

PSCI 2702(A): Quantitative Research Methods in Political Science

Lecture Time: Thursdays at 09:35 – 11:35

Location: Confirm Location on Carleton Central

FALL 2024 – September 04 to December 06

Department of Political Science: <https://carleton.ca/polisci/>

Instructor: Michael E. Campbell

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Office Hours: Thursdays 13:00 to 15:00 (online or in-person)

Location: Loeb B642

Teaching Assistant(s) (TA): TBA

E-mail(s): TBA

Course Description:

This course provides students with a comprehensive knowledge of quantitative research methods by covering foundational concepts and formulas essential for effective statistical analysis. As the course progresses, students will be introduced to various techniques that will help them evaluate and assess primary, numerical data. Over time, students should develop an appreciation for the significance of quantitative research methods and gain insight into their key advantages and limitations. Students will also acquire skills in interpreting data and applying statistical techniques using analytic software. Instruction will be delivered through a combination of theoretical lectures and practical tutorials. By the end of the course, students will have a solid foundation in conducting formal quantitative data analysis in political science and other related disciplines.

Course Format:

This course includes weekly lectures and tutorials, each of which is designed to enhance students' understanding of quantitative research. Lectures address various topics related to quantitative methods, while tutorials offer hands-on experience with statistical analysis software (SPSS). During tutorials, students will learn to use SPSS's basic functions to assess the features of certain variables while also exploring potential relationships between them.

The course structure – comprising of lectures, tutorial exercises, assignments, and exams – demonstrates the logical and systematic processes underpinning empirical research. This includes developing research questions, conceptualizing and operationalizing abstract ideas, describing data, and hypothesis testing using appropriate statistical techniques. Therefore, each component of this course is interconnected, and missing lectures or tutorials, or neglecting assigned readings or assignments, will likely impact overall performance.

Learning Outcomes:

By the end of this course, students will be able to:

- (1) Understand the purpose and advantages of empirical social scientific research
- (2) Comprehend foundational concepts and operations associated with empirical data analysis

- (3) Interpret and evaluate primary data effectively
- (4) Utilize various statistical techniques used for data analysis and hypothesis testing
- (5) Apply appropriate quantitative research techniques using analytical software

Office Hours and Communication:

- Office hours: 13:00 to 15:00 (online or in-person)
- All e-mail communications must be sent from a valid Carleton University e-mail account.
- If students communicate with a TA via-email, they must CC the instructor on that e-mail.

Course Materials:

Required Texts:

Healey, Joseph F., Christopher Donoghue, and Steven Prus. 2023. *Statistics: A Tool for Social Research*, 5th ed. Toronto, ON: Nelson.

Required Software:

SPSS Software is required for this course and is offered for free by the university. In addition to being provided on university computers, it can be downloaded on student devices by following the instructions in the link below.

<https://carleton.ca/its/all-services/computers/site-licensed-software/spss/>

Course Evaluation:

Course assignments and general grading criteria are outlined below. Additional information on final letter grades and the percentage equivalents are presented in the **Appendix** of this syllabus. I note that, according to the Faculty Grading Guidelines: "*Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the Dean.*" Furthermore, please be aware that the use of artificial intelligence programs and apps, such as ChatGPT, are prohibited in this course.

(1) Late Submission Policy:

Any assignments that are submitted after the stated due dates, and without valid reason for extension, will be penalized five percent (5%) per day. Any assignments submitted after seven days will not be accepted and result in a zero (0%).

(2) Overview:

Assignment	Percent of Final Grade	Due Date
Tutorial Attendance	10%	No Due Date (ongoing)
Assignment 1	10%	October 10
Mid-Term	25%	October 17
Assignment 2	20%	December 5
Final Exam	35%	T.B.A. (btw. December 9-21)

(3) Assignments and Examinations - Basic Details:

(a) Tutorial Attendance (10%):

In tutorials, students will not only acquire practical skills but also have the chance to work on their assignments. While only tutorial attendance is graded, regular attendance in lectures is equally crucial for success in this course. Missing either tutorials or lectures can result in missing essential information necessary for completing assignments and performing well on exams.

