

**Econometrics I**  
**ECONOMICS EC2222A-001/002**  
**Department of Economics**  
**Western University**

**September 2023**

**Instructor:** Nirav Mehta  
**Office:** 4011 SSC  
**Phone:** 519-661-2111 ext. 85284  
**E-mail:** nirav.mehta@uwo.ca  
**Office hours:** In-person; M: 10:30am-12:30pm @ 4011 SSC  
**Delivery mode:** In-person (with rare exceptions, which will be announced)  
**Meeting times & Classroom:**  
Section 001 – Tu: 9:30 - 10:30am; Th: 9:30 - 11:30am @ UCC 41  
Section 002 – Tu: 2:30 - 3:30pm; Th: 1:30 – 3:30pm @ SSC 3022  
**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/Antirequisite Note:**

The prerequisites for this course are: (i) Economics 1021A/B and 1022A/B; or (ii) 0.5 from Mathematics 1225A/B, Mathematics 1230A/B, Calculus 1000A/B, and 0.5 from Mathematics 1229A/B, Mathematics 1600A/B, Calculus 1301A/B; or (iii) Calculus 1501A/B.

This course cannot be taken concurrently with or prior to taking Data Science 1000A/B as they will become antirequisites to one another in these sequences.

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 & Objectives:**

This is an introductory course in probability and statistics. The main goal is to teach students how to use statistics and basic economic theory to read and interpret data. This knowledge is paramount to learn how to use math and economics to understand the real world.

## **Course Learning Outcomes:**

At the end of this course students should be able to: (i) interpret tables, graphs, and statistics used for describing data; (ii) apply probability theory to model random variables; (iii) estimate population parameters using point and interval estimators; (iv) evaluate and describe the properties of an estimator; and (v) test theories about population parameters (determine an appropriate test statistic; implement a formal hypothesis test and interpret the outcomes).

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

Newbold, P., Carlson, W., and B. Thorne. Statistics for Business and Economics (Eighth edition), Prentice Hall (2011). (NCT8)

This textbook is not required, as my lectures are designed to be self-contained. But some students might find the text useful to follow along. Note that, while NCT8 is at the bookstore, the Seventh edition (NCT7), which you may be able to find used for a cheaper price, is a close substitute for the Eighth edition textbook. I will indicate the relevant material from both NCT7 and NCT8 for you to read.

## **Course outline:**

This is a tentative outline of our course, with book chapter references in parentheses (NCT7 and NCT8 use the same chapter numberings). The outline may be adjusted based on our progress. Note that material in lectures may not be in the textbook but may still appear on exams.

### **1. Foundations**

(a) Descriptive statistics (NCT 1-2)

(b) Probability theory (NCT 3)

### **2. Probability distributions**

(a) Discrete random variables and probability distributions (NCT 4)

(b) Continuous random variables and probability distributions (NCT 5)

(c) Random sampling and sampling distributions (NCT 6)

### 3. Inferential statistics

- (a) Point estimation (NCT 7)
- (b) Confidence intervals (NCT 7-8)
- (c) Hypothesis testing (NCT 9-10)

### 4. Linear regression, time permitting (NCT 11)

#### **Assessments and Grading:**

There are graded homeworks, midterms, and a final exam.

**Homeworks:** There are 3 graded homeworks, each of which will cover recent material. Homeworks will be posted on the course website one week before their due dates, which are October 5, October 26, and November 30. You must print out your homework assignment to turn it in. Late homeworks are forfeited; a homework assignment is considered late if it has not been turned in to me by 3:30pm on the day it is due. For convenience, I will collect homeworks at the start of class on their due dates. The lowest homework score will be dropped.

**Midterm 1:** 2-hour exam held outside of class. Wednesday, October 11, 7-9pm (location TBA).

**Midterm 2:** 2-hour exam held outside of class. Wednesday, November 8, 7-9pm (location TBA).

**Final exam:** This exam will be 2.5 hours. The date and time will be set later this semester by the Registrar's office. The course grade is computed using the following weights:

Homework:	10%
Midterm 1:	25%
Midterm 2:	25%
Final exam:	40%

All exams are cumulative. There will be no make-up mid-term exams. If a student misses a mid-term due to sickness or other acceptable excuse the student must present an official document justifying the absence and the weight of that exam will be added to the one of the final exam. This document must be submitted to me within one week of the scheduled mid-term. In case of lack of justification for the absence, a grade of zero will be attributed to that exam.

The following re-weighting rule applies to all students who have taken all three exams. If the final exam grade is higher than the lower midterm grade, the weight of the lower midterm will be reduced to 15%, while the final exam weight will be increased to 50% (all other weights remain the same). The re-weighting rule provides a way to improve your overall grade if you perform better on the final. This re-weighting rule does not apply to students who miss an exam.

You may submit an exam or homework for a regrade within one week of when it has been handed back in class but note that I may scrutinize the entire exam or homework during the regrade. This means your grade may go up, go down, or stay the same.

**Important Dates:**

9/7:	First day of class
10/5:	Homework 1 due
10/11:	Midterm 1 (WEDNESDAY, 7-9pm, location TBA)
10/26:	Homework 2 due
11/8:	Midterm 2 (WEDNESDAY, 7-9pm, location TBA)
11/13:	Drop day
11/30:	Homework 3 due
12/7:	Last day of class

**Professionalism, Privacy, and Copyright:**

Note that all of my material, including my lectures, is my intellectual property. This means lectures or other course materials cannot be shared with others.

**Electronic Devices:**

The only electronic device you may use during exams is a non-graphing, non-programmable calculator. Graphing/programmable calculators, cell phones, etc., must be kept in your bag. If you have any of these devices out during an exam it will be taken from you and will only be returned once you have turned-in the exam.

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

It will be important that you get the theoretical background in lectures and practice the theoretical and applied questions in the homeworks, which will be graded to incentivize their completion. It is vital to your understanding of the material to at least attempt to solve homework problems.

**Please Note**  
**Department & University Policies for Fall 2023**

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 OR DROP a first term full or half course: **Fri, Sept 15, 2023**
- Deadline to WITHDRAW from a first term full or half course: **Mon, Nov 13, 2023**

### **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**

- Academic accommodation will not be granted automatically on request. Students must demonstrate by documentation that there are compelling medical or compassionate grounds before academic accommodation will be considered. 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. Students must also book travel arrangements AFTER final exam dates have been posted as they must not conflict with tests or final exams.
- Unless medically incapable of doing so, students must notify their instructor prior to the test date or at least within **24 hours** when requesting a makeup exam. Failure to follow this procedure may result in denial of academic accommodation and a grade of zero. Students should also set up an appointment as soon as possible to meet with their instructor. If the instructor is not available, send an email message to the instructor, copying the Undergraduate Coordinator at [econugrd@uwo.ca](mailto:econugrd@uwo.ca). **Notifying instructors of a missed exam does not automatically entitle students to a makeup.**

- For medical illnesses, students may consult Student Health Services and request a Student Medical Certificate from the physician. If assessed by an off-campus doctor, students must obtain a certificate from his/her office at the time of the visit/assessment. Student Medical Certificate (SMC) is available here:  
[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf)
- **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.
- **Western University policy on Consideration for Student Absence** is available here:  
[https://counselling.ssc.uwo.ca/procedures/probation\\_rtw/appeals.html](https://counselling.ssc.uwo.ca/procedures/probation_rtw/appeals.html)
- **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/](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 unit 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.