

# ECO220Y1Y Quantitative Methods in Economics

Sections L0201 and L5101 – Instructor : Patrick Blanchenay

*This version: 2017-09-10*

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## Description

**ECO220Y Quantitative Methods in Economics** is an intermediate level course in quantitative methods for students at the University of Toronto (St-George campus). It is designed to equip you with the foundational tools necessary to apprehend and think in a structured way about data, as an economist and as a citizen. You will review basic statistics and use it to summarize data, learn about random variables (how we often think about processes that generates the data we see in real life), learn how to test a hypothesis or compare groups using data, and learn how to uncover relationships between variables using one of the most important tools in econometrics: regressions.

## Key Information

Section	Lecture	Tutorial (weeks without DACM)
L0201	Mondays, 2-4pm, in <a href="#">SS 2117</a>	Tuesdays 6-8pm in <a href="#">SS 2117</a>
L5101	Mondays, 6-8pm, in <a href="#">SS 2135</a>	Tuesdays 6-8pm in <a href="#">SS 2135</a>

**Course site:** Portal (all announcements and material)

**Piazza:**

<https://piazza.com/utoronto.ca/fall2017/eco220blanchenay/home>

**Communication:** see [Communication](#) below

**Instructor:** Patrick Blanchenay

**Office hours:** Mondays 4.30-5.30pm in room GE 352 (150 St-George st); rescheduling on Portal.

**TA:** *to be announced*

**[Economics Study Centre \(GE 110\):](#)** open daily (drop-in), 150 St George, main floor

All announcements will be made using Portal. All material will be posted on Portal.

The course relies on weekly lectures and tutorials, as well as homeworks and term tests. It is supplemented by the Data Analysis Course Module (DACM), which will provide hands-on applications of course concepts, in particular using Microsoft Excel.

## Course Prerequisite

The Economics Department strictly enforces its [prerequisites policy](#). An administrator will remove anyone missing prerequisites: <https://fas.calendar.utoronto.ca/course/ECO220Y1>. Note that *I cannot waive prerequisites*.

## Learning Outcomes

1. Translate between plain English and statistical terms and concepts; identify key information regardless of wording, and distinguish incorrect statements from correct ones;
2. Select and apply a suitable quantitative approach to a new situation while making your reasoning clear: may require sentences, precise statements of hypotheses, equations, calculations, fully-labeled graphs, diagrams;
3. Proficiently read output from various statistical software packages, including STATA;
4. Use Excel to conduct statistical analyses;
5. Correctly interpret quantitative results for a non-technical or technical audience;
6. Draw valid statistical conclusions and steer clear of common pitfalls;
7. Explain what would change if a researcher made different choices or the data changed;
8. Identify the underlying assumptions in quantitative analyses and figure out how violations affect conclusions and interpretations;
9. Read and critically evaluate analyses without being dazzled by data, methods or jargon;
10. Effectively apply course concepts to a wide range of contexts from popular press articles to papers in peer-reviewed academic journals;
11. Assess available data or propose a data collection plan to address a research question;
12. Craft concise, clear, and coherent written arguments that *directly* answer asked questions.

### *How to do well in this course?*

Construct full replies for homework and old exams in test-like conditions. If you cannot solve a question after a sustained effort, turn to your notes, book, and homeworks. Only as a last resort, ask a person or look at the solutions. Browsing solutions (or peeking) undermines your study and robs you of practice for the tests/exam; do not waste these!

## Textbook (required) and MyStatLab (required)

The required textbook is [Business Statistics, Third Canadian Edition, Published 2018 by Sharpe, De Veaux, Velleman, and Wright](#). The U of T Bookstore has copies. Unfortunately, there have been numerous amendments since the previous edition, and this is why I require this specific edition (it should, however, retain decent resale value). The course will follow the textbook pretty closely, and you are responsible for ensuring that you are able to do so. Consider our textbook's authors as co-instructors.

There are several versions of this textbook, and you must ensure that yours come with an Access Card to MyStatLab. Buying the textbook will also give you access to the e-text (= online) version of the book, which can be annotated. If you do not wish to buy a physical copy of the textbook, it is also possible to buy the e-text only (with the Access Card).

Make sure that you get the Access Card, which comes with a unique access code to the online portal MyStatLab. We will make extensive use of MyStatLab, notably for graded quizzes. To register for MyStatLab, go to <http://www.mystatlab.com> and use course ID **blanchenay54385**.

