STA220H1: The Practice of Statistics I (LEC0101)
Summer 2025 (F)

Instructor: Mai Ghannam
Email: sta220@course.utoronto.ca
Lecture Schedule: Tuesdays/Thursdays 10:10 AM-1:00 PM EST on Zoom
Instructor and TA Office Hours: See Quercus

Course Description
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.
Note: STA220H1 does not count as a distribution requirement course.

Prerequisite
None

Quercus Homepage
Our course homepage is located on Quercus (https://q.utoronto.ca/courses/389521). This is where you will find the most up-to-date information about the course such as announcements, lecture material, assessment information, grades, etc.

Email Communication
Please email me at sta220@course.utoronto.ca for inquiries related to course administration (administrative inquiries, accessibility accommodations, etc.).

For all email communication, students should expect a reply within 24-48 hours (excluding weekends and university
holidays).

Piazza
We will be using Piazza as the platform for discussions related to the course material and assessments. You can find our course page at http://piazza.com/univeristy_of_toronto/summer2025/sta220h1. Students can post anonymously to classmates on Piazza, but the identity of the author of all posts is viewable by instructors and TAs.

All posts and conduct on Piazza must remain professional. Posts regarding personal matters such as inquiries about grades, absences, regrade requests, etc. should be communicated via email (at sta220@course.utoronto.ca) and NOT be posted on Piazza. Piazza is intended for students to receive support regarding course information and content and thus should be an overall positive and professional environment. Postings that do not align with this environment will be removed.

STA220H1: The Practice of Statistics I (LEC0101)
Summer 2025 (F)

Textbook and Resources

There is no required course textbook.
The following is a list of recommended supplementary material:

1. Online Modules: https://courses.utstat.utoronto.ca/STA220/index.html
   - This website features video lectures created for past iterations of STA220
2. OpenIntro Statistics 4th Ed. By Diez, D. Barr, C.D., & Cetinkaya-Rundel M.
   - Free and available to download here: https://leanpub.com/os
   - This is an excellent textbook that is less conversational but contains clearly explained concepts. A nice feature of the text and website is that many of the examples and vignettes used to illustrate the concepts are based on real applications of statistics.
3. Stats: Data and Models, 4th Canadian edition, by Richard D. De Veaux, Paul F. Velleman, David E. Bock, Augustin M. Vukov, and Augustine C.M. Wong. 4th ed.
   - This textbook is available at the University of Toronto bookstore. It is written in a conversational style. Most concepts are clearly explained and there are lots of fun and interesting vignettes that illustrate statistical concepts.

Tentative Course Schedule

Class (Date)	**Topic**
Class 1 (May 6)	Course Introduction, Summarizing Data
Class 2 (May 8)	Probability: Events
Class 3 (May 13)	Probability: Random Variables
Class 4 (May 15)	Sampling Distributions
Class 5 (May 20)	Data Collection
Class 6 (May 22)	Online Term Test
Class 7 (May 27)	Confidence Intervals: Part 1
Class 8 (May 29)	Confidence Intervals: Part 2
Class 9 (June 3)	The Process of Statistical Tests
Class 10 (June 5)	The Effective Use of Statistical Tests
Class 11 (June 10)	Comparing Two Groups
Class 12 (June 12)	Simple Linear Regression

Course Assessments

Assessment	**Weight**	**Due Date**
Weekly Quizzes (Online through Quercus)	15% (Best 8 out of 10)	Weekly quizzes will be due most weeks on Sundays and Wednesdays at 11:59PM. See 'Course Schedule' for more details
Online Term Test	25%	Thursday, May 22, 2025
Assignment	20%	Sun. June 8 at 11:59pm
In-Person Final Exam	40%	To be scheduled by the faculty
Generative AI Usage Survey on Quizzes	Bonus 1%	Optional survey following each quiz. To qualify, you need to complete 8 out of the 10 quiz surveys.

STA220H1: The Practice of Statistics I (LEC0101)
Summer 2025 (F)

Weekly Quizzes

There will be 10 quizzes available through Quercus. Quizzes will be open for a 72h period and quizzes will be due on Sundays and Wednesdays at 11:59PM, **except for the first week where quizzes will be due on Monday and Thursday** to allow for some extra time for students enrolling later in the course. The first quiz will be due on Monday, May 12, 2025. The last quiz will be due on Sunday, June 15, 2025. The quiz scheduled is given in the table below:

Each quiz may consist of a combination of multiple choice, T/F, or calculation questions. Once you start the quiz, you will have 1 hour to complete it.

