

POL232H1S: Introduction to Quantitative Reasoning II

University of Toronto
Winter 2026

Lecture Time: LEC 0101: Monday, 1:00-3:00pm
LEC 0201: Thursday, 9:00-11:00am
LEC 5101: Tuesday, 5:00-7:00pm

Tutorial Time: LEC 0101: Monday, 12:00-1:00pm or 3:00-4:00pm
LEC 0201: Thursday, 11:00am-12:00pm or 12:00-1:00pm
LEC 5101: Tuesday, 4:00-5:00pm or 7:00-8:00pm

Instructor: Kenichi Ariga
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Office Hours: Details will be announced on the class Quercus site.

Teaching Assistants:

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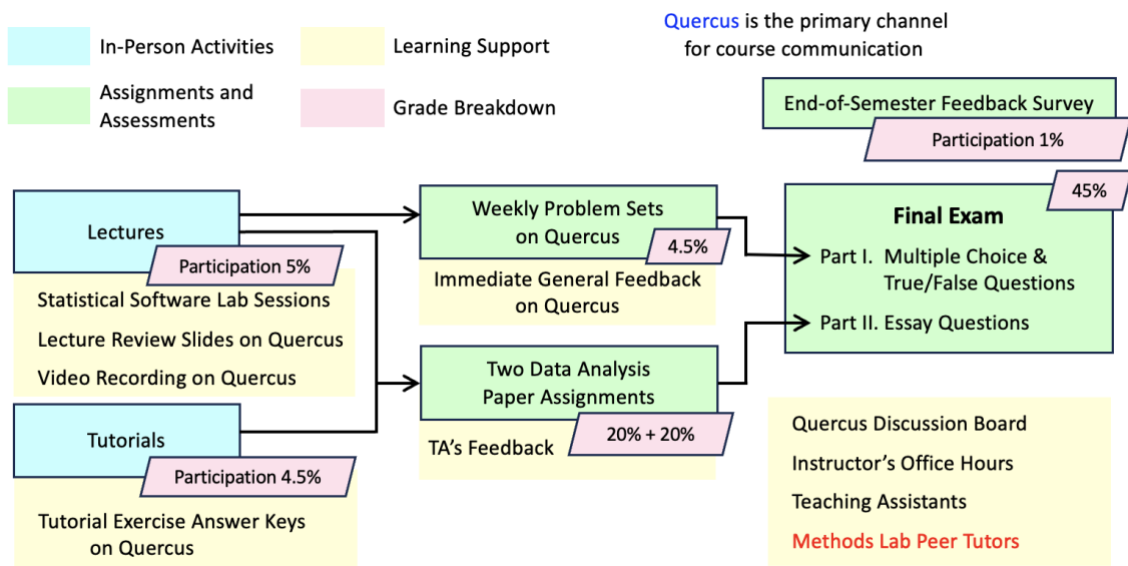
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1. Introduction

Quantitative data analysis has become an increasingly important part of political science research — and of the social sciences more broadly — as well as public policy debates. The results of such analysis (e.g., opinion polls, election outcomes, the frequency of armed conflicts, and incidents of violence) appear frequently in political science research articles and books, as well as in reports on diverse policy issues published by governments, think tanks, non-profit organizations, and news media.

The ability to properly understand and critically assess the results of quantitative data analysis is now an invaluable skill for anyone interested in a wide range of political, economic, social, and policy issues.

For political science students, two consecutive introductory courses on quantitative empirical methodology are offered: POL222 and POL232. These courses provide [an accessible and engaging introduction to quantitative analysis for undergraduate political science students](#). The shared goal of POL222 and POL232 is to prepare students to become [informed readers and active participants in political science research and public policy debates](#) by equipping them with the foundational logic of quantitative empirical methods.

Below are the course goal and more specific learning outcomes for POL232.

Course Goal: [Understand](#) and [apply](#) the basic logic of quantitative empirical *data analysis methods* to examine political science questions.

Learning Outcomes: After completing this course, [students will be able to:](#)

(a) [Apply](#) basic methods of descriptive statistics to describe, summarize, visualize, and substantively interpret the characteristics of variables — political, economic, and social

phenomena operationalized and quantified — and **their relationships**;

(b) **Explain the theoretical foundations of *statistical inference*** and **apply them** to learn about the characteristics and relationships in a large population from sample observations, both in their own research and when evaluating others' work;

(c) **Perform and interpret basic *linear regression analyses*** to empirically examine relationships among political, economic, social, and policy phenomena, and **explain the logic and assumptions** underlying the method;

(d) **Conduct basic quantitative analyses of social science data using statistical software** and **write a short research paper** which presents and interprets the results.

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2. Course Structure

Quercus

[Quercus](#) is the primary means through which class announcements and assignments will be distributed. Lecture slides, readings, and assignments will all be made available on the class Quercus site. The Discussion Board on the class Quercus site will be the primary method by which you will ask questions about the course materials and get them addressed (more on this below).

