

Econometrics II  
ECONOMICS EC2123A-650  
Department of Economics  
Western University

Summer 2022

**General Information:**

**Instructor:** Emmanuel Murray Leclair  
**Office:** SSC 4048  
**E-mail:** emurray1@uwo.ca

**Office hours:** Office hours will be held online using Zoom. Hours and days will typically be Tuesdays 12:00pm-1:00pm and Thursdays 12:00pm-1:00pm. However, it might vary from week to week. Link will be posted on OWL website.

**Delivery mode:** Online, asynchronous  
Lecture materials uploaded Monday of each week, starting May 9<sup>th</sup>.

**Course website:** <https://owl.uwo.ca/portal>

**Undergraduate inquiries:** 519-661-3507 or SSC Room 4075 or [econugrd@uwo.ca](mailto: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(s):** Economics 2122A/B or Statistical Sciences 2035 with a minimum mark of 70%; and 0.5 course from: Mathematics 1225A/B, Mathematics 1230A/B, Calculus 1000A/B; and 0.5 course from Mathematics 1229A/B, Mathematics 1600A/B, Calculus 1301A/B, or Calculus 1501A/B.

**Antirequisite(s):** 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 Description:**

This course introduces the linear regression model as a tool to estimate economic relationships with observational data, test hypotheses about economic theory and learn about the effect of policies. Emphasizes will be put on the intuition underlying the linear model, interpretation of the ordinary least squares estimator as well as assumptions required to conduct inference. We will then introduce endogeneity and instrumental variables to study the distinction between correlation and causality, with a focus on practical application and intuition. Time permitting, we will cover time series and panel data.

## **Course Objectives:**

By the end of the course, students should be familiar with simple linear regression, multivariate regression, testing hypotheses and conducting inference on these models, testing for violation in model assumptions and how to address them. Lastly, students should also be familiar with the distinction between correlation and causation.

The empirical assignments will give the students the opportunity to apply their knowledge to actual economic examples. For instance, students will learn to apply the methods and analysis on real data using R or Stata.

## **Course Learning Outcomes:**

Upon successful completion of this course, students will be able to:

- Understand the fundamental concepts of econometrics and interpret regression results.
- Analyze the properties of the linear regression model.
- Perform valid statistical inference
- Know when results can be interpreted as causal
- Apply fundamental econometric tools in R or Stata.

## **Textbook(s) and Course Materials:**

Wooldridge, Jeffrey, *Introductory Econometrics: A Modern Approach*, 7<sup>th</sup> edition, South-Western.

## **Useful resource(s):**

<https://www.masteringmetrics.com/online-metrics-resources/>

## **Technical Requirements**

Zoom Meetings: The course content is delivered primarily using OWL. Office hours (and any unscheduled tutorials and synchronous lectures) will be delivered via Zoom. Students will be able to “Join” with a Zoom meeting using the tool on OWL.

Conduct in a Zoom meeting will adhere to guidelines outlined by Western University. Summary of which follows:

- Students must be able to identify themselves in a Zoom meeting. Identification can

include, but not limited to; activating student's webcam for visual confirmation, private message in Zoom Chat to the professor (or TA), or verbal confirmation.

- Students must have a microphone and on mute when joining the Zoom meeting.
- Students will preferably have a webcam available.
- Damaged or malfunctioning technology or low bandwidth that could affect the student's use of Zoom should be brought to the professor's attention as soon as possible.

Failure to identify yourself in a Zoom Meeting will result in your removal from the meeting, and you will be unable to reconnect. Internet connection to access resources on owl and partake in zoom office hours.

For technical support, see the OWL help page or contact Western Technology Services Helpdesk (<https://wts.uwo.ca/about-wts/contact.html>). Google Chrome or Mozilla Firefox are the preferred browsers for OWL; update your browser frequently.