Class	Quiz Opens	Quiz Due
Class 1 (May 6, Tue)	**Fri, May 9 at 12:00 AM**	**Mon, May 12 at 11:59 PM**
Class 2 (May 8, Thu)	**Mon, May 12 at 12:00 AM**	**Thu, May 15 at 11:59 PM**
Class 3 (May 13, Tue)	**Fri, May 16 at 12:00 AM**	**Sun, May 18 at 11:59 PM**
Class 4 (May 15, Thu)	**Mon, May 19 at 12:00 AM**	**Wed, May 21 at 11:59 PM**
Class 5 (May 20, Tue)	**Fri, May 23 at 12:00 AM**	**Sun, May 25 at 11:59 PM**
Class 6 (May 22, Thu)	**No Quiz**	**Take-Home Test This Day**
Class 7 (May 27, Tue)	**Fri, May 30 at 12:00 AM**	**Sun, June 1 at 11:59 PM**
Class 8 (May 29, Thu)	**Mon, June 2 at 12:00 AM**	**Wed, June 4 at 11:59 PM**
Class 9 (June 3, Tue)	**Fri, June 6 at 12:00 AM**	**Sun, June 8 at 11:59 PM**
Class 10 (June 5, Thu)	**Mon, June 9 at 12:00 AM**	**Wed, June 11 at 11:59 PM**
Class 11 (June 10, Tue)	**Fri, June 13 at 12:00 AM**	**Sun, June 15 at 11:59 PM**
Class 12 (June 12, Thu)	**No Quiz**	**None Scheduled**

You will have one attempt for each quiz. The best 8 out of 10 quiz scores will count towards your grade.

The use of course materials, R, and Generative AI is permitted during weekly quizzes. Collaboration with others is not permitted

Term Test

There will be one online take-home term test during the course which will take place online through Quercus during class time on Thursday, May 22, 2025, with a time limit of 1.5 hours.

The following aids are permitted during the term test:
1. Course notes
2. Calculator (see below for calculator policy)

You may NOT use any other sources including websites and/or AI technology to complete the test. Any evidence of cheating will result in an automatic zero.

Assignments

There will be one take-home assignment throughout the term. You should expect the assignment to involve calculations, problem solving questions, coding in R and/or written communication. The assignment is due on **Sun. June 8 at 11:59pm**. The assignment is to be submitted through Crowdmark. The link will be distributed on Quercus closer to the due date.

Final Exam
There will be a 3-hour cumulative final exam at the end of the course. The date and time of the final exam will be determined by the faculty later in the term.

The final exam is closed book and the only aid allowed is a calculator and ONE double-sided 8.5x11 inch sheet of notes. All notes brought into the exam will be collected and not returned to students

Missed Assessments
See below for a more detailed explanation for the policy regarding missed assessments and extensions for each assessment

- *Missed Quizzes:* Quizzes that are not submitted during the availability window will receive a grade of 0. No extensions will be granted for quizzes under any circumstances. However, the lowest 2 quiz grades will be dropped.

- *Missed Term Test:* If the test is missed due to an illness or personal emergency please fill appropriate missed assessment form within one week of the missed assessment.

  The form will ask you to upload the appropriate documentation, which is one of the following: Acorn absence declaration, Verification of Illness form, Letter from College Registrar, Letter of Academic Accommodation from Accessibility Services.

  Students who properly fill out the form will receive an email to confirm that the weight of the missed test will be transferred to the final exam.

- *Missed Assignment:* There is a 48-hour grace period to submit the assignment without penalty. You do not have to request this 48-hour extension from our teaching team, you just need to submit your work when you are finished (within the extra 48 hours). Please note, if you submit during the grace period, you will receive your grade later than those who submit on time, because your TA will mark it when
  their schedule allows. No extensions will be provided beyond this 48-hour grace period.

  Alternatively, if the assignment is missed due to an illness or personal emergency please fill missed assessment form within one week of the missed assessment.

  The form will ask you to upload the appropriate documentation, which is one of the following: Acorn absence declaration, Verification of Illness form, Letter from College Registrar, Letter of Academic Accommodation from Accessibility Services.