## Resources

### *Lectures*

The course is built on weekly lectures and tutorials (see calendar on Portal). Before each lecture, you are expected to do the required readings. Readings will usually be taken from the textbook, but may occasionally come from additional sources.

**Laptops and electronic devices are not allowed in lectures** (even if you use the e-text). Laptops are convenient but offer scope for distraction, not only for you but also for your classmates; in addition, they give incentives to write too much down instead of actively listening and synthesizing. On the hand, writing notes (pen & paper) increases your chances of performing well in this course, as many studies have shown.<sup>1</sup> In addition, having an engaged audience will also increase the quality of my teaching.

If you need to use a laptop or device for academic reasons, please inform me by email before the first class (see [Email](#) section.). You will be asked to sit in the first row of the lecture hall.

### *Course tutorials*

The weekly tutorials will work as “problem set surgeries.” Every week, students will be given problem sets to complete. These exercises are an excellent way to put into practice what has been seen in lectures/textbook/material. Problem sets are not graded; however, exercises from the problem sets will be very similar to exercises in the midterm tests.

Solutions for the problem sets will **not** be circulated. However, during tutorial hours, students are invited to come and work on them. One or several TA will be there to walk around and help students who get stuck, or need help. TAs will neither circulate the solution, nor write it on the board. They are here to help students find the solution.

Rules of the tutorials:

- Come prepared, having seen the latest material.
- Ideally, you have attempted the exercises beforehand, and have specific questions to ask.
- You are free to work in groups. If you do so, please keep the noise level to a minimum, in order to provide a work-friendly environment for your peers.
- TAs are not here to give the solutions, but to help you find it.
- If a question could be helpful to everyone, or address a common issue, the TAs may make an announcement to everyone. Please remain quiet during those announcements.

### *DACM tutorials*

In addition, there are 12 weeks when one of the tutorial hours is dedicated to the Data Analysis Course Module. The Data Analysis Course Module (DACM) complements our course and is required for all sections of ECO220Y1Y. It runs from September through April. You will dive into lots of real data and research and replicate key findings. There are

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<sup>1</sup>See for instance Mueller & Oppenheimer (2014) <http://journals.sagepub.com/doi/abs/10.1177/0956797614524581>

five modules (A through E) and five online tests. The DACM Handbook (on the DACM Portal site) guides you through this required year-long module.

On the 12 Tuesdays with both course tutorials and DACM tutorials, the schedule is as follows:

Section	Tuesday 6-7pm	Tuesday 7-8pm
L0201	DACM tutorial in <a href="#">SS 2117</a>	Course tutorial in <a href="#">SS 2135</a>
L5101	Course tutorial in <a href="#">SS 2135</a>	DACM tutorial in <a href="#">SS 2117</a>

Please check the [DACM handbook](#) on its dedicated Portal page for the exact dates of DACM tutorials. You are free to choose which section to attend; if attendance gets unbalanced I will manually assign students. Note that you will have to change room between the tutorials.

### Office hours

Instructor office hour: Monday 4.30-5.30pm in GE 352 (150 St George street)

TA office hour: TBC

### Economics Study Centre: Open Daily, 150 St George

The [Economics Study Centre](#) supports ECO220Y. Peer mentors are undergraduates who have done very well in their ECO courses. The ESC welcomes all undergraduate Economics and Rotman Commerce students. This is a drop-in centre, students do not need to book an appointment. This is an invaluable resource and you should feel free to use it. For in-depth questions, use our course TAs.

## Evaluation

Evaluation for the course will be a mix of tests, quizzes and the final exam. The breakdown is as follows. The final course grade will be rounded to the nearest integer, with no exception.

Evaluation	Date	Percentage of final grade
Mid-term test 1	Tues Oct 10th 2017, 6-8pm	Best 3 out of 4: 50%
Mid-term test 2	Tues Nov 14th 2017, 6-8pm	
Mid-term test 3	Tues Jan 9th 2018, 6-8pm	
Mid-term test 4	Tues Feb 27th 2018, 6-8pm	
Online quizzes (13 + 2 make-ups)	<i>year-long, see course calendar</i>	13% (1% per quizz)
Data Excel Course Module (5 tests)	<i>year-long, see dedicated Portal</i>	12%
Final exam	see <a href="#">A&amp;S</a> exam calendar	25%

