

# ECO220Y1Y: Quantitative Methods in Economics

Summer 2016, June 27-August 15

Instructor: Mathieu Marcoux

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University of Toronto

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| Sections | Lectures                                    | Tutorials            |
|----------|---|----------------------|
| L0101    | Tues 11AM-1PM (MP134), Wed 11AM-1PM (MP134) | Fri 11AM-1PM (MP134) |
| L0201    | Tues 2PM-4PM (MP137), Wed 2PM-4PM (MP137)   | Fri 1PM-3PM (MP137)  |

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## 1 Teaching assistants

We have 3 PhD students who will act as teaching assistants (TAs) for the second half of the course: Thomas Russell, Hammad Shaikh and Joshua Murphy. They are great!

## 2 Prerequisites

In order to be registered to this course, you must have fulfilled the following prerequisites: ECO100Y1 (67%) / ECO105Y1 (80%); MAT133Y1 / (MAT123H1, MAT124H1) / (MAT135H1, MAT136H1) / MAT137Y1 / MAT157Y1. Students enrolled without the corresponding prerequisites may have their registration cancelled at anytime without warning. See: <https://www.economics.utoronto.ca/index.php/index/undergraduate/load/prerequisites>.

## 3 Course material

**Textbook:** *Business Statistics, Third Custom Canadian Edition for ECO220Y, Published 2013* by Sharpe, De Veaux, Velleman, and Wright.

Each lecture's material will be posted on the course's Portal page ([portal.utoronto.ca](http://portal.utoronto.ca)). Lecture material includes:

- **Required readings:** I strongly encourage you to read the required readings before coming to class. These readings will consist of textbook chapters and, occasionally, other readings to help you understand the concepts taught on a given lecture.
- **Notes:** I will post some notes related to the material covered in each lecture. Notice that these notes are a summary of what I teach in class and should therefore be seen as a complement, not a substitute, to your own notes.
- **Homework:** A list of problems will be posted for each lecture. These problems will be textbook problems or other suggested problems. Even if homework will *not* be graded, I strongly encourage you to work through those problems seriously to make sure that you master the concepts taught in class.

Furthermore, previous examinations (from Professor Jennifer Murdock) will be available on the Portal page of the course to help you prepare for the test and the final exam.

## 4 Weekly lectures

Lectures are on Tuesdays and Wednesdays. You may attend either section's meetings, provided that there is sufficient space for all registered students.

While slides will be occasionally used to show tables and graphs during lectures, most of the material will be presented on the board. From my experience as a student, I would argue that teaching on the board has the advantage of making both the instructor and the students more actively engaged in class. I hope that this means of presentation will encourage class participation. That being said, I know that slides can be quite popular among students. This is the reason why some notes summarizing the material taught on the board will be posted online as well.

## 5 Tutorials

Tutorials are on Fridays. Notice that there is no tutorial on July 1 (Canada Day, University is closed) nor on July 15 (Test 3). The tutorials are conducted by Thomas. He will follow a lesson plan that will focus on important topics. You can go to either section's tutorial, provided that there is enough space.

There will also be some special review sessions before Test 3 and the Final. The times and locations will be announced through Portal.

## 6 Marking scheme and assessments

### 6.1 List of assessments

| Assessment                               | Weight | Duration                     | Date                         |
|--|--------|------------------------------|------------------------------|
| <i>First half (May 9 - June 24)</i>      |        |                              |                              |
| Test 1                                   | 15%    | See syllabus from first half | See syllabus from first half |
| Test 2                                   | 20%    | See syllabus from first half | See syllabus from first half |
| <i>Second half (June 27 - August 15)</i> |        |                              |                              |
| Test 3                                   | 20%    | 110 min.                     | Friday, July 15, 1:10PM-3PM  |
| Excel test                               | 10%    | TBA by Christy Chen          | TBA by Christy Chen          |
| Final                                    | 35%    | 180 min.                     | TBA by Arts and Science      |

Please note the following:

- For Test 3, the Excel test and the Final exam, you must bring your TCard. For Test 3 and the Final exam, you must bring a non-programmable calculator.
- On Test 3, one of the questions (potentially divided in multiple parts) will require a longer written answer. The goal of this type of questions is to make sure that you are comfortable explaining some concepts seen in this course in a written format.
- The Final exam is cumulative and covers the entire course with roughly 20% about the material covered in the first half and 80% about the material from the second half.
- For Test 3 and the Final exam, you will be given aid sheets with important formulas and relevant statistical tables.

