

ECON 3EE3: Econometrics I

Fall 2018

Instructor: Youngki Shin

Email: shiny11@mcmaster.ca

Office : KTH 440

Office Hours: By Appointment

Lecture: Monday, 11:30-13:20 at ETB 238

Lab Session: Tuesday, 14:30-15:20 or Wednesday, 11:30-12:20 at KTH B121

TA: TBA

COURSE DESCRIPTION

This course aims to provide students with empirical analysis technique in economics. Now that empirical evidence is an essential part of an economic analysis, understanding statistical tools and concepts correctly is important for critical reading of economic research or articles.

Students will learn basic concepts in probability and statistics, causal inference, regression models, and hypothesis testing. Students will also participate hands-on exercises during the computer lab session and will learn how the econometric theory is applied to various real data sets in economics.

REQUIREMENTS

Econ 2B03 or equivalent. For detailed information on prerequisites and antirequisites, please check the following webpage:

<https://www.economics.mcmaster.ca/courses/econometrics-i>

COURSE MATERIALS AND TEXTS

This course requires the following textbook:

Stock, James H., & Mark W. Watson, 2015, Introduction to Econometrics, Third edition updated, Pearson Addison-Wesley (SW hereafter)

In addition, students will use the computer program R during the course. The software is available in the computer lab and students will learn how to install it in their own machines.

AVENUE TO LEARN

Avenue will be used for course announcements, files that you can download, and your grades. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

COURSE EVALUATION

The assessment will be based on the following three components:

1. Five assignments (30% in total)

2. Midterm exam (during the class hour, 30%)
3. Final exam (40%)

Assignments should be submitted by the end of the class hour (i.e. 13:20) on each due date. Late assignments will be marked as zero. Please note that the evaluation scheme allows students one miss of assignments without asking any reason.

If you miss the midterm exam for documented illness, the final exam will be re-weighted as 70%. If you miss the final exam for documented illness, a make-up exam will be arranged. Students are required to submit all required documents.

The location and time of the final exam will be determined by the Registrar's office.

COURSE POLICIES

Grades

Grades will be based on the McMaster University grading scale:

| MARK | GRADE |
|-------------|--------------|
| 90-100 | A+ |
| 85-90 | A |
| 80-84 | A- |
| 77-79 | B+ |
| 73-76 | B |
| 70-72 | B- |
| 67-69 | C+ |
| 63-66 | C |
| 60-62 | C- |
| 57-59 | D+ |
| 53-56 | D |
| 50-52 | D- |
| 0-49 | F |

Grade Adjustment Techniques

The final grade can be adjusted by a piece-wise affine transformation when the class outcomes are either too low or too high.

UNIVERSITY POLICIES

Academic Integrity Statement

You are expected to exhibit honesty and use ethical behavior in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behavior can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the [Academic Integrity Policy](#).

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

Academic Accommodation of Students with Disabilities

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements. Academic accommodations must be arranged before classes or academic work begins, and for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail sas@mcmaster.ca. For further information, consult McMaster University's Policy for [Academic Accommodation of Students with Disabilities](#).

Academic Accommodation for Religious, Indigenous and Spiritual Observances

Students who require academic accommodation due to an Observance must submit a RISO form to their Faculty office, electronically or in person, normally within ten working days from the beginning of each term in which they are anticipating a need for Accommodation. For further information, consult McMaster University's [Policy on Academic Accommodation for Religious, Indigenous and Spiritual Observances](#).

Faculty of Social Sciences E-mail Communication Policy

Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including TAs), and from students to staff, must originate from the student's own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student's responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.

Course Modification

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check his/her McMaster email and course websites weekly during the term and to note any changes.

WEEKLY COURSE SCHEDULE (AND/OR IMPORTANT DATES)

Week 1 (Sep. 4 or Sep. 5, during the lab sessions)

Course overview and introduction

Readings: Ch.1

Week 2 (Sep. 10)

Probability Theory

Readings: Ch. 2

Week 3 (Sep. 17)

Statistics Theory

Readings: Ch. 3

Notes: Assignment 1 due

Week 4 (Sep. 24)

Simple Linear Regression

Readings: Ch. 4

Week 5 (Oct. 1)

Inference and Hypothesis Test in SLR

Readings: Ch. 5

Notes: Assignment 2 due

Week 6 (Oct. 8)

Midterm Recess (no class)

Week 7 (Oct. 15)

Asymptotic Theory of SLR

Readings: Ch. 17

Week 8 (Oct. 22)

Midterm Exam (in class)

Week 9 (Oct. 29)

Multiple Regression Model

Readings: Ch. 6

Week 10 (Nov. 5)

Inference and Hypothesis Testing in MRM

Readings: Ch. 7

Notes: Assignment 3 due

Week 11 (Nov. 12)

Instrumental Variable Regression

Readings: Ch. 12

Week 12 (Nov. 19)

Asymptotic Theory of Multiple Regression

Readings: Ch. 18

Notes: Assignment 4 due

Week 13 (Nov. 26)

Nonlinear Regression Model

Readings: Ch. 8

Week 14 (Dec. 3)

Review Session

No readings

Notes: Assignment 5 due

In the computer lab sessions on Tuesdays/Wednesdays (except Week 1), students will learn empirical applications related to the course materials of each week.

IMPORTANT DATES

- Assignment Due: Sep. 17, Oct. 1, Nov. 5, Nov. 19, Dec. 3
- No class: Oct. 8
- Midterm Exam: Oct. 22 (in class)
- Final Exam: TBA