

PSCI 2702A A Statistical Toolkit for Political Scientists

Time: Fridays, 9:35 a.m. – 11:25 a.m.
Confirm Location on Carleton Central

I General information

Instructor: Steve White
Office: B657 LA(Loeb)
Office Hours: Thursday, 12:00 p.m. – 1:00 p.m., or by appointment (in person, or via Zoom)
Email: StephenWhite@cunet.carleton.ca

All email communication is to be via official Carleton University e-mail accounts and/or Brightspace, not personal emails.

II Course description

This course introduces students to the methods political scientists use to gather and analyze evidence; it is designed to furnish students with skills they can use throughout their studies in political science and other disciplines in the social sciences. Unlike other courses that focus on the “stuff” of politics (e.g. the state, authority, legitimacy, citizenship, democracy), the emphasis in this course is on the techniques used to explain how and why things happen in the political world. The course will cover basic approaches to political science, the choices that researchers must make when designing their research, and basic methods of analysis for quantitative data.

The course has three primary objectives: to explain the goals of quantitative research in the social sciences; to provide students with a toolkit for conducting their own original quantitative empirical research; and to develop students' skills in comprehension and evaluation of the quantitative research of other social scientists. By the end of the course, students should be capable of exploring questions that no other political researchers have yet undertaken.

III Course format

Weekly lectures will focus on topics identified in the schedule. The weekly assigned readings complement the lectures; you are not required to read these in advance of the class, but you are expected to keep up with the weekly readings. Students gain knowledge cumulatively in this course: the course will be much more challenging for students who do not attend lectures regularly and/or do not keep pace with the course reading schedule. Tutorials will be held each week that a lecture takes place.

Tutorials are an essential component of this course. Your TA will help you understand the course material and prepare for assignments and tests.

All assigned work will be submitted via Brightspace.

IV Learning outcomes

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

- Understand and apply core concepts in quantitative analysis, including levels of measurement, the central limit theorem, statistical significance, cross-tabulation, measures of association, the elaboration paradigm, and correlation and regression.
- Interpret univariate statistics, confidence intervals, statistical significance, and the results of bivariate and multivariate analyses
- Critically assess the methodological choices and data analyses of other researchers

V Required Texts

Required readings for each week are listed in the course schedule. The texts we will use are both open access:

Jenkins-Smith, Hank C., Ripberger, Joseph T., Copeland, Gary, Nowlin, Matthew C., Hughes, Tyler, Fister, Aaron L., Wehde, Wesley (2017). *Quantitative Research Methods for Political Science, Public Policy and Public Administration (With Applications in R)*.
<https://shareok.org/handle/11244/52244>. DOI: 10.15763/11244/52244

Huntington-Smith, Nick. *The Effect: An Introduction to Research Design and Causality*.
<https://theeffectbook.net/index.html>

Students will be using the statistical software package Stata SE (version 18), available for download and off campus use at no cost to students through Carleton: <https://i.carleton.ca/its-software/stata-se/>. This software is also available on desktops in computer labs on campus.

Students are not required to purchase textbooks or other learning materials for this course.

VI Evaluation at a glance

Component	Value	Due Date
Tutorial Attendance	5%	Cumulative
Assignment One	5%	Due January 30 on Brightspace
Term Test One	20%	In class February 13
Assignment Two	5%	Due February 27 on Brightspace
Term Test Two	20%	In class March 20
Assignment Three	10%	Due April 6 on Brightspace
Final Examination	35%	In the official examination period

VII Evaluation in detail

Term Work

Online Practice Quizzes (no credit): Three short quizzes will be administered on Brightspace and will consist of several multiple-choice questions covering the lectures, tutorials, and their associated readings. The first quiz will open at 8:00 a.m. on February 7, the second at 8:00a.m. on March 14, and the third at 8:00 a.m. on April 7. These quizzes prepare students for the tests and final examination.

Exercises (no credit): Students will be provided sets of exercises designed to allow them to practice the application of concepts and methods learned in the course. These worksheets prepare students for the tests and final examination.

Assignments (20%): Three assignments are designed to give students hands-on experience with quantitative data analysis. The assignments will ask students to collect, analyze and interpret quantitative data using the skills developed in the course. Student who are unable to submit an assignment by the due date must have a valid and documentable reason for absence (e.g. bereavement). Students must contact the instructor if they cannot submit their assignment by the due date.

Tutorial Attendance (5%): Attendance is expected at all tutorials. Full marks (i.e. 5%) are awarded for attending **at least 7 of the 9** tutorials. Students must attend at least three tutorials to receive any credit for tutorial attendance.

Term Tests (40%): Two term tests, each worth 20% of the course grade, will be administered in class on February 13 and March 20. Each test will consist of multiple-choice and short answer questions (e.g. one word or sentence) covering the lectures, tutorials, and their associated readings. The February 13 test will cover material up to and including the week of February 6. The March 20 test will cover material from the week to February 27 to March 13. Students will have one hour and 40 minutes to complete each test.

Final Examination (35%): The examination will consist of multiple-choice and short answer questions (e.g. one word or sentence) covering all lectures, tutorials, and their associated readings. Students will have two hours and 30 minutes to complete the examination.

VIII Policies and procedures

Deferral Requests: If you are unable to write a midterm, test, or other scheduled assessments due to extenuating circumstances (such as a death in the family, illness, etc.), you must provide appropriate supporting documentation to the course instructor. Upon review, the instructor may offer a deferred test. The deferral for Term Test One will be held on February 23, 2026, at 7:15 am, location TBA. The deferral for Term Test Two will be held on March 23, 2026, at 7:15 am, location TBA.

Late Penalties: All assignments are due on the dates specified in the course outline. Late assignments will be subject to a penalty of 10% for each day beyond the due date.

Extensions: No extensions on tests or assignments will be granted after their due dates. Exceptions will be made only in those cases of special circumstances, (e.g. illness, bereavement) and where the student has verifiable documentation.

Absences: As student attendance is only assessed on 7 of 9 tutorials, students are permitted up to two absences for any reason with no impact on their grade. No additional absences will be granted exceptions.

Use of Artificial Intelligence: the use of generative artificial intelligence (AI) tools to produce *assessed content is not permitted* in this course. It is considered a violation of academic integrity standards. **For further clarity, students are not permitted to use AI to complete tests or assignments.** Students may, however, use generative artificial intelligence (AI) tools outside of class to explore concepts, locate academic studies or empirical examples related to the course, and otherwise enhance their learning. Please refer to the policy in the Appendix of this document. As our understanding of the uses of AI and its relationship to student work and academic integrity continue to evolve, students are required to discuss their use of AI in any circumstance not described here with the course instructor to ensure it supports the learning goals for the course.

E-mail: Students must use a Carleton e-mail account in all correspondence.

IX Course schedule and assigned readings

Date	Lecture Topic(s)	Assigned Reading	Assigned Work
Jan 9	Introduction	None	None (No Tutorial)
Jan 16	• Social science, variables, and measurement	• Jenkins-Smith et al., Chapters 1 and 2 • Huntington-Smith, Chapter 3 (Part 3.1)	• Assignment One • Tutorial One
Jan 23	• Describing distributions	• Huntington-Smith, Chapter 3 (Parts 3.2-3.4) • Jenkins-Smith et al., Chapter 3	• Exercise Set One • Tutorial Two
Jan 30	• Probability and sampling	• Jenkins-Smith et al., Chapter 4 and Chapter 5 (Part 5.1 only)	• Assignment Two • Exercise Set Two • Tutorial Three
Feb 6	• Statistical Inference	• Jenkins-Smith et al., Chapter 5 (Parts 5.2-5.3)	• Exercise Set Three • Tutorial Four
Feb 13	Term Test One	None	None (No Tutorial)
Feb 20	Break (no lecture)	None	None
Feb 27	• Comparing groups	• Jenkins-Smith et al., Chapter 5 (Part 5.4) and Chapter 6 (Part 6.1)	• Exercise Set Four • Tutorial Five
Mar 6	• Relationships between two variables	• Jenkins-Smith et al., Chapter 6 (Parts 6.2-6.4)	• Assignment Three • Exercise Set Five • Tutorial Six
Mar 13	• Understanding a multivariate world	• Notes provided by instructor	• Exercise Set Six • Tutorial Seven
Mar 20	Term Test Two	None	None (No Tutorial)
Mar 27	• Multiple regression	• Huntington-Smith, Chapter 13 (Parts 13.1-13.2)	• Exercise Set Seven • Tutorial Eight
April 3	Good Friday (no lecture)		
April 6	• The strengths and limits of multiple regression	• Huntington-Smith, Chapter 13 (Parts 13.3-13.4)	• Exercise Set Eight • Tutorial Nine

