

Syllabus: Econ 3720

Spring 2022

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Prerequisites

The prerequisite for this class is STAT 2120, APMA 3110, STAT 3120, or the equivalent. Although completing one of these classes with a grade of C+ or above is not formally a prerequisite for Econ 3720, a minimum grade of C+ in one of these introductory courses is a requirement for the Econ major. If you are planning to major in Economics but need to retake the introductory course in order to achieve a C+, I strongly urge you to complete the retake before attempting Econometrics. A strong knowledge of introductory statistics is very helpful in Econometrics.

A Note on the Recitation Sections

In some classes, recitation sections are little more than glorified office hours. That is not the case in ECON 3720. Recitation sections are designed to give you experience using Stata in a small group setting where you can work examples and receive help immediately when you encounter difficulties. The aim of ECON 3720 is to prepare you to actually do empirical analysis on your own and intelligently interpret the work of others, and the hands-on experience gained in the recitation sections is an integral part of that training.

Textbook

The required text is *Using Econometrics, A Practical Approach, 7th Edition*, by A.H. Studenmund. There are additional readings, which will be made available as pdf files through Collab, under Resources. These additional readings are *required* and *very important*.

The textbook has a companion web site which has data sets and other supplemental material.

Click [here](#) to visit the web site.

Software

Because this is a course in applied econometrics, we will make intensive use of STATA, a powerful statistical software package. STATA 17 is the most recent release. Because many handouts were composed using earlier versions of STATA, you may find small differences between the screen shots in the handouts and what you will see on your own computer. STATA is a very expensive piece of software, and neither UVA students nor faculty have access to free copies to install on their own computers. The University, however, does make it available at a healthy discount. You can rent a copy of “Stata/IC” to use for six months on your Windows/Mac/Unix computer for \$48.00. Longer rentals and purchases are also possible. For further information on acquiring STATA at a student discount visit this web site:

<http://www.stata.com/order/new/edu/gradplans/student-pricing/>

Be sure to click on the 6 month tab to find the price described above.

The University has a site licence for 45 simultaneous STATA users, and it is available in computer labs around grounds. However, because researchers across the entire University are using these licensed copies in their research, the University strongly discourages us from using their licenses for instructional purposes. The potential for the four sections of Econ 3720 to exhaust all 45 University licenses is obvious. I am therefore insisting that you rent a personal copy of Stata for your laptop. I should mention that portions of the exams will use Stata, another reason you will need a copy. Given how little you will pay for the textbook, \$48 for a Stata license does not seem too burdensome. Because not everyone will acquire Stata in the first week, some of you may end up using Stata licenses in the first recitation sections in order to get started.

Grading

Midterm

There will be an in-class midterm that will count for 25% of your grade.

The final exam will be administered in two parts. One part, which is 25% of the grade, will be a traditional final exam similar in format to the midterm.

Homework

There will be eleven homework assignments over the course of the semester. Submitting homework in a timely fashion is your responsibility. *Be sure to submit the correct file on time.* If Collab for some reason will not accept your submission *immediately email your homework to me and to your teaching assistant*; the time stamp on the email will establish that it was completed on time. For full credit, you must submit homework when it is due. Late homework submitted not more than 24 hours late will receive 90% credit (that is, 90% of what you would have received had it been submitted on time). Credit granted will diminish by an additional 10% for each additional day late; that is, to 80%, 70%, 60%. Homework assignments more than 4 days

late will not be accepted. *The submission deadlines will not be waived.*

Homework is Pledged. When doing the homework, you are permitted to use the text, STATA help files, class notes, and any handouts provided in class. *If there exist STATA do files or STATA log files created by students or instructors in the current or previous semesters, or written answers to the homework questions developed by students or instructors in the current or previous semesters, such as might be found in fraternity files or on the internet, you are not permitted to consult them or use them in any way in preparing homework submissions.¹ When the semester is over, you are not allowed to share your do files, log files, or homework submissions with later cohorts of students. Consulting or sharing this material will be treated as an honor offense.* Each individual is expected to individually work each problem he or she submits. The one form of mutual assistance that is permitted is to ask for help in explaining basic techniques and principles, and in identifying the portions of Collab handouts or Collab videos that explain how to do some particular thing. For example, a question such as: “What is AIC used for, and where is the command in Stata?” or “How do you get Stata to code up dummy variables?” or “Where can I find out how to use a log regression to forecast the level of a variable?” are examples of permitted questions. This is different from asking for someone to show you the precise steps used to answer specific homework questions or to guide you through answering them..

Stata Final

One portion of the final exam will test your knowledge of the Stata commands used throughout the semester. You will be given a data set and 20 questions and instructed to use Stata to find 20 numerical answers to the questions.

Homework/Stata Grade

I intend to compute the geometric mean of your average homework grade and your grade on the Stata final and count that as 47% of your overall course grade. If you are unfamiliar with the geometric mean, it works like this.

$$\text{Homework / Stata grade} = \sqrt{(\text{Homework grade})(\text{Stata grade})}$$

For example, if a student received an average grade of 90 on the homework and a 70 on the Stata final, his or her Homework/Stata grade would be $\sqrt{6300} = 79.4$. As this example illustrates, if the two grades are roughly comparable, the difference between the arithmetic mean and the geometric mean isn't very large – 80 versus 79.4. However, if the two grades are very different, the two measures are appreciably different. Suppose a student received an average grade of 90 on the homework but a 10 on the Stata final. Then the arithmetic average is 50, but the geometric mean is 30.

¹Excepting only one's *own* previous homework, if it should happen that you are repeating the class after having dropped, withdrawn, or failed in a previous semester.

Each semester a handful of students manage to get excellent homework grades, yet curiously are unable to answer even a small fraction of the questions on the Stata final, which is what one might expect if a student relies on others for their homework answers. Using the geometric mean instead of the arithmetic mean is designed to penalize such behavior.