Course Description:
This course introduces students to basic methods of quantitative analysis. The course teaches how to describe the world quantitatively; evaluate sources and quality of data; distinguish association from causation; understand trade-off’s, uncertainty, and risk; and how to use estimation and modelling to evaluate claims and test theories. Students will learn a group of related approaches to collecting, interpreting, and presenting information about the world built using relatively simple and familiar logical, numerical, and statistical skills.


Lectures three hours a week, tutorials one and half hour a week.

Required Textbook:

This text was selected since it is well-organized, up-to-date, and covers current and interesting issues in the quantitative analysis of public policies. Even though the textbook has no Canadian content, the lectures will present Canadian data throughout the course, much coming from Statistics Canada.

The textbook should be considered the fundamental course resource and is indispensable to student success. Having said this, examinations are lecture based. Students are responsible for knowing and mastering all material presented in class and the tutorials, regardless if it is in the textbook or not.

You can use the 2nd edition (2015) of the textbook.

Evaluation:
There will be two assignments worth 20% of the course grade, one in-class midterm examination worth 40% and a final examination worth 40%.

Course Grade

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<tr>
<td>Assignments</td>
<td>20%</td>
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<tr>
<td>Midterm Exam</td>
<td>40%</td>
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<tr>
<td>Final Exam</td>
<td>40%</td>
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<td>Total</td>
<td>100%</td>
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Students who can document a compelling reason for missing the mid-term examination will be excused and their final grade will be based on their performance in the rest of the course—i.e., the weight of each of the remaining evaluation instruments will rise by a factor of 5/3 (e.g., the final examination weight will become 5/3 × 40 = 66.67%). Students must inform the instructor of such an absence in advance, if possible.
Course Material and Structure

*The weekly tutorials develop the material taught in-class the prior week and focus on analysis of empirical data*

Chapter and section notations refer to the textbook. Schedule is approximate.

<table>
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<tr>
<th>Class</th>
<th>Date</th>
<th>Topics</th>
<th>Chapter</th>
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| #1, 2  | Sep 5, 12| CRITICAL THINKING
Mean, median, Simpson's paradox, Logical fallacies, Venn diagrams, Magnitudes and conversions. Metric system. | 1       |
| #3     | Sep 19   | MEASUREMENT OF GROWTH
Percentage change, functions and graphs, misleading graphs; Linear, exponential and logarithmic functions. | 2, 3    |
| #4     | Sep 26   | COMPOUND INTEREST, PERSONAL FINANCE, INFLATION, NATIONAL ACCOUNTING FRAMEWORK | 4       |
| #5, 6  | Oct 3, 11| INTRODUCTION TO PROBABILITY
Calculation of probabilities, conditional probabilities. | 5.1, 5.2 |
|        | Oct 17   | **MIDTERM EXAMINATION**
(Location TBA) |         |
| #7     | Oct 31   | INTRODUCTION TO PROBABILITY
Calculation of probabilities, conditional probabilities. | 5.3, 5.4, 5.5 |
| #8     | Nov 7    | STATISTICS: DATA SUMMARIES
Quartiles, boxplots, standard deviation and histogram. | 6.1     |
| #9     | Nov 14   | NORMAL DISTRIBUTION, MARGIN OF ERROR
Bell curve, Confidence Interval. | 6.2, 6.3 |
| #10    | Nov 21   | STATISTICAL INFERENCE
Statistics of polls, correlation coefficients. | 6.4     |
| #11 #12| Nov 28 Dec 5 | STATISTICAL INFERENCES: APPLICATION TO CANADIAN ECONOMIC AND DEMOGRAPHIC DATA, SUPPLY/DEMAND FRAMEWORK IN ECONOMICS | |
|        | Dec 9-21 | **FINAL EXAMINATION PERIOD**
(Exact date, time and location TBD by Examination Services)
For updates, consult [http://www.carleton.ca/ses](http://www.carleton.ca/ses) | |

Administrative Details

Class members take their own responsibility for non-attendance of classes. Students are welcome to make-up for material missed in class using the course text.

Course Assignments:
There will be two course assignments handed out in class. Assignments may be submitted in class on the due date, or electronically via email on the due date. After this time, only hard copy submissions will be accepted.

Late Submission:
Assignments submitted after the due date will be penalized 10 percentage points per day.
Plagiarism:
Use and quotation of the course textbook is allowed for the course assignments, with no need to cite the course textbook as a reference source. However, students are not allowed to directly copy the work of others for the term assignment, whether from books and articles, Internet sources, other students, or other sources not identified here. Please be aware that plagiarism is a serious offence at Carleton and should be recognized and avoided. For information on how to do so, please see “Pammott on Plagiarism and Paraphrasing” at:

http://www.carleton.ca/economics/courses/writing-preliminaries/.

Examinations:
Scientific non programmable calculators are allowed. No Reference Material. Course tests are ‘closed-book’; reference material is not permitted. Students may not communicate with each other nor share material during tests. For clarification, please see the statement on tests and examinations in the Academic Regulations of the University, found in the Undergraduate Calendar for the current academic year.

http://calendar.carleton.ca/undergrad

Satisfactory performance criteria:
Students must fulfil all of the preceding course requirements in order to achieve a passing grade (D- or higher). Failure to write the mid-term examination without a documented compelling reason will result in a grade of “F.” Failure to write the final examination when the student has achieved satisfactory performance during the term will result in a grade of “F” until an appeal to write the deferred final exam in February 2019, if granted by the Registrar’s Office. A change of grade will be submitted when the deferred final exam has been written and the marks are available. Application to write a deferred final examination must be made at the Registrar’s Office in writing no later than three working days after the original final examination was scheduled. See Academic Regulation 2.3 for the official meanings of the grades, and note that it stipulates that no course grades are final until approved by the Faculty Dean.

Requests for Academic Accommodation:
You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation
Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wpcontent/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation
Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Academic Accommodations for Students with Disabilities
If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc
Survivors of Sexual Violence
As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities
Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline