

PSCI 4701A and PSCI 5701A
Intermediate Polimetrics for Micro Data

11:35 to 14:25 Tuesdays

Please check location on Carleton Central

Instructor: Scott Edward Bennett
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Class Times: Tuesday starting January 6, 2026 and ending on April 7, 2026.

Office Hours: There are no fixed office hours, but you can communicate with the instructor by email at any time. He will usually get back to you within a day.

Read this syllabus carefully. This syllabus stipulates class and university policies. Exemptions from these policies are almost never granted.

Note: In so far as possible, you should try to communicate with the instructor in class or through electronic mail. There are no in person office hours. There are very few matters that cannot be dealt with in class or by email. If a student thinks that an inquiry must be dealt with in some other way, please explain this in an email, and, if absolutely necessary, a meeting will be arranged.

Nature of Course

The purpose of this course is to provide you with an opportunity to improve your skills for analysing and collecting micro data. When we refer to "micro data" we are generally concerned with data on individuals or households generated through survey research techniques or observational techniques. The research designs involved may be either experimental or non-experimental. The techniques covered in the course are also relevant to macro data, and, in rare cases, a student may be permitted to work on a macro data project.

This year primary emphasis will probably be placed on analysis rather than on collection of data, but some attention will still be devoted to problems of data collection and measurement. The

instructor will mostly use examples from International Social Survey data sets. It will be easiest for students to do their analysis on such data sets. If the consensus of the students in the course is a desire to expand the measurement and data set construction aspect of the course, this can be accommodated to some degree. A student may be given permission to work on their own data set if it is absolutely critical to some other aspect of their education and if they are already involved in that data set in detail. Similarly, if they are already involved in a research topic important to their overall program, they can take an alternative research focus. Permission for work on alternative data sets should be obtained during the first two weeks of the course.

It is assumed that the student already has a knowledge of basic regression, and, with some review, we proceed to consider techniques that are beyond basic regression in complexity and power.

It is extremely important to note that the course will be conducted as a working seminar with considerable opportunity for applied exercises. Nevertheless, there is more of a lecture component to this than is the case with some seminars. The delivery of the course may be adjusted depending on the number of students enrolled.

Main Texts

There are no main texts for the course. The material for the course is predominately imparted by the instructor through lectures and demonstrations using actual data. It is important to attend classes.

For review purposes, and depending on the background of the class, a book that may be used in a significant way is:

Bennett, Public Affairs Research Methods: A Quantitative Introduction

It is not necessary to purchase this book as it will be made available online. There are also copies in the library. Furthermore, there is a great deal of PowerPoint slide material available to the class which reproduces most of the preliminary information in the above text.

Secondary readings may also be suggested from time to time and are sometimes available on reserve. Some of the major reserve readings that are available are listed in an appendix.

Finally, you must use SPSS for your analysis in this course. The instructor is well aware that there are other software packages that can do some of what we need to do in this course, but SPSS is the best overall choice. Fortunately, it is available free to Carleton students on a yearly basis. More will be explained about this later.

A New and Pointless Administrative Burden

In their infinite wisdom and their never-ending quest to solve the problems of the world through performative policy making, check box bureaucracy and pandering to the most uninformed desires of the legislature, the great minds in the Ministry of Colleges and Universities have

decreed that every course outline in an Ontario post-secondary institution must contain the costs of the text books and related material required for a course.

In this course, there is no cost to any of the material to be used in the course. Anything of any importance is available free online or on reserve at MacOdrum Library in one form or another.

Grading and Preliminary Comments on Course Work

Major Seminar Paper (due April 7) 70 % of course grade

Participation
(including attendance, exercises and presentations) 30% of course grade

More details on the major paper will be provided in class. It will be an analysis of data based on some of the techniques presented in the course. If time permits, an oral presentation on the paper will be made to the class during its last meeting on April 7, 2026. The final version of the paper is due as an attachment to an email to the instructor on April 7, 2026. The attachment must be in WORD format.