Political Science Course Outline Appendix

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:

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/>

ood2Talk: 1-866-925-5454, <https://good2talk.ca/>

The Walk-In Counselling Clinic: <https://walkincounselling.com>

Academic consideration for medical or other extenuating circumstances:

Students must contact the instructor(s) of their absence or inability to complete the academic deliverable within the predetermined timeframe due to medical or other extenuating circumstances. For a range of medical or other extenuating circumstances, students may use the online self-declaration form and where appropriate, the use of medical documentation. This policy regards the accommodation of extenuating circumstances for both short-term and long-term periods and extends to all students enrolled at Carleton University.

Students should also consult the [Course Outline Information on Academic Accommodations](#) for more information. Detailed information about the procedure for requesting academic consideration can be found [here](#).

Pregnancy: 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, please contact Equity and Inclusive Communities (EIC)

at equity@carleton.ca or by calling (613) 520-5622 to speak to an Equity Advisor.

Religious obligation: 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](#).

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, please request your accommodations for this course through the [Ventus Student Portal](#) at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (*if applicable*). Requests made within two weeks will be reviewed on a case-by-case basis. For final exams, the deadlines to request accommodations are published in the [University Academic Calendars](#). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally scheduled exam (*if applicable*).

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 its 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: <https://carleton.ca/equity/sexual-assault-support-services>.

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 will be provided to students who compete or perform at the national or international level. Write to me 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.

PETITIONS TO DEFER

Students unable to write a final examination because of illness or other circumstances beyond their control may apply within **three working days** to the Registrar's Office for permission to write a deferred examination. The request must be fully supported by the appropriate documentation. Only deferral petitions submitted to the Registrar's Office will be considered. [See Undergraduate Calendar, Article 4.3](#)

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.

WITHDRAWAL WITHOUT ACADEMIC PENALTY

Please reference the [Academic Calendar](#) for each term's official withdrawal dates

OFFICIAL FINAL EXAMINATION PERIOD

Please reference the [Academic Calendar](#) for each term's Official Exam Period (may include evenings & Saturdays or Sundays)
For more information on the important dates and deadlines of the academic year, consult the [Carleton Calendar](#).

GRADING SYSTEM

The grading system is described in the Undergraduate Calendar section [5.4](#).

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.

ACADEMIC INTEGRITY

Academic integrity is an essential element of a productive and successful career as a student. Students are required to familiarize themselves with the university's [Academic Integrity Policy](#).

PLAGIARISM

The University Senate defines plagiarism as "*presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own.*" This can include:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- reproducing or paraphrasing portions of someone else's published or unpublished material, and presenting these as one's own without proper citation or reference to the original source;
- submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, or paraphrased material, concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another's data or research findings;
- failing to acknowledge sources through the use of proper citations when using another's works and/or failing to use quotation marks;
- handing in "*substantially the same piece of work for academic credit more than once without prior written permission of the course instructor in which the submission occurs.*"

Plagiarism is a serious offence that cannot be resolved directly by the course's instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when

an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course.

RESOURCES (613-520-2600, phone ext.)

Department of Political Science (2777)	B640 Loeb
Registrar's Office (3500)	300 Tory
Centre for Student Academic Success (3822)	4 th floor Library
Academic Advising Centre (7850)	302 Tory
Paul Menton Centre (6608)	501 Nideyinàn
Career Services (6611)	401 Tory