

ECO 220 Y L0201/L0401: Quantitative Methods

Instructor: Migiwa TANAKA

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Office Hour: F1-3 at 150 St. George Street, Economics Department Room 266

Meeting Time and Location:

Section L0201: Lecture T2-4 at SS2118, Tutorial/Lecture F10 at location NF003*,

Section L0401: Lecture T11-1 at BA1180, Tutorial/Lecture F9 at location BA1160*

(*Rooms for Friday slot are likely to change.)

TA resources: Announced on the course website.

Course Website: The university portal (Blackboard) and www.economics.utoronto.ca/tanakam3/ECO220.

1. Prerequisite:

ECO100Y1(67%) / ECO105Y1(80%); MAT133Y1/(MAT123H1, MAT124H1) / MAT135Y1/MAT137Y1/MAT157Y1

Note that an administrator will remove you if your prerequisites are incomplete.

2. Learning Outcomes:

At the completion of this course, you should be able to:

- A. Explain basic concepts of statistics.
- B. Interpret statistical information presented in various sources.
- C. Evaluate the validity of claim based on statistic data.
- D. Read and interpret the outputs from statistical analysis software packages including STATA.
- E. Use Excel to perform statistical analysis.
- F. Analyze data using statistical methods, interpret the results, and draw conclusion.
- G. Understand the limitation of each statistical method.

3. Required Textbook:

The required textbook is a custom book that is a proper subset of the First Canadian Edition of Business Statistics by Sharpe, De Veaux, Velleman, and Wright. A package, complete with a full solutions manual and access to MyStatLab, is available at the U of T Bookstore. Other books are not substitutable. Some used copies may be available from 2011/12 and Summer 2012. To register for MyStatLab, which is available only with new copies and is useful but not required, go to www.mystatlab.com and use this course ID: instructo64205.

4. Class Meeting:

The lectures are given at the scheduled time as above for each session. Tutorial sessions will be given on Mondays but these hours may be used for make-up lectures. You may attend lectures of either L0201 or L0401 but you must attend tutorial sessions that you are registered for if there is a quiz. Lecture slides are posted on the course website prior to the lecture. You should print them out in your preferred format and bring them to the lecture so that you can take notes.

Mature conduct in classroom is the requirement for this course. In lectures, you are expected to:

- Arrive on time.
- Switch off cell phone and other communication devices before the lecture starts.
- Respect learning opportunities of others. Do not chat with neighbors and disrupt others.

Distracting behavior is not tolerated.

5. Assessment Scheme and Course Organization:

Your course grade is determined by 3 term tests (2 in the first term and 1 in the second term), 12 quizzes, the Excel test, and the final examination. The detail on each assessment is summarized as follows.

Assessment	% of grade	Length	Dates, Time
Term Test #1	14%	80 minutes	November 2 9:20-10:40
Term Test #2	20%	120 minutes	TBD, Exam Period (December 10-21)
Term Test #3	14%	80 minutes	March 1 9:20-10:40
Quizzes	12%	10-20 minutes	During Tutorial
Excel Test	6%	50 minutes	TBD (in March)
Final Exam	34%	180 minutes	TBD, Exam Period (April 10-30)

5.1. Term Tests and Final Examination

For tests and the final examination you may bring a non-programmable calculator and must bring your University of Toronto TCard. Term tests and the final examinations will include multiple choice (including true/false), short mathematical derivations, and short answer questions. . All term tests and exams are cumulative. I can accommodate documented direct academic conflicts in terms of term tests - you may start the test earlier or later than the regular time for the term test.

Please note that this only applies to the term tests as those are scheduled outside our regular class time, but does not apply to the quizzes. To be eligible to write the Term Test earlier or later, you need to submit following information to either me or the head TA **no later than two weeks before the date of the conflict**. (1) a hardcopy of your ROSI personal timetable; (2) in writing, indicate the other course with the conflict, note the piece of work in conflict in our course and describe the work in the other course that conflicts. Once your request is approved, I will inform you where you will take the test.

5.2. Quizzes

There are 12 quizzes to be given during the tutorials. The first quiz will be on math review and will be given on September 14. This quiz is meant to give you an idea how prepared you are for the course and is not part of the assessment. Next 11 quizzes are counted in assessment as follows. I will announce if there will be a quiz on that week during each lecture. Each quiz will contain multiple choice questions about the material covered in that week's lecture and will be followed by a session in which a TA will go over the solution to the quiz. The purpose of these quizzes is to give you a chance to think about the material before you see the solution. Therefore, points are given for both your participation and quality of your responses (whether you answer correctly or not). Out of 11 quizzes, your highest 8 scores in percentage point are considered for the course assessment. Note that a missed quiz automatically earns ZERO score and there is no make-up for the quizzes. Note you must take all quizzes in the tutorial that you are registered for.

5.3. Homework

On each lecture day, homework problems will be posted on the course website. Although they are not graded, completing them on time is essential for your success in this course.

5.4. Grading

For quizzes and term tests, a machine will mark the multiple choice questions. Your mark and machine-read responses will be posted at "My Grade" section on the portal as soon as possible. For short mathematical derivations and short answer questions, handwritten marks include the points you earned and, if applicable, the following symbols.

Symbol	Near the part of your answer that is
X	Incorrect
?	Logically unclear, confusing or illegible
⊕	Imprecise, incomplete, insufficiently shows work (Idea: plus more)

For these questions, earning partial credit requires that some part of your answer is clearly

correct, directly relevant to the question asked, and not contradicted by other parts of your answer. I accept application for re-grades if it: (1) Is made in writing and given to me along with your entire assessment, (2) Clearly specifies which questions were improperly marked and explains why, (3) Is submitted within **four weeks** after the test is returned. The entire assessment will be re-graded, not just the disputed parts. Your grade can go up, down or remain unchanged. These conditions do not apply to clerical errors such as adding up your score wrong. If a clerical mistake occurs, please let me know as soon as possible.