### 6.2 Missed tests

You are expected to write both Test 3 and the Excel test. In some exceptional circumstances, you may request up to one make-up test for this second half of the course. No accommodation will be provided for missing more than one tests. A make-up test may be scheduled by the instructor via e-mail with as little as one business day's notice.

To request a make-up test, you must complete all three steps listed below. Moreover, notice that I may request a medical note if I believe it is necessary. The only medical note that I will accept must be obtained from <http://www.illnessverification.utoronto.ca>.

1. Send an e-mail to Mathieu Marcoux that meets all the following specifications:
  - The e-mail is sent before the start of the missed test. 5 percentage points will be deducted from the make-up test mark for each hour or part of an hour that the e-mail is late.
  - The e-mail is sent from your U of T e-mail account.
  - The subject line is: “Missed test”
  - The e-mail is in plain text format.
  - It concisely explains why you missed the test.
  - It lists all of your current courses and instructors.
  - It lists all your efforts in other courses for the three days up to and including the missed test OR it explains that you did nothing.
  - The last sentence is: “I understand that it is a punishable academic offence to present false or misleading information with my request for a make-up test.”
  - The e-mail closes with your name and student number.
2. Check your e-mails. You will receive an e-mail within two business days after the missed test that will notify you of when and where to take the make-up test.
3. Write the make-up test. A missed make-up test automatically earns a mark of zero.

### 6.3 Missed final exam

If you miss the Final exam, you will have to file a petition with Arts and Science directly. The procedures to follow fall outside of this syllabus.

### 6.4 Remark requests

Any request for remarking must satisfy the 3 following conditions. In all cases, the entire submission will be remarked. The total grade can increase, decrease or stay the same.

1. The request must be made in writing and be given to the instructor;
2. It must explain why more points are justified for each disputed question; and
3. It must be submitted within two weeks after the grades have been released on Portal.

## 7 Excel course module

Christy Chen ([christy.chen@utoronto.ca](mailto:christy.chen@utoronto.ca)) is in charge of the required Excel Course Module that is part of ECO220Y1Y. More details to follow. Excel tutorial sessions, separate from the TA tutorials mentioned above, will be held in a computer lab during this half of the course. Thomas and Hammad will conduct those tutorials. You will sign up for specific tutorial sessions, via Portal, on a first-come, first-served basis. These tutorials help you prepare for the Excel Test.

## 8 Topics covered in this half of the course

- Chapter 12: Testing hypotheses about proportions;
- Chapter 13: Confidence intervals and hypothesis tests for means;
- Chapter 14: Comparing two means;
- Chapter 18: Inference for regression;
- Chapter 19: Understanding regression residuals;

- Chapter 20: Multiple regression (excluding section 20.7, i.e. “The logistic multiple regression model”); and
- Chapter 21: Building multiple regression models (with emphasis on sections 21.1 “Indicator (or dummy) variables”, 21.2 “Adjusting for different slopes - interaction terms” and 21.6 “Quadratics”).

## 9 Office hours

I will have office hours at the following times and location:

- Tuesdays, 4:10PM-5PM, in GE213; and
- Wednesdays, 10AM-10:50AM, in GE213.

One of our TAs, Hammad, will also have office hours:

- Thursdays, 1PM-3PM, in GE213.

Moreover, extra office hours will be offered before Test 3, the Excel test and the Final exam.

## 10 Announcements and e-mail policy

I will use Portal to make important announcements about the course. Please make sure to have a look on a regular basis.

If you contact me by e-mail, please include “ECO220” in the subject line. I am usually able to reply within 2 business days. Explaining material by e-mail can often be inefficient. I will answer material-related questions by e-mail only if I can do it within two lines. Otherwise, I will simply ask you to come to my office hours.