Revised September 13, 2021

STA220H1 F – Fall 2021: Course Syllabus
Section LEC0101 & Section LEC5101

Course Description

This course will provide an intuitive introduction to fundamental statistical concepts and reasoning. The course will cover: methods of data collection; constructing effective graphical and numerical displays; estimating and describing the natural variability in data; and the key ideas in how statistical tests can be used to separate significant differences from those that are only a reflection of the natural variability in data.

Intended Learning Outcomes

- Understand the ideas, principles, and considerations that are common to all statistical methods,
- Develop a statistical toolbox of some methods for the collection, analysis, and display of data
- Identify appropriate uses of the statistical methods, including their strengths and limitations, and
- Develop statistical literacy, including the ability to recognize the importance of data in decision-making and understand the social and scholarly applications of statistics.

Course Logistics

The course will comprise weekly online synchronous lectures, tutorials, and office hours over Zoom**.** ~~One tutorial section for each lecture section is scheduled to be in-person~~. Students will be surveyed at the beginning of term and a limited number of in-person tutorial sections may be offered, depending on student demand for in-person tutorials, and the availability of TAs to lead in-person tutorials. Information about tutorial sections and formats will be posted on Quercus. The Zoom links for lectures and tutorials are posted on Quercus only (https://q.utoronto.ca). All course content (e.g., lecture slides, lecture recordings, etc.) will be available on **Quercus.** ~~and links therein (https://q.utoronto.ca).~~ **For security reasons, please do not copy or share the Zoom links anywhere.**

The majority of course communication and announcements will happen through Quercus. It is your responsibility to check Quercus regularly.

Instructor Information

Instructor	Section	Lecture*	Tutorial* ***	Office Hour*
Murari Singh murarii.singh@utoronto.ca	LEC0101	M 10:00 – 12:00	W 10:00 – 11:00	Tu 14:00 – 15:00
	LEC5101	M 18:00 – 20:00	M 20:00 – 21:00	Tu 15:00 – 16:00

** Toronto time zone.* ***We will follow "U of T time" and begin 10 minutes past the hour.***

******Monday tutorials align with lectures LEC5101 and Wednesday tutorials with lectures LEC0101. If you attend a Thursday tutorial section, the coverage will be based on section LEC0201. Topic scheduling may differ.***

First Class

Section LEC0101:

The first day of classes for Section **LEC0101** is Monday Sept. 13, 2021 (10 -12 pm). Tutorials will be on Wednesdays (10 – 11 am).

Section LEC5101:

The first day of classes for Section **LEC5101** is Monday Sept. 13, 2021 (6 – 8 pm). Tutorials will continue from 8-9 pm.

The zoom- links have been posted on the Quercus.

When you have questions about the course or course logistics

Before emailing your instructor, please:

1. re-read this syllabus to see if the answer is here,
2. check the discussion posts on Quercus,
3. ask your Teaching Assistant (TA),
4. post your question to the appropriate discussion board on Quercus or Piazza (if you are comfortable doing so),
5. go to office hours

If your question is not answered after looking through these resources, or if you have a request about accommodations, missing an exam, etc. then please email the instructor. **When emailing your instructor, please use the subject line: STA220 – LEC#### where #### is your section number**. **If this subject is not included, we may miss your email**.

Course schedules (Section-wise): For details, see pages 6 – 8.

Tutorial Objectives

The tutorials are a chance for you to work on practice problems with your classmates and with the help of the Teaching Assistants (TAs). Practice problems will be provided. Homework assignments must be completed on your own; homework questions cannot be addressed in tutorials or discussed/posted on Piazza **or other social media outlets, chats, etc**. ***Please note that two of the tutorial spots will be used for ~~the Midterms~~ Lectures, and these sessions will be recorded and posted to Quercus for those who can't make the LEC0101 and L5101 tutorial times.**

~~Assignments &~~ Assessments & Grading

All evaluations and assessments (homework assignments, midterms, and final assessment) will be completed online.

Revised September 13, 2021

Marking Scheme

30% Homework (HW) assignments (best of 5 out of 6 assignments, so worth 6% each)

20% Midterm 1

20% Midterm 2

30% Final Assessment

Assessment Details

All assessments will be a combination of multiple-choice and short answer questions, completed online. The multiple-choice questions will be completed on Quercus, and the short answer questions will be completed on Crowdmark (https://app.crowdmark.com/sign-in/utoronto)

Assessment	Modules Covered	LEC0101 Due Date (duration)	LEC5101 Due Date (duration)
HW 1	1	Sept 24	Sept 24
HW 2	2	Oct 1	Oct 1
Midterm 1	1, 2, 3	~~**Oct 6 (W)**~~ **Oct 4 (M) (10:10 – 11:00 am; 50 mins)**	**Oct 4 (M) (6:10 – 7:00 pm; 50 mins)**
HW 3	4, 5	Oct 22	Oct 22
HW 4	8, 9	Nov 5	Nov 5
Midterm 2	4, 5, 8, 9	~~**Nov 17 (W)**~~ **Nov 15 (M) (10:10 – 11:00 am; 50 mins)**	**Nov 15 (M) (6:10 – 7:00 pm; 50 mins)**
HW 5	6, 7	Nov 26	Nov 26
HW 6	10, 11	Dec 9	Dec 9
Final Assessment	1 – 11 (entire course)	TBD	