Please note that all important announcements and updates will be posted on the class Quercus site. It will be your responsibility to obtain access to Quercus and regularly check it. Normally, there will be an important update to the class Quercus site at least once a week.

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Discussion Board on Quercus

We will use the Discussion Board on the class Quercus site as the main medium through which you can ask questions and get them addressed. Note that we will use Piazza as our Discussion Board. More information about Piazza is available on the class Quercus site.

Questions posted on the Discussion Board will normally be addressed within 24 hours, except on weekends, by one of the teaching assistants in charge of addressing questions posted on the Discussion Board on that day.

Given the nature of the course subjects and the large size of the class, other students may have the same question as you and they would benefit from your posting your questions and getting them addressed through the Discussion Board.

You are also encouraged to post an answer to the questions posted by your classmates on the Discussion Board so that we can maintain a mutually-supporting learning community from which all of you will benefit.

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Teaching Assistants

There are teaching assistants, whose main duties are leading tutorial sessions, grading assignments and exams, and other student contacts. Their email address can be found at [the beginning of the syllabus](#).

There will also be office hours held by teaching assistants during a couple of weeks before the data analysis paper assignments are due. The schedule of teaching assistants' office hours will be announced on the class Quercus site.

Normally, the teaching assistant for your lecture section will be the grader of your paper. The lecture assignment of teaching assistants can be found at [the beginning of the syllabus](#).

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Methods Lab Peer Tutors

Methods Lab Peer Tutors are student peer tutors in the Department of Political Science who advise and support students taking quantitative methods courses from a student perspective — distinct from that of instructors or teaching assistants.

They hold regular office hours throughout the semester, and many past students have found their guidance valuable. More information about their service and availability will be provided on the class Quercus site.

You are strongly encouraged to take advantage of their support to ask questions, clarify concepts, and receive peer-to-peer advice on course material and assignments.

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Lectures

Attending and understanding the lectures is an indispensable component of your study. As there is no assigned textbook for this course, it is very important to attend the lectures and keep up with the topics covered.

You will use a classroom response system called iClicker to actively engage with lectures. Starting in Week 2, I will pose multiple questions throughout each lecture, and you will respond using iClicker. Your participation in these questions will count toward your participation marks. More details about lecture participation marks can be found [later in this syllabus](#).

Since only participation is graded, you don't need to worry about making mistakes. If your answer is incorrect, consider it a valuable learning opportunity. I will explain the rationale behind each correct answer immediately during the lecture, and you are encouraged to ask questions — to me, teaching assistants, or your classmates — if anything is unclear.

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Lecture Review Slides

Lecture slides will be made available on the class Quercus site, usually before each lecture. Some slides, such as graphics and in-class problems/exercises, may be removed from the posted version. However, all essential information for review will be retained.

You may use these lecture review slides as a learning aid. You are welcome to download them in advance to help organize your class notes, or access them after each lecture to review what was covered.

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Lecture Recordings

Lectures will be recorded, and these recordings will be made available on the class Quercus site, usually by Friday each week. You are welcome to use these recordings as a learning aid to review class content. Recordings can also help you catch up if you have to miss a lecture.

See the [Notice of Video Recording & Copyrights](#) later in the syllabus for important information regarding copyright.

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Statistical Software Lab Sessions

Quantitative social science research requires the use of computer software. In this class, you will learn an elementary use of statistical software called R. In particular, you will use *RStudio*, a popular and accessible graphical user interface (GUI) to R.

You will learn the elementary use of *RStudio* using the handbook that I prepared and designed specifically for this course. Lectures in some weeks — especially during the first half of the semester — will involve lab sessions, in which you will learn how to use *RStudio* based on the handbook chapter assigned for that week. If there is any incomplete work in the lab session, you are expected to complete it before next week's class time and tutorial session.

In the weeks with *RStudio* lab sessions during the lecture time, your participation marks in that week's lecture is also based on your work during the lab session in addition to your participation in iClicker questions during the lecture. More details about participation marks can be found [later in this syllabus](#).

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Weekly Problem Sets on Quercus

Starting in the second week of the semester, a weekly problem set will be administered on the class Quercus site. Typically, the problem set will be made available in the evening of your lecture day or the following day, and it will be due by the beginning of the next lecture.

Weekly problem sets are designed to offer you an opportunity to review the topics covered in that week's lecture. Once you submit the problem set, you will be immediately

given the correct answers along with general feedback. You can use these answers and feedback to confirm and/or further your understanding.

You may complete the problem set multiple times, and your highest score before the next lecture will be recorded as your mark. Since you can submit the problem set multiple times, there is no need to worry about making mistakes. If your answer is incorrect, treat it as a valuable learning opportunity. The rationale behind each correct answer is provided in the feedback. You are encouraged to consult your lecture notes, review slides on Quercus, video recordings, or ask questions on the Quercus Discussion Board (Piazza) or to Methods Lab peer tutors to clarify your understanding. Then, you can retake the problem set with improved comprehension.

