

College of Business + Economics

# ECON\*3740 Introduction to Econometrics F18 0.50 Credit

## **General Course Information**

| Instructor:   | Chaoyi Chen   |
|---|---|
| Email<br>Office Location<br>Office Hours<br>Department/School | <u>chaoyi@uoguelph.ca</u><br><i>MacKinnon 048</i><br>Mon, Wed, 1:00pm-3:00pm<br>Department of Economics and Finance |
| <b>TAs</b><br>Email<br>Office Location<br>Office Hours        | Anastasia Dimiski<br><u>adimiski@uoguelph.ca</u><br>TBA<br>TBA  |
| Class Schedule:   | Mon, Wed, 11:30am-12:50pm<br>Lab, TBA   |
| Pre-requisites:   | ECON*2310<br>ECON*2410<br>ECON*2740 or STAT*2040<br>ECON*2770 or MATH*1210  |

## **Course Description**

The purpose of this course is to familiarize undergraduate students with basic techniques of econometric analysis. We will learn how to test economic hypotheses using real data sets, and some simple methods of estimating economic models. To help consolidate concepts studied in class, there will be homework assignments you need to hand in individually. Lab session will be hold on a regular basis in addition to the main lectures. Through the labs, you will gain experience with econometric software by examining models applied to real data sets, which will be essential for the group term project.

## **Indicative Content**

- 1. Introduction
- 2. Basic Concepts Review

| 3. | The Nature of Econometric and Economic Data | Ch. 1  |
|----|---|--------|
| 4. | The simple Regression Model                 | Ch. 2  |
| 5. | Carrying Out an Empirical Project           | Ch. 19 |

| 6 | . Multiple Regression Analysis: Estimation         | Ch.3                     |
|---|--|--------------------------|
| 7 | . Multi Regression Analysis: Inference             | Ch. 4                    |
| 8 | . Multi Regression Analysis: Further Issue         | Ch. 6, 7                 |
| g | . Heteroskedasticity                               | Ch. 8                    |
| 1 | 0. Basic Regression Analysis With Time Series Data | Ch. 10 (Time permitting) |
| 1 | 1. More on Specification and Data Problems         | Ch. 9 (Time permitting)  |

## **Course Assessment**

|               |                       |               | Notes  | Due Date                                    |
|---------------|-----------------------|---------------|--|---|
| Assessment 1: | <b>20%</b><br>10%Each | 2 Assignments | ASSN 1: Topics 2,3,4<br>ASSN 2: Topics 6,7,8,9 | Oct 3<br>Nov 26                             |
| Assessment 2: | 20%                   | Midterm       | Will cover topics 2,3,4                        | Oct 10<br>In Class                          |
| Assessment 3: | 20%                   | Group Project |  | Nov 28<br>NO EXTERNSIONS                    |
| Assessment 4: | 40%                   | Final Exam    | Will cover all topics                          | Dec 12, 2:30pm-<br>4:30pm<br>(Location TBA) |

Total

#### Midterm test and final exam

100%

The midterm test will last 1 hour and 20 mins. The final exam will last 2 hours.

For the midterm test and the final exam, you are responsible for all material discussed in class, posted on courselink or assigned in the lectures.

The midterm test will cover Topics 2, 3, and 4. Details on the format of the midterm test will be provided later.

The final exam will cover all material taught in this course. Details on the format of the exam will be provided later.

#### Missing the midterm test

The midterm test is a compulsory part of your assessment. If you miss a midterm test, your grade will be zero. However, if you miss the midterm test for legitimate reasons, the weight will shift to the final exam. In this case, you must provide supporting documentation within a week of the missed test. In the event of illness, you must provide a medical note (original, i.e., neither scanned nor emailed). The form must be completed by a qualified medical doctor or nurse practitioner (i.e., not an acupuncturist, chiropractor, or other health care professional). The doctor's OHIP registration number must be provided.

## **Course Resources**

### **Required Texts:**

Jeffrey Wooldridge "Introductory Econometrics A Modern Approach" 6th edition Nelson

## **Course Policies**

#### **Grading Policies**

You will need medical or compassionate reasons to miss any of the graded events.

http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-grds.shtml

## **University Policies**

#### Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for

Academic Consideration:

http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml

#### Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

https://www.uoguelph.ca/registrar/calendars/undergraduate/2018-2019/

#### Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an

identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: <a href="http://www.csd.uoguelph.ca/csd/">http://www.csd.uoguelph.ca/csd/</a>

#### **Course Evaluation Information**

Please refer to: https://www.uoguelph.ca/economics/course-evaluation

#### Drop date

The last date to drop one-semester courses, without academic penalty, is November 2, 2018. For regulations and procedures for Dropping Courses, see the Academic Calendar:

https://www.uoguelph.ca/registrar/calendars/undergraduate/2018-2019/

## **Course Learning Outcomes**

The Department of Economics and Finance *Learning Outcomes* for this course are:

#### Skills:

- **1.** *Written Communication*: The group essay will provide an opportunity for students to provide a written evaluation of an empirical project.
- 2. Numerical Problem Solving: This skill will be utilized on solving problems for the assignments and during lab sessions. The midterm and final will test on solving numerical problems.
- **3.** Analytical Problem Solving: This skill will be utilized on solving problems for the assignments and during lab sessions. The midterm and final will test on solving analytical problems.
- **4. Problem solving in a Real World Context:** All econometrics methodologies will be learned on real life applications.
- 5. Group Work: The term project will be done in groups of students.
- 6. Computer Skills: The term project requires the abilities of collecting data, using data, applying quantitative methods appropriately, and computing the results using econometric software.

#### Knowledge:

- **1.** *Mathematical methodology*: The econometric theory is heavily based on the mathematical methodology.
- **2.** Statistical and Econometric Methodology: Both econometric theory and empirical application are heavily based on the statistical and econometric methodology.
- 3. *Micro/Macro-economic Modelling*: We test and estimate the econometric models based on economics theories.
- **4.** Economic Policy and Regulation: All sound economic policy is based on empirical evidence provided from econometric methodology.