

ECONOMETRICS II  
ECONOMICS EC 2123A/B  
Department of Economics  
Western University

**General Information:**

**Summer 2020**

**Instructor:** Charles Saunders  
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**Office hours:** Wednesday 9am-10am and 8pm-9pm (EDT) by Zoom  
**Classroom meeting time(s) & location:** Online  
**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.

**Prerequisites:** Economics 2122A/B or Statistical Sciences 2035 with a mark of 70; and 0.5 course from: Mathematics 1225A/B, Calculus 1000A/B, Calculus 1500A/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 an introduction to linear regression methods that are used in economics and econometrics. Linear regression is used throughout economics and business to understand relationships between events and observations, and to make forecasts to provide guidance. By

the end of the course, students should be familiar with simple linear regression, inference, and major assumptions of the linear model. Students will also know how to test for violations of the assumptions and how to correct the model. The empirical assignments will give the students the opportunity to apply their knowledge to actual economic examples.

**Course Learning Outcomes:**

Outcome	Assessment
The students will reinforce their basic statistics, understand the intuition behind representing data with a line, and derive the simple linear regression estimators.	Quiz 1
Students will derive the simple linear model properties to show that it is unbiased, the variance of the estimator will be used to construct formal hypothesis tests of the parameters. The linear model assumptions are introduced which are key for the model properties and validate hypothesis tests.	Quiz 2
In economics, the theoretical model can be tested using an empirical design to determine relationships between variables. Multiple regression allows for more elaborate empirical model designs than the simple linear model, so correct specification is important. Students are introduced to model specification problems, implications and solutions.	Quiz 3
This empirical exercise reinforces the above outcomes by examining the econometric theory with data. Students will be able to estimate linear models in Excel, hypothesis tests of the estimates, and provide a brief interpretation of the estimates and implications on model design.	Assignment 1
Two of the linear model assumptions are relaxed leading to heteroskedasticity and endogeneity. Students will understand the implications of these violations on the estimates and hypothesis tests. They will also know how to test for a violation and be able to present solution(s) to fix the resulting implications.	Quiz 4
Students will learn about simple time series models and autoregressive models. Students will be able to derive the properties of the model and estimates. Forecasting will be introduced, students, who learn how to assess the statistical difference between time series models.	Quiz 5
The last of the linear model assumptions is relaxed by way of autocorrelation. Students will derive the implications of, how to test for, and how to correct for this violation.	Quiz 6
This empirical exercise reinforces the above outcomes by examining the econometric theory with data. Students will be able to estimate linear models in Excel, hypothesis tests of the estimates, examine model specification and potential violations of the linear model assumptions. Students will be able to discuss the interpretation of the estimates, implications on model design, and potential solutions.	Assignment 2

## Textbook(s):

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

Earlier versions may have a similar presentation of the material, but individual chapters may be rearranged.

## 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	Due Dates*	Contribution to Grade	Material
Quiz 1	Week 1	10 %	Up to lecture 2
Quiz 2	Week 2	10 %	Up to lecture 4
Quiz 3	Week 3	10 %	Up to lecture 6
Assignment 1	Wednesday of Week 3	20 %	Up to lecture 6
Quiz 4	Week 4	10 %	Up to lecture 8
Quiz 5	Week 5	10 %	Up to lecture 9
Assignment 2	Wednesday of Week 6	20 %	Up to lecture 10
Quiz 6	Week 6	10 %	Up to lecture 10
Quiz 7	Exam Period	Optional	Up to lecture 10

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

### Quizzes:

- Quizzes will be timed
- Able to start quiz on a 24-hour basis to accommodate students outside of Canada.
- Cumulative but with more emphasis on new material
- Questions will be randomized from a question bank
- Quiz 7 is optional. The grade will be used to make-up a missed quiz or to replace a quiz with a lower grade.

### Assignments:

- MS Word template for the assignment will be provided
- Complete sample assignment will be provided for guidance of your assignment
- Video tutorials will go through all technical requirements to complete your 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), the student will take the make-up quiz during the final exam period. 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.

**Copyright:**

Lectures and course materials, including power point presentations, outlines, and similar materials, are protected by copyright. Students may take notes and make copies of course materials for their own educational purposes. Students may not record lectures, reproduce (or allow others to reproduce), post or distribute lecture notes, wiki material, and other course materials publicly and/or for commercial purposes without written consent.