A solid understanding of the concepts and methods covered in the weekly problem sets will be essential for applying your knowledge of quantitative methods to the paper assignments of the course — and more broadly to real political science research. These problem sets are designed to help you deepen your understanding and build quantitative analytical skills in a low-stakes environment.

In some weeks, the problem set may be divided into multiple parts. In this case, you are required to complete all parts, and your mark for that week's problem set is based on all parts. More details about the marks for the weekly problem sets can be found [later in this syllabus](#).

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Immediate General Feedback to Weekly Problem Sets

As noted above, general feedback for each problem set question is provided immediately after submission. This feedback often includes detailed written explanations of key concepts, methods, reasoning, and approaches discussed in lectures. I recommend treating this feedback as required reading, as it offers valuable written support for the core topics covered throughout the term.

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Tutorials

There will be tutorial sessions led by teaching assistants beginning in the third week of the semester (the week of Jan. 19). Tutorial sessions are scheduled throughout the rest of the semester.

In each tutorial session, you will mostly work on the use of *RStudio*. In some tutorial sessions, you may work on the data analysis exercise based on what you will have learned using the *R* handbook for the course. In other tutorial sessions, you may learn new topics based on the new chapter of the *R* handbook.

You can also ask your teaching assistant any questions related to the course, including topics covered in the lecture, problem set questions and answers, and your ideas for data analysis paper assignments during tutorial sessions.

Tutorial sessions provide an opportunity to engage with your teaching assistant and

classmates in a small-class environment. You are encouraged to ask questions and learn from one another during these sessions.

There will be participation marks for tutorial sessions. More details about participation marks can be found [later in this syllabus](#).

Most of you have already registered for a tutorial section (e.g., TUT0101) on ACORN. If you have not, you must do so as soon as possible and no later than the last day to enroll, Sunday, January 18th.

Note that you need to register for a tutorial section corresponding to your lecture section—specifically, a tutorial section on the same day as your lecture.

If you cannot attend any one of the available tutorial sections for a legitimate reason, you may make an alternative arrangement for the tutorial participation marks. To make this arrangement, register for a tutorial section, which you cannot attend but is still available on ACORN, and then contact the teaching assistant who is assigned to your lecture section (you can find the information of a TA for your lecture section at [the beginning of the syllabus](#)). Official documentation, which verifies the specific reason given, will be asked to make an alternative arrangement.

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Tutorial Exercise Answer Keys

If you work on the data analysis exercise during a tutorial session, an answer key for the exercise will be made available on the class Quercus site. The answer key will include answers to the exercise questions along with an example R code. You can use these answer keys to reinforce your understanding of the tutorial exercises and use of *RStudio*.

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Two Quantitative Data Analysis Paper Assignments

Midterm Paper: Due: Friday, Feb. 13, 11:59PM, EST

Final Paper: Due: Thursday, Apr. 2, 11:59PM, EST

Over the course of the semester, you will learn how to conduct quantitative empirical analysis of political science data using *R* and the datasets provided in class.

For the midterm paper assignment, you will apply what you will have learned by that time and write a quantitative data analysis paper based on it.

In the final paper assignment, you will write a quantitative empirical research paper based on a linear regression analysis which addresses a causal theory of your interest.

Once you submit your essays, teaching assistants will provide both grades and feedback to help you improve your understanding.

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Final Exam

There will be an in-person, closed-book, closed-note final exam held during the Final Exam Period in April, administered by the Faculty of Arts and Science. The exact date and location will be determined and announced by the Faculty later in the semester.

A sample final exam will be made available on the class Quercus site later in the semester to help you prepare.

The final exam will consist of two parts:

Part I: Multiple-choice and true/false questions, similar in format to the problem set questions.

Part II: An essay question on data analysis and interpretation.

The best way to prepare for the final exam is to engage seriously with the weekly problem sets and the quantitative data analysis paper assignments throughout the semester.

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Feedback Survey

There will be an online feedback survey on the class through the class Quercus site at the end of the semester. This End-of-Semester Survey will gather your feedback on various components of the course. This feedback will be used to evaluate the effectiveness of the course and improve future offerings of POL232. There will be a small participation mark for completing this survey, as specified [later in this syllabus](#).

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Grading and Evaluation

Your grade of the course will be based on the following items with the weights given.

(1) Weekly Online Problem Sets: 4.5%

There will be weekly online problem sets in 10 weeks, from Week 2 (the week of Jan. 5) to Week 11 (the week of Mar. 23). Your highest 9 scores out of these 10 problem sets will collectively count toward 4.5% of your final mark, with each week's problem set weighted equally.

