

ECONOMETRICS I
ECONOMICS Eco 2222A-550/551

Department of Economics
Huron University College

G. Stirling

September 2021

E-mail: stirling@uwo.ca

Office Hours: M: 10:30 a.m. - 11:30 a.m.

T: 10:30 a.m. - 11:30 a.m.

W: 9:30 p.m. - 10:30 p.m.

Classroom meeting times & location:

Section 550: M 8:30 – 10:30 am W 8:30 – 9:30 am Room H 221

Section 551: M 8:30 – 10:30 am W 8:30 – 9:30 am Room V 210

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

Registration

You are responsible for ensuring you are registered in the correct courses. If you are not registered in a 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 Note

The prerequisites for this course are **Economics 1021A/B** and **1022A/B**, or **Economics 2001A/B**, and one of **MCV4U**, **Mathematics 0110A/B**, **Calculus 1000A/B**, **Calculus 1500A/B**, **Mathematics 1225A/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 an anti-requisite course. Lack of pre-requisites 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.

General Information:

Economics 2222 is an introductory course in statistics with applications in economics and business. Statistics deals with the description, analysis and interpretation of data. Thus this course will train you in techniques associated with these tasks. Many aspects of life are uncertain. In order to understand what may happen and the likelihood of events, an understanding of how we can use statistics to form expectations about the future is useful

The lectures will emphasize the reason for using a particular statistical technique to solve a particular problem. Also we will practice how to solve problems to get an understanding of the techniques.

Neither the lectures nor the textbook will be self-sufficient for an adequate understanding of the course and thus they should be read in conjunction with one another. The following outline gives the appropriate chapters in the text corresponding to each lecture topic.

Exercise sets will be distributed each week and the solutions discussed in class the next week. Several of these sets will be handed in and marked for credit. Students are strongly advised to do all exercises (as well as many further practice problems). I encourage you to talk to other students about the problems we will be covering, but you must submit an independent set of answers to the problems sets, copying someone else answers is plagiarism.

Learning Outcomes

After successful completion of Economics 2222A, the student will be able to:

- Represent economic relationships using graphical and mathematical methods
- Calculate and interpret probabilities
- Calculate probability distributions for discrete and continuous random variables
- Calculate and interpret confidence intervals and understand the process of hypothesis testing
- Analyze empirical economic relationships using simple regression techniques
- Make inferences about populations based upon quantitative analysis of sample data

Textbook: Newbold, Carlson, Thorne, *Statistics for Business and Economics* (8th Edition) Prentice Hall Press (2013).

Assessment:

Mid-term exam: Wednesday, October 20, 2021, 6:00 - 8:00 p.m.	45%
Final exam	<u>55%</u>

Note:

Students who fail to sit for the mid-term examination and have valid documented reasons will have their final examination reweighted to 80%. There will be **NO** make-up mid-term examinations.

	Topic	Chapter Reference
1)	Introduction to Statistics <ul style="list-style-type: none">– Uncertainty– Types of Data– Describing Data	1
2)	Measures of Central Tendency & Dispersion <ul style="list-style-type: none">– Mean, Median, Mode– Shape of Distributions– Measures of Variability– Chebychev’s Theorem– Empirical Rule	2
3)	Probability Theory <ul style="list-style-type: none">– Probability– Permutation vs Combinations– Rules of probability– Odds– Updating probabilities with Bayes’ Theorem	3
4)	Discrete Probability Distributions <ul style="list-style-type: none">– Expected value and variance of Discrete Random Variables– Binomial Distribution– Poisson Distribution– Jointly distributed Discrete Random Variables	4
5)	Continuous Probability Distribution <ul style="list-style-type: none">– Expected values and variance of Continuous Random Variables– Uniform Distribution– Normal Distribution	5
6)	Sampling Distributions <ul style="list-style-type: none">– Central limit Theorem– Sample Proportions– Sample Variances	6
7)	Estimation -- Point and Interval <ul style="list-style-type: none">– Unbiasness– Efficiency– Confidence intervals	7, 8
8)	Hypothesis Testing <ul style="list-style-type: none">– Forming Hypothesis and Alternative	9, 10
9)	Introduction to Simple Linear Regression <ul style="list-style-type: none">– Ordinary least Squares– Coefficient of Determination– Confidence intervals for estimates– Predictions and Confidence intervals	11

I plan to cover section 1, 2 and 3 in the first 2 weeks of class.
The sections 4 and 5 in the next 2 weeks and section 6 in the next 2 weeks after that.
Then we will have the midterm exam.
Section 7 in the next 2 weeks and 8 in the 2 weeks after that, and section 9 in the last 3 weeks of the course.