5.5. Missed Term Work

In order to obtain credit for this course, it is important for you to complete term work in a timely manner. If you feel that is difficult, I encourage you to postpone taking this course. If you have to miss any of the term tests for reasons beyond your control, such as medical and other emergencies, you should contact me before the test either by e-mail or in person. Note that work and personal commitments are unlikely to be considered worthy of special consideration. Also, note that there is only one chance of make-up test. An additional missed term test will earn score of ZERO. In order to qualify for special consideration, you must take following steps:

[Step 1] Contact me by using your **U of T e-mail account as soon as possible**. No consideration will be given to your request if you do not contact me **within 24 hours of the test**. In your correspondence with me, you should mention (1) your full official name, (2) student ID number, (3) your section number, (4) the reason for your absence, (5) list of all of the other courses you are currently taking and the names of your other professors (it should identify all term work, including tests and class attendance, you submitted in other courses on the same day or two days before or after the missed term test in our course or it will say that there was no other term work submitted), and (6) the clause, "I understand that it is a punishable academic offense to present false or misleading information in support of my request for accommodation for missed term work."

[Step 2] Present a **written proof** that shows why you could not attend the test **within 7 days after the test**. If the absence is for medical reasons, you must provide a U of T medical certificate, available at <http://www.healthservice.utoronto.ca/pdfs/medcert.htm>
No other form is accepted.

[Step 3] After verifying the information provided by you, I will notify you the detail of the make-up test if you are considered qualified for the make-up test.

[Step 4] You will complete a cumulative make-up test on March 27 from 4-6pm. Missed make-up test will automatically earn score of ZERO.

5.6. Excel Training Sessions and Excel Test

Instructor Chen (christy.chen@utoronto.ca) gives the required Excel Course Module (ECM) that complements our course. The ECM will start in January; you will have a chance to sign up for training held in a computer lab. (These are separate from regular TA tutorials.) While seated at a computer, you will learn how to do statistical analyses using an augmented version of Excel. These help you prepare for the Excel Test to be scheduled in March, which you will take in a computer lab. The ECM has a portal course site.

6. Course Materials:

Following is the list of chapters from the required textbook that are covered in this course. A detailed schedule is available on the course website. Students are expected to read the part that is announced on the course website before the lecture.

Chapter 1: An Introduction to Statistics

Chapter 2: Data

Chapter 3: Surveys and Sampling

Chapter 4: Displaying and Describing Categorical Data

Chapter 5: Displaying and Describing Quantitative Data

Chapter 6: Randomness and Probability (Excluding Section 6.9 Reversing the Conditioning: Bayes's Rule)

Chapter 7: Scatterplots, Association, and Correlation

Chapter 8: Introduction to Linear Regression

Chapter 9: Random Variables and Probability Distributions (Excluding Sections 9.7 The Poisson Distribution and 9.11 The Exponential Distribution)

Chapter 10: Sampling Distributions

Chapter 11: Confidence Intervals for Proportions (Excluding Section 11.5 A Confidence Interval for Small Samples)

Chapter 12: Testing Hypotheses About Proportions

Chapter 13: Confidence Intervals and Hypothesis Tests for Means

(Chapter 14: Comparing Two Means (Included if time permits))

Chapter 18: Inference for Regression

Chapter 19: Understanding Residuals

Chapter 20: Multiple Regression (Excluding Section 20.7 The Logistic Regression Model)

Chapter 21: Building Multiple Regression Models

7. Study Resources:

7.1. Economic Study Centre

The Economics Study Centre provides peer mentoring system to students taking this course. Please see the following website for further details.

<http://www.economics.utoronto.ca/index.php/index/undergraduate/load/studyCentre>

7.2. Discussion Board

I encourage you to use the discussion board on the Blackboard. TAs will regularly monitor the activities, but I expect students to post and answer questions by themselves. Answering questions from peers can create valuable learning experience.

8. E-mail Etiquette

If you have any questions about course materials, please ask me in person, before and after lectures, or during office hours. You should not expect a response from me by e-mail if the subject is the course material. Instead, please post your questions on the discussion board on the portal. If you need to contact me for other matters regarding the course via e-mail, you should be aware of following guidelines. An e-mail not following the guidelines may not be answered.

- The e-mail has to be sent from your U of T e-mail account (@mail.utoronto.ca).
- Subject of your e-mail should include course code (ECO220Y) and section number (L0101 or L0501).
- Your official name should be included in the text.
- You should review the syllabus before sending a question to me.
- Your e-mails should be written in concise and professional manner. Consider this an opportunity to learn business etiquette. For instance, the use of casual language such as “how r u?” or emocons, is not appropriate in this situation.
- I will make an effort to reply to your e-mails as soon as I can but my response may take 2 business days.
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9. Academic Integrity

“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.” –Academic Integrity Handbook, Office of Student Academic Integrity, Faculty of Arts and Science, University of Toronto.

TAs and I will be vigilant over plagiarism and investigate any suspected case thoroughly, irrespective of whether it is intentional or unintentional.

10. Accommodations and Accessibility

If you have a disability and/or accessibility concern, and require accommodations, you are encouraged to contact Tanya Lewis, Director, Academic Skills and Accessibility Services at 416-978-6786; tanya.lewis@utoronto.ca, immediately. They will provide you with relevant information and make necessary arrangements with you. The Academic Skills and Accessibility Services' website is given as follows: <http://www.accessibility.utoronto.ca/>.