

POL222H1F: Introduction to Quantitative Reasoning I

University of Toronto

Fall 2016

Meeting Room:	L0101: UC 140 L0201: UC 140 L5101: BA 1130
Meeting Time:	L0101: Monday, 2:00pm–4:00pm L0201: Wednesday, 12:00pm–2:00pm L5101: Thursday, 6:00pm–8:00pm
Instructor:	Kenichi Ariga
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Office Hours:	Tuesday, 10:00am–12:00pm

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Course Description and Objectives

Quantitative empirical analysis has become increasingly an important part of political science research — and social sciences in general — and public policy debates. The results of statistical analysis on quantitative data, such as opinion polls, election results, frequency of armed conflicts, and incidence of violence, can be seen in many research articles and books on political science and various reports on divergent policy issues published by governments, think tanks, non-profit organizations, and news media. Ability to properly understand and critically assess the results of quantitative statistical analysis has become an invaluable asset for any individuals who are 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 & 232). This course, “POL222 Introduction to Quantitative Reasoning I,” is the first of the sequence and required for all political science specialists and majors. By the end of this course, students are expected to have developed a basic understanding of:

1. The characteristics of the scientific studies of political science, especially those employing quantitative empirical analysis, and the inherent difficulties of establishing a causal relationship empirically between the political, economic, social and policy phenomena of interest;
2. Representative empirical research designs, both in experimental and non-experimental (observational) varieties, to investigate the causal relationship of political, economic,

social and policy phenomena of interest, and various threats to the validity of different research designs; and

3. Introductory knowledge of the data analysis methods employed in political science research — namely, statistical inference and linear regression — which will be studied more in depth in POL232.

“POL232 Introduction to Quantitative Reasoning II” (Winter 2017) will be the follow-up course and continue to introduce important foundations of quantitative empirical methodology. POL232 is required for political science specialists and elective for majors. Students who will take POL232 will be exposed to:

4. Theoretical foundations of *statistical inference*, in which we learn about the characteristics and relationships in a large population from sample observations;
5. *Linear regression* analysis, which is arguably the most widely used method to empirically investigate the relationship between political, economic, social and policy phenomena; and
6. Very basics of statistical computing to conduct simple quantitative analyses of social science data.

The common objective of these classes is to better prepare the students to become educated readers and active participants in social science research and public policy debates.

Required Textbook

Paul M. Kellstedt and Guy D. Whitten, *The Fundamentals of Political Science Research, Second Edition* (Cambridge University Press, 2013).

The textbook is available at the UofT BookStore. All other readings on the syllabus will be made available through the class Blackboard site.

Blackboard / Learning Portal

The class Blackboard site (<https://portal.utoronto.ca/webapps/portal/frameset.jsp>) or the Learning Portal will be the primary means through which class announcements and assignments will be distributed. Readings other than the above textbook, lecture slides, and assignments will be made available in the class Blackboard site as well. Its Discussion Board will be the primary method by which you will ask simple questions about the course materials and get them answered (more on this below).

Please note that important announcements and updates will not be sent to you via email but posted on the class Blackboard site. It will be your responsibility to obtain access to the class Blackboard site and regularly check it. There will be an important update to the class Blackboard site at least once a week.

Lecture Slides

Lecture slides will be made available on the class Blackboard site. Note that some slides, such as graphics and visual effects, may be taken out from the set made available on the class Blackboard site. If substantively important slides are taken out, you will be notified of this during lectures. Occasionally, there will be in-class problems/exercises during lectures. They are intended to be used only in the lectures and will not be posted on the Blackboard.

Teaching Assistants

There are five teaching assistants for this course, whose main duties are leading tutorial sessions, grading assignments and other student contacts. There will also be office hours held by teaching assistants during a couple of weeks before essay assignments are due.

Tutorials

There will be weekly tutorial sessions led by teaching assistants during the semester. There will be several different time slots and you need to sign up for one of them. The schedule of these tutorial timeslots and a sign-up sheet will be made available on the class Blackboard site.

