

STA198F: PROBABILITIES EVERYWHERE

(Fall 2019)

This course examines the meaning and mathematics of probabilities, and how they arise in our everyday lives. Specific topics may include: the nature of coincidences, the concept of luck, games involving dice and cards, long run averages in casinos, margins of error in polls, the interpretation of medical studies, crime statistics, decision making, pseudorandomness, and Monte Carlo algorithms.

To succeed in this course, it is necessary to actively participate in class discussions, and enthusiastically consider a variety of logical, mathematical, and societal issues from a variety of perspectives.

Prerequisite: At least one grade 12 mathematics course (or the equivalent from another country).

Time: Wednesdays, 2-4. First class Sept 11, last class Dec 4, no class Nov 6 (Reading Week).

Location: Innis College (IN), room 313.

Required Textbook: [Struck by Lightning: The Curious World of Probabilities](#) (available at the [bookstore](#)).

Supplementary Materials: To be handed out as needed. (Somewhat based on the book's [Discussion Questions and Exercises](#).)

Course Web Page: <http://probability.ca/sta198>

Instructor: Professor [Jeffrey S. Rosenthal](#), Department of Statistics, University of Toronto. Sidney Smith Hall (SS), room 5022; phone 416-978-4594; e-mail j.rosenthal@math.toronto.edu.

Evaluation:

15% Class attendance / punctuality / preparation / attention
20% Homework assignments
35% Participation in class activities and discussions
30% [Final essay](#)

Notes:

1. Classes will involve both student cooperative work in small groups, and whole-class discussion sessions.
2. Students are expected to punctually attend class each week, to **put away cell phones and laptops** (except when expressly required for class activities) and enthusiastically participate in discussions and activities during class time, and to conscientiously keep up with readings and other (small) weekly homework. It is crucial to have **excellent attendance** and **be punctual**, to show **interest and enthusiasm** in class activities, and to **speak up often** and **listen carefully to others** during whole-class discussions.
3. Weekly homework will often involve reading from the textbook or other source, and answering various questions about what you have read. It is even better if you can also find additional information beyond the assigned reading.
4. For assistance with writing and studying skills, see the resources on the web page [Writing at the University of Toronto](#) and the [Writing Centres](#), and also [ELL](#) and [Accessibility Services](#) and [Academic Success](#) and [How Not To Plagiarize](#), and also the [U of T Library](#) including their [research help](#).

This document is available at probability.ca/sta198, or permanently at probability.ca/jeff/teaching/1920/sta198/