Minimum passing requirement

In addition to the U of T grading policy, students **must complete and submit at least two of the HW assignments, one midterm, and the final assessment to pass the course.**

Late Assessments

Late homework assignments will be accepted, but with a penalty (see below). Midterms and the Final Assessment will be *timed*. These assessments must be submitted by the deadline time to avoid penalty (see below). The only exceptions to the late penalties listed below are for valid reasons (e.g., illness, personal emergency, accommodations, etc.).

Late Penalty for Homework Assignments

A *25% per day penalty* will be applied to ~~short answers~~ **assignments** that are submitted late. For example, this means that if an assignment is due at 17:00, and is submitted at 17:01, then it will incur a

25% late penalty. If it is submitted at 17:01 the following day, then it will incur a 50% late penalty. ~~The multiple choice questions must be submitted by the deadline.~~

Late Penalty for Midterms

A *5% per minute penalty* will be applied to ~~short answers~~ **midterms** that are submitted late. ~~The multiple choice questions must be submitted by the deadline.~~

Late Penalty for Final Assessment

A *5% per minute penalty* will be applied to ~~short answers~~ **final assessments** that are submitted late. ~~The multiple choice questions must be submitted by the deadline.~~

Missed Assessments

There are no make-ups for missed homework assignments or midterms. If a homework assignment or midterm is missed for a valid reason (e.g., illness or personal emergency), then **within one week** following the assessment you must fill out the absence declaration form on ACORN and then send me an email. See below for details on how the missed assessment will be handled.

Missed Homework

For each homework assignment that is missed due to illness or personal emergency, the 6% for that homework assignment will be shifted to the final assessment.

Missed Midterm

For a midterm that is missed due to illness or personal emergency, the 20% for that midterm will be split and shifted to the other midterm and final equally (i.e., 10% to the other midterm, and 10% to the final).

Missed Final Assessment

If the final is missed due to a valid reason (e.g., illness or personally emergency), then a make-up exam will be provided in December or early January.

Re-mark Requests

Any requests to have a homework assignment or 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.

Textbooks & Supplementary Learning Resources

There is no required course textbook. We will follow the Modules found here:
https://sta220.utstat.utoronto.ca/

All course material can be found at the above link, and in the lectures, tutorials, and notes on Quercus. The pre-lecture videos at the above link were created a few years ago by past instructors for this course.

It is beneficial to your learning to process the material in different contexts and multiple times, so we also recommend the following two textbooks:

1. **OpenIntro Statistics 4th Ed.** Diez, D. Barr, C. D., and Cetinkaya- Rundel Mine.
    a. *Free and available to download here*: https://leanpub.com/os (4th edition)

   b. 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.
2. **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.
   a. 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.

~~Tutorial Objectives~~

~~The tutorials are a chance for you to work on practice problems with your classmates and with the help of the Teaching Assistants (TAs). Practice problems will be provided for tutorials. You may also use tutorial time to ask questions about the homework, but please keep in mind that homework assignments must be completed on your own.~~

~~As shown in the schedule, two of the tutorial spots will be used for the Midterms.~~

Accessibility

Students with diverse learning styles and needs are welcome in this course. If you have a disability/health consideration that may require accommodations, please feel free to approach me and/or Accessibility Services as soon as possible at 416-978 8060; studentlife.utoronto.ca/as. 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. More information can be found here: www.accessibility.utoronto.ca

Accommodations

The University of Toronto supports reasonable accommodation of the needs of students who observe religious holy days other than those already accommodated by ordinary scheduling and statutory holidays. As mentioned on the webpage below, please let me know if you require accommodations or expect absences, and I will make reasonable effort to make accommodations at these times. More information: https://www.viceprovoststudents.utoronto.ca/policies-guidelines/accommodation-religious/ .

Academic Integrity

The following is a statement directly from Appendix D of the Academic Integrity Handbook.

"Academic integrity is one of the cornerstones of the University of Toronto. It is critically important both to maintain our community which honours the values of honesty, trust, respect, fairness and responsibility and to protect you, the students within this community, and the value of the degree towards which you are all working so diligently.

Revised September 13, 2021

According to Section B of the University of Toronto's Code of Behaviour on Academic Matters (http://www.utoronto.ca/govcncl/pap/policies/behaveac.html) which all students are expected to know and respect, it is an offence for students to:

- To use someone else's ideas or words in their own work without acknowledging that those ideas/words are not their own with a citation and quotation marks, i.e. to commit plagiarism
- To include false, misleading or concocted citations in their work.
- To obtain unauthorized assistance on any assignment. To provide unauthorized assistance to another student. This includes showing another student completed work.
- To submit their own work for credit in more than one course without the permission of the instructor.
- To falsify or alter any documentation required by the University. This includes, but is not limited to, doctor's notes.
- To use or possess an unauthorized aid in any test or exam.

