Faculty of Arts and Science
Department of Economics

Course:	ECON 475H1S – Applied Econometrics II
Course Webpage:	q.utoronto.ca
Term:	Winter 2025
Course Instructor:	Djogbenou, Antoine
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Teaching Assistant:	Lee, Quinlan
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TIME AND LOCATIONS

Lectures:	Thursdays, 2:00 PM – 4:00 PM, RW 142
Instructor Office Hours:	Thursdays, 12:30 PM – 1:30 PM, GE 236
Tutorials:	Thursdays, 4:00 PM – 5:00 PM, RW 142
Teaching Assistant Office Hours:	Tuesdays, 10:00 AM – 11:00 AM, GE 074

ORGANIZATION OF THE COURSE

All classes will be in person. The sessions are in the form of a lecture by the professor. Please note that you are expected to meet at the scheduled times in class on campus. Office hours and tutorials are also in-person. Please review the syllabus to determine how the class meets, office hours, tutorials and lectures will be conducted. Also, please note that the final exam will be in person.

The course materials will be available on the course's Quercus website. Announcements, lecture slides, questions, problems, data, and codes will be posted on the course website, which students are invited to consult regularly. Students will find the slides related to the covered topics on the course webpage before each class. The lectures and tutorials provide more details and explanations on the topics. These times will be used for interactive activities to answer questions about the course and provide examples to illustrate the concepts.

COURSE DESCRIPTION

This course is an introduction to advanced econometrics. It discusses econometrics models that are intensively used in empirical research from both statistical foundation and application perspectives. We will focus on empirical scenarios with cross-sectional, time-series and panel data. Students will learn how to address economic questions empirically, and complete a major empirical term paper, applying the tools of econometrics to a topic chosen by the student.

SOFTWARE

The practice works and term paper will involve using statistical software. Students may use their favorite software (e.g., STATA, SAS, R or MATLAB). However, STATA is the ***only*** package that will be supported by the instructor and teaching assistant. Other software is allowed but may not be supported by my teaching assistant. Students can purchase STATA at discounted prices. See the following website for details: https://mdl.library.utoronto.ca/technology/statistical-software.

COURSE PREREQUISITES

The prerequisites for this course are ECO 375 (70%) / ECO 374 (80%). Note that STA302H1 is not an accepted preparation. Prerequisites are strictly checked and enforced and must be completed **BEFORE** taking a course. It is the student's responsibility to check the prerequisites before enrolling in any course. By taking this course, you acknowledge that you will be removed from the course at any time if you do not meet all requirements set by the Department of Economics. See Faculty of Arts and Science Calendar for details. The instructor does not have any authority of waiving prerequisites.

TEXTBOOK

Wooldridge, J. M., 2010. *Econometric Analysis of Cross Section and Panel Data*, Mass., MIT Press.
ISBN: 9780262232586

The course will mostly be based on this textbook, which is available at the bookstore. Additional readings will be assigned or recommended during the course. Some other useful textbooks are:

Wooldridge, J.M., 2019. *Introductory Econometrics: A Modern Approach*, South-Western, Thomson Learning.
ISBN: 9781337558860

Cameron, A. C., and Trivedi, P.K., 2005. *Microeconometrics: Methods and Applications*, Cambridge University Press.
ISBN: 9780521848053

Cameron, A. C., and Trivedi, P.K., 2022. *Microeconometrics Using STATA*, STATA Press.
ISBN-13: 978-1-59718-359-8

EVALUATION

The final mark of this course is based on three parts: graded homework, term paper (proposal and completed paper), and final exam. The details, dates, and weights are presented below.

Graded homework (20%)
There will be two graded homework assignments, each of which will count for 10% of the course grades. Homework must be submitted through Quercus in PDF file format. If the homework involves empirical work, Stata log files should be submitted, too. Late homework receives a 10% penalty for each day of lateness unless the instructor receives a valid justification before the deadline. If a student indeed misses the due date of the homework with legitimate reasons and a documented excuse, he or she must submit the homework within 72 hours of the original due date to get a full mark. Otherwise, the 10%/day penalty will be applied. January 30 and February 27 are the due dates for these homework assignments.

Term Paper (5%+10%+35%)
Students will submit a term paper proposal (5%), make the oral presentation (10%) in class, and submit a completed version of the term paper (35%). Students can work in groups with up to three group members and must notify the instructor of the group member names by **January 23rd**. In the term paper, students will need to identify and answer an empirical question in economics using the methods they learn from this course. Please take a look at the separate document for more details about requirements and tips. The proposal is due by the end of **February 6th**. The penalty for each day of lateness is 10% of the original proposal mark. For example, if a student scores 5 out of the total 5 points for his/her term proposal but submits it two days later than the due date, then his/her mark for the term proposal is 5*(1-2*10%) =4.

The complete version of the term paper is due by the end of **April 14th**. The penalty for each day of lateness is 10% of the original term paper mark. For example, if a student scores 30 out of the total 35 points for his/her term paper but submits it two days later than the due date, then his/her mark for the term paper is 30*(1-2*10%) =24.

Each student of the group shall present a part of their term paper **in class.** For example, a three-student group can split the presentation by "literature review + econometric methods + empirical findings." The presentation slides must be submitted to the instructor one week before the presentation date. A presentation slot registration link will be distributed to the class. All the groups/individual students have opportunities to present, but the slots are offered as "first come, first served". Students who work in groups will receive the same marks for their proposals, presentations, and final papers.

Final Assessment (30%)
We have a final exam for this course. The final assessment will be cumulative. University rules for missing a final exam apply.

