

**PSCI 4701A and PSCI 5701A**  
**Intermediate Polimetrics for Micro Data**  
**8:35 to 11:25 Wednesdays**  
**Please confirm location on Carleton Central**

Instructor: Scott Edward Bennett

Office: A627 Loeb Building

Office Hours: : Fridays from 8:00 to 13:00 by appointment at least 24 hours in advance

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Actual lectures and discussion may usually only occupy the first part of the period, and the last part will often be used for computer lab work, answering student questions or other activities.

Office hours may not be held during the first week of classes and are sometimes cancelled due to conflict with various university meetings. If you are coming to see me during office hours, you must give me at least 24 hours' notice by email.

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

**NOTE: Although nominal office hours are available by advance appointment, students should use those hours only if absolutely necessary. Most matters can be dealt with in class or by email.**

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 with political science relevance. 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 survey data collection and measurement. 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. Thus, although some lecture material will be presented, this is not primarily a lecture course.

### 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 there are 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.

### Grading and Preliminary Comments on Course Work

Major Seminar Paper (due April 6)	70 % of course grade
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Participation (including attendance, exercises and presentations)	30% of course grade
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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 6, 2016. The final version of the paper is due as an attachment to an email to the instructor on April 6, 2016. 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 several 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.

Ideally, 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.

### 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 5 (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.

At approximately this point in the course, we **may** also have presentations from the Library Data Centre (Data Archives) in order to acquaint you with available data sets.

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 (Particularly Dichotomous) Variables

6. Discriminant Analysis: Predicting Categorical (Dichotomous and Polychotomous) Membership

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. Under special circumstances, an incomplete can be granted to graduate students, but graduate students should try to adhere to the same schedule as undergraduates. Note that a graduate student registered for PSCI 4701 or an undergraduate registered for either PSCI 4701 or PSCI 5701 cannot take an incomplete. Only a graduate student registered in PSCI 5701 has the possibility of the incomplete option.

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 6, 2016. Be sure you keep copies of your work. No excuses for lateness will be accepted except for some extreme emergency (such as the student's hospitalisation) that makes it physically impossible for the student to turn in a paper. Failure to observe this rule will lead to a loss of all marks associated with the paper.

Presentations must be done on time as assigned. The only excuses accepted are the same as those noted in the previous paragraