6 September 2022

University of Toronto
Department of Statistical Sciences

STA197H1– Thinking Better with Statistics

Syllabus: Fall 2022

Land Acknowledgement
We wish to acknowledge the land on which the University of Toronto operates. For thousands of years, it has been the traditional land of the Huron-Wendat, the Seneca, and most recently,the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

Resource: native-land.ca

1 Table of Contents

Course Formats Highlights
This course is an in-person course. Any deviations from this document will be announced on the Quercus. Please keep visited regularly the website link FAS student FAQs.

1. Course logistics (Instructor and Team, Class time, Office hours)

This is an in-person course.

Instructor: Esam Mahdi
Email: e.mahdi@utoronto.ca

Class Day/Time:

Section	Lecture
LEC5101	Wednesday 2-4 pm, Room: MY 420 First lecture: September 14, 2022

We will follow "U of T time" and begin 10 minutes past the hour.

Instructor's Office hour: By appointment via zoom-link (posted on Quercus).

All course content (e.g., lecture slides/PDF etc.) will be available on Quercus. and links therein (https://q.utoronto.ca). For security reasons, please do not copy or share the Zoom links anywhere.

The majority of course communication and announcements will happen through Quercus. It is your responsibility to check Quercus regularly.

Communicating with the Instructor

Before emailing your instructor, please:

- re-read this syllabus to see if the answer is already here,
- check the announcement and modules posted on Quercus,
- meet during office hours

If your question is not answered after looking through these resources, then please email the instructor.
When emailing your instructor, please use the subject line: STA197 H1F.
If this subject is not included, your email may be missed.

2. Course Overview

Course Description:

This course explores how our statistical intuitions and ways of thinking can let us down. There's no need to be a math whiz to be a better statistical thinker. Everyone can become a more critical consumer of claims presented in media, advertisements and by politicians—especially those relevant to our own health and wealth. This course uses real-world examples and tours common and avoidable statistical traps and tricks. Restricted to first-year students.

Prerequisites: There is prerequisites for this course.

Intended Learning Outcomes

Upon completion of the course, you will be able to:

- Able to detect false conclusions and biased results.
- Learn how to turn numbers into useful information and to quantify relationships between factors.
- Learn how to detect misleading graphs and figures and to interpret trends over time.
- Understand what probability is all about, and presents techniques that can help you make better decisions.
- Learn how to interpret common economic statistics.
- Learn how to use the power of computers to simulate probabilities.
- Tell whether the results represent valuable advice or flawed reasoning.

3. Course Materials, Textbook & Supplementary Learning Resources

- The **main textbook** for the course is: "*Seeing Through Statistics*" 4th edition by Jessica Utts. Two copies are available at the Mathematical Sciences Library.
  - In addition, we will, occasionally, use other sources that will be made available as the course progresses.

4. Assessments & Grading

Assessment	Weight	Due Date
Class Participation*	20%	Throughout the Course
Student-Led Discussion 1 (Presentation 1)**	22.5%	Before October 26
Student-Led Discussion 2 (Presentation 2)***	22.5%	After October 26
Essay/Assignment	35%	December 09 (Friday) before 11:59 pm

* A student who will miss a class without a valid reason (e.g., illness or personal emergency) will lose 2 marks out of the total grade of 100. This means that you will lose 4 marks if you will be absent for two lectures. If the missed for a valid reason (e.g., illness or personal emergency), then **within one week** following the absence day, you must fill out the absence declaration form on ACORN and then send me an email.

** Students will be divided into 5 groups; each has 5 students. The instructor will randomly assign two chapters that will be selected from the main textbook, and during the lecture time, each group will provide a PowerPoint presentation and lead the class discussion. The performance of each group will be evaluated (scale 0 - 25) by the instructor and feedback of classmates.

*** Same as the aforementioned point, but the student can change his group (if it will be necessarily needed!).

5. Intellectual Property

All course materials are copyrighted. If they are from the textbook, the copyright belongs to the textbook publisher. If they are provided by an instructor (for example, lecture notes, assignments, solutions) the copyright belongs to the instructor. **Providing course materials to any person or company outside of the course is an unauthorized use**.

6. Accessibility

Students with diverse learning styles and needs are welcome in this course. If you have a disability/health consideration that may require accommodations, please feel free to approach me and/or Accessibility Services as soon as possible at 416-978 8060; studentlife.utoronto.ca/as. The Accessibility Services staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. The sooner you let them and me know your needs, the quicker we can assist you in achieving your learning goals in this course. More information can be found here: www.accessibility.utoronto.ca.

7. Accommodations

The University of Toronto supports reasonable accommodation of the needs of students who observe religious holy days other than those already accommodated by ordinary scheduling and statutory holidays. As mentioned on the webpage below, please let me know if you require accommodations or expect absences, and I will make reasonable effort to make accommodations at these times. More information: https://www.viceprovoststudents.utoronto.ca/policies-guidelines/accommodation-religious/ .

8. Academic Integrity

The University treats cases of plagiarism and cheating very seriously. It is the students' responsibility forknowing the content of the University of Toronto's Code of Behaviour on Academic Matters. All suspected cases of academic dishonesty will be investigated following the procedures outlined in the above document. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see https://www.academicintegrity.utoronto.ca/). Here are a few guidelines regarding academic integrity:

- You may consult class notes/lecture slides during homework, however sharing or discussing questions or answers with others is an academic offence.
- Students must complete all assessments individually. Working together is not allowed.
- Paying anyone else to complete your assessments for you is an academic misconduct.
- Sharing your answers/work with others is academic misconduct.
- Copying solutions to homework problems from online or a book is an academic offence.
- All work that you submit must be your own! You must not copy answers from anyone or anywhere else. Unacknowledged copying or unauthorized collaboration will lead to severe disciplinary action, beginning with an automatic grade of zero for all involved and escalating from there. Please read the UofT Policy on Cheating and Plagiarism, and don't plagiarize.