

**STA220H1 The Practice of Statistics I (LEC0101, LEC0201)  
Fall 2023**

**Teaching Team**

<b>Name</b>	<b>Role</b>	<b>Lecture Schedule</b>	<b>Email</b>
Jessie Yeung	Course Coordinator		<a href="mailto:sta220@utoronto.ca">sta220@utoronto.ca</a>
Selvakkadunko Selvaratnam (Selva)	LEC0101 Instructor	Mon. 9-11am, Wed. 9-10am	<a href="mailto:selva.selvaratnam@utoronto.ca">selva.selvaratnam@utoronto.ca</a>
Gracia Dong	LEC0201 Instructor	Mon. 1-3pm, Wed. 1-2pm	<a href="mailto:gracia.dong@utoronto.ca">gracia.dong@utoronto.ca</a>

*Instructor and TA office hours will be posted on 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/316955>). This is where you will find the most up-to-date information about the course such as announcements, lecture material, assessment information, grades, etc.

Note that this Quercus page is shared across 3 sections. Specific materials and announcements will be section-specific.

**Email Communication**

For inquiries related to course administration (missed assessments, extension requests, remark requests, accessibility accommodations during assessments, TA office hours, etc.) please email the course coordinator at [sta220@utoronto.ca](mailto:sta220@utoronto.ca).

For inquiries specific to a particular section and/or inquiries intended for a specific instructor, please email the instructor directly using the email addresses under 'Teaching Team'.

For all email communication, students should expect a reply within 24-48 hours (excluding weekends and 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 <https://piazza.com/utoronto.ca/fall2023/sta220h1>. Students can post anonymously to classmates on Piazza, but the identity of the author of all posts is viewable by instructors.

All posts and conduct on Piazza must remain professional. Posts regarding personal matters such as inquiries about grades, reporting absences, regrade requests, etc. should be communicated via email (at [sta220@utoronto.ca](mailto:sta220@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.

### Textbooks & 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.

### Course Schedule

Week (Starting Date)	Topic	Notes
Week 1 (Sept. 11)	Course Introduction, Summarizing Data	Quiz Due Sun. Sept. 17 at 11:59pm
Week 2 (Sept. 18)	Probability: Events	Quiz Due Sun. Sept. 24 at 11:59pm
Week 3 (Sept 25)	Probability: Random Variables	Quiz Due Sun. Oct. 1 at 11:59pm
Week 4 (Oct. 2)	Sampling Distributions	Quiz Due Tues. Oct. 10 at 11:59pm
Week 5 (Oct. 9)	Data Collection	No classes on Mon. Oct. 9 due to Thanksgiving.  Quiz Due Sun. Oct. 15 at 11:59pm
Week 6 (Oct. 16)	Term Test	No quiz this week.  <i>LEC0101 Test: Mon. Oct. 16 at 9:15am (Location TBA)</i>  <i>LEC0201 Test: Mon. Oct. 16 at 1:15pm (Location TBA)</i>
Week 7 (Oct. 23)	Confidence Intervals: Part 1	Assignment 1 due Friday, Oct. 27 at 11:59pm

		Quiz Due Sun. Oct. 29 at 11:59pm
Week 8 (Oct. 30)	Confidence Intervals: Part 2	Quiz Due Sun. Nov. 12 at 11:59pm
Reading Week		
Week 9 (Nov. 13)	The Process of Statistical Tests	Quiz Due Sun. Nov. 19 at 11:59pm
Week 10 (Nov. 20)	The Effective Use of Statistical Tests	Quiz Due Sun. Nov. 26 at 11:59pm
Week 11 (Nov. 27)	Comparing Two Groups	Assignment 2 due Friday, Dec. 1 at 11:59pm Quiz Due Sun. Dec. 3 at 11:59pm
Week 12 (Dec. 4)	Simple Linear Regression	No quiz this week. Wed. Dec. 6 is the last day of class.

### Course Assessments

Assessment	Weight	Due Date
Weekly Quizzes (Online through Quercus)	10% (Best 8 out of 10)	Weekly quizzes will be due most weeks, usually on Sunday at 11:59PM. See 'Course Schedule' for more details.
Term Test (In-Class)	20%	<i>LEC0101 Test:</i> Mon. Oct. 16 at 9:15am, location TBA  <i>LEC0201 Test:</i> Mon. Oct. 16 at 1:15pm, location TBA
Assignment 1	10%	Friday, Oct. 27 at 11:59pm
Assignment 2	10%	Friday, Dec. 1 at 11:59pm
Final Exam	50%	To be scheduled by the Faculty

### Weekly Quizzes

There will be weekly quizzes available through Quercus. Each quiz will be open for a 72h period and each quiz will be due on Sundays at 11:59PM. The first quiz will end on September 17<sup>th</sup> and the last quiz will end on December 3<sup>rd</sup>. Due to Thanksgiving, the Week 4 quiz is due on Tues. October 10<sup>th</sup>. There will be no quiz due on Oct. 22<sup>nd</sup> or Nov. 5<sup>th</sup> for a total of 10 quizzes.

Each quiz may consist of multiple choice, T/F, or calculation questions. Within the 72h window for each quiz, you will have 1 hour to complete it.

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 and R is permitted during weekly quizzes. Online resources or collaboration with others are not permitted.