## *Mid-term Tests and Final Exam*

**For all term tests and the exam, bring your TCard, pencils, erasers, and a non-programmable calculator.**

All sections write the same cumulative final exam. In all midterm tests and in the final exam, one or more questions (possibly with multiple parts) is planned to require a longer written answer where you interpret and assess quantitative results (e.g. tables, figures, STATA output, etc.). You will be given aid sheets: formulas and relevant statistical tables. The aid sheets for the entire course are posted [http://homes.chass.utoronto.ca/~murdockj/eco220/AS220\\_2017\\_18.pdf](http://homes.chass.utoronto.ca/~murdockj/eco220/AS220_2017_18.pdf): bring a copy and a calculator to classes and TA tutorials.

Mid-term tests begin at the official start time. For example, a 6-8pm test begins at 6pm. You must be in the test room no later than 10 minutes *before* official start time. You will not be given extra time if you're late.

Tests are scanned and marked using Crowdmark; this means that you can write using pencil and eraser if you prefer. During the test you must show your student ID and sign the "signup sheet". Stay seated until all tests have been collected and counted. To avoid disruption, you cannot leave the room in the last 15 minutes.

Not attending a mid-term test will result in an automatic zero for that test. There are no make-up for missed tests, but the grading scheme accounts for that. See section on [Missed Term Work](#).

## *Online Quizzes*

There will be 13 online quizzes that will be on material from the textbook and lectures. The quizzes will take place on MyStatLab, and this is why it is imperative that you register on the MyStatLab portal.

Quizzes open at Friday noon, and are due the following Sunday at 10pm. For each quiz, you will have 60 minutes to complete. You are free to collaborate with other students, but be aware that questions may slightly vary from one student to another. Each quiz will feature 10 questions. For each quiz where you get 70% score or more, you will get 1% on your final grade. If you get strictly less than 70%, or if you do not submit the quiz, you will earn 0% for that quiz. There are two open make-up quizzes, one in December and one in April. Getting 1% on a make-up quiz can replace a 0% on a term quiz. You do not need to ask permission to take those make-up quizzes.

Failure to submit a quiz by its deadline results in an automatic zero for that quiz. No accommodation will be made for this, in particular regarding technological problems. It is your responsibility to ensure that you can submit on time. There is no make-up for the make-up quizzes. See also section on [Missed Term Work](#).

## *Missed Term Work*

You are expected to complete all required work as scheduled in the [Evaluation](#) section. The marking scheme already includes multiple accommodations for missed term work.<sup>2</sup> The "best 3 of 4" policy accommodates students that cannot write one test due to illness, injury, personal/family problems, or extracurricular conflicts. It also accommodates students who write a test in difficult circumstances and do poorly. (Note: If you are going to be late to a test, you are expected to show up late and see me.) The scheme acknowledges the continuous space of

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<sup>2</sup> This section applies to missed *term* work. Any accommodation for the final examination requires a student to formally petition A&S: see [http://www.artsandscience.utoronto.ca/ofr/calendar/Rules\\_&\\_Regulations.html](http://www.artsandscience.utoronto.ca/ofr/calendar/Rules_&_Regulations.html)

reasons for missing or doing poorly on a test, where most are hard to credibly document or are personal. It puts the responsibility on you to manage your time and life to succeed in the course. You do not need to provide me medical documentation or reasons for missing one term test.

The marking scheme also includes accommodations for missed quizzes: there are make-ups at the end of each term. The “best 3 of 4,” and quiz accommodations are automatically applied to everyone: you do NOT need request these. In addition, there is a make-up for the Excel test (with details in the DACM syllabus).

Accommodations for missing more work than already addressed in the previous paragraphs (missing up to one term test and up to two online quizzes) are extremely limited: (A) an ongoing and substantial injury, illness, or personal/family problem seriously affecting the student’s ability to complete term work across all courses over an extended period of time where the student’s College Registrar<sup>3</sup> writes to each professor after reviewing the documentation and meeting with the student or (B) more than one conflict not related to injury, illness or personal/family problems where I am contacted by the student *very far in advance* (e.g. an athlete who notifies me in September of international competitions on Nov. 14 and Jan. 9). In these *limited situations*, I will consider whether accommodations can still meet all course requirements or whether the student must be advised to drop the course and retake it when able to complete the required work.<sup>4</sup>

## Communication

### *Piazza*

We use Piazza ( <https://piazza.com/utoronto.ca/fall2017/eco220blanchenay/home> ) to facilitate communication. To register, go to : <https://piazza.com/utoronto.ca/fall2017/eco220blanchenay>  
The TAs and I periodically check Piazza to ensure proper usage, flag some postings, and possibly answer some questions. However, Piazza’s emphasis is on student-to-student Q&A. Piazza is a complement to face-to-face interactions in office hours, class, TA tutorials / aid centres, and study groups. Piazza is a substitute for e-mail.