Important Dates

- Group member names — January 23, 2025
- Graded Homework 1 — January 30, 2025
- Term Paper Proposal — February 6, 2025
- Graded Homework 2 — February 27, 2025
- Term Paper Presentation — March 27 and April 3, 2025
- Term Paper Full Version — April 14, 2025
- Final Exam — April 9-30, 2025

Weighting of the Course

- Graded Homework 1 10 %
- Term Paper Proposal 5 %
- Graded Homework 2 10 %
- Term Paper Presentation 10 %
- Term Paper Full Version 35 %
- Final Exam 30 %

Grading System: Grades will be awarded in accordance with the Faculty of Arts & Science's grading system. For the description of the grading scheme, see: https://artsci.calendar.utoronto.ca/academic-record#grading

Grade Dispute: Requests for re-grading homework and/or exams must be submitted to the instructor in writing within one week after the exam and/or homework are returned. The instructor will re-grade the whole problem set and/or exam instead of a single question to ensure the consistency.

SUBMISSION, PRESENTATION, LATENESS PENALTIES AND MISSED TESTS

Submission/Presentation: Proper academic performance depends on students doing their work well and on time. Accordingly, the graded homework assignments, the term paper proposal, and the term paper full version for this course must be received by the due date. The term paper presentation must be done on the specified date.

Lateness Penalty: Submissions received later than the due date will receive a 10 % penalty for each day of lateness, as described above. Exceptions to the lateness penalty for valid reasons, such as illness, compassionate grounds, etc., may be entertained by the Course Instructor but will require supporting documentation (e.g., a doctor's letter). There will be no make-up except for the final exam. If a student misses a submission or a presentation and has a documented excuse within 72 hours of the original due or presentation date to get a full mark, the final exam will carry the extra weight.

Missed Final Exam: A deferral for the final exam will be granted only for a documented reason, such as illness, compassionate grounds, etc., confirmed by supporting documentation (e.g., doctor's letter) submitted within three days. For details, see https://www.artsci.utoronto.ca/current/faculty-registrar/petitions/deferred-exams.

OUTLINE

1. Syllabus and Basic Asymptotic Theory (Wooldridge 3 and notes/ Jan. 9)
2. Instrumental Variables Estimation of Single-Equation Linear Models (Wooldridge 5&6 and notes/ Jan. 16)
3. Linear Unobserved Effects Panel Data Models (Wooldridge 10 and notes / Jan. 23)
4. High Dimensional Latent Factor Models (Notes/ Jan. 30)
5. Structural VAR and FAVAR Models (Notes/ Feb. 6)
6. Maximum Likelihood Methods (Wooldridge 13 and notes/ Feb. 13)
7. Discrete Response Models (Wooldridge 15 & 16 and notes/ Feb. 27 & Mar. 6)
8. Estimating Average Treatment Effects (Wooldridge 21 and notes/ Mar. 13 & 20)
9. Term paper presentation (Mar. 27 & Apr. 03)

This lecture schedule is a guide. Dates and coverage may vary, given time constraints.

OTHER IMPORTANT COURSE INFORMATION FOR STUDENTS

All students are expected to familiarize themselves with the information on Academic Standards, Curriculum & Pedagogy.

Academic Honesty and the Use of Turnitin.com

Academic integrity is fundamental to pursuing learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree you earn will continue to be valued and respected as a true signifier of a student's individual work and academic achievement. As a result, the University treats cases of academic misconduct very seriously. The University of Toronto's Code of Behavior on Academic Matters outlines the behaviors that constitute academic misconduct, the processes for addressing academic offenses, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offenses include, but are not limited to:

For term paper papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.

- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment (this includes working in groups on assignments that are supposed to be individual work).

For the final assessment:

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else's answers.
- Misrepresenting your identity.
- Submitting an altered test for regarding.

Misrepresentation:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following the procedures outlined in the Code of Behavior on Academic Matters. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me. If you have questions about appropriate research and citation methods, you are expected to seek out additional information from me or other available campus resources like the College Writing Centers or the Academic Success Centre.

We will use Turnitin.com in this course. Students must submit this assignment by the due date to Turnitin.com for a textual similarity review. *"Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site".* Students who do not agree with the submission of their paper to Turnitin.com must contact the instructor in the first week of this course.

Generative AI is not required to complete any aspect of this course, and we caution you to not rely entirely on these tools to complete your coursework. If you decide to use AI tools, we recommend treating it as a supplementary tool only for exploration or drafting content. Ultimately, you (and not any AI tool) are responsible for your own learning in this course, and for all the work you submit for credit. It is your responsibility to critically evaluate the content generated, and to regularly assess your own learning independent of generative AI tools. Overreliance on generative AI may give you a false sense of how much you've actually learned, which can lead to poor performance in this course, in later courses, or in future work or studies after graduation.

Accessibility Needs: The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: disability.services@utoronto.ca or http://studentlife.utoronto.ca/accessibility.

Data Source

1. University of Toronto Map and Data Library: https://mdl.library.utoronto.ca/
2. Panel Study of Individual Dynamics: https://psidonline.isr.umich.edu/
3. Federal Reserve Economic Data: https://fred.stlouisfed.org/
4. World Development Indicators DataBank: https://databank.worldbank.org/source/world-development-indicators
5. World Economic Outlook Database: https://www.imf.org/en/Data
6. Organisation for Economic Co-operation and Development Statistics: https://stats.oecd.org/
7. Statistics Canada Socioeconomic Data: https://www150.statcan.gc.ca/n1/en/type/data?MM=1