednesday, 8:00 A.M - 10:30 A.M. The same classroom.**
  - This is a **closed-book** exam. You can bring your own calculator.
  - If you missed it due to medical reasons, you need to contact the Dean.

- **Attendance and Absences**
  - Attendance is counted according some random photos taken throughout the semester. Let $X$ be the number of absences (caught by the photos) and $Y$ be the points subtracted. Their correspondence is as follows.
    - (i) $X \leq 1, Y = 0$; (ii) $X = 2, Y = 2$; (iii) $X = 3, Y = 5$; (iv) $X \geq 4$, the student will get $F$ for the grade directly.
  - For those who skipped many classes, prior evidence suggests the highest grade one could get is $C$.

- **Lab Session**
  - The lab session is taught separately by Dr. Paloma Moyano.
– It accounts for 20% of your total grade.

**Academic Honesty Policy Summary:**

**Honor Code:** The honor code is in effect throughout the semester. By taking this course, you affirm that it is a violation of the code to cheat on exams, to plagiarize, to deviate from the teacher’s instructions about collaboration on work that is submitted for grades, to give false information to a faculty member, and to understand any other form of academic misconduct. You agree that the teacher is entitled to move you to another seat during examinations, without explanation. You also confirm that if you witness others violating the code you have a duty to report them to the honor council.
Course Outline:

Intro and Appendix A ................................................ approx 1 week
Appendix B .......................................................... approx 1 week
Appendix C .......................................................... approx 1 week
Chapter 2 ............................................................. approx 2 weeks
Chapter 3 ............................................................. approx 2 weeks
Chapter 4 ............................................................. approx 1 week
Chapter 5 and 8 ...................................................... approx 1 week
Chapter 7 ............................................................. approx 1 week
Chapter 15 ............................................................. approx 1 week