### *Email*

E-mail is not an appropriate forum for discussing details, which is why we have set aside office hours. That said, email can be helpful on occasion, and within limits and we will try to reply to email within 24 hours (except weekends) provided your question(s) can be answered with a one or two sentence answer.  
My email is [patrick.blanchenay@utoronto.ca](mailto:patrick.blanchenay@utoronto.ca).

We won't answer questions about information on the Portal page (for example: test dates) nor questions about grades. We strongly recommend using UToronto email address (University policy stipulates a preference for U of T email addresses). Always identify yourself in your email (include your ROSI name if it differs from the name you usually use) and please do not send attachments and do not submit term work by email. **Please always include [ECO220 section XYZ] in the title of any email. Emails that do not include this will be ignored.**

Email checklist:

- Your email is sent from your University address.

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<sup>3</sup> For ongoing injury, illness, or personal/family problems you must contact your [College Registrar](#) immediately.

<sup>4</sup> Any extraordinary accommodations are at my discretion and may involve a cumulative open-ended make-up test, re-weighting, and/or may be contingent on performance on other term work and the final exam.

- ❑ Title includes “[ECO220 section ...]” followed by the subject of the email.
- ❑ Your email does not contain attachment, unless we had specifically asked you to send something.
- ❑ Your signature also includes your ROSI name if it differs from the name you go by.

## Student Well-Being and Academic Accommodations

### *Well-Being*

University of Toronto aims at giving you an enriching learning experience, and has a number of resources to help you stay healthy and be well: <http://studentlife.utoronto.ca/bewell>

However, sometimes things do not go as planned. **In case of emergency, call 911.** For ongoing injury, illness, or personal/family problems, or if you feel you are falling behind in your courses, you must contact your [College Registrar](#) immediately. The earlier you do, the easier it is to find solutions.

There are also a number of resources in case you are feeling distressed:

<http://studentlife.utoronto.ca/feeling-distressed>

Once again, the earlier you reach out, the easier it is to remedy the situation and find solutions. Do not wait until the end of the academic year.

### *Ongoing Learning Disability or Accommodation Requirement*

Students with diverse learning styles and needs are welcome in this course. If you have an ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) (<http://accessibility.utoronto.ca>) **at the beginning of the academic year.** (Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs.) AS will then assess your medical situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your condition with any instructor, and your instructors will not reveal that you are registered with AS.

For more information on services and resources available to instructors and students, please contact Tanya Lewis, Director, Director of Academic Success and Accessibility Services, at (416) 978-6268; [tanya.lewis@utoronto.ca](mailto:tanya.lewis@utoronto.ca). Accessibility services: <http://studentlife.utoronto.ca/as/>

### *Accommodations for Religious Observances*

As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of backgrounds, cultural traditions, and spiritual beliefs. For my part, I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. Further to University Policy, if you anticipate being absent from class or missing a major course activity (like a test) due to a religious observance, please let me know as early in the course as possible, and with sufficient notice (at least two to three weeks), so that we can work together to make alternate arrangements.

## Academic Integrity and Plagiarism

All students, faculty and staff are expected to follow the University's guidelines and policies on academic integrity. For students, this means following the standards of academic honesty when writing assignments, citing and using source material appropriately, collaborating with fellow students, and writing tests and exams. Ensure that the work you submit for grading represents your own honest efforts. Plagiarism, representing someone else's words as your own or submitting work that you have previously submitted for marks in another class or program, is a serious offence that can result in sanctions. Speak to me or your TA for advice on anything that you find unclear. Also, see the U of T writing support website at <http://www.utoronto.ca/writing>. Consult the Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) for a complete outline of the University's policy and expectations

I do encourage you to pay close attention to this section on Perils and Pitfalls : <http://academicintegrity.utoronto.ca/perils-and-pitfalls> and Smart Strategies: <http://academicintegrity.utoronto.ca/smart-strategies>