### **Term Test**

There will be one term test during the course which will take place during class time, with a time limit of 90 minutes.

The schedule for the term test is as follows:

- *LEC0101*: Mon. Oct. 16 at 9:15am (Location TBA)
- *LEC0201*: Mon. Oct. 16 at 1:15pm (Location TBA)

**The term test is a timed assessment. By enrolling in this offering of STA220, you are affirming that you are available during the test time slot for your section.** Students who miss the test will not be allowed to write the test for another section.

The following aids are permitted during the term test:

1. **Study notes** (ONE single-sided 8.5x11 inch sheet of notes)
  - Notes must be printed on paper to be used during the term test. All study notes will be collected along with the test and will not be returned to the student. Failure to hand in study notes at the end of the term test is an academic offence.
2. **Calculator** (see below for calculator policy)

### **Assignments**

There will be two assignments throughout the term. You should expect the assignment to involve calculations, problem solving questions, coding in R and/or written communication. Assignment 1 is due on Friday, Oct. 27 at 11:59pm and Assignment 2 is due on Friday, Dec. 1 at 11:59pm. Both assignments are to be submitted through Crowdmark.

### **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 on 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 & Extensions**

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 Assignments*: If the assignment is not submitted by the due date, it will be subject to a late penalty of 10% per hour. If there are extenuating circumstances preventing you from submitting the assignment by the due date, you must email the instructor **BEFORE** the deadline for the **possibility** of an extension.

If the test is missed due to an illness or personal emergency, contact the course coordinator via the course email as soon as possible and provide one of the following recognized forms of documentation for student absence.

1. Absence declaration via ACORN with verification email sent to [sta220@utoronto.ca](mailto:sta220@utoronto.ca). (After filling out the Absence Declaration Tool, students should follow up with an email to inform the course coordinator and to confirm alternative arrangements.)
2. UofT Verification of Illness or Injury Form
3. College Registrar's letter
4. Letter of Academic Accommodation from Accessibility Services

Students who properly follow all the steps outlined above will have the weight of the assignment transferred to another assessment.

- ***Missed Term Tests:*** If the test is missed due to an illness or personal emergency, contact the course coordinator via the course email as soon as possible and provide one of the following recognized forms of documentation for student absence.
  1. Absence declaration via ACORN with verification email sent to [sta220@utoronto.ca](mailto:sta220@utoronto.ca). (After filling out the Absence Declaration Tool, students should follow up with an email to inform the course coordinator and to confirm alternative arrangements.)
  2. UofT Verification of Illness or Injury Form
  3. College Registrar's letter
  4. Letter of Academic Accommodation from Accessibility Services

Students who properly follow all the steps outlined above will have the weight of the term test 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**

Mistakes occasionally happen when marking. If you feel there is an issue with the marking of the term test or assignment, you may request that it be re-marked. The course re-mark policy exists to correct mistakes, and any request should clearly identify the error (for example, a question that was not marked, or a total incorrectly calculated). Requests to correct such mistakes must be sent by email to [sta220@utoronto.ca](mailto:sta220@utoronto.ca). For consideration, any email for a re-mark request:

- must **not** be sent within the first 24 hours of the release of the assessment grade,
- must be received within two weeks of the date that the marks for the assessment became available,
- must include 'STA220 Regrade Request [Assessment Name]' in the subject line of the email,
- must include your full name and student number, and
- must give a specific, clear, and concise reason for each request, referring to a possible error or omission by the marker. Re-mark requests without a specific reason will not be accepted.

Please note that your entire test/assignment may be re-marked when submitting a remarking request. It is possible that a remark request will result in a lower mark. 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.

### **Etiquette**

When communicating with anyone in any way – but especially via email – make sure you are courteous and respectful. This means using full sentences, not slang like “yo prof, I wanna get the lecture notes” (a real email received by a fellow instructor), etc. This is good practice for your eventual transition into industry or grad school. Make us want

to reply to you. Importantly, *we reserve the right to simply ignore any emails that don't follow these guidelines*. If you email me or anyone, here are some general guidelines.

- Use a subject line that includes “STA220” along with a few words describing the topic of your email
- Start the email with “Hi Jessie, ...” – or with “Jessie” replaced by whomever you’re emailing
- End the email with a “Thank you”, “Regards”, or something that indicates that the email is over
- Include your full name and UofT Student Number in the email
- Always send UofT related emails from your utoronto account (emails from personal emails may end up in the Junk folder)
- Allow for at least 24 hours before sending follow-up emails.

## 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 need to 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/>.
2. Alternatively, you can also use R Studio through the U of T Jupyterhub available here: <https://jupyter.utoronto.ca>. After logging in, select New > R Studio.

## 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. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom, or course materials, please contact Accessibility Services as soon as possible: [accessibility.services@utoronto.ca](mailto:accessibility.services@utoronto.ca) or <https://studentlife.utoronto.ca/task/register-with-accessibility-services/>.

## 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 your STA220 instructors or 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 your instructor via email or by visiting office hours.

**Policy on Generative AI**

The use of generative artificial intelligence tools and apps is strictly prohibited in all course assessments (including quizzes, assignments, and term tests) unless explicitly stated otherwise by the instructor in this course. This includes ChatGPT and other AI writing and coding assistants. Use of generative AI in this course may be considered use of an unauthorized aid, which is a form of cheating.