Exercises will involve using a technique and writing no more than one page about results from the technique. This will be done for some of the major techniques introduced in the course. For any given technique, these exercises must be shown to the instructor in the class after the technique is introduced. If time permits, students may be asked to orally present the results of each exercise. This is usually handled in an informal way.

Ideally, if time permits, there will be at least two major presentations, apart from any minor presentations of exercises. One of these should be during the final class when the results of the major paper are presented. The other major presentation will occur at about the sixth class when each student will be asked to briefly outline their intended major analytic paper in a presentation to the class.

Those registered in PSCI 5701 will be evaluated in essentially the same way as those registered in PSCI 4701. However, it is expected that students registered in a graduate course will pay a bit more attention to placing their work in existing literature than those registered in an undergraduate course.

This term we are also requiring that you must attend at least one of the first two meetings of the course if you wish to pass the course. This is essential for the continuity of the course.

Main Topics

Note that the instructor considers it to be bad pedagogy and probably bad administration to assign in advance specific dates to the coverage of specific topics. In general, we hope to

reach topic 4 (preliminary outlines) no later than week 7 of the course. However, this is an expectation that can be altered in light of student background, interests and progress. We will cover as many of the topics as is appropriate and possible in the order listed below.

1. Introduction to the Course

2. Review of Basic Research Methods --- This will be a lecture review of research design, estimation, measurement, sampling, data collection and basic statistics. A review of some reserve readings such as the following may be useful:

Bennett, Public Affairs Research Methods: A Quantitative Introduction Chapters 5 to 10.

3. Linear Regression and Some Basic Extensions: Explaining Ordered Variables

4. Presentation of Research Paper Outlines Will Probably Take Place about Here

5. Logistic Regression: Specialised Prediction of Categorical Variables

6. Discriminant Analysis: Predicting Categorical Group Memberships using a Different Analytic Tradition

7. Factor and Principal Components Analysis: Finding Patterns in Sets of Variables
(*If it seems to suit student projects, we may cover this technique earlier.*)

8. Cluster Analysis and Related Techniques: Finding Patterns in Sets of Cases

9. The Causal Modelling Approach: Exploring Systems of Relationships

10. Additional Techniques of Interest --- If time permits, we will consider some additional techniques of interest in a preliminary manner. However, in the past, students have usually found it beneficial to have one or more classes devoted to final problem solving at this point in the course.

11. Closing Presentations on Research Projects (If Time Permits)

Some of the above topics may require more than week of course time for proper coverage.

Other Issues

Without going into great detail, various other course, departmental and university rules apply to the conduct of any course. You are expected to know them. From, my point of view, the important rules are:

1. Do your work on time as described in this outline and in class.

2. Do not engage in plagiarism.
3. Do not disrupt the class.
4. Keep an open mind with respect to value systems and approaches to inquiry.
5. Using AI related software is permissible in doing underlying research for the course, but you should not use it to produce the final text of your paper. At the end of the final paper, please generally describe what use you have made of AI, if any

With respect to point one above, the final copy of the course paper should be sent to the instructor as a WORD attachment to an email no later than April 7, 2026. Be sure you keep copies of your work. There is some flexibility concerning this date, and that will be explained in class.

Appendix A: Some Reserve Reference Material

Causal Modeling by Herbert B. Asher.

Multiple Regression in Practice by Berry and Feldman

Discriminant Analysis by William R. Klecka

Factor Analysis: Statistical Methods and Practical Issues by Jae-on-Kim and Charles W. Mueller

Introduction to Factor Analysis: What It Is and How to Do It by Jae-on-Kim and Charles W. Mueller

Introduction to Survey Sampling by Graham Kalton

Linear Probability, Logit, and Probit Models by John H. Aldrich and Forrest D. Nelson

Using Multivariate Statistics (ideally sixth or seventh edition) by Tabachnick and Fidell

The above are only intended as references. They may provide additional technical insights, but students will get most of the information they need by attending classes and labs.

Other rules of general interest from a departmental or university perspective are contained in the material that follows. The instructor only takes responsibility for the essence of the above material.

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