

APPLIED ECONOMETRICS I
ECONOMICS EC3388A-001
Department of Economics
Western University

September 2021

Instructor: Nirav Mehta
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Office hours: In person, M: 9-10am; Tu: 9-10am
Delivery mode: In-person
Meeting time(s): M: 10:30am-12:30pm; W: 11:30am-12:30pm
Classroom: M: SSC 3010; W: SSC 1059
Course website: <https://owl.uwo.ca/portal>
Undergraduate inquiries: 519-661-3507 or SSC Room 4075 or econugrd@uwo.ca

Registration:

You are responsible for ensuring you are registered in the correct courses. If you are not registered in this course, the Department will not release any of your marks until your registration is corrected. You may check your timetable by using the Login on the Student Services website at <https://student.uwo.ca>. If you notice a problem, please contact your home Faculty Academic Counsellor immediately.

Prerequisite/Antirequisite Note:

The prerequisite(s) for this course is Economics 2223A/B.

You are responsible for ensuring that you have successfully completed all course prerequisites, and that you have not taken any anti-requisite courses. Lack of prerequisites may not be used as a basis for appeal. If you are found to be ineligible for a course, you may be removed from it at any time and you will receive no adjustment to your fees. This decision cannot be appealed.

If you find that you do not have the course prerequisites, it is in your best interest to drop the course well before the end of the add/drop period. Your prompt attention to this matter will not only help protect your academic record, but will ensure that spaces become available for students who require the course in question for graduation.

Course Objectives:

This course is designed to give Economics Honours Students a deeper understanding of modern econometrics tools. A primary focus of the course is on providing extended practical experience in estimating econometric models using real-world data sources. The topics that we will cover include: 1) theoretical properties of econometric models designed for different data structures; 2) empirical applications of these techniques, and 3) skills for data analysis. Specific areas of

study include Time Series Analysis, Panel Data Analysis, Instrumental Variable (IV) Estimators, Simultaneous Equations Models, and Limited Dependent Variable Models. The course presumes that students are familiar with elementary calculus and linear algebra. The software R will be used for empirical analysis. More details about the software and lab sessions will be provided during the course.

Course Learning Outcomes:

Students who successfully complete the course will learn how to:

- analyze data sources used in empirical research.
- analyze econometric techniques used on different types of data.
- apply these techniques to real-world data sources using R.
- interpret parameter estimates from different econometric models.
- formulate econometric models to answer empirical questions.

Textbook(s) and Course Materials:

Wooldridge, Jeffrey (2015): *Introductory Econometrics: A Modern Approach*, 7th edition, South-Western.

Note: The 5th and 6th editions of this textbook is virtually identical for our purposes, as are earlier ones. Several copies of this textbook are on reserve at Weldon.

Assessments and Grading:

- Assignments (9%)
- Two exams (31% each)
- Final exam (29%)

Homework assignments are due at the start of class on the due date. Late assignments, and assignments not handed in will receive a grade of zero. The best five score out of the six assignments will count towards your grade. Late assessments with illness self-reports must be submitted within 24 hours of submission of the last illness self-report.

The midterm exams will be held on Monday, Oct. 4 and on Monday, Nov. 15 in the normal classroom (SSC 3010). There will not be any make-up tests for the exams. If you are unable to take an exam for a medical reason and provide appropriate documentation for it, its weight will be added to the final exam. The time and location of the final exam will be announced in class.

You may submit an exam for a regrade within one week of when it has been handed back in class; since I may scrutinize the entire exam during the regrade, your grade may go up, go down, or stay the same. Exams are “closed-book”. The only electronic device you may use during exams is a non-graphing, non-programmable calculator. Students are forbidden from using any books, notes, study guides, diagrams, communication equipment such as a cell phone, computer software, online resources or websites, or other aids unless authorized by the instructor; such authorization must be stated explicitly during the examination.

Topics and Schedule:

Adjustments to the course schedule will be made as needed, and will be announced in class.

