

**ECONOMETRICS II**  
**ECONOMICS EC2123B-650**  
Department of Economics  
Western University

**January 2022**

**General Information:**

**Instructor:** Shahed Khan  
**Office:** 4050 SSC  
**Phone:** 519-661-2111 ext. 85349  
**E-mail:** [mkhan333@uwo.ca](mailto:mkhan333@uwo.ca)  
**Office hours:** Office hours will be held online using Zoom  
Wednesdays 6:00 pm – 8:00 pm ET (Eastern Time)  
**Delivery mode:** Online asynchronous lectures and in-person tutorials  
**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.

**Requisite Note:**

**Antirequisite:** Economics 2223A/B.

**Prerequisite:** The prerequisite(s) for this course is (are) **Economics 2122A/B**; and 0.5 from **Mathematics 1225A/B, Calculus 1000A/B, Calculus 1500A/B or the former Calculus 1100A/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:

The objective of this course is to provide the basic knowledge of econometrics that is essential to analyze economic data. It covers the basic tools of estimation and inference in the context of single equation linear regression model. We will first start with the simple linear regression model, introduce the ordinary least squares estimator, its properties, and use in statistical inference. Then we will review the multiple regression model and the properties of the estimates. We will also discuss how various technical problems inherent in economic analysis should be solved.

## Course Learning Outcomes:

Upon successful completion of the course, the student 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 in the linear regression framework (hypothesis testing, confidence interval etc.)

## Required Course Materials:

Required Textbook:

- Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 7<sup>th</sup> edition, South-Western College Pub.
  - This textbook is required for assignments/readings. Earlier editions have minor differences and can be used.

**MINDTAP:** <https://login.nelsonbrain.com/cb/entitlement.htm?code=MTPP-LZDQ-7870>  
(REQUIRED for assessments)

You must be registered for **MINDTAP** no later than **Friday, January 21** using your **UWO email and student number**. Users using emails other than their UWO emails and/or without their UWO student number will be removed. If an account is removed, all activities and assessments associated with that account will also be removed, and permanently, and will in no way be considered for grading.

## Technical Requirements:

- Laptop or computer
- Stable internet connection
- Microphone
- Webcam

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:

All quizzes in this course will be held online via MINDTAP. Instructions on how to access MINDTAP are found on the course website under Resources. The tentative date, length and weight of the assessments in the calculation of your course grade are as follows:

Assessment	Tentative Date*	Tentative Time Window*	Length	Weight
Quiz 1	February 4 <sup>th</sup>	6:00 PM – 8:00 PM	50 minutes	10%
Quiz 2	March 4 <sup>th</sup>	6:00 PM – 8:00 PM	50 minutes	10%
Quiz 3	March 25 <sup>th</sup>	6:00 PM – 8:00 PM	50 minutes	10%
Assignment 1	TBA	1 week	-	10%
Assignment 2	TBA	1 week	-	10%
Final Exam	To be scheduled by the Registrar's Office	To be set by the registrar	2 hours	50%

\*The dates/times of the tests are tentative and subject to change and subject to approval by the Registrar.

The quizzes and final exam will be mixed format (a combination of multiple choice, true/false, fill-in-the-blank questions and/or short answer questions). Each quiz will be available to students for **2 hours** on the date of the assessment. Once you begin the quiz you will have **50 mins** or until the **closing time** whichever is shorter to complete the quiz. Students will only be allowed to submit each quiz once.

### Policy Regarding Missed Assessments:

**There will be no make-ups for missed quizzes.** Students who miss a quiz due to medical or compassionate grounds (and can provide the appropriate documentation) will have the weight transferred to the final exam. For all missed quizzes, you must submit your valid documentation to Academic Counselling within 2 business days of the exam date. You must also notify your instructor prior to the test or at least within 24 hours after the excused period.

Students who miss the final exam, with approved documentation will write a **zoom proctored** makeup final exam that may differ in format from the original scheduled final exam and may be delivered on a different platform.

Students who miss any assessment (whether assignment, quiz, or final exam) **must** follow Western University's procedures for approval of their absence in order to receive an

accommodation. Please see the **Please Note Department Policies for 2021-2022** section of this syllabus for details on these procedures. If during the Winter 2022 term Western University announces any changes to these procedures, please follow those procedures.

### **Contacting the Instructor:**

My office hours are listed on page 1. Please feel free to join to my Zoom office hours using **UWO e-mail** to seek help or to discuss matters related to the course. If my scheduled office hours conflict with your schedule, you can request an appointment with me via email. Please insure that your email has subject line starting with “E 2123,” this will minimize the risk of your email being overlooked or perceived as spam.

### **Topics Covered and Readings:**

The course will follow the required textbook (see above). The tentative outline is as follows:

1. Introduction to Econometrics and Economic Data
  - Chapter 1
2. Simple Linear Regression
  - Chapter 2
3. Multiple Linear Regression: Estimation
  - Chapter 3
4. Multiple Linear Regression: Inference
  - Chapter 4
5. Multiple Linear Regression: OLS Asymptotics
  - Chapter 5
6. Multiple Linear Regression: Further Issues
  - Chapter 6
7. Multiple Linear Regression: Dummy Variables
  - Chapter 7
8. Heteroskedasticity
  - Chapter 8
9. Time Series (if time permits)
  - Chapter 10, 11 and 12

Note: Not all chapters will be covered entirely, and some topics that are not in the textbook will be added to the lectures.

### **Online Etiquette:**

Some components of this course may involve online interactions (typically through one-on-one zoom office hours, but can potentially involve a group of students). To ensure the best experience, please honour the following rules of etiquette:

- please “arrive” to the meeting on time
- please use your computer and/or laptop if possible (as opposed to a cell phone or tablet)

- ensure that you are in a private location to protect the confidentiality of discussions in the event that a discussion deals with sensitive or personal material
- [for group meetings] to minimize background noise, kindly mute your microphone for the entire meeting until you are invited to speak, unless directed otherwise
- [for group meetings larger than 30 students] In order to give us optimum bandwidth and web quality, please turn off your video camera for the entire meeting unless you are invited to speak
- unless invited by your instructor, do not share your screen in the meeting

The course instructor will act as moderator for the meeting and will deal with any questions from participants. To participate please consider the following:

- if you wish to speak, use the “raise hand” function and wait for the instructor to acknowledge you before beginning your comment or question
- remember to unmute your microphone and turn on your video camera before speaking
- self-identify when speaking.
- remember to mute your mic and turn off your video camera after speaking (unless directed otherwise)

Note that disruptive behaviour of any type during online meetings, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a meeting or of other serious online offenses may be subject to disciplinary measures under the Code of Student Conduct.

### **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.
- Recordings (audio or video) are not permitted without explicit, written permission. Permitted recordings may not be distributed or shared.

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

- Start each week by reading the assigned textbook chapter(s). Then read the lecture notes which summarize the main points of each chapter.
- Treat this course as you would do 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.
- Do not be afraid to ask questions. If you have any questions or are struggling with a topic, contact your TAs and myself.

- Remember you can always email me if you require additional assistance. I monitor my email account closely every day, and you should typically expect a reply within 48 hours, excluding weekends and holidays.

**Please Note**  
**Department & University Policies for Winter 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**:

Deadline to add a second term half course:

**Tuesday January 18, 2022**

Deadline to drop a second term half course:

**Monday March 14, 2022**

### **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 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](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.