

ECON 4470-1: Econometrics

Jonathan D. Oxley, Ph.D.

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E-mail: joxley@trinity.edu

Emails will be responded to within 24 to 48 hours

Office Hours: MW 9:30 AM - 1 PM

Class Time: MW 1:05 PM - 2:20 PM

MW 2:30 PM - 3:45 PM

Office: Chapman 422

Class Room: Chapman 105

Course Description

Economists use empirical analysis through econometric to explain the incentives causing behaviors, test economic theory, and forecast future outcomes. When properly utilized, econometrics is the tool that helps economists establish causality in a relationship. In this course, we will be focused on the development of statistical techniques of measurement and inference used in empirical economics. The course covers linear regression, maximum likelihood estimation, and significance tests. The main emphasis is on the proper formulation and testing of hypotheses.

Course Objectives

At the end of the course, students will be able to:

1. Understand what types of economic questions can be answered through econometric analysis
2. Explain the assumptions underlying an OLS regression
3. Explain under what circumstances estimates from an OLS regression are unbiased and efficient
4. Formulate null and alternate hypotheses, and use statistical techniques to test these hypotheses
5. Use data analysis software to perform econometric techniques in hypotheses testing

Required Materials

- Introduction to Econometrics, 4th edition by James H. Stock and Mark W. Watson. MyLab Economics with Pearson eText – Instant Access – for Introduction to Econometrics ISBN-13: 9780134543826

- Introduction to Econometrics with R by Christoph Hanck, Martin Arnold, Alexander Gerber, and Martin Schmelzer, available via course link
- A computer with internet access, R, R-Studio, and Microsoft Office or similar data analysis and word processing software

Technology Requirements

Course content is accessible through T-Learn and Pearson's MyLab. Students will need to be able to perform data analysis, write and upload assignments, and take assessments. Students should have access to high-speed internet and updated software. Mobile devices may be used to view course content, upload assignments, and take assessments as determined by the instructor.

Prerequisites

- ECON 1312, ECON 3425; ECON 2301 (or equivalent), and MATH 1312 or permission of instructor.

Course Structure

MyLab Homework

Each chapter will have a corresponding assignment in MyLab. The assignments will be made available either the day we finish a chapter in class, or immediately following the class we completed a chapter. You will always have at least one week to turn in your chapter assignment, and I will not make a chapter assignment due on the day of an exam. For chapters that are finished within a week of an exam, I highly recommend working ahead and finishing the corresponding homework, as the assignments will help you prepare for the concepts covered on the exams. Each chapter assignment is worth **25 points**, or **2.5% of your grade**. I will also be dropping your lowest score for a chapter assignment. In total, we are scheduled for 13 chapters this semester, meaning MyLab assignments will make up **30% of your final grade**. You will not be responsible for homeworks for chapters that we do not complete, and chapters not completed will not be counted for the lowest assignment drop. However, the weighting on your remaining chapters will be scaled appropriately so that homework still constitutes 30% of your final grade.

Weekly Quizzes

Most weeks throughout the semester, there will be a 1-2 question quiz on Wednesdays where we do not have an exam. These questions will be conceptual and computational in nature. Quizzes will be closed book, closed notes, and will help guide you in studying for your exams. Each quiz will be worth **10 points**, or **1% of your grade**. Quiz weeks are noted in the weekly schedule. In total, quizzes will be worth **100 points**, or **10% of your grade**. If you are going to miss a lecture on Wednesdays, please let me know in advance so you can take your quiz in advance. **There will be no makeup quizzes without a university sanctioned reason.** Missed quiz points can be rolled over to the next week's quiz; however, I do not recommend doing this.

Research Paper and Presentation

By the end of the course, students will apply the econometric concepts that they have learned, as well as the data analysis skills learned in R-Studio to conduct economic analysis and write a research paper. Resources on how to write an economics research paper will be provided on the course T-Learn page. The research paper will be worth **100 points** or **10% of your grade**. A rubric will be provided for a successful research paper; however, students should expect to write a 7-10 page paper with a minimum of three academic sources from economics journals. Additionally, in the final week of class, students will present their research paper with a slide-show presentation lasting 5-7 minutes. This presentation will be worth **50 points**, or **5% of your grade**. A rubric for this slide show will also be provided. Combined, the presentation and paper will make up **15% of your grade** or **150 points**. Through a careful following of the rubrics provided, students should find getting A's on both assignments quite manageable. However, given the time required to produce quality academic work, **I highly recommend working on these projects throughout the semester**. Students who wait until the final week of class to write their paper and make their presentation will likely struggle to do well on these final assignments. **Do not procrastinate on either your paper or your presentation**. Only .pdf, .doc, and .docx formats will be accepted for online submissions, and students can either turn in assignments via T-Learn, email, or by providing me a physical copy before the deadline. Additionally, if a student uses a presentation such as PowerPoint, Prezi, or Beamer Slides, I request that the student emails me a copy of that as well.