Appendix to Course Outlines: Academic Policies & Regulations 2021 - 2022

Prerequisite and Antirequisite Information

Students are responsible for ensuring that they have successfully completed all course prerequisites and that they have not completed any course antirequisites. Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Pandemic Contingency

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, typically using a combination of synchronous instruction (i.e., at the times indicated in the timetable) and asynchronous material (e.g., posted on OWL for students to view at their convenience). Any remaining assessments will also be conducted online at the discretion of the course instructor. In the unlikely event that changes to the grading scheme are necessary, these changes will be clearly communicated as soon as possible.

Student Code of Conduct

Membership in the community of Huron University College and Western University implies acceptance by every student of the principle of respect for the rights, responsibilities, dignity and well-being of others and a readiness to support an environment conducive to the intellectual and personal growth of all who study, work and live within it. Upon registration, students assume the responsibilities that such registration entails. While in the physical or online classroom, students are expected to behave in a manner that supports the learning environment of others. Please review the Student Code of Conduct at: <https://huronatwestern.ca/sites/default/files/Res%20Life/Student%20Code%20of%20Conduct%20-%20Revised%20September%202019.pdf>.

Attendance Regulations for Examinations

A student is entitled to be examined in courses in which registration is maintained, subject to the following limitations:

- 1) A student may be debarred from writing the final examination for failure to maintain satisfactory academic standing throughout the year.
- 2) Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course will be reported to the Dean of the Faculty offering the course (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Dean of that Faculty, the student will be debarred from taking the regular examination in the course. The Dean of the Faculty offering the course will communicate that decision to the Dean of the Faculty of registration.

Review the policy on Attendance Regulations for Examinations here:
https://www.uwo.ca/univsec/pdf/academic_policies/exam/attendance.pdf.

Statement on Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf. The appeals process is also outlined in this policy as well as more generally at the following website:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/appealsundergrad.pdf.

Turnitin.com

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Statement on Use of Electronic Devices

It is not appropriate to use electronic devices (such as, but not limited to, laptops, cell phones) in the classroom for non-classroom activities. Such activity is disruptive and distracting to other students and to the instructor, and can inhibit learning. Students are expected to respect the classroom environment and to refrain from inappropriate use of technology and other electronic devices in class.

Statement on Use of Personal Response Systems (“Clickers”)

Personal Response Systems (“clickers”) may be used in some classes. If clickers are to be used in a class, it is the responsibility of the student to ensure that the device is activated and functional. Students must see their instructor if they have any concerns about whether the clicker is malfunctioning. Students must use only their own clicker. If clicker records are used to compute a portion of the course grade:

- the use of somebody else’s clicker in class constitutes a scholastic offence
- the possession of a clicker belonging to another student will be interpreted as an attempt to commit a scholastic offence.

Academic Consideration for Missed Work

Students who are seeking academic consideration for missed work during the semester may submit a self-reported absence form online provided that the absence is **48 hours or less** and the other conditions specified in the Senate policy at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf are met.

Students whose absences are expected to last **longer than 48 hours**, or where the other conditions detailed in the policy are not met (e.g., work is worth more than 30% of the final grade, the student has already used 2 self-reported absences, the absence is during the final exam period), may receive academic consideration by submitting a Student Medical Certificate (for illness) or other appropriate documentation (for compassionate grounds). The Student Medical Certificate is available online at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

All students pursuing academic consideration, regardless of type, must contact their instructors no less than 24 hours following the end of the period of absence to clarify how they will be expected to fulfill the academic responsibilities missed during their absence. **Students are reminded that they should consider carefully the implications of postponing tests or midterm exams or delaying submission of work, and are encouraged to make appropriate decisions based on their specific circumstances.**

Students who have conditions for which academic accommodation is appropriate, such as disabilities or ongoing or chronic health conditions, should work with Accessible Education Services to determine appropriate forms of accommodation. Further details concerning policies and procedures may be found at: <http://academicssupport.uwo.ca/>.