**Please Note**  
**Department Policies for Summer 2020**

Remember that 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 and policies for the Faculty of Social Science and the Department of Economics are posted online in the current Western Academic Calendar at:  
<http://westerncalendar.uwo.ca>.
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 a notation on an official academic transcript, 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 in class or to the instructor during office hours.
6. When appealing a mark, students should refer to 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.

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 with a written appeal (e-mails are not acceptable) to the Undergraduate Director in Economics, stating the reasons for their appeal. A checklist is provided at:  
[http://economics.uwo.ca/undergraduate/program\\_counselling/responsibilities\\_policies.html#appeals](http://economics.uwo.ca/undergraduate/program_counselling/responsibilities_policies.html#appeals).

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:

Session	Deadline to Add a Course
Distance Studies	Friday May 8, 2020
Intersession	Tuesday May 12, 2020
Summer Evening (first term)	Friday May 8, 2020
<b>Summer Evening (second term)</b>	<b>Friday June 26, 2020</b>

Session	Deadline to Drop a Course
Distance Studies	Monday June 15, 2020
Intersession	Monday June 8, 2020
Summer Evening (first term)	Monday June 8, 2020
<b>Summer Evening (second term)</b>	<b>Monday July 20, 2020</b>

9. 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.

### **Policy on Tests, Final Exams and on Missed Academic Responsibilities**

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. Students must book travel arrangements AFTER final exam dates have been posted; travel is not an acceptable excuse for absence from a final exam.

Students who are temporarily unable to meet academic requirements due to extenuating circumstances can follow Western University procedures to request academic consideration through the following routes:

- a) Submit a Self-Reported Absence form if the conditions for submission are met (e.g., only for exams or assessments worth 30% or less of the course mark; not applicable to final exams; maximum one self-reported absence per summer term; see [link](#) for full list of conditions and info).

If the conditions for submission of a Self-Reported Absence form are not met, then:

- b) For medical absences, submit a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner along with a request for academic consideration to Academic Counselling in the student's home Faculty (see [link](#) for full info) ; or
- c) For non-medical absences (e.g., religious or compassionate), submit appropriate documentation to Academic Counselling in the student's home Faculty (see [link](#) for full info).

It is strongly recommended that students notify their instructors as soon as possible. University policy is that students **must** communicate with their instructors no later than **24 hours** after the end of the period covered by either the self-reported absence or SMC, or immediately upon their return following a documented absence. Failure to follow University policy and procedures may result in denial of academic accommodation and a grade of zero. Students should also set up an appointment to meet (virtually) with their instructor as soon as possible. If the instructor is not available, send an email message, copying the Undergraduate Coordinator at [econugrd@uwo.ca](mailto:econugrd@uwo.ca).

Note: Academic consideration is not normally intended for long-term, recurring absences, an existing disability, or high levels of stress related to academic performance. In such cases, students should consult their academic counsellor. See [link](#) for full information. In all cases, if the documentation submitted to request academic consideration is not acceptable, students will receive a grade of zero for the missed test, exam, or assignment.

**For full information about Western University’s policies and procedures for student absences and requests for academic consideration, please visit this [link](#).**

### **Policies Regarding Academic Accommodation**

The Faculty of Social Science’s policies regarding academic accommodation is found at [http://counselling.ssc.uwo.ca/procedures/having\\_problems/index.html](http://counselling.ssc.uwo.ca/procedures/having_problems/index.html).

“Academic Rights and Responsibilities” are also outlined in the Western Calendar at <http://westerncalendar.uwo.ca/PolicyPages.cfm?PolicyCategoryID=1&command=showCategory&SelectedCalendar=Live&ArchiveID=>. Claiming that “you didn’t know what to do” is not an acceptable excuse for not following the stated procedures.

### **Policy Regarding Class Attendance**

If the instructor deems a student’s class attendance as unsatisfactory, that student may be prohibited from writing the final examination. If there is intent to make use of this University policy, the student will be notified in writing.

### **Statement on Mental Health and Support Services**

Students under emotional/mental distress should visit [http://uwo.ca/health/mental\\_wellbeing/](http://uwo.ca/health/mental_wellbeing/) for more information and a complete list of resources on how to obtain help.