Each week's problem set is given a score out of 100. In some weeks, a problem set may be divided into multiple parts. In these weeks, all parts together constitute a single problem set and their score sums to 100. In other words, you are required to complete all parts of the problem set.

The total number of weekly problem sets may change due to the actual progress of the class. If the total number of problem sets changes (e.g., from 10 to nine weeks), the number of problem sets that will be the basis of your marks will be the new total number of problem sets minus one (e.g., eight problem sets if the new total is nine weeks), and each week's problem set will be re-weighted equally.

(Go back to [Visual Overview](#) or [Weekly Problem Sets on Quercus](#))

(2) Quantitative Data Analysis Paper Assignments: 20% + 20% = 40%

Midterm Paper: 20% Due: Friday, Feb. 13, 11:59PM, EST

Final Paper: 20% Due: Thursday, Apr. 2, 11:59PM, EST

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(3) Final Exam: 45%

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(4) Participation Marks: 10.5%

Your participation marks will be based on the following three subcomponents.

(1) Lecture Participation (Classroom Response System and Lab Sessions): 5%

Starting in Week 2 (the week of Jan. 13), there will be participation marks for lectures. Your participation in lectures in 10 out of 11 weeks will collectively count toward 5% of your final mark, with each week's lecture weighted equally.

Lecture participation marks will be based on your participation in iClicker questions and *RStudio* lab sessions. I plan to use iClicker questions for 11 weeks, from Week 2 (the week of Jan. 13) to Week 12 (the week of Mar. 30). When there is a *RStudio* lab session, the submission of the work you complete during the lab session to the class Quercus site counts toward a half of that week's lecture participation mark, and another half is based on your participation in iClicker questions. When there is no *RStudio* lab session, a lecture participation mark is solely based on your participation in iClicker questions.

For the lab session component, if you do not submit your work to Quercus by the end of each lab session, there will be no participation mark, even if you come to the class. It is your responsibility to confirm the submission of your work before the end of each lab session.

Since this is a participation mark, as long as you reasonably participate in iClicker questions or reasonably complete and submit the work during lab sessions, you will earn full participation credit. However, you will only earn partial credit if you do not sufficiently respond to iClicker questions or complete the work during lab sessions.

Please note that your physical presence in the classroom may be confirmed by a sign-up sheet or other means. You will not earn lecture participation marks, if your presence in the classroom is not confirmed.

If, for any reason, the total number of weeks for lecture participation marks are given changes (e.g., from 11 to 10 weeks), the number of weeks that will be the basis of your lecture participation marks will be the new total number of weeks for which lecture

participation marks are given minus one (e.g., nine weeks if the new total is 10 weeks), and each week's participation will be re-weighted equally.

Your lecture participation marks in each week will be regularly posted for the iClicker component and the lab session separately on the Grades section of the class Quercus site. It is your responsibility to check your mark regularly and confirm if your participation was recorded properly. If you find your mark for a particular week is not recorded properly, you must contact the instructor within two weeks from when the mark for this week is posted on Quercus. Claims after two weeks will not be addressed.

This two-week deadline is not applied to the case in which the waiver granted for a legitimate reason is not properly recorded on Quercus. If the waiver granted for a legitimate reason is not properly applied, you can still request a correction after two weeks from when the mark for that week is posted on Quercus.

(Go back to [Visual Overview](#) or [Lectures](#) or [Statistical Software Lab Sessions](#))

(2) Tutorial Participation and Tutorial Work Submission: 4.5%

There will be weekly tutorial sessions starting in Week 3 of the semester (the week of Jan. 19). Your participation marks in each week's tutorial session consist of two components: i) participation in tutorial activities, and ii) the work you complete during the tutorial session and submit it to Quercus by the end of each tutorial session. Both the activity participation and the work you submit will be weighted equally.

Since this is a participation mark, as long as you reasonably participate in the tutorial activities and have reasonably completed the work and submitted it to Quercus by the end of a tutorial session, you will earn a full participation mark. You may be given a partial credit, however, for both the activity participation and the work you submit, respectively, if you do not fully participate in the tutorial activities or have not reasonably completed the work.

In total, 10 tutorial sessions are scheduled between Week 3 (the week of Jan. 19) and Week 12 (the week of Mar. 30). Your tutorial participation and tutorial work submission in nine out of 10 weeks will count equally toward total 4.5% of your final mark, with each week's participation and submission weighted equally.

If, for any reason, the total number of weeks for which tutorial sessions are required changes (e.g., from 10 to nine weeks), the number of weeks that will be the basis of your participation marks for tutorials will be the new total number of weeks for which tutorial sessions are required minus one (e.g., eight weeks if the new total is nine weeks), and each week's participation and submission will be re-weighted equally.