TUTORIAL SCHEDULE

Date:	Tutorial Topic:
September 05	No tutorial
September 12	Introduction to SPSS and VDEM
September 19	Working with data
September 26	Descriptive Statistics
October 03	Measures of Association
October 10	Inferential Statistics (Assignment #1 Due)
October 17	No Tutorial (Midterm Exam)
October 21-25	FALL BREAK
October 31	No tutorial
November 7	Crosstabulation and Chi Square
November 14	Measures of Association
November 21	t-tests
November 28	Pearson Correlation
December 5	Hypothesis Testing (Assignment #2 Due)

(b) Working with Data (Assignment #1 – October 10) (10%):

In this assignment, students will begin working with data from the Varieties of Democracy (V-DEM) dataset. They will also select a research topic, develop a research question, operationalize relevant concepts, identify and select independent and dependent variables, and describe data related to these variables.

(c) Mid-Term (October 17) (25%):

The midterm will be given in lecture, and it will include questions based on information that has been covered in lectures, tutorials, and assigned readings up to and including October 10.

(D) Hypothesis Testing (Assignment 2) (20%) (December 5):

In this assignment, students will develop and test hypotheses. This will require variable selection, data cleaning, the selection of a sample set, and data transformation. Students will run a series of statistical tests to assess and evaluate potential relationships that exist between their independent and dependent variables. Students will report their results and comment on their findings.

(F) Final Exam (T.B.A.) (During final exam period) (December 9 – 21) (35%):

The final exam will take place during the University's exam period and will include questions based on information that has been covered in the lectures and assigned readings throughout the semester.

Lecture and Reading Schedule

Lecture 1 (September 05) – Introduction to Quantitative Research Methods

- Textbook: Chapter 1

Lecture 2 (September 12) – Conceptualization, Operationalization, and Descriptive Statistics

- Textbook: Chapter 2
- Additional reading: Pollock III, Philip H., and Barry C. Edwards. 2019. *The Essentials of Political Analysis*, 6th ed. – Chapter 1

Lecture 3 (September 19) – Measures of Central Tendency and Dispersion

- Textbook: Chapter 3

Lecture 4 (September 26) – The Normal Curve and Z Scores

- Textbook: Chapter 4

Lecture 5 (October 3) – Inferential Statistics (Sampling and the Sampling Distribution)

- Textbook: Chapter 5

Lecture 6 (October 10) – Estimation Procedures

- Textbook: Chapter 6

Lecture 7 (October 17) – MIDTERM

- No Reading

FALL BREAK (October 21-25) – NO CLASSES

Lecture 8 (October 31) – Hypothesis Testing for Nominal and Ordinal Variables (Chi Square)

- Textbook: Chapter 7

Lecture 9 (November 7) – Measures of Association (For Nominal and Ordinal Variables)

- Textbook: Chapter 8-9

Lecture 10 (November 14) – Hypothesis Testing (t-tests and ANOVA)

- Textbook: Chapters 10-12

Lecture 11 (November 21) – Hypothesis Testing (Interval/Ratio)

- Textbook: Chapter 13

Lecture 12 (November 28) – Introduction to Multivariate Regression

- Textbook: Chapter 14

Lecture 13 (December 5) – Course Review

- No Reading

Appendix

Student Mental Health

As a university student, you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. Here is a list that may be helpful:

Emergency Resources (on and off campus): <https://carleton.ca/health/emergencies-and-crisis/emergency-numbers/>

- **Carleton Resources:**

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

- **Off Campus Resources:**

- Distress Centre of Ottawa and Region: (613) 238-3311 or TEXT: 343-306-5550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>
- Empower Me: 1-844-741-6389, <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

Requests for Academic Accommodation

Deferred final exams, which must be applied for at the RO, are available ONLY if the student is in good standing in the course. The course outline must stipulate any minimum standards for good standing that a student must meet to be entitled to write a deferred final exam.

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

Academic consideration for medical or other extenuating circumstances: Please contact your instructor if you are experiencing circumstances that (a) are beyond your control, (b) have a significant impact your capacity to meet your academic obligations, and (c) could not have reasonably been prevented. Decisions on academic consideration are in your instructor's discretion; they will be guided by the course learning outcomes and the principle of good faith. Please see [here](#) for more details. For considerations relating to course work, your instructor may request that you complete the [Self-Declaration form](#). To apply for a deferral of your final exam, you must submit the Self-Declaration form to the Registrar's Office no later than three days after the scheduled examination or take-home due date.