Week	Date	Classroom Topic	Date	Computer Lab Topic
1	09/06/21	No Class	09/08/21	Probability and Statistics (Appendix B&C)
2	09/13/21	Linear Regression (Ch. 2-5)	09/15/21	Introduction to R
3	09/20/21	Linear Regression (Ch. 2-5) HW 1 due	09/22/21	Empirical Applications
4	09/27/21	Time series (Ch. 10)	09/29/21	Empirical Applications; HW 2 due
5	10/04/21	Midterm 1	10/06/21	Empirical Applications
6	10/11/21	No Class (Thanksgiving)	10/13/21	Panel Data 1 (Ch. 13); Robust and Clustered Standard Errors (Ch. 8)
7	10/18/21	Panel Data 1 (Ch. 13); Robust and Clustered Standard Errors (Ch. 8)	10/20/21	Panel Data 2 (Ch. 14); DIY: Panel Data in R; Robust and Clustered Standard Errors in R
8	10/25/21	IV (Ch. 15); HW 3 due	10/27/21	Random Effects Models, Empirical Application with Panel Data
9	11/01/21	No Class (Fall Break)	11/03/21	No Class (Fall Break)
10	11/08/21	IV/2SLS (Ch. 15); DIY Lab: IV using R	11/10/21	Review Session; HW 4 due
11	11/15/21	Midterm 2	11/17/21	Simultaneous Equation Models (Ch. 16)
12	11/22/21	Simultaneous Equation Models (Ch. 16)	11/24/21	Maximum Likelihood Estimation (Appendix C4)
13	11/29/21	Limited Dep. Variable Models (Ch. 17, incl. Appendix); HW 5 due	12/01/21	Limited Dep. Variable (Discrete Choice) Models in R
14	12/06/21	Limited Dep. Variable Models (Ch. 17, incl. Appendix)	12/08/21	Review Session; HW 6 due

Professionalism, Privacy and Copyright:

- Students are expected to follow the [Student Code of Conduct](#).
- All lectures and course materials, including slides, presentations, outlines, and similar materials, are protected by **copyright**. Students may take notes and make copies of course materials for their own educational purposes only.
- Students may not record lectures, reproduce (or allow others to reproduce), post or distribute lecture notes, assessments, or any other course materials publicly and/or for commercial purposes without written consent of the instructor.
- Recordings (audio or video) are not permitted without explicit, written permission of the instructor. Permitted recordings may not be distributed or shared.

1Please Note
Department & University Policies for Fall 2021

The University expects all students to take responsibility for their own Academic Programs. Students should also check their registration to ensure they are enrolled in the correct courses.

1. **Guidelines, policies, and your academic rights and responsibilities** are posted online in the current Western Academic Calendar at: <http://westerncalendar.uwo.ca>. Claiming that “you didn’t know what to do” is not an acceptable excuse for not following the stated policies and procedures.
2. Students must familiarize themselves with the “**Rules of Conduct for Examinations**” http://www.uwo.ca/univsec/pdf/academic_policies/exam/administration.pdf.
3. **Cheating as an academic offence:** Students are responsible for understanding what it means to “cheat.” The Department of Economics treats cheating incidents very seriously and will investigate any suspect behavior. Students found guilty will incur penalties that could include a failing grade or being barred from future registration in other Economics courses or programs. The University may impose further penalties such as suspension or expulsion.
4. **Plagiarism:** Students must write their essays and assignments in their own words. When taking an idea/passage from another author, it must be acknowledged with quotation marks where appropriate and referenced with footnotes or citations. Plagiarism is an academic offence (see Scholastic Discipline for Undergraduate Students in the Western Calendar at http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20).

Western University uses software to check for plagiarism and students may be required to electronically submit their work. Those found guilty will be penalized as noted in point 3.

5. It is a Department of Economics policy that **NO** assignments be dated, stamped or accepted by staff. Students must submit assignments to the instructor.
6. **Appeals:** University policies and procedures for appealing a mark can be found in the Student Academic Appeals section in the current Western Academic Calendar at: http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_14. **Please note the relevant deadlines.**

Department of Economics procedures for appealing a mark can be found here: https://economics.uwo.ca/undergraduate/program_counselling/responsibilities_policies.html#appeals. The Department will not consider an appeal unless an attempt has been made to settle the matter with the instructor first. Students who remain dissatisfied with the outcome may proceed to submit an appeal to econugrd@uwo.ca. Please follow the instructions and use the appeal form shown in the above link.