  Students who properly fill out the form will receive an email to confirm that the weight of the missed assignment will be transferred to the final exam.

- *Missed Final Exam:* If you are not able to write your final exam at the scheduled time or if you miss a final exam for reasons outside your control, you may submit a deferred exam petition, which is a request to write your exam at a later time.

  Please see the Faculty of Arts and Science Deferred Exam policy for more information.

Remark Requests
If you believe there has been an error in the grading of your term test or assignment, you must complete the re-grade request form for each relevant question within one week of the grades being posted; your request will be reviewed by the course instructor in consultation with the TA (Teaching Assistant) who graded your work, as appropriate). To complete your request, you must include:

• your name and student number,
• a **detailed written justification** for your request (it is not enough to simply say that you believe your work deserves higher credit)

Please note that we reserve the right to review the grading of your entire submission when you re-submit an assessment for reconsideration (i.e., your grade could go down). For the final exam, the re-mark process will be handled by the Faculty of Arts and Science.

Calculator Policy
Graphing calculators or calculators with internet capability are prohibited during assessments.

Computing
An introduction to programming the R statistical software is a learning objective of this course. There are 2 main options for accessing R.

1. You can access RStudio through the U of T Jupyterhub available here: https://r.datatools.utoronto.ca. After logging in, select New > R Studio. This will allow you to access RStudio through your Internet browser (this requires an internet connection).
2. You can first install R, and then R Studio, both of which are freely available. R can be downloaded for free from http://cran.r-project.org. R Studio can be downloaded for free from https://posit.co/download/rstudio-desktop/.

Course Materials
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, computer code, assignments, tests, solutions) the copyright belongs to the instructor. Distributing materials online or sharing them with anyone in any way is a copyright violation and, in some situations, an academic offence.

Accessibility Needs
The University of Toronto is committed to accessibility. Students with diverse learning styles and needs are welcome. If you require accommodations for a disability/health condition, or have any accessibility concerns about the course, the classroom, or course materials, please feel free to approach me and/or Accessibility Services as soon as possible: accessibility.services@utoronto.ca or https://studentlife.utoronto.ca/task/register-with-accessibility- services/, or 416-978-8060. 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.

Lecture Recordings

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session.

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor.

For questions about recording and use of videos in which you appear please contact your instructor.

Academic Integrity

Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the University of Toronto degree that you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves. Familiarize yourself with the University of Toronto's Code of Behaviour on Academic Matters available at http://academicintegrity.utoronto.ca.

Discussion about lecture materials, textbook concepts and course concepts with your classmates and the teaching team is encouraged, but **it is expected that you work independently on all assessments**. Please note, you may not submit for credit any work that was completed by someone else. This includes, but is not limited to, partially or fully completed code, written answers, answers to problems, communication of solutions, and plagiarism. In particular,

you are expected to complete and submit independent work for all quizzes, assignments, tests, and exams. You may discuss lecture materials and general course concepts, but it is expected that you work individually and independently through all STA220 assessments. You may use code provided by me or the TAs without providing a citation. If you use code from any other source, you must provide the source. To protect yourself from potential academic integrity offences, do not share your code and written submissions anywhere (including on social media sites). Discussion or sharing of test questions and/or solutions with others during (or after) the tests is not permitted.

Academic offenses will be taken very seriously and dealt with accordingly. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me by email or by visiting office hours.

Policy on Generative AI

Students are encouraged to make use of technology, including generative artificial intelligence tools (e.g. ChatGPT), to contribute to their understanding of course materials.

Following each quiz submission, students can optionally complete a survey asking if they used AI tools and to describe their experience with these tools. Completion of the survey for 8 out of 10

quizzes will be awarded a 1% bonus grade. Your feedback will help in understanding the impact of AI in the learning process.

If students use AI tools for the assignment, they must include, as an appendix, what tool(s) were used, any content produced by AI, and the prompt(s) used to generate the content. More information on how to do this will be included in the assignment instructions.

Students may not use generative AI tools for the completion of, or to support the completion of invigilated, closed book assessments, including the term test and final exam. This course policy is designed to promote your learning and intellectual development, and to help you reach course learning outcomes.

If you are unsure if a particular usage of generative AI is appropriate, please ask me for guidance