UNIVERSITY OF TORONTO
ECO227Y1Y
Quantitative Methods in Economics
2016-2017 Academic Year
Lectures: Thursday, 2:00-4:00 pm, SS2106
Tutorials: Friday, 10:00-11:00 am, SS2106

Fall Instructor
Professor: Patrick Baude
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Office hours: Tuesday 12:30-1:30 pm

Spring Instructor
Professor: Ismael Mourifié
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Office hours: **TBA**

TA:
Lectures will be followed by one-hour tutorial **F 10:00-11:00 a.m, SS2106** and one office hour **TBA** every week led by Faisal Ibrahim (faisal.ibrahim@mail.utoronto.ca) during the Fall and the Winter.

Course Website:
The Black Board (https://portal.utoronto.ca)

Textbook:
The lectures in this course are based on the material covered in Dennis D. Wackerly, William Mendenhall III and Richard L. Scheaffer, *Mathematical Statistics with Applications*, Seventh Edition (2008), Thomson Brooks/Cole, ISBN 978-0- 495-11081-1. One another recommended book is *An Introduction to Mathematical Statistics and its Applications,* Pearson 5 edition by RJ Larsen and ML Marx.

Course Description and Intended Learning Outcomes:
This is an introduction to probability and statistics intended for economic specialists. The course assumes basic familiarity with elementary calculus and will use it extensively. The course provides students with a demanding introduction to probability theory, estimation theory, sampling distributions, hypothesis testing, and simple regression analysis. By the end of the course, students

should be familiar with the basic tools used to model uncertainty in economics and finance, to test hypotheses, and to estimate model parameters.

Prerequisites:

ECO 100Y is required with a minimum grade of 70%. Students are also expected to have had an introductory undergraduate course in calculus. In particular, passing MAT 133Y with a minimum grade of 63%; MAT 123H and MAT 124H each with minimum grades of 63%; MAT 135Y with a minimum grade of 60%; MAT 137Y with a minimum grade of 55% or MAT 157Y with a minimum grade of 55% will satisfy the calculus prerequisite for this course. It is also recommended that students be enrolled in second-year courses in linear algebra (i.e., MAT 223H or MAT 240H) and multivariate calculus (i.e., MAT 235Y; MAT 237Y or ECO 210H) at the same time as their enrolment in ECO 227Y.

Tentative Course Schedule and Marking Scheme:

Date	Week	Topic	Chapter
		Fall 2016	
09-15	1	Intro + Probability Theory I	2
09-22	2	Probability Theory II	2
09-29	3	Discrete Random Variables I	3
10-06	4	Discrete Random Variables II	3
10-13	5	Discrete Random Variables III	3
10-20	6	**Test 1 (20%)**	
10-27	7	Continuous Random Variables I	4
11-03	8	Continuous Random Variables II	4
11-10	9	Continuous Random Variables III	4
11-17	10	Multivariate Probability Distribution	5
11-24	11	Bivariate Normal Distribution	
12-01	12	**Test 2 (20%)**	
		Winter 2017	
01-05	13	Function of random variables I	6
01-12	14	Function of random variables II	6

01-19	15	Sampling distributions and CLT	1&7
01-26	16	Estimation I	8
02-02	17	Estimation II	8
02-09	18	**Test 3 (20%)**	
02-16	19	Point Estimators I	
02-23		Reading week (no class)	9
03-02	20	Point Estimators II	9
03-09	21	Hypothesis testing	10
03-16	22	Regression I	11
03-23	23	Regression II	11
03-30	24	Bayesian Methods/Review	16
TBA		**Final Exam (40%)**	

Policies on Missed Tests:

A grade of zero will be given to students who do not write the test, unless an appropriate and convincing note is received within one week of the missed test (explaining why the test was missed).

- Make-up exams will only be scheduled based on legitimate medical reasons or acute emergencies.
- An email notice must be sent to me on the day of the exam.
- Original legitimate supporting documents of absence are required (within one week). Scanned, copied, or emailed documents will not be accepted.
- When a student missed the exam for medical reasons, he or she shall provide an original copy of a fully completed University of Toronto official "Verification of Student Illness or Injury" form. The certificate needs to be completed by a qualified medical doctor whose OHIP number must be provided. You can download the form from http://www.illnessverification.utoronto.ca.
- It is by the University policy that there are no "make-up exams" for "make-up exams"

Regrading of the Term Test:

Students can request regrading of their term tests by explaining the reason **in a written statement**. This request must be submitted to either the Instructor or the TA within one week from the day in which the TA returns the term test to students. The whole test will be regarded to ensure consistency.

Problem Sets:

Problem sets will be given during every lecture. Although these problem sets will not be graded, their completion will be essential for success in this course.

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.
- Always identify yourself, course and section in your email.
- Please do not send attachments of any kind.
- Please do not submit term work by email.
- The teaching assistant has one email-hour per week to reply course related questions, and the same email policy holds for them.

Academic Misconduct:

Students should note that copying, plagiarizing, or other forms of academic misconduct will not be tolerated. Any student caught engaging in such activities will be subject to academic discipline ranging from a mark of zero on the assignment, test or examination to dismissal from the university as outlined in the academic handbook. Any student abetting or otherwise assisting in such misconduct will also be subject to academic penalties.