### Assessments and Grading:

The course is designed as a six-week block with weekly quizzes and two empirical assignments. All assessment will be based on the lecture slides and videos, and tutorial videos. The breakdown of the grades are as follows:

Assessment	Tentative Date*	% of Grade	Material Coverage (up to)
Quiz 1	May 20 <sup>th</sup>	10%	Probability/Statistics and Introduction to Linear Regression
Quiz 2	May 27 <sup>th</sup>	10%	Properties of Simple Linear models
Quiz 3	June 10 <sup>th</sup>	10%	Multiple Linear regression model and inference
Assignment 1	June 17 <sup>th</sup>	20%	Conducting empirical analysis of a linear regression using R or Stata
Quiz 4	June 24 <sup>th</sup>	10%	Violation of assumptions of linear models
Quiz 5	July 8 <sup>th</sup>	10%	Causality, endogeneity, and Instrumental variables (IV)
Quiz 6	July 15 <sup>th</sup>	10%	Simple Time series models
Assignment 3	July 29 <sup>th</sup>	20%	Conducting empirical analysis of causal model using R or Stata

\*Exact dates will be provided on OWL, either by Announcement or Calendar or both.

**Quizzes:**

- Quizzes will be administered on OWL.
- Quizzes will be timed. Upon starting, students will have 1 hour to complete the quiz. It is the student's responsibility to ensure a stable internet connection upon starting the quiz.
- Able to start quiz on a 24-hour basis (midnight to midnight, Eastern time) to accommodate students outside of Canada
- Content on quizzes is cumulative but with more emphasis on new material
- Questions will be randomized from a question bank

**Assignment:**

- PDF template for the assignment will be provided
- Video tutorials and/or written notes will go through all technical requirements to complete each assignment.

**Missed assignments and quizzes:**

Assignments must be submitted on time. Late assignments will not be accepted, and no make-up assignments will be given.

If a single quiz is missed and the student's absence is officially excused (including SRA), I will add the weight of this quiz to all other quizzes. Students who miss two or more quizzes should contact the instructor for additional steps and to determine if the course learning outcomes have been sufficiently met to pass the course.

Students who miss any assessments must follow Western University's procedures for approval of their absence in order to receive an accommodation. See the 'Please Note' section of this course outline for details on these procedures. If Western University announces any procedures for the approval of absences during Summer 2020 that supplement or supplant the information provided on this syllabus, please follow those procedures.

**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.
- Students are expected to follow online etiquette expectations provided on OWL

**Tips on How to Be Successful in this Class:**

Students in this class should understand the level of autonomy and self-discipline required to be successful.

- Make it a daily habit to log onto OWL to ensure you have seen everything posted to help you succeed in this class.
- Follow weekly checklists created on OWL or create your own to help you stay on track.
- Treat this course as you would a face-to-face course. Take notes as you go through the lesson material. Keeping handwritten notes or notes in a regular Word document will help you learn more effectively than just reading or watching.
- Connect with others. Try forming an online study group and meet on a weekly basis for study and peer support.
- Do not be afraid to ask questions. If you have questions or are struggling with a topic, check the online discussion boards or contact your instructor(s) and or teaching assistant(s).

**Please Note**  
**Department & University Policies for Summer 2022**

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](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](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](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](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](mailto: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**:

### **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 [https://counselling.ssc.uwo.ca/procedures/academic\\_consideration.html](https://counselling.ssc.uwo.ca/procedures/academic_consideration.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](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 one opportunity during summer term 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.

- **Self-Isolation Reporting Tool:** Students who are required to self-isolate due to COVID-19 should complete the Self-Isolation Reporting Tool (SIRT). By using this, students are attesting that they must self-isolate as a result of direction obtained from a COVID-19 Self-Assessment. The information entered on this tool will be used by Academic Counselling to assess your need for academic considerations. Students should note that this tool is intended for self-isolation due to COVID-19 only and those who complete this form will be expected to remain off-campus for at least five days. Students are expected to contact their instructors within 24 hours of the end of the period of their self-isolation period, unless noted otherwise on the syllabus.
- **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](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 [https://uwo.ca/health/mental\\_wellbeing/](https://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.