In each tutorial, a teaching assistant will collect your signature as proof of your participation. There will be no participation marks for tutorial participation or tutorial work submission if there is no signature on record. A claim of participation in a tutorial session without a signature will not be accommodated. It is your responsibility to sign in at each tutorial session.

If you do not submit your work to Quercus by the end of each tutorial session, there will be no tutorial work submission mark, even if your signature is on record (but you can still earn a mark for participation in tutorial activities). It is your responsibility to confirm the submission of your work before the end of each tutorial session.

(Go back to [Visual Overview](#) or [Tutorials](#))

(3) Feedback Survey: 1%

There will be an online feedback survey on the class through the class Quercus site at the end of the semester. Your participation in the survey will count toward 1% of your final mark.

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3. Course Policies

Various course policies are listed below. You can click on each title to jump to its explanation.

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Outside Class Communication Policy

The large size of this class makes it necessary to maintain the following policy with respect to outside-class communication with the instructor and teaching assistants. Please follow the policy specified below when you contact the instructor or teaching assistants outside class.

(1) Office Hours

- You are welcome to visit the instructor's office hours if you have any questions on the class subjects and materials. Details about the instructor's office hours will be posted on Quercus.

- There will also be office hours held by teaching assistants before the paper assignments' due dates. Details of the teaching assistants' office hours will also be posted on Quercus.

(2) Email Communications

- If you have any questions of a personal nature (e.g., grade appeal, deadline extension for a legitimate reason), you may email teaching assistants or the instructor and expect a response within two working days. Please start the subject heading of your email with "POL232:..."
- All requests for extension or waiver regarding the required assignments and participation must be made to the teaching assistant for your lecture section. You can find information about which teaching assistant is in charge of each lecture session at the beginning of this course syllabus. Please include your full name, student number, and tutorial section (e.g., TUT0101) in your email on these requests.
- If your questions are of a substantive nature, please post these questions on the Discussions Board of the class Quercus site or visit office hours or tutorial sessions to get them addressed.
- If you ask questions of a substantive nature via email to the teaching assistants or the instructor, you will be asked to post them on the Discussion Board on the class Quercus site. You are best advised to post your questions directly on the Discussion Board rather than sending them to the teaching assistants or the instructor by email, as your questions may be addressed more quickly if you post them directly on the Discussion Board.
- Note that we will use Piazza as our Discussion Board, and you can post your question anonymously to your classmates (but your question is not anonymous to the instructor and teaching assistants) on Piazza. The level of anonymity in posting your question on Piazza is the same as sending your question via email to teaching assistants or the instructor. More information about Piazza is available on the class Quercus site.

(3) Quantitative Data Analysis Paper Assignments

- You may post relatively simple questions about the paper assignments on the Discussion Board of the class Quercus site. If you have detailed questions on your paper idea, you are best advised to visit office hours of the teaching assistants or the instructor.
- Please note that neither the instructor nor teaching assistants will be able to review drafts of your paper.

(4) Non-response

- Please note that the instructor and teaching assistants may not be able to answer emails or questions posted on the Discussion Board of the class Quercus site during weekends and statutory holidays.

- Please also note that the instructor and teaching assistants may not be able to answer last minute questions on the assignments on their due date.

In the case of questions of a substantive nature posted on the Discussion Board of the class Quercus site or those of a personal nature over email not addressed within two working days (excluding weekends and holidays), send teaching assistants or the instructor an email to let them know that your questions have not been addressed. Please include “POL232: Unanswered Question” in the subject heading of your email.

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Accessibility

Students with diverse learning styles and needs are welcome in this course. If you need accommodation, you should register with Accessibility Services (AS) at the beginning of the academic year by visiting [their website](#). Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work.

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Late Assignment/Late Penalty Policy

All work is late if submitted after the date and time specified as due. To ensure fairness, the late assignment/late penalty policy specified below will be strictly enforced to everyone in class.

➤ Weekly Problem Sets / Online Feedback Survey

A late submission of weekly online problem sets and the end-of-semester online feedback survey after their respective due date and time will not be accepted.

➤ Works for Statistical Software Lab Sessions and Tutorial Sessions

A late submission of the works to be completed during the statistical software lab sessions and tutorial sessions after their respective due date and time, which are normally the end of each week’s class or tutorial time, will not be accepted.

➤ Quantitative Data Analysis Paper Assignments

Quantitative data analysis paper assignments handed in late will result in a penalty of 1-percentage-point reduction per day including weekends and holidays (e.g., from 72% to 71% for a one day of lateness). Submitting an essay within 24 hours from the due date and time will be considered one day late; submitting after 24 hours but before 48 hours will be two days late, and so forth.

Since you will submit your assignments to Quercus, your submission must be accepted and recorded on Quercus before the due date and time. Note that the date and time recorded on Quercus will be your submission date and time. If this is after the deadline even only by one minute, then your submission will be considered late. In other words,

completing your paper and starting to upload it to Quercus before the due date and time is not enough. Your upload must be fully complete before the due date and time.