7. **Systematic adjustments of a class grade distribution** (either up or down) can occur in Economics courses. The fact that grades have been adjusted is **not** grounds for an appeal.
8. Note the following **add and drop deadlines**:

Deadline to add a first term half course:
Deadline to drop a first term half course:

Thursday September 16, 2021
Friday November 12, 2021

Policy Regarding Makeup Tests and Final Examinations

Faculty of Social Science policy states that oversleeping or misreading an exam schedule is NOT grounds for a makeup. This rule applies to midterm and final exams in the Department of Economics.

Policies Regarding Academic Accommodation

- The Faculty of Social Science's policies on academic accommodation are found at http://counselling.ssc.uwo.ca/procedures/having_problems/index.html.
- **Accommodation for Students with Disabilities:** Students with disabilities or accessibility challenges should work with Accessible Education (formerly SSD, see http://academicsupport.uwo.ca/accessible_education/index.html), which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here: [Academic Accommodation for Students with Disabilities](#).
- **Rewriting Exams and Retroactive Reweighting are NOT Permitted:** Students who proceed to write a test or examination must be prepared to accept the mark. Rewriting tests or examinations, or retroactive reweighting of marks, is **not** permitted. Self-Reported Absences cannot be used once a student has proceeded to start to write a test or exam.
- **Self-Reported Absences:** Students will have two opportunities during the fall and winter terms to receive academic consideration if they self-report a missed assessment using the online self-reported absence portal, provided the following conditions are met: the assessment is missed due to an absence of no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student's final grade. Students are expected to contact their instructors within 24 hours of the end of the period of the self-reported absence, unless noted otherwise on the syllabus. Students are not able to use the self-reporting option in the following circumstances:
 - for exams scheduled by the Office of the Registrar (e.g., final exams)
 - absence of a duration greater than 48 hours
 - assessments worth more than 30% of the student's final grade
 - if the student has opened or started the test or exam
 - if a student has already used the self-reporting portal twice during the fall/winter terms

If the conditions for a Self-Reported Absence are *not* met, students will need to provide a Student Medical Certificate (SMC) if the absence is medical or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty academic counselling office for more information about the relevant documentation. It is strongly recommended that students notify the instructor as soon as possible, ideally before the assessment, when they become aware of an absence. University policy is that students must communicate with their instructors no later than 24 hours after the end of the period covered by the SMC or immediately upon their return from their documented absence. Failure to follow University policy and procedures may result in denial of academic accommodation and a grade of zero.

- **Documentation for Accommodation:** Individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds or for other reasons. **All required documentation for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**
- **Western University policy on Consideration for Student Absence** is available here: [Policy on Academic Consideration for Student Absences - Undergraduate Students in First Entry Programs](#).
- **Student Medical Certificate (SMC):** This form is available here: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.
- **Religious Accommodation:** Students should consult the University's list of recognized religious holidays and should give reasonable notice in writing, prior to the holiday, to the Instructor and an Academic Counsellor if their course requirements will be affected by a religious observance. Additional information is given in the [Western Multicultural Calendar](#).

Policy Regarding Class Attendance and Engagement: If the instructor deems a student's attendance or engagement in the class to be unsatisfactory, that student may be prohibited from writing the final examination. Examples of unsatisfactory class engagement include frequent absences from an in-person or synchronous online class, lack of assignment submissions, and inadequate use of online course materials. Instructors who intend to make use of this policy will notify the student in advance.

Statement on Mental Health and Support Services: Students under emotional/mental distress should visit http://uwo.ca/health/mental_wellbeing/ for more information and a complete list of resources on how to obtain help.

Statement on Remote Proctoring: While Western intends to hold most classes, mid-terms and finals in-person, the London-Middlesex Health unity may require western to teach in a remote format. If this occurs, all assessments will be done remotely and may involve the use of remote proctoring software (i.e., Proctorio, ProctorTrack). Instructors will provide information on the details should the need arise.