If you cannot attend any one of the tutorial times slots for a legitimate reason, please send an email to the instructor no later than Monday, September 26th, to make an alternative arrangement for the tutorial participation marks. Official documentation, which verifies the specific reason given, will be required.

Grading and Evaluation

Your grade of the course will be based on the following materials with the weights given:

- Three Essay Assignments: 70%
 - Best scored essay: 25%
 - Second-best essay: 25%
 - Third-ranked essay: 20%
- | | | | | |
|---------|---------|----------------|------|----------------|
| Essay 1 | Posted: | Sep. 19 (Mon.) | Due: | Oct. 14 (Fri.) |
| Essay 2 | Posted: | Oct. 17 (Mon.) | Due: | Nov. 11 (Fri.) |
| Essay 3 | Posted: | Nov. 14 (Mon.) | Due: | Dec. 6 (Tue.) |

Each of the three essay assignments corresponds to the three parts of the class. In these essay assignments, you will be given an opportunity to practice applying the concepts and methods of quantitative empirical methodology for political science research that you will have learned in the class.

- Three Online Problem Sets: 15% (5% each)
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|---------------|---------|----------------|------|---------------|
| Problem Set 1 | Posted: | Oct. 3 (Mon.) | Due: | Oct. 7 (Fri.) |
| Problem Set 2 | Posted: | Oct. 31 (Mon.) | Due: | Nov. 4 (Fri.) |
| Problem Set 3 | Posted: | Nov. 28 (Mon.) | Due: | Dec. 2 (Fri.) |

The three problem sets will assess your understanding of the class materials. All problem sets

will be posted and your responses will be submitted through the class Blackboard site. Each problem set has questions that focus on the subjects covered immediately prior to it, but it may also have questions, which are cumulative. By completing these problem sets, you are expected to progressively build knowledge on quantitative empirical methodology in political science.

➤ Participation Mark: 15%

iClicker Participation during Lectures: 4% (Participation in 80% of the lectures with iClicker opportunities: each lecture weighted equally)

Tutorial Participation: 9% (Participation in six tutorial sessions: 1.5% each)

Online Feedback Survey: 2% (At the beginning and the end of the semester: 1% each)

Your class participation mark will be based on your participation in iClicker opportunities during lectures, tutorial sessions, and online feedback surveys at the beginning and end of the semester.

Your iClicker participation in 80% of the lectures that use iClicker will count toward 4% of your final mark with each lecture weighted equally. For example, if there are 10 lectures with iClicker opportunities, then your iClicker participation in 8 lectures will count toward 4% of your final mark with each lecture contributing to 0.5%. It is your responsibility to bring your iClicker to each lecture.

There will be eight tutorial sessions in total, and participation in each of the six out of eight tutorial sessions will count toward 1.5% of your final mark (9% in total). Participation in each of the online feedback survey at the beginning and end of the semester will count toward 1% of your final mark.

Turnitin

Normally, students will be required to submit their course essays to Turnitin.com 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 Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

Students who wish to not use Turnitin.com may make an alternative arrangement with the instructor. They will need to let the instructor know well before the deadline of the assignment and ask for an alternative way to submit the essay. They will be required to save every version/draft of their essay electronically, and submit all of them at the time they submit the essay. They will also be required to hand in all notes, outlines, and bibliographic research at the same time.

Late Penalties and Extension

All work is considered late if submitted after the specified time and date.

➤ Essay Assignments

Essay assignments handed in late will result in a penalty of 5-percentage-point reduction per day (e.g., from 80% to 75%). 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.

Extension for the essay assignments may be granted only when there is a legitimate reason, such as a medical emergency and an accessibility issue, and there is an acceptable official documentation, which verifies the specific reason given, such as the UofT Medical Certificate, the Accessibility Services Letter, and the College Registrar's Letter. Students who know in advance they will need to request an extension for a legitimate reason should contact their tutorial instructor as early as possible before the deadline. Those who missed the deadline for a legitimate, unforeseeable reason should contact their tutorial instructor as soon as possible and no later than one week after returning to class.

