

**ECONOMETRICS I**  
**ECONOMICS EC2122A-001/002**  
Department of Economics  
Western University

G. Stirling

September 2017

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**Office Hours:** T, Th: 1:30 p.m. - 3:30 p.m.  
**Classroom meeting times & location:**  
2122A 001 M 11:30 – 1:30 pm W 12:30 – 1:30 pm UCC 41  
2122A 002 T 8:30 – 10:30 am TH 8:30 – 9:30 am UCC 56  
**Course website:** <https://owl.uwo.ca/portal>  
**Undergraduate inquiries:** 519-661-3507 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 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 2122 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 2122A, 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* (7th Edition) Prentice Hall Press (2010).

### **Assessment:**

(i)	Four graded assignments (5% each)	20%
(ii)	Mid-term exam: Thursday, October 26, 2017, 7:00 - 9:00 p.m.	30%
(iii)	Final exam	<u>50%</u>
		<u>100%</u>

### **Schedule for Assignments**

Assignment 1: Due Section 001, Wed., Sept 27, 2017. Section 002, Thurs., Sept 28, 2017

Assignment 2: Due Section 001, Wed., Oct 18, 2017. Section 002, Thurs., Oct 19, 2017

Assignment 3: Due Section 001, Wed., Nov 1, 2017. Section 002, Thurs., Nov 2, 2017

Assignment 4: Due Section 001, Wed., Nov 22, 2017. Section 002, Thurs. Nov 23, 2017

### **Note:**

1. All homework assignments are to be handed in at the beginning of class on or before the due date. No late assignments will be accepted.
2. 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.

	<b>Topic</b>	<b>Chapter Reference</b>
1)	Introduction to Statistics – Uncertainty – Types of Data – Describing Data	1
2)	Measures of Central Tendency & Dispersion – Mean, Median, Mode – Shape of Distributions – Measures of Variability – Chebychev’s Theorem – Empirical Rule	2
3)	Probability Theory – Probability – Permutation vs Combinations – Rules of probability – Odds – Updating probabilities with Bayes’ Theorem	3
4)	Discrete Probability Distributions – Expected value and variance of Discrete Random Variables – Binomial Distribution – Poisson Distribution – Jointly distributed Discrete Random Variables	4
5)	Continuous Probability Distribution – Expected values and variance of Continuous Random Variables – Uniform Distribution – Normal Distribution	5
6)	Sampling Distributions – Central limit Theorem – Sample Proportions – Sample Variances	6
7)	Estimation -- Point and Interval – Unbiasness – Efficiency – Confidence intervals	7, 8
8)	Hypothesis Testing – Forming Hypothesis and Alternative	9, 10
9)	Introduction to Simple Linear Regression – Ordinary least Squares – Coefficient of Determination – Confidence intervals for estimates – Predictions and Confidence intervals	11

I plan to covers 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.

**Please Note**  
Department Policies for 2017 – 2018

Remember that the University expects all students to take responsibility for their own academic Programs. Also remember to check your registration to make sure you 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://westerncalendar.uwo.ca/2017/pg136.html>.
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 your official academic transcript, suspension or expulsion.
4. **Plagiarism:** Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge it by using quotation marks where appropriate and referencing with footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the current UWO Academic Calendar at <http://westerncalendar.uwo.ca/2017/pg113.html>).

The University of Western Ontario uses software to check for plagiarism and students may be required to submit their written work in electronic form. Those found guilty will have penalties imposed as noted in point 3.

5. It is Department of Economics policy that **NO** assignments be dated, stamped or accepted by staff. Students are responsible for submitting assignments in class or to the instructor during office hours.
6. When appealing a mark, students should refer to the University’s Procedures in the current UWO Academic Calendar (<http://westerncalendar.uwo.ca/2017/pg112.html>). Please note the relevant deadlines.

The Department will not consider any appeal unless an attempt has been made to settle the matter first with your instructor. If after this discussion you remain dissatisfied with a grade or other decision, you may proceed with a written appeal (e-mails are not acceptable) to the Undergraduate Director in Economics, stating the reasons for your appeal. A useful form and 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:

Last day to **add** a 1<sup>st</sup> term half course: **Friday, September 15<sup>th</sup>, 2017**

Last day to **add** a 2<sup>nd</sup> term half course: **Tuesday, January 16<sup>th</sup>, 2018**

Last day to **drop** 1<sup>st</sup> term half course without academic penalty: **Monday, November 13<sup>th</sup>, 2017**

Last day to **drop** 2<sup>nd</sup> term half course without academic penalty: **Wednesday, March 7<sup>th</sup>, 2018**

9. Faculty of Social Science policy states that oversleeping or misreading an exam schedule is not an excuse for a make-up. This rule applies to all mid-term tests and final exams in the Department of Economics.

### **Policy Regarding Makeup Tests and Final Examinations**

*Academic accommodation will **not** be granted automatically on request. You **must** demonstrate by documentation that there are **compelling** medical or compassionate grounds before academic accommodation will be considered.*

If you decide to write a test or an examination, you must be prepared to accept the mark you earn. Rewriting tests or examinations, or having the value of the test or examination reweighted on a retroactive basis, is **not** permitted. Book airline flights after you know the dates of your final examinations. Airline flights must not conflict with test or final exams.

If you are requesting a makeup test for a midterm or a final examination, unless medically incapable, notify your instructor by email or phone, preferably prior to the scheduled date of the test, but definitely within **24 hours** of the date of the test or exam. Failure to follow this procedure may result in denial of a request for academic accommodation or result in a grade of zero. Set up an appointment as soon as possible to meet personally with your instructor. If the instructor is not available, you may send an email message, copying the Undergraduate Coordinator at [econugrd@uwo.ca](mailto:econugrd@uwo.ca) (Social Science Room 4075). **Notifying your instructor of a missed test or exam does not automatically entitle you to a makeup test.**

Students who seek a makeup test or examination must provide medical or other relevant verification that their absence from a regularly scheduled test or examination is beyond their control. Documentation must support your reasons. Medical documentation should be given to the Academic Counselling Office of your *home* Faculty **as soon as possible (preferably within 24 hours of the test)** if you know you may not be able to write your final examination on the scheduled day and time. Failure to follow this procedure, or to provide supporting documentation, may result in denial of a request for academic accommodation or result in a grade of zero. If your documentation is not acceptable, you will be given a zero for the missed test.

For personal illness, if you consult Student Health Services regarding your illness or personal problem, you should request a Student Medical Certificate from the physician. If you were seen by an off-campus doctor, obtain a certificate from his/her office at the time of your visit. The off-campus medical certificate form must be used and can be found at: [http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf). Notes stating "For Medical Reasons" are not considered sufficient.

For any other circumstances, if you are not sure what documentation to provide, ask your Academic Counsellor. If your documentation is judged sufficient, the Academic Counsellor will issue a Recommendation for a Special Examination (a single form for midterms or a triple color form for final examinations). Once you have this form, contact your instructor as soon as possible to make arrangements. Even if approved from your home faculty Academic Counsellor, there is no guarantee that you will be allowed to write the makeup test and exam.

For final examinations, you need permission from your *home* Faculty Counsellor, your instructor, and the Department Undergraduate Director. Failure to follow this procedure may result in an examination grade of zero. You must ensure that the Special Examination form has been signed by the instructor and Department Undergraduate Director and that the form is returned to the Academic Counselling Office for approval without delay. Make-up final examinations, if permitted, will be written within one month of the end of the exam period.

### **Policies Regarding Academic Accommodation**

Information about the Faculty of Social Science's policies regarding academic accommodation is found on its website at <http://counselling.ssc.uwo.ca/procedures/havingproblems.asp> or in Social Science Room 2105. Your "Academic Rights and Responsibilities" are also outlined in the current UWO Calendar at <http://westerncalendar.uwo.ca/2017/pg111.html>. 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 your instructor views your class attendance as unsatisfactory, you can be prohibited from writing the final examination. If there is intent to make use of this University policy, you will be notified in writing.

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

If you or someone you know is experiencing emotional/mental distress, there are several resources here at Western to assist you. Please visit <http://www.uwo.ca/uwocom/mentalhealth/> for more information and a complete list of resources, as well as how to obtain help.