In addition, after you submit your paper, you should make sure you open your submission and confirm that the correct file was uploaded. If the file uploaded is not correct, then it is not considered as a proper submission, and a late penalty will be applied to the resubmitted paper.

Computer-related problems, such as the crash of your computer, a slow Internet connection, or an occasional slow response of the server, will not be considered as an acceptable reason to request for extension or waiver of a late penalty. In addition, sending your assignment to the instructor and/or the teaching assistants via email will not be considered as a submission. For these reasons, I strongly suggest you avoid a last-minute completion or submission of assignments. I also suggest you frequently take a backup of the electronic files of your draft essay in an electronic storage other than your computer. If you have a UTmail+ account, you have access to 1TB of storage in your OneDrive at UofT and you can make a backup there.

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Extension and Waiver of Assignments

Below is the policy about the type of accommodations (extension/waiver) considered for each assignment/requirement, acceptable reasons for accommodations, acceptable official documentations, and the procedure to request these accommodations. To ensure fairness, this policy will be strictly enforced to everyone in class.

➤ Type of Accommodations

- An extension (or a waiver of a late penalty) may be considered for the quantitative data analysis paper assignments.
- A waiver may be considered for weekly online problem sets and participation marks for lectures, tutorial sessions, and the end-of-semester online feedback survey.

If a weekly problem set is waived, then the total mark for the weekly problem sets will be determined by the rest of the weekly problem sets, with each week's problem set weighted equally.

If a participation in lectures or tutorial sessions is waived, the total marks for participation for that item will be determined by your participation in the rest of your participations in the same item, with each of the rest of participations in this item re-weighted equally.

Recall that for the weekly problem sets, lecture participation marks, and tutorial participation marks, the basis of your marks will be the number of weeks for which these items are required minus one week. In other words, missing each item one week will not affect your final mark.

If a participation in the end-of-semester online feedback survey is waived, participation marks for all other items will be reweighted so that they total 10.5% of your final mark, with each item reweighted proportionally to its original weight.

➤ Acceptable Reasons for Accommodations

The above accommodations (extension/waiver) may be considered only for a legitimate reason, such as a medical emergency, an accessibility issue, religious observances, and a family emergency, and there is an acceptable official documentation, which verifies the specific reason given (more on documentation below).

Conflict with other class's assignment/exam schedule, leaving for a non-academic trip, or vacation is not an acceptable reason to request an extension or a waiver of the requirements. Computer-related problems, such as the crash of your computer, a slow Internet connection, or an occasional slow response of the server, will not be considered as an acceptable reason to request for an extension or waiver of the requirements either.

➤ Acceptable Official Documentation

- If you need an accommodation for accessibility reasons, you may use your Accessibility Services Letter as documentation.
- If you need an accommodation for a health condition or injury, a personal or family emergency, or bereavement, you may use the Absence Declaration Tool on ACORN. Note that students may use one Absence Declaration per academic term (e.g., the fall term) for a maximum period of seven consecutive calendar days. See [the Student Absences](#) for more detail.
- For an accommodation for a health condition or injury, you may also use [the UofT Verification of Illness or Injury Form \(VOI\)](#). The VOI indicates the impact and severity of the illness, while protecting your privacy about the details of the nature of the illness.
- For an accommodation for religious observances, you don't need to submit a documentation if your occasion for religious observances is listed in either one of the following two webpages: [Learn about Significant Religious and Cultural Days](#) or [Dates of Recognition, Observance & Celebration](#). In your accommodation request email, simply state the occasion and indicate where it can be found in either one of the above two webpages.
- For an accommodation for any legitimate reasons, including a personal or family emergency or bereavement, you may use your College Registrar's letter/email supporting your request. For extended absences and for absences due to non-medical reasons, make sure to contact your [College Registrar's Office](#).

➤ Procedure

All of the above requests of accommodations must be made to the teaching assistant assigned to each lecture session via email. The information of who is a relevant teaching assistant for each lecture session can be found at the beginning of this course syllabus.

If you use the Absence Declaration as official documentation, make sure you specify the

email address of the relevant teaching assistant as a recipient of a copy of your Absence Declaration.

Accommodation requests must be made in advance as much as possible. Those who missed the deadline or participation for a legitimate, unforeseeable reason should contact their teaching assistant as soon as possible and no later than one week after returning to class.

In the request email, please include your full name, student number, and tutorial section (e.g., TUT0101).

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Necessity of Verification

Given the sheer number of students taking this course, we need to be strict about verification of the reasons given for an accommodation request. For the sake of fairness (i.e., everyone in the class is treated in the same way), we strictly enforce the verification of the reasons for accommodation, and your request cannot be accommodated unless the reason you suggested is verified.