There are other offences covered under the Code, but these are by far the most common. Please respect these rules and the values which they protect."

All of the above applies to this course and its assessments. This means that obtaining unauthorized assistance on any STA220 homework, test or exam is an academic offense. Providing unauthorized assistance to another student on STA220 homework, tests or the exam is also an academic offense. This includes showing someone else completed work or posting/sharing questions or answers to STA220 homework, tests, or the exam.

More information can be found here: https://www.academicintegrity.utoronto.ca/

Course Schedules: Please check the schedule for your section.

SECTION LEC0101: Weekly Schedule for LEC0101

The Module numbers listed in the table below correspond to the modules and content found at https://sta220.utstat.utoronto.ca/

All content at the above link is fair game in terms of homework assignments and assessments. It is highly recommended to watch the pre-lecture videos or read the transcripts at the link above prior to lecture.

Any changes to the schedule will be announced and posted on Quercus. **CHANGES as of September 13, 2021.**

Week of…		Lecture (Monday)	Tutorial (Wednesday)	What's due/important?
1	Sept 6	*no class*	No tutorial	
2	Sept 13	Module 1	Example and practice problems	
3	Sept 20	Module 2	Example and practice problems	HW 1 due Sept 24
4	Sept 27	Module 3	Example and practice problems	HW 2 due Oct 1
5	Oct 4	~~Module 4~~ **Midterm 1 & Module 4 (part 1)**	~~**Midterm 1**~~ **Module 4 (part 2)**	**Midterm 1 on ~~Oct 6 (W)~~ Oct 4 (M) (10:10 – 11:00 am; 50 mins)**

6	Oct 11	Thanksgiving Day (holiday	Example and practice problems	
7	Oct 18	Module 5	Example and practice problems	HW 3 due Oct 22
8	Oct 25	Module 8	Example and practice problems	
9	Nov 1	Module 9	Example and practice problems	HW 4 due Nov 5
10	Nov 8	No class (Reading Week)	No tutorial (Reading Week)	Rest and relax 😊
11	Nov 15	~~Module 6~~ **Midterm 2 & Module 6 (part 1)**	~~**Midterm 2**~~ **Module 6 (part 2)**	**Midterm 2 on ~~Nov 17 (W)~~ Nov 15 (M) (10:10 – 11:00 am; 50 mins)**
12	Nov 22	Module 7	Example and practice problems	HW 5 due Nov 26
13	Nov 29	Module 10	Example and practice problems	
14	Dec 6	Module 10/11	Example and practice problems	HW 6 due Dec 9
…	Dec 9	Module 11 & Review		**Final Assessment date TBD**
15	Dec 20	No class (Exam Period)	No tutorial (Exam Period)	University closes Dec 22

SECTION LEC5101: Weekly Schedule for LEC5101

The Module numbers listed in the table below correspond to the modules and content found at https://sta220.utstat.utoronto.ca/

All content at the above link is fair game in terms of homework assignments and assessments. It is highly recommended to watch the pre-lecture videos or read the transcripts at the link above prior to lecture.

Any changes to the schedule will be announced and posted on Quercus. **CHANGES as of September 13, 2021.**

Week of…		Lecture (Monday)	Tutorial (Monday)	What's due/important?
1	Sept 6	*no class*	No tutorial	
2	Sept 13	Module 1	Example and practice problems	HW 1 due Sept 24
3	Sept 20	Module 2	Example and practice problems	
4	Sept 27	Module 3	Example and practice problems	HW 2 due Oct 1
5	Oct 4	~~Module 4~~ **Midterm 1 & Module 4 (part 1)**	~~**Midterm 1**~~ **Module 4 (part 2)**	**Midterm 1 on Oct 4 (M) (6:10 – 7:00 pm; 50 mins)**
6	Oct 11	Thanksgiving Day	Holiday	
7	Oct 18	Module 5	Example and practice problems	HW 3 due Oct 22
8	Oct 25	Module 8	Example and practice problems	
9	Nov 1	Module 9	Example and practice problems	HW 4 due Nov 5
10	Nov 8	No class (Reading Week)	No tutorial (Reading Week)	Rest and relax 😊
11	Nov 15	~~Module 6~~ **Midterm 2 & Module 6 (part 1)**	~~**Midterm 2**~~ **Module 6 (part 2)**	**Midterm 2 on Nov15 (6:10 – 7:00 pm; 50 mins)**
12	Nov 22	Module 7	Example and practice problems	HW 5 due Nov 26
13	Nov 29	Module 10	Example and practice problems	
14	Dec 6	Module 10/11	Example and practice problems	HW 6 due Dec 9
…	Dec 9	Module 11 & Review		**Final Assessment date TBD**
15	Dec 20	No class (Exam Period)	Review session/open questions	University closes Dec 22