➤ Online Problem Sets

Online problem sets not completed before the due date will receive a zero grade. As you will be able to work on the problem sets online through the Blackboard, whatever you will have completed before the due date and time will be considered your submission and graded.

Those who missed an online problem set for a legitimate reason may be waived for that problem set rather than being given an extension. When you are waived for a problem set, your total mark of the online problem sets (15% of the final mark) will be determined by the rest of the problem sets with each problem set readjusted to weigh equally. An official documentation to verify the specific reason given, such as the UofT Medical Certificate, the Accessibility Services Letter, and the College Registrar's Letter, will be required for this waiver.

➤ Tutorial Participation

Since your tutorial participation mark will be based on your participation in six out of eight sessions, missing up to two tutorial sessions will not affect your final mark. If you will have to miss three or more tutorial sessions for a legitimate reason, the participation in these tutorial sessions may be waived as long as you provide official documentation, such as the UofT Medical Certificate, the Accessibility Services Letter, and the College Registrar's Letter, which verifies the specific reason given. The tutorial participation mark will then be determined by your participation in the rest of the tutorial sessions with each session readjusted to weigh equally.

When you request for an extension or wavier described above, please submit your request to your tutorial instructor (a teaching assistant).

Conflict with other class's assignment/exam schedule, leaving for a non-academic trip, or vacation is not an acceptable excuse to miss the assignments or request an extension.

Computer-related problems will not be an acceptable excuse for submitting your work late. For this reason, 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.¹

To ensure fairness, this policy will be strictly enforced.

Grade Appeals

Grade appeals must be received within two weeks from when the grade is assigned. Before making a formal grade appeal, you are required to raise your questions to and discuss with your grader, who is normally your tutorial instructor. If you still believe the grade you received is not appropriate after discussing with the grader, you may make an appeal to the instructor. When you make an appeal, you are required to submit a documentation substantiating why you believe your grade is not appropriate. Once the grade appeal is received, your assignment will be re-graded with fresh eyes by another teaching assistant who did not give your original mark. Please note that the re-graded 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.

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 during the instructor's office hours, which will be held during the time and date specified at the beginning of the syllabus, if you have any questions on the class materials.
- There will also be office hours held by teaching assistants before the essay assignments' due dates. Specific schedules of the teaching assistants' office hours will be posted on the class Blackboard site.

2. Discussion Board

- We will also use the Discussion Board on the class Blackboard site as the main medium through which you can ask relatively simple questions regarding class materials and get answers. Given the nature of the course materials and a large size of the class, someone else may have the same question as yours and s/he would benefit from your posting the question and getting an answer 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.

¹ For example, you may send your draft to your email address. Then your draft file will be stored in your mailbox of the UofT server.

- Teaching assistants and the instructor will regularly check the Discussion Board (specific schedule will be announced on the class Blackboard site) and answer questions, which have not been adequately addressed by peers.
- While relatively simple questions may be posted on the class Discussion Board, you are best advised to visit the office hours or tutorial sessions for complex questions or those that would require an extensive treatment.

3. Email Communications

- If you have any questions of personal nature (e.g., deadline extension for a legitimate reason), you may email the instructor or teaching assistants and expect a response within two working days. Please start the subject heading of your email with “POL222:...”
- If your questions are of substantive nature, please post these questions on the Discussion Board or visit office hours or tutorial sessions to get them answered.

