

This first-year-seminar 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.

Classes will involve both student cooperative work in small groups, and whole-class discussion sessions. Students are expected to punctually attend class each week, enthusiastically participate in discussions and activities during class time, and conscientiously keep up with readings and other weekly homework. To succeed in this course, 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.

Logistics

All classes will be conducted **in-person** and will require significant student **participation**.

Class time: Wednesday @ 3:00-5:00 PM (EST)

First class: January 11, 2023

Last class: April 5, 2023

Location: [IN 204W](#)

Instructor

Instructor: [Elena Tuzhilina](#)

Email: elena.tuzhilina@utoronto.ca

Office hours: Mondays @ 1:30-2:30 PM (EST)

Location (hybrid format):

- in-person in [Ontario Power Building](#), 9th floor, office #9086
 - online in Zoom, access via the Zoom tab on Quercus, or via *Meeting ID: 89650723010* and *Passcode: 198198*
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Assignments

Homework problem sets

You will be given a **weekly assignment** that will often involve reading from the textbook (or other sources) and answering various questions about what you have read. They will be distributed in class and should be submitted on Quercus before the next class.

Late homework assignments will be accepted, but with a penalty. A **20% per day penalty** will be applied to homework assignments that are submitted late (no more than 4 late days are allowed). If the assignment is missed for a medical reason, you must fill out the absence declaration form on ACORN and inform your instructor **within one week** following the assignment. Requests after this deadline will not be accepted.

Final project

You can form a team of up to four participants for the final project (feel free to use "Search for Teammates" on Piazza).

The final project will involve studying a random phenomenon of your choice and will contain two parts:

- project proposal
- final project report and a presentation

More details will be posted later in the semester.

Grading policy

The final grade will be determined according to **attendance and participation (40%) + homework (20%) + project proposal (10%) + final project (30%)**.

Important dates

First class: January 11, 2023

No class (reading week): February 22, 2023

Project proposal: March 1, 2023

Last class & final project due: April 5, 2023

Required textbook

[Struck by Lightning: The Curious World of Probabilities](#) (available at [UofT bookstore](#) / [amazon](#) / [indigo](#) / [Kobo](#) / [Kindle](#) / [iBooks](#)).

Be sure to obtain this textbook (either hardcopy or electronic) **before the second class**. We will read and discuss much of the book during class and on homework.

Forum

Please use [the Piazza forum](#) to ask questions about the course content and logistics, or discuss the class materials with other students. **E-mail should only be used for emergencies or personal matters.**

Academic integrity

You are responsible for knowing the content of the [University of Toronto's Code of Behaviour on Academic Matters](#). If you have any questions about what is or is not permitted in this course, please do not hesitate to contact your instructor, or seek out additional information from [other institutional resources](#).

Accessibility

If you have a disability/health consideration that may require accommodation, please feel free to approach me and/or [Accessibility Services](#) as soon as possible.