STA257 L0501, Autumn 2017
Probability and Statistics I

Instructor: Mark Ebden
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Office: SS 6027 CLTA
Office hours: From 1 to 2 pm on Tuesdays, by appointment (click here)

Course webpage: Accessible through the learning portal: https://portal.utoronto.ca

Classroom sessions: Wednesday 7-10 pm, in MS 3153
There are 11 sessions (excluding the midterm) from Wed 13 Sept to Wed 6 December. This section of the course (L0501) is independent of the day section (L0101), as well as its tests and final exam. Link to campus map here

Tutorials: Wednesdays from 6-7 pm, from 20 September to 6 December. The TAs are:

Xiucai Ding	Alex (Yuxiang) Gao	Joseph (Yuenan) Cai
Colin Decker	Daniel Flam-Shepherd	

Prerequisites

- Pre-requisites:(MAT135H1, MAT136H1(70%))/MAT137Y1/MAT157Y1 (MAT137Y1/MAT157Y1 is strongly recommended)
- Corequisites: MAT235Y1/MAT237Y1/MAT257Y1 (MAT237Y1/MAT257Y1 is strongly recommended), MAT223H1/MAT240H1
- Exclusions: ECO227Y1/STA247H1

Course Content

This course will provide an introduction to the fundamental concepts of probability and statistics. In particular this course will cover: probability models, random variables, discrete and continuous distributions, multivariate models, large-sample limiting results, some statistical applications.

The learning objective of this course is:

Become acquainted with mathematical statistics, with an emphasis on probability theory

Textbook

Our textbook is John Rice's *Mathematical Statistics and Data Analysis*, 3rd edition. We will cover most of Chapters 1 to 6, though some aspects might be considered in more detail in class. ISBN: 978-0534399429.

The content is somewhat similar to the first seven chapters of *Mathematical Statistics with Applications,* by Dennis Wackerly *et al.* (7th edition, 2008). ISBN: 978-0495110811. This is entirely optional reading.

Evaluation

Undergraduate and graduate students will be evaluated according to the following marking scheme.

	Weight	Dates	Time
Term test	40%	Wed 25 Oct	During class
Final exam	60%	Expected 9-20 Dec	Scheduled by Faculty

Graduate students will be evaluated at the graduate level according to the University Assessment and Grading Practices Policy.

Term test and exam

You must bring your student identification to the term test and the final exam.

You will not need to know R syntax on the tests and exam, but you will need to know how to interpret output from R.

Marking concerns

Any requests to have the test re-evaluated must be made in writing within *one week* of the date the work was returned. The request must contain a justification for consideration. Send your request to sta257me@gmail.com. Note that your score may go down as well as up.

Missed Test

- If the test is missed for a valid medical reason, you must submit the University of Toronto Verification of Student Illness or Injury form to your instructor within one week of the test.
- The form will only be accepted as valid if the form is filled out according to the instructions on the form.
- Important: The form must indicate that the degree of incapacitation on academic functioning is moderate, serious, or severe in order to be considered a valid medical

reason for missing the term test. If the form indicates that the degree of incapacitation on academic functioning is negligible or mild then this will *not* be considered a valid medical reason.

- If the test is missed for a valid reason then the final exam will be worth 100%
- Other reasons for missing a test will require prior approval by your instructor. If prior approval is not received for non-medical reasons then you will receive a term test grade of zero.

Computing and Calculators

You will need a basic scientific hand-calculator, with statistical functions, logarithmic functions etc, and experience in working with it (start using it from the first day).

Any calculator that has logarithmic functions will be sufficient. Calculators on phones or other devices equipped to communicate with the outside world (for example, through the internet or cellular or satellite phone networks) will not be permitted during the term test and the final exam.

You will see from old midterms that manual calculations are a part of this course.

Programmable calculators are not allowed on the midterm or exam.

For those looking for something more advanced to play around with, note that R is very popular in our department. R is freely available for download at cran.r-project.org for Windows, Mac, and Linux operating systems. *R Studio* is a good integrated development environment to R. It is freely available at www.rstudio.com/products/rstudio You may also like to sign up for a CQUEST account. To get an account and find out more information about using CQUEST go to www.cquest.utoronto.ca

However, in this course you do not need to know anything about R. You just need to know how to use a calculator.

Online Discussion Board

You will have the option to use Piazza for class discussion. If you decide not to use Piazza it will not disadvantage you in any way, and will not affect official University outcomes (e.g., grades and learning opportunities). If you choose not to opt-into Piazza then you can ask questions or discuss course material with the instructor or TAs during office hours.

Please read Piazza's Privacy Policy and Terms of Use, taking time to understand and be comfortable with them. They provide for substantial sharing and disclosure of your personal information held by Piazza, which affects your privacy. If you decide to

participate in Piazza, only provide content that you are comfortable sharing under the terms of the Privacy Policy and Terms of Use.

The Piazza system is highly catered to getting you help quickly and efficiently from classmates, the TA, and the lecturers. Rather than emailing questions to the teaching staff, we encourage you to post your questions on Piazza. To sign up for the discussion forum, click on the link: piazza.com/class/j6lngbnosba2

TAs are assigned to answer questions you have on Piazza. If you post your questions there and don't get a response in three days, please inform me as soon as possible.

Additional help

Practice problems list from the textbook for you home preparation will be posted on the web-site. They are not to be handed in. The solutions will not be posted. You may discuss them in tutorials etc.

Need extra help with the coursework? Here are some options:

- For continued class discussion and questions outside of class, try posting on the discussion forums. The instructor and TAs will be monitoring them
- You may choose to join (or create) an STA257 Recognized Study Group: www.studygroups.artsci.utoronto.ca
- You can speak with the instructor or teaching assistants
- E-mail should only be used for emergencies or personal matters

How to communicate with your instructor

Questions about course material such as:

- How do I do question 3.7 in this textbook?
- What is standard deviation?
- When is the midterm?

can be posted on the Piazza discussion forum. If you are shy, questions can be posted anonymously (so that the author is anonymous to other students but not to the instructor).

For private communication, e-mail me. Use your utoronto.ca e-mail account and include your full name and student number.

You may post entirely anonymous feedback here. Nobody will receive this except me, and nobody will know who you are.

Academic integrity

You are responsible for knowing the content of the University of Toronto's Code of Behaviour on Academic Matters at www.governingcouncil.utoronto.ca/policies/behaveac.htm. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact your instructor.

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: accessibility.services@utoronto.ca or http://accessibility.utoronto.ca.

Your responsibilities

The classroom sessions for this class are designed to actively engage you in the course material. We hope you'll find them interesting, challenging, fun, and an excellent opportunity to truly learn the material.