The reason is considered verified if one of the acceptable official documentations listed above is submitted. For example, if you declare absence on ACORN, the reason for absence that you suggested is considered verified, and no further verification is needed. As long as you can submit one of these documentations, the reason for your request is considered verified.

As suggested above, religious and cultural observances can be considered verified if they are listed in the above two websites.

An accommodation may be possible for reasons not listed above if they are considered equally legitimate to those reasons listed. In this case, verification of the reasons given is also required, and one of the documentations listed above can be used if they are suitable. Feel free to contact your teaching assistant and/or the instructor if you are not sure whether an accommodation is possible or what documentation is suitable.

Please note that a request based on an unverifiable claim will not be accommodated. For example, suppose that a student claims that their request is based on their email exchange with their teaching assistant, and they did not keep this email exchange but somehow kept a screenshot of this email. An accommodation cannot be made based on this screenshot because it is easy to create a forgery of a digital image. In this example, showing the original email exchange would be required.¹ As another example, suppose that a student claims that they cannot upload an essay to Quercus because a submission button does not exist on their

¹ In this example, if the email exchange is found on the side of the teaching assistant, it can of course be used to verify the reason given. A hypothetical scenario here assumes that there is no record of this email exchange on the side of the teaching assistant.

end of the class Quercus screen and sends a screenshot as verification. Again, an accommodation cannot be made based on this screenshot because it is easy to create a forgery of a digital image. In this example, demonstrating the problem on the class Quercus site using a computer which is not the student's would be required to verify the reason given.

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Grade Appeals on Quantitative Data Analysis Paper Assignments

There are two stages in the process of grade appeals on the quantitative data analysis paper assignments in this class.

First, you may appeal to your grader, who is normally the teaching assistant for your tutorial section. You are required to raise specific and substantive questions regarding the grades and feedback you received, so that your grader can double check their assessment based on them and address your questions. The grader may adjust the grade if they find it appropriate.

Second, if you still believe the grade you received is not appropriate after appealing to the grader, you may request a regrading to the instructor. You are required to submit a brief documentation substantiating why you believe your grade is not appropriate. The justification you give for regrading will be used by the instructor to consider if there are reasonable grounds for regrading. If your regrading request is considered reasonable, another teaching assistant who did not give your original mark will be assigned to regrade your paper with fresh eyes. This second grader will regrade your paper without knowing your original mark, the feedback given by the first grader, or the justification you gave for regrading. This is because your paper should be marked only on its quality based on the paper requirements and the evaluation criteria specified in the rubric. The regraded mark may go up or down from the original mark. The new mark will be your final mark whether it goes up or down from the original.

For your grade appeal to be considered, your grade appeal to your (first) grader must be made within two weeks from when the original grade is assigned. Your regrading request (the second stage of the grade appeal) must be made to the instructor within one week after the response from your (first) grader.

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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 U of T 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.

You are expected to be familiar with *the Code of Behaviour on Academic Matters*, available at [this website](#), which is the rule book for academic behaviour at the U of T ([here](#) is the direct link

to the Code). [Another website](#) lists nine categories of academic offences defined in the Code. Potential offences include, but are not limited to, plagiarism, cheating on tests and exams, misuse of the classroom response system (e.g., using someone else's classroom response system during lectures to earn a participation credit for that student), fraudulent medical documentation, improper collaboration on marked work, and use of unauthorized aide.

For specific examples of the potential academic offences, you may read [this website](#). Please note that not knowing the University's expectations cannot be an excuse. **Under the Code, "the offense shall likewise be deemed to have been committed if the person ought reasonably to have known"** (*Code of Behaviour on Academic Matters*, web version, p.2).

For further information on plagiarism, visit the pages available from the links listed at [this site](#). This list is part of [the Advice on Academic Writing](#) at the University of Toronto. You may also find other resources available on this website helpful.

To learn more about how to cite and use source material appropriately and for other writing support, also see [the U of T writing support website](#).

The University of Toronto treats cases of academic misconduct very seriously. All suspected cases of academic dishonesty will be examined following the procedures outlined in the Code. The consequences for academic misconduct can be severe, including a failure in the course and a notation on your transcript. If you have any questions about what is or is not permitted in this course, do not hesitate to contact the instructor or teaching assistants.

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Plagiarism Detection Tool

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (<https://uoft.me/pdt-faq>).

Students who wish to not use the University's plagiarism detection tool may make an alternative arrangement. If you want to make an alternative arrangement, you must send an email to the teaching assistant who will grade your essay at least one week before the deadline of the assignment and ask for an alternative way to submit the essay. If you choose an alternative arrangement, you may be asked, for example, to submit all your rough work for an assignment and to have a short meeting with the teaching assistant or the instructor in which you will be asked about your essay.