Exams

Three exams will be given throughout the course, each worth **150 points** or **15% of your grade**. Exams will be administered in class time, with exception to the final. Each exam will consist of short answer questions testing students on their conceptual and computational understanding of the concepts from the text. Exams will be closed book, closed note. Exam dates are scheduled for **2/16 and 3/23**. These dates will not change. I plan on covering Chapters 1-5 for Exam 1, Chapters 6-9 for Exam 2, and Chapters 10-11, 13 and 15 for the Final Exam. This is subject to course progress.

Final Exam

The Final Exam's university scheduled time for this course is Friday, May 6 8:30-11:30 AM. I am planning on attending a wedding on this day, meaning we will need to agree on a time that works for the class. Tentatively, I am proposing that we hold the final exam at Common Exam Time 1, or will be held at the university scheduled time: **Wednesday, May 4 3:30-6:30 PM. PLEASE LET ME KNOW IMMEDIATELY IF THIS TIME DOES NOT WORK FOR YOU OR IF YOU HAVE TWO OTHER FINALS SCHEDULED FOR THIS DAY**. I want to work with students to find a scheduling solution that works for us all. Please note, **there are no make-up exams without a University sanctioned reason**. If for some reason you do not complete either or both of the exams leading up to the final, the points from those assessments will be moved to the final. **I do not recommend doing this if at all possible**.

Grading Policy

The typical Trinity University grading scale will be used. I reserve the right to curve the scale dependent on overall class scores at the end of the semester. Any curve will only ever make it easier to obtain a certain letter grade. The grade will count the assessments using the following proportions:

- 30% of your grade will be determined by MyLab homeworks (25 points each, 300 points in total)
- 10% of your grade will be determined by your research paper (100 points in total)
- 5% of your grade will be determined by your research presentation (50 points in total)
- 45% of your grade will be determined by exams (15% each, 150 points in total)
- 10% of your grade will be determined by weekly quizzes (100 points in total)

Grading Scale as follows:

- A: 93% and above
- A-: 92%-90%
- B+: 89%-87%
- B: 86%-83%
- B-: 82%-80%
- C+: 79%-77%
- C: 76%-73%
- C-: 72%-70%
- D+: 69%-67%
- D: 66%-63%
- D-: 62%-60%
- F: 59% and below

Note: Assignment percentages scale the points possible in the assignment. There are 1000 points possible in the course. For example, one MyLab homework is worth 2.5% of your grade, or 25 points possible. Additionally, I like rewarding participation and will give out extra credit points for particularly insightful comments in class. Further extra credit opportunities may arise throughout the semester and will be announced both in class and on T-Learn. Please note: **I will not give points at the end of the semester to bump your final grade. You can easily earn extra credit throughout the course, so *you* have the power to marginally impact your grade.**

Course Policies

Late Work Policy

Assignment due dates are posted in the course schedule, as well as T-Learn and MyLab. MyLab homeworks must be completed on the platform and are due at 11:59 PM; however, your paper and presentation may be emailed to me, handed it at the beginning of class, or uploaded on T-Learn prior to the 11:59 PM deadline. You are always welcome to turn work in early; however, **I reserve the right to decline extensions requested after a deadline.** If you know you're going to be gone on the day an assignment is due, please either turn in your work early, or let me know ahead of time so an arrangement can be made.

Make-Up Course Policy

Due to the COVID-19 pandemic, it is entirely possible that a student or the instructor will contract the virus throughout the semester. In either case, a make-up lecture will be available either through the instructor's [Zoom meeting room](#) or a recording made available on T-Learn. In the case that the instructor contracts COVID-19 or any other illness, I will continue to teach courses over Zoom as my health allows, and I will send you all more detailed instruction in those cases.

Electronic Recordings of Course Instruction

Please be aware that all classroom instruction, including student participation in classroom activities, is subject to recording and dissemination on the University's secure course management system (T-Learn). The recordings will be made available only to students enrolled in the course to facilitate online learning and review. Students are expressly prohibited from capturing or copying classroom recordings by any means; violations will be subject to disciplinary action. Instructors who wish to use a recording outside of class must obtain the written consent of any students who are personally identifiable in the recording. I only plan on recording courses when a student cannot make it to class for health or university sanctioned reason.

