An introductory course in statistical concepts and methods, emphasizing exploratory data analysis for univariate and bivariate data, sampling and experimental designs, basic probability models, estimation and tests of hypothesis in one-sample and comparative two-sample studies. A statistical computing package is used but no prior computing experience is assumed.

Course goals:

- learn some of the basic concepts of statistics
- develop a toolbox for analyzing, and displaying data
- learn a bit of coding!

Course topics:

- data summary - one variable and relationships between variables
- probability - events, random variables, and distribution
- confidence intervals - calculation and interpretation
- hypothesis testing - type I and II errors, p-value, relation to confidence intervals
- simple linear regression - interpretation and inference, coefficient of determination

We will use R programming language for computations. RStudio is a user-friendly environment for developing, running, and documenting R code. For convenience, we will use the server version of RStudio, which means you don't have to download and install anything on your computer. However, if you intend to use R regularly, I recommend downloading it to your computer (R is available for free from CRAN, along with RStudio for a nicer user interface).

Logistics

This is an Online Synchronous course.

Class time: Tuesdays @ 6:00-9:00 PM (EST)

First class: January 10, 2023

Last class: April 4, 2023

Location: online in Zoom, access via the Zoom tab on Quercus, or via *Meeting ID: 88190022459* and *Passcode: 220220*

Instructor

Instructor: Elena Tuzhilina

Email: elena.tuzhilina@utoronto.ca

Office hours: Mondays @ 10:00 AM-12:00 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: 89505303758* and *Passcode: 220220*

Teaching assistants

Name	Email	Office Hours Time	Office Hours Location
Ichiro Hashimoto	ichiro.hashimoto@mail.utoronto.ca	Fridays @ 11:00 AM-12:00 PM (EST)	online in Zoom *Meeting ID: 3400416252*
Vicky Lin	vickyqw.lin@mail.utoronto.ca	Wednesdays @ 10:00-11:00 AM (EST)	online in Zoom *Meeting ID: 9536304864* *Passcode: STA220H1S*
Alice Huang	alicew.huang@mail.utoronto.ca	Thursdays @ 2:00-3:00 PM (EST)	online in Zoom *Meeting ID: 82866907596* https://utoronto.zoom.us/j/82866907596

Do not send emails to the personal email addresses of the instructor or staff, unless in response to a message from them.

You can reach the teaching staff by sending email to sta220-win23-staff-l@listserv.utoronto.ca

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Assignments

Quizzes

You will be given **a weekly online quiz** on the topics covered in lectures, **twelve quizzes** in total. The quiz will consist of multiple choice questions, it will be held on Quercus and will be always due on

Monday at 11:59 PM (EST). Students must do quizzes on their own since they count toward the final grade for the course.

Midterm exams

There will be **two in-person midterm exams** (on weeks 5 and 9). Each exam will be 80 minutes long and written during class. You may use class text, notes, and calculators. You must bring your student identification to the test.

Final exams

There will be **an in-person final exam**, which will be scheduled by the faculty of arts and science. You will be permitted to class text, notes, and calculators. You must bring your student identification to the test.

Practice problem sets

Each week a **practice problem set** will be posted. These assignments aim to help you in preparation for the exams and quizzes and will not be evaluated.

Grading policy

The final grade will be determined according to **quizzes (20%) + midterm 1 (20%) + midterm 2 (20%) + final (40%)**.

Any requests to have a midterm re-marked must be made in writing to me within one week of receiving your marks. Note that it is possible for a re-mark to result in a lower grade. Requests to re-mark the final exam will be handled at the department level.

Missed assignments

Quizzes

There will be no accommodations made for the weekly quizzes.

Midterm exams

There are no make-ups for the missed midterm test. If the test is missed for a medical reason, 100% of its weight will be shifted to the final. You must fill out the absence declaration form on ACORN and inform your instructor **within one week** following the test. Requests after this deadline will not be accepted.

Important dates

First class: January 10, 2023

First midterm: February 7, 2023

No class (reading week): February 21, 2023

Second midterm: March 14, 2023

Last class: April 4, 2023

Reading materials

The course will closely follow the modules on this website.

There are also two recommend textbooks:

1. Statistical Thinking for the 21st Century by Poldrak.
2. OpenIntro Statistics (4th edition) by Diez, Barr, and Cetinkaya-Rundel.
3. Stats: Data and Models (4th edition), by Veaux, Velleman, Bock, Vukov, and Wong (available at the U of T bookstore).

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.