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Generative Artificial Intelligence Tools

The use of generative artificial intelligence tools and apps is prohibited in all course

assignments unless explicitly stated otherwise by the instructor. This includes, but is not limited to, ChatGPT, GitHub Copilot, Microsoft Copilot, AI Tutor and Teacher's Assistant Pro, and open-source models that you have trained and/or deployed yourself. You may not interact with, nor copy, paraphrase, or adapt any content from any generative AI for the purpose of completing assignments in this course. Use of generative AI will be considered use of an unauthorized aid, which is a form of academic misconduct under [the Code of Behaviour on Academic Matters](#).

This course policy is designed to promote your learning and intellectual development and to ensure that our evaluations are a fair and accurate assessment of your learning. Though it may be tempting to use generative AI to assist you when completing your assignments, this will simply inhibit your learning. If the work you submit is essentially the output of generative AI, then what have you learned and what value are you adding? Think of it this way: if a potential employer or supervisor can get as much from an AI tool as what you're able to do yourself, then why should they hire you at all? You should aim to understand course content at a level that far exceeds what an automated tool can achieve. Our course—and in particular, each assignment—is designed to help you attain true mastery of the course content. If you have questions or are stuck, please come to our office hours, where we'll be happy to help, and/or post your questions on the Discussion Board of the class Quercus site.

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Notice of Video Recording & Copyrights

This course, including your participation, will be recorded on video and will be made available to the students in the course on the class Quercus site.

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.

Students may not create audio or video recordings of classes, with the exception of those students requiring an accommodation for a disability, who should speak to the instructor prior to beginning to record lectures.

Students creating unauthorized audio or video recording of lectures violate an instructor's intellectual property rights and the Canadian Copyright Act. Students violating this agreement may be subject to disciplinary actions.

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Syllabus Change Policy

The policies and contents of this syllabus may be changed by the instructor with advanced notice. If any, such a change will be announced on the class Quercus site.

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4. Course Schedule and Readings

The course schedule is specified below. During the semester, the schedule may be adjusted according to the actual progress of the class. If this is the case, the due dates of assignments may also be modified. If these are to happen, you will be given an advance notice on the class Quercus site.

Week 1: Jan. 5 (LEC 0101), 6 (LEC 5101) & 8 (LEC 0201) Introduction
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PART I. DESCRIPTIVE STATISTICS: ANALYSIS OF SAMPLE DATA **How Can We Describe a Variable or the Relationship between Variables?**

Week 2: Jan. 12 (LEC 0101), 13 (LEC 5101) & 15 (LEC 0201) Descriptive Statistics for Single Variable (1)
Week 3: Jan. 19 (LEC 0101), 20 (LEC 5101) & 22 (LEC 0201) Descriptive Statistics for Single Variable (2) Tutorial Session 1
Week 4: Jan. 26 (LEC 0101), 27 (LEC 5101) & 29 (LEC 0201) Descriptive Statistics for Bivariate Analysis (1) Tutorial Session 2
Week 5: Feb. 2 (LEC 0101), 3 (LEC 5101) & 5 (LEC 0201) Descriptive Statistics for Bivariate Analysis (2): Simple Linear Regression Tutorial Session 3
Week 6: Feb. 9 (LEC 0101), 10 (LEC 5101) & 12 (LEC 0201) Descriptive Statistics for Multivariate Analysis: Multiple Linear Regression Tutorial Session 4 Midterm Paper Due: Feb. 13 (Fri.), 11:59PM, EST

Family Day & Reading Week: Feb. 16 - 20

PART II. STATISTICAL INFERENCE FOR SINGLE VARIABLE **How Can We Learn about Population from Sample?**

Week 7: Feb. 23 (LEC 0101), 24 (LEC 5101) & 26 (LEC 0201) Probability and Sampling Distribution Tutorial Session 5
Week 8: Mar. 2 (LEC 0101), 3 (LEC 5101) & 5 (LEC 0201) Point Estimation and Interval Estimation Tutorial Session 6

PART III. STATISTICAL INFERENCE FOR LINEAR REGRESSION

<p>Week 9: Mar. 9 (LEC 0101), 10 (LEC 5101) & 12 (LEC 0201) Statistical Inference for Linear Regression (1): Population Model & Point Estimation Tutorial Session 7</p>
<p>Week 10: Mar. 16 (LEC 0101), 17 (LEC 5101) & 19 (LEC 0201) Statistical Inference for Linear Regression (2): Confidence Interval & Statistical Significance Tutorial Session 8</p>
<p>Week 11: Mar. 23 (LEC 0101), 24 (LEC 5101) & 26 (LEC 0201) Topics on Linear Regression: Substantive Significance & Causal Inference Tutorial Session 9</p>
<p>Week 12: Mar. 30 (LEC 0101), Mar. 31 (LEC 5101) & Apr. 2 (LEC 0201) Wrap-Up Tutorial Session 10 Final Paper Due: Apr. 2 (Thr.), 11:59PM, EST</p>

Final Exam: During the Final Exam Period

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