Pregnancy accommodation: 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 accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form ([click here](#)).

Religious accommodation: 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 [click here](#).

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, reach out to your instructor as soon as possible to ensure accommodation arrangements are made. For more details, [click here](#).

Accommodation for student activities: Carleton University recognizes the substantial benefits, both to the individual student and to the university, that result from a student participating in activities beyond the classroom. Reasonable accommodation will be provided to students who engage in student activities 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. For more information, please [click here](#).

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances, are

outlined on the Academic Accommodations website (students.carleton.ca/course-outline).

Sexual Violence Policy

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated. 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.

Academic Integrity

Academic integrity is an essential element of a productive and successful career as a student. Carleton's [Academic Integrity Policy](#) addresses academic integrity violations, including plagiarism, unauthorized collaboration, misrepresentation, impersonation, withholding of records, obstruction/interference, disruption of instruction or examinations, improper access to and/or dissemination of information, or violation of test and examination rules. Students are required to familiarize themselves with the university's academic integrity rules.

Plagiarism

The Academic Integrity Policy defines plagiarism as “presenting, whether intentional or not, the ideas, expression of ideas or work of others as one’s own.” This includes reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include, but are not limited to: books, articles, papers, websites, literary compositions and phrases, performance compositions, chemical compounds, art works, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- Any submission prepared in whole or in part, by someone else;
- Using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- Using another’s data or research findings without appropriate acknowledgement;
- Submitting a computer program developed in whole or in part by someone else, with or without modifications, as one’s own; and
- failing to acknowledge sources through the use of proper citations when using another’s work and/or failing to use quotations marks.

Use of Artificial Intelligence

Unless explicitly permitted by the instructor in a particular course, any use of generative artificial intelligence (AI) tools to produce assessed content (e.g., text, code, equations, image, summary, video, etc.) is considered a violation of academic integrity standards.

Procedures in Cases of Suspected Violations

Violations of the Academic Integrity Policy are serious offences which cannot be resolved directly with the course's instructor. When an instructor suspects a violation of the Academic Integrity Policy, the Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student. Penalties are not trivial. They may include a mark of zero for the assignment/exam in question or a final grade of "F" for the course. More information on the University's Academic Integrity Policy can be found at: <https://carleton.ca/registrar/academic-integrity/>.

Intellectual property

Student or professor materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Permissibility of submitting substantially the same piece of work more than once for academic credit.

If group or collaborative work is expected or allowed, provide a clear and specific description of how and to what extent you consider collaboration to be acceptable or appropriate, especially in the completion of written assignments.

Submission and Return of Term Work

Papers must be submitted directly to the instructor according to the instructions in the course outline. The departmental office will not accept assignments submitted in hard copy.

Grading

Standing in a course is determined by the course instructor, subject to the approval of the faculty Dean. Final standing in courses will be shown by alphabetical grades. The system of grades used, with corresponding grade points is:

Percentage	Letter grade	12-point scale	Percentage	Letter grade	12-point scale
90-100	A+	12	67-69	C+	6
85-89	A	11	63-66	C	5
80-84	A-	10	60-62	C-	4
77-79	B+	9	57-59	D+	3
73-76	B	8	53-56	D	2
70-72	B-	7	50-52	D-	1

Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the Dean.

Carleton E-mail Accounts

All email communication to students from the Department of Political Science will be via official Carleton University e-mail accounts and/or Brightspace. As important course and university information is distributed this way, it is the student's responsibility to monitor their Carleton University email accounts and Brightspace.

Carleton Political Science Society

The Carleton Political Science Society (CPSS) has made its mission to provide a social environment for politically inclined students and faculty. By hosting social events, including Model Parliament, debates, professional development sessions and more, CPSS aims to involve all political science students at Carleton University. Our mandate is to arrange social and academic activities in order to instill a sense of belonging within the Department and the larger University community. Members can benefit through our networking opportunities, academic engagement initiatives and numerous events which aim to complement both academic and social life at Carleton University. To find out more, visit us on Facebook <https://www.facebook.com/CarletonPoliticalScienceSociety/>.

Official Course Outline

The course outline posted to the Political Science website is the official course outline.