University of Virginia

Fall Semester 2017

**ECON 3720: Introduction to Econometrics**

Lecture

Tuesday and Thursday, 2 – 3:15 PM

Monroe Hall 130

Instructor

Professor Leland E. Farmer

E-mail: [lefarmer@virginia.edu](mailto:lefarmer@virginia.edu)

Office: Monroe Hall 240

Office Hours

Tuesday 3:30 – 5:30 PM, and by appointment

Teaching Assistant

Amzad Hossain

E-mail: [mh2vh@virginia.edu](mailto:mh2vh@virginia.edu)

Office Hours TBD

Discussion Sections

Thursdays:

* 4 – 4:50 PM, Monroe Hall 116
* 5 – 5:50 PM, Wilson Hall 238
* 6 – 6:50 PM, Monroe Hall 118

Prerequisites

A very good understanding of basic statistics (such as Stat 2120 or 3120) and multivariate calculus (such as Math 1220 or 1320) will be assumed. You may not take intro statistics concurrently with Econ 3720. Economics 2010 and 2020 are also highly recommended.

Introduction

This course is an introduction to econometrics, which is the theory and practice of analyzing economic data. Topics include statistical theory, measurement, and applications. Theoretical discussions and problems will be connected to analysis of real data. At the end of the course successful students will be qualified to understand and conduct simple economic data analysis in the real world.

Grading

Homework: 10 %

Midterm 1: 20 %

Midterm 2: 20 %

Final Exam: 40 %

Required Materials

**Book**

*Introductory Econometrics: A Modern Approach, 5th edition*, by Jeffrey M. Wooldridge. Copies of the 5th edition will be available in the bookstore and online. Slightly earlier / the latest editions should also be fine, but given that problems will sometimes be assigned directly from the textbook, please ensure that your edition’s problem numbers line up with the 5th edition’s.

**Software**

*Stata/IC 15.* You can either purchase a one year or perpetual license via this link,

<http://www.stata.com/order/new/edu/gradplans/campus-gradplan/>

Another option is to access Stata using the hive,

<http://its.virginia.edu/hive/>

using a remote desktop client. Keep in mind however that while this is free, there are only 45 Stata licenses available at any given time. Thus if you leave assignments / coursework involving Stata until the last minute, there is a good chance you will not be able to access the software.

Course Policies

**Homework**

There will be 10 homework assignments. Each assignment must be handed in at the beginning of the lecture on the day that it is due (usually Tuesday). Homework handed in late, even one minute late, will not be graded.

You are encouraged to work together on your homework assignments, and up to two students may hand in and receive credit together for a given assignment. If students collaborate, both students must understand and contribute to all the work handed in. Copying homework from other students, or failing to fully collaborate on joint assignments, will be regarded as an honor violation. Allowing another student to take partial or full credit for your work is also an honor violation.

Homework will be graded by the teaching assistant and a grader. Grades assigned by the TAs/grader are not subject to appeal unless an error was made by the grader (in other words, please don’t argue about how many points you think you should have received on a given problem). Your work is expected to be neat and legible, and typing your answers is encouraged. If the grader finds your work too sloppy and/or illegible, it will not be graded, or points will be taken off.

**Exams**

Exams will be a mix of multiple choice and short answer. The first two exams will take place during class and will last 75 minutes. All exams will be cumulative. Students will be permitted to bring a one-page sheet of notes for each exam.

**Lectures**

Lecture notes/slides will be posted to *UVaCollab*, usually by the evening before the lecture is delivered. You are strongly encouraged to print out a copy of the slides before coming to class, so you can follow along and take notes on your copies of the slides.

Posted lecture notes/slides do not contain all the material which will be discussed in class, and failure to attend all lectures means that you are going to miss important material. Attendance at all lectures is required.

**Honor policy**

**Exam and other accommodations**

All students with special needs requiring accommodations should present the appropriate paperwork from the Student Disability Access Center (SDAC) to Professor Farmer. It is the student’s responsibility to present this paperwork in a timely fashion and follow up with the instructor about the accommodations being offered. Accommodations for test-taking (e.g., extended time) should be arranged with Professor Farmer at least a week before an exam.

Course Outline

The following is a tentative outline of the topics we will cover in this course and is subject to revision. Exam dates are fixed. Note that there will be NO CLASS on October 17th.

**Week 1, Aug 22 and 24:** Introduction, Review of Probability and Statistics (Chapter 1 and Appendices B and C)

**Week 2, Aug 29 and 31:** Review of Probability and Statistics (continued) (Appendices B and C)

**Week 3, Sep 5 and 7:** Simple Linear Regression (Chapter 2)

**Week 4, Sep 12 and 14:** Simple Linear Regression (Chapter 2)

**Week 5, Sep 19 and 21:** Simple Linear Regression and Review (Chapter 2)

**Week 6, Sep 26 and 28:** Midterm 1 (September 26th) and Multiple Linear Regression (Chapters 3-7)

**No class Oct 3 (reading day)**

**Week 7, Oct 5:** Multiple Linear Regression (Chapters 3-7)

**Week 8, Oct 10 and 12:** Multiple Linear Regression (Chapters 3-7)

**No class Oct 17**

**Week 9, Oct 19:** Multiple Linear Regression (Chapters 3-7)

**Week 10, Oct 24 and 26:** Multiple Linear Regression (Chapter 3-7)

**Week 11, Oct 31 and Nov 2:** Review and Midterm 2 (November 2nd)

**Week 12, Nov 7 and 9:** Instrumental Variables and Simultaneous Equations (Chapters 15 and 16)

**Week 13, Nov 14 and 16:** Instrumental Variables and Simultaneous Equations (Chapters 15 and 16)

**Week 14, Nov 21:** Panel Data and Difference in Differences (Chapters 13 and 14)

**No class Nov 23 (Thanksgiving break)**

**Week 15, Nov 28 and 30:** Fixed Effects and Time Series Data (time permitting)

**Week 16, Dec 5:** Review

**Final Exam:** Thursday December 7th, 9 AM – 12 PM