Policy on Academic Consideration for a Medical/ Non-Medical Absence

- (a) **Consideration on Medical Grounds for assignments worth *less than 10%* of final grade: Consult Instructor Directly and Contact Academic Advising**

When seeking consideration on **medical grounds** for assignments worth *less than 10%* of the final course grade, and if the student has exceeded the maximum number of permissible Self-Reported absences, the student should contact the instructor directly. The student need only share broad outlines of the medical situation. The instructor **may** require the student to submit documentation to the academic advisors, in which case she or he will advise the student and inform the academic advisors to expect documentation. If documentation is requested, the student will need to complete and submit the [Student Medical Certificate](#). The instructor may not collect medical documentation. The advisors will contact the instructor when the medical documentation is received, and will outline the severity and duration of the medical challenge as expressed on the Student Medical Certificate and in any other supporting documentation. The student will be informed that the instructor has been notified of the presence of medical documentation, and will be instructed to work as quickly as possible with the instructor on an agreement for accommodation.

(b) Consideration on Non-Medical Grounds: Consult Huron Support Services/Academic Advising, or email huronsss@uwo.ca.

Students seeking academic consideration for a **non-medical** absence (e.g. varsity sports, religious, compassionate, or bereavement) will be required to provide appropriate documentation where the conditions for a Self-Reported Absence have not been met, including where the student has exceeded the maximum number of permissible Self-Reported. All consideration requests must include a completed [Consideration Request Form](#). Late penalties may apply at the discretion of the instructor.

Please review the full policy on Academic Consideration for medical and non-medical absence at: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf. Consult [Huron Academic Advising](#) at huronsss@uwo.ca for any further questions or information.

Support Services

For advice on course selections, degree requirements, and for assistance with requests for medical accommodation, students should email an Academic Advisor in Huron's Student Support Services at huronsss@uwo.ca. An outline of the range of services offered is found on the Huron website at: <https://huronatwestern.ca/student-life/student-services/>.

Department Chairs, Program Directors and Coordinators are also able to answer questions about individual programs. Contact information can be found on the Huron website at: <https://huronatwestern.ca/contact/faculty-staff-directory/>.

If you think that you are too far behind to catch up or that your workload is not manageable, you should consult your Academic Advisor. If you are considering reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines. Please refer to the Advising website, <https://huronatwestern.ca/student-life/student-services/academic-advising/> or review the list of official Sessional Dates on the Academic Calendar, available here: <http://www.westerncalendar.uwo.ca/SessionalDates.cfm>.

You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. Note that dropping a course may affect OSAP and/or Scholarship/Bursary eligibility.

Huron Student Support Services: <https://huronatwestern.ca/student-life/student-services/>

Office of the Registrar: <https://registrar.uwo.ca/>

Student Quick Reference Guide: <https://huronatwestern.ca/student-life/student-services/#1>

Academic Support & Engagement: <http://academicsupport.uwo.ca/>

Huron University College Student Council: <https://huronatwestern.ca/student-life/beyond-classroom/hucsc/>

Western USC: <http://westernusc.ca/your-services/#studentservices>

Mental Health & Wellness Support at Huron and Western

University students may encounter setbacks from time to time that can impact academic performance. Huron offers a variety of services that are here to support your success and wellbeing. Please visit <https://huronatwestern.ca/student-life-campus/student-services/wellness-safety> for more information or contact staff directly:

Wellness Services: huronwellness@huron.uwo.ca

Community Safety Office: safety@huron.uwo.ca

Chaplaincy: gthorne@huron.uwo.ca

Additional supports for Health and Wellness may be found and accessed at Western through, <https://www.uwo.ca/health/>.

