

## ECO375, Applied Econometrics, Winter 2022

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| <b>Lecture:</b>                  | Thursday 2-4pm, UC179 or Online @ <a href="#">link</a>                 |
| <b>Tutorial:</b>                 | Friday noon- 1pm, Online   |
| <b>Instructor:</b>               | Yuanyuan Wan   |
| <b>Phone:</b>                    | 416-978-4964   |
| <b>Email:</b>                    | <a href="mailto:yuanyuan.wan@utoronto.ca">yuanyuan.wan@utoronto.ca</a> |
| <b>Instructor Office Hours:</b>  | Monday 10-noon Online @ <a href="#">link</a>                           |
| <b>TA:</b>                       | Quinlan Lee  |
| <b>Teaching Assistant Email:</b> | <a href="mailto:qt.lee@mail.utoronto.ca">qt.lee@mail.utoronto.ca</a>   |
| <b>TA Office Hours:</b>          | Friday 1-2pm Online  |

### Course Description

This course is an introduction to econometrics. The course will cover both statistical foundations and the application of multiple regression models, with an emphasis on cross-sectional data. Econometric methods will be illustrated using application of regressions to a wide variety of economic questions and data sources, including the use of statistical software. Some advanced topics in causal inference will also be discussed.

### Course Delivery Method

Based on the most current policy of the university, the course will be online until January 31, 2022. Then we will switch back to in-person lectures.

### Textbook

“Introductory econometrics: a modern approach”, Jeffrey M. Wooldridge, ISBN: 9781337558860. I recommend version 5 or newer.

### Previous Training:

|                       |   |
|-----------------------|---|
| <b>Prerequisites:</b> | (i) ECO200Y1/ECO204Y1/ECO206Y1+ECO220Y1 (70%) / (STA237H1 (70%) +STA238H1 (70%)) / ECO227Y1 / (STA257H1+STA261H1) |
| <b>Recommended:</b>   | MAT223H1 or MAT240H1  |
| <b>Exclusion:</b>     | ECO327Y5, ECO375H5  |

## Software

**Stata IC, version 15.** Earlier versions are also admissible, but they may not be supported by the instructor or TA. Students can purchase Stata at discounted prices. See <https://mdl.library.utoronto.ca/technology/statistical-software> for details.

## Course Website

The Quercus site will also be used manage class communications. Course materials will be uploaded to the Quercus. Check the announcements posted there regularly.

## Score Policy

The final mark of this course is based on four parts: graded homework, a midterm exam, Quizzes, and a final exam. The weights are shown in the table below.

### Graded homework (15%)

There will be three graded homework, each count for 5% of the course grades. Homework must be submitted to Quercus in PDF file format. If the homework involves empirical work, Stata log files should be submitted too.

Late homework receives zero grades unless I receive an email notification before the due date. If a student indeed misses the due date of the homework with legitimate reasons, he or she must submit the homework within 72 hours of the original due date to get a mark. Otherwise, the student receives zero grade.

### Exams (25% midterm + 40% final)

We have a midterm exam and a final exam for this course. Midterm exam will cover the materials of the first six lectures. The final exam will cover all lectures of the semester. I will discuss more details before the exam. For the moment, both exams are in-person.

### Quizzes (20%)

We will have four quizzes, all conducted online. A student can earn up to 5 points for each quiz. Students will be given a 48-hours window to access questions. But once a student clicks the quiz, he/she must finish it within a certain amount of time (details will be given in advance). The questions are randomly assigned, so two students will likely get different questions (but at the similar difficulty levels).

## Course Evaluation

| Tasks               | Weights     | Dates |
|---------------------|-------------|-------|
| <b>Homework 1</b>   | 5%          | TBA   |
| <b>Homework 2</b>   | 5%          | TBA   |
| <b>Homework 3</b>   | 5%          | TBA   |
| <b>Quizzes 1-4</b>  | 20%         | TBA   |
| <b>Midterm exam</b> | 25%         | TBA   |
| <b>Final exam</b>   | 40%         | TBA   |
| <b>Total</b>        | <b>100%</b> |       |

## Planned Course Outline

The following is the planned course outline (subject to minor changes).

| Lectures    | Course materials                          | Reference                 |
|-------------|---|---------------------------|
| Lecture 1   | Syllabus, Introduction, Statistics Review | Chapter 1, Appendix A,B,C |
| Lecture 2   | Statistics Review Simple Regression       | Chapter 2                 |
| Lecture 3   | Simple Regression                         | Chapter 2                 |
| Lecture 4   | Multiple Regression I                     | Chapter 3                 |
| Lecture 5   | Multiple Regression II                    | Chapter 4                 |
| Lecture 6   | Multiple Regression Further Issues I      | Chapter 5-7               |
| Lecture 7   | Multiple Regression Further Issues II     | Chapter 7-9               |
| Lecture 8   | Instrumental Variable and 2SLS            | Chapter 15-16             |
| Lecture 9   | Instrumental Variable and 2SLS            | Chapter 15-16             |
| Lecture 10  | Linear Panel Data                         | Chapter 13                |
| Lecture 11  | Limited Dependent Variable Models         | Chapter 17                |
| Lecture 12  | Limited Dependent Variable Models         | Chapter 17                |
| Exam period | Final exam                                | All lectures              |

## Course Policy

### Grade Dispute

Requests for re-grading homework and/or exams must be submitted to instructor in writing within one week that the exam and/or homework are returned. The instructor will re-grade the whole problem set and/or exam instead of a single question to ensure the consistency.

### Academic Honesty

*“Academic integrity is a fundamental value essential to the pursuit of learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the UofT degree that you earn will continue to be valued and respected as a true signifier of a student’s individual work and academic achievement. As a result, the University treats cases of academic misconduct very seriously. The University of Toronto’s Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic misconduct, the processes for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document .....All suspected cases of academic dishonesty will be investigated following the procedures outlined in the Code of Behaviour on Academic Matters.”* —Academic Integrity Handbook, Office of Student Academic Integrity, Faculty of Arts and Science, University of Toronto.

### Email Policy

I will reply emails within 24 hours, except on weekends and holidays, with the following provisions:

- The question should require a one (or two) sentence response (maximum). If it takes more, office hours are the more appropriate venue.
- I will not reply to emails concerning grading. For such matters, office hours are more appropriate.
- It is also (strongly) preferable that you use the University of Toronto email addresses: my spam filter is set to maximum. Moreover, university policy stipulates a preference for these email addresses.

- Always identify yourself, course, and section in your email.
- Please do not submit term work by email.
- The teaching assistant has two email-hours per week to reply course related questions.

## **Accessibility Needs**

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: [disability.services@utoronto.ca](mailto:disability.services@utoronto.ca) or <http://studentlife.utoronto.ca/accessibility>.