4. Essay Assignments

- You may post general questions on the essay assignments on the class Discussion Board. If you have a question specific to your essay idea that is not appropriate to post on the Discussion Board, you are best advised to visit office hours of the instructor or teaching assistants. However, if you have a schedule conflict with all available office hours, you may send an email to the teaching assistant who is your tutorial instructor and grader. Please consider visiting office hours of the instructor or teaching assistants first, as the feedback of this kind may be best communicated in person. You should consider seeking advice from your tutorial instructor via emails only when your schedule does not allow visiting the available office hours.
- Please note that neither the instructor nor teaching assistants will be able to review your draft essay when you seek advice.

5. Non-response

- Please note that the instructor and teaching assistants will not be able to answer email or Discussion Board questions during weekends.
- In the case of your questions of substantive nature on the Discussion Board or those of personal nature over email not answered within two working days (excluding weekends), send the instructor or a teaching assistant an email to let him know they have not been addressed. Please include “POL222: Unanswered Question” in the subject heading of your email.

Accessibility

The University of Toronto is committed to accessibility. If you require accommodation for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services at www.accessibility.utoronto.ca, accessibility.services@utoronto.ca, or (416) 978-8060 as soon as possible.

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 <http://www.artsci.utoronto.ca/osai/students>, which is the rule book for academic behaviour at the U of T. Potential offenses include, but are not limited to, plagiarism, cheating on tests and exams, fraudulent medical documentation and improper collaboration on marked work.

For specific examples of the potential academic offences, please read *What is Academic Misconduct* (<http://www.artsci.utoronto.ca/osai/The-rules/what-is-academic-misconduct>) at the Office of Student Academic Integrity's website. Please note that, as stated in this site, "(n)ot knowing the University's expectations is not 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 clarification and information on plagiarism, please see *Writing at the University of Toronto* (<http://www.writing.utoronto.ca/advice/using-sources/>).

The University of Toronto treats cases of academic misconduct very seriously. All suspected cases of academic dishonesty will be investigated 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.

Class Schedule and Readings

Class schedule and the assigned readings for each lecture are specified below. During the semester, the lecture 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. In addition, some assigned readings may be replaced by others, and there may be additional readings. If these are to happen, you will be given an advance notice at the class Blackboard site.

Readings listed for each class are required unless explicitly stated that they are recommended. These readings include textbook chapters and actual empirical research articles published in academic journals. **The latter articles** are assigned to illustrate the variety of empirical research designs and data analysis methods introduced in the lecture. For these readings, skip the technical details but focus on the big picture of how the authors designed their empirical research to answer the causal question of their interest.

PART I. SCIENTIFIC STUDY OF POLITICS AND CAUSAL THEORY

Sep. 12 (L0101), 14 (L0201) & 15 (L5101)

What Will We Learn and Why?

Basics of Quantitative Empirical Political Science Research

Sep. 19 (L0101), 21 (L0201) & 22 (L5101)

How Do We Study Politics Scientifically?

- Kellstedt and Whitten, Chapter 1
- *Recommended:* Kellstedt and Whitten, Chapter 2.
- ❖ **Essay 1 Posted (Sep. 19)**

Sep. 26 (L0101), 28 (L0201) & 29 (L5101)

How Do We Evaluate Causal Relationship?

- Kellstedt and Whitten, Chapter 3.
- ❖ **Tutorial Session 1: Causal Relationship**

PART II. EXPERIMENTAL RESEARCH

Oct. 3 (L0101), 5 (L0201) & 6 (L5101)

Basic Logic of Experimental Research & Laboratory Experiments

- Kellstedt and Whitten, Chapter 4.1-4.2.
- Gina M. Garramone, Charles K. Atkin, Bruce E. Pinkleton, and Richard T. Cole. 1990. "Effects of Negative Political Advertising on the Political Process." *Journal of Broadcasting & Electronic Media* 34(3).
- ❖ **Problem Set 1 --- Posted: Oct 3 (Mon.), Due: Oct. 7 (Fri.)**
- ❖ **Tutorial Session 2: Peer Discussion on Essay 1**

Oct. 10 (L0101)

Thanksgiving Holiday

Oct. 12 (L0201) & 13 (L5101)