Missed Exam Policy

If a student is unable to sit for either or both of the first exams, they may move those points to the final exam. If at all possible, I would not recommend this, as 30-45% of your grade would be dependent upon your performance on the final. As for the final exam, **there will be no make-up exam without a University sanctioned reason.**

Attendance Policy

The University expects regular class attendance by all students. I will take attendance each class period before beginning lecture. If a student is unable to make it to class for any reason, excused or unexcused, I do ask that the student emails me in advance of class. As an instructor, I have the prerogative of informing the Registrar to drop or withdraw a student from a course for nonattendance. I will do this after a week of unexplained absences, so please **email me if you are going to be absent.** After the last date to withdraw, a student dismissed from the class roll for excessive absences will receive an F in the course. Finally, absence from class does not constitute official withdrawal from the class or from the University. A student must initiate withdrawal from the class or from the University in the manner prescribed for "Withdrawal from a Course" or "Withdrawal from the University" in the Trinity University Courses of Study Bulletin.

University Excused Absences, COVID-19, and Late Assignments

Students who are absent from class in order to observe a religious holiday, who are absent from class while participating in a University-sponsored dramatic production, or who are absent from the campus because they officially represent the University in such sponsored activities as intercollegiate athletics, debate tournaments, and tours will be excused from classes. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Students with sick dependent children will also be considered excused.

For the duration of the COVID-19 pandemic, the following exception to the Excused Absences from Class policy has been approved: Students who are ill will be excused from classes.

To protect community health, we urge students to request an excused absence by informing instructors of the illness via email. Students must adhere to University health and wellness procedures for self-evaluation, follow-up, and quarantine as necessary. Please note: Untruthful student claims about illness may be regarded as a violation of the Academic Honor Code, which prohibits "falsification of academic records."

Students who experience a family emergency that interferes with academic performance are encouraged to contact Dr. Jennifer Henderson, Interim Associate Vice President for Academic Affairs, and Demetrius Brown, Dean of Students.

Late assignments will be accepted for no penalty if a valid excuse is communicated to the instructor before the deadline. After the deadline, I generally give a grace period allowing for extensions requested within the week of the assignment being due. Without timely communication after the deadline, assignments will be accepted for a 10% deduction in points per day until communication is established and a plan to turn in the assignment is put into place. After this any assignments handed in will be given 0. Please keep communication open with me. I understand that we are all working through a global pandemic, and I want to extend grace as much as possible while maintaining consistent policies.

University Health Protocols

To ensure that all members of the University community work in tandem to create a safe learning environment, the [University Policy on Protective Behavior](#) requires that the following health and safety protocols be observed on campus at all times until otherwise officially altered by the University:

- Students, regardless of vaccination status, must wear a mask indoors and outdoors when safe distancing is not possible.
- Personal hygiene and proper cough/sneeze etiquette must be followed

Failure to observe University health protocols will be considered a disruption of orderly conduct. In accordance with the Policy Regarding Disruption of Class, the instructor will issue a warning to the student; if the student continues to disrupt the class by failing to observe University health protocols, the instructor may drop the student from the class roster.

Policy Regarding the Disruption of Class

Students will not be permitted to behave in such a manner as to disrupt the orderly conduct of classroom activities. When such behavior occurs, it is the responsibility of the instructor to discuss the matter with the student involved, warning the student that continuation of such behavior may result in dismissal from the class. If the behavior continues, the faculty member may drop the student from the class. Failure to observe University health protocols will be considered a disruption of orderly conduct. In accordance with the Policy Regarding Disruption of Class, the instructor will issue a warning to the student; if the student continues to disrupt the class by failing to observe University health protocols, the instructor may drop the student from the class roster.

Email Communication

- For email, please respond to your instructor's and peers' messages within a 24-hour period.
- When emailing the instructor, please include your name, course number (ECON 4470) and section number (1) in the email title.
- Use a brief description in the subject line that outlines the topic of discussion.
- Avoid using slang or profane words.
- Use your instructor's correct title they for communication.
- Avoid using emoticons, such as smiley faces, and maintain a professional demeanor.
- Sign your email messages using your full name.

- AVOID USING ALL CAPS. This makes the message visually difficult to read and is perceived by the reader as "shouting."
- Use correct spelling, grammar, and punctuation, just as you would for any communication.
- Ask yourself whether you would be comfortable if someone other than the intended receiver were to read it. Remember, email is not a completely secure form of communication.
- Refrain from "flaming," which is expressing a strongly held opinion without tact or regard for others. Don't assume that recipients will know the intent of the message (e.g., "just kidding"). It reads differently when it's in print (electronic or not).
- Report any inappropriate communication considered to be of a serious nature to your instructor, as it may be a violation of University policy.
- Treat others with respect by making messages clear and succinct.

Academic Honor Policy

All students are covered by a policy that prohibits dishonesty in academic work. Under the Honor Code, a faculty member will (or a student may) report an alleged violation to the Academic Honor Council. It is the task of the Council to investigate, adjudicate, and assign a punishment within certain guidelines if a violation has been verified. **Students are required to pledge all written work that is submitted for a grade: "On my honor, I have neither given nor received any unauthorized assistance on this work" and their signature. The pledge may be abbreviated "pledged" with a signature.**

Note: I encourage students to work together on MyLab homeworks and to study together, as I find this to be an incredibly valuable resource for increasing understanding. Additionally, students may discuss their research projects with one another; however, I expect each student to turn in their own work. Finally, exams themselves must be fully performed by the individual student.