Extra Office Hours for Essay 1 During Lecture Hours

- ❖ **Essay 1 Due (Oct. 14, Fri, 11:59pm)**

Oct. 17 (L0101), 19 (L0201) & 20 (L5101)

Experimental Research in Real World Setting: Field Experiments

- Kellstedt and Whitten, Chapter 4.1-4.2. (Reread)
- Stephen Ansolabehere, Shanto Iyengar, Adam Simon, and Nicholas Valentino. 1994. "Does Attack Advertising Demobilize the Electorate?" *American Political Science Review* 88(4).
- Andrew Beath, Fotini Christia, and Ruben Enikolopov. 2013. "Empowering Women through Development Aid: Evidence from a Field Experiment in Afghanistan." *American Political Science Review* 107(3).
- ❖ **Essay 2 Posted (Oct. 17, Mon.)**
- ❖ **Tutorial Session 3: Experiments 1**

Oct. 24 (L0101), 26 (L0201) & 27 (L5101)

Enhancing External Validity of Experimental Research: Survey Experiments

- Kellstedt and Whitten, Chapter 4.1-4.2. (Reread)

- Michael R. Tomz and Jessica L. P. Weeks. 2013. “Public Opinion and the Democratic Peace.” *American Political Science Review* 107(4).
- ❖ Tutorial Session 4: Experiments 2

PART III. OBSERVATIONAL RESEARCH

Oct. 31 (L0101), Nov. 2 (L0201) & 3 (L5101)

Basic Logic of Observational Research

- Kellstedt and Whitten, Chapters 4.3-4.4.
- Andrew Gelman and Gary King. 1990. “Estimating Incumbency Advantage without Bias.” *American Journal of Political Science* 34 (4) — Introduction and Sections 1, 5 (pp.1150-1152 only), 6 and 8 only.
- Menaldo, Victor. “The Middle East and North Africa’s Resilient Monarchs.” *Journal of Politics* 74(3).
- ❖ Problem Set 2 --- Posted: Oct. 31 (Mon.), Due: Nov. 3 (Thr.)
- ❖ Tutorial Session 5: Peer Discussion on Essay 2

Nov. 9 (L0201), 10 (L5101) & 14 (L0101)

How Can We Examine the Relationship Between Variables? Linear Regression

- Kellstedt and Whitten, Chapters 8.1-8.2.
- ❖ Tutorial Session 6: Observational Studies 1
- ❖ Essay 2 Due (Nov. 11, Fri., 11:59pm)
- ❖ Essay 3 Posted (Nov. 14, Mon.)

Nov. 16 (L0201), 17 (L5101) & 21 (L0101)

How Can We Account for Confounding Variables? Multiple Linear Regression

- Kellstedt and Whitten, Chapters 9.1-9.2, 9.4, 9.8.
- ❖ Tutorial Session 7: Observational Studies 2

Nov. 23 (L0201), 24 (L5101) & 28 (L0101)

Alternative Method (Matching) & Validity of Observational Research

- James H. Fowler. 2008. “The Colbert Bump in Campaign Donations: More Truthful than Truthy.” *PS: Political Science and Politics*.
- Cindy D. Kam and Carl L. Palmer. 2008. “Reconsidering the Effects of Education on Political Participation.” *Journal of Politics* 70(3).
- Menaldo, Victor. “The Middle East and North Africa’s Resilient Monarchs.” *Journal of Politics* 74 (3). (Reread)
- ❖ Tutorial Session 8: Peer Discussion on Essay 3
- ❖ Problem Set 3 --- Posted: Nov. 28 (Fri.), Due: Dec. 2 (Fri.)

PART IV. CONCLUSION

Nov. 30 (L0201), Dec. 1 (L5101) & 5 (L0101)

Putting All Together: How Scientific Knowledge Accumulates

- ❖ Essay 3 Due (Dec. 6, 11:59pm)

➤ Readings: TBA

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 during lectures.