Reading Days

Readings Days are scheduled for **Monday, May 2 and Tuesday, May 3**. According to the Faculty Handbook, "no major papers or examinations may be scheduled for the two days of classes before Reading Days. Major papers or examinations are defined as papers or examinations that count for more than 10 percent of the total course grade. Laboratory quizzes and performance examinations are excepted from this stipulation." **For the Spring 2022 semester, this means no major papers or examinations may be scheduled on Thursday, April 28 or Friday, April 29.**

Student Support

Trinity faculty hold students to the highest academic standards, but we also know that the very best students seek out help when necessary. The following resources are in place to support your academic success:

- **Academic Success:** time management, student skills, test anxiety, note taking, tutoring
- **Career Services:** major exploration, career guidance
- **Counseling Services:** mental health concerns, mental health referrals
- **Quantitative Reasoning and Skills Center:** located in the Tiger Learning Commons of the Library, offers additional support for courses with a quantitative component. This semester, one of our tutors, Aidan Carr, is available to support students in economics at the times listed below. I strongly encourage using Aidan as a resource, especially if you are struggling in the course.
 - Sunday: 4-6 PM
 - Monday 6-8 PM in person, 8-9 PM on Zoom
 - Thursday: 3-5 PM

Students may access the QRS Center Zoom room by visiting clicking [here](#).

- **Student Accessibility Service:** accommodations for a diagnosed disability
- **Wellness Center:** nutrition, sleep, stress management
- **Writing Center:** starting a paper, finding a thesis, drafting and editing

Title IX/Sexual Misconduct Reporting

As a Responsible Employee who is committed to creating an environment where every member of our community can thrive, I want to let you know that I am a Mandatory Reporter. What that means is that I am required to report any instances of sexual misconduct, including sexual harassment, non-consensual sexual intercourse, non-consensual sexual contact, sexual exploitation, intimate partner violence, stalking, and related retaliation that I am aware of to the Title IX Coordinator. So, if you share information with me about any incidents that implicate the Sexual Misconduct or Anti-Harassment Policies, I am required to report all information to the Title IX Coordinator to make sure you have information about support resources and complaint resolution options. My report does not initiate the complaint process, and you are in control over how you choose to engage with our Title IX Coordinator. If you or someone you know has experienced sexual misconduct, including sexual harassment, I encourage you to share this information directly with the Title IX Coordinator or one of the individuals who has been designated as a confidential resource on campus [The reporting form is available here.](#)

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."

Weekly Schedule

The schedule is tentative and subject to change. Some chapters may not be covered due to time constraints, and students will not be responsible for knowing the content from those chapters. Assignment due dates are not flexible, and all assignments are due at 11:59 PM on the due date.

Week 1, 01/10 - 01/14:

- Introductions, Chapter 1

Week 2, 01/17 - 01/21:

- 1/17 Martin Luther King Day – No Class
- Chapter 2, Quiz 1
- 1/20 Add/Drop Ends

Week 3, 01/24 - 01/28:

- Chapter 3, Chapter 4, Quiz 2

Week 4, 01/31 - 02/04:

- 2/2 Pass/Fail deadline
- Chapter 4, Chapter 5, Quiz 3

Week 5, 02/07 - 02/11:

- Chapter 5, Quiz 4

Week 6, 02/14 - 02/18:

- Exam 1: 2/16

Week 7, 02/21 - 02/25:

- Exam 1 Review, Chapter 6

Week 8, 02/28 - 03/04:

- Chapter 7, Chapter 8 Quiz 5

Week 9, 03/07 - 03/11:

- 3/5 - 3/13, Spring Break – No Class

Week 10, 03/14 - 03/18:

- Chapter 8, Chapter 9, Quiz 6
- 3/15 Midterm Grades Due

Week 11, 03/21 - 03/25:

- Chapter 9, Exam 2: 3/23

Week 12, 03/28 - 04/01:

- Exam 2 Review, Chapter 10, Quiz 8

Week 13, 04/04 - 04/08:

- Chapter 11, Quiz 7

Week 14, 04/11 - 04/15:

- Chapter 13, Quiz 8

Week 15, 04/18 - 04/22:

- Chapter 15, Quiz 9

Week 16, 04/25 - 04/29:

- Quiz 10. Presentations, Final Paper Due 4/27.

Week 17, 05/02 - 05/06:

- 5/2 - 5/3 Reading Days – No Class
- Final Exam: Tentatively 5/4 3:30-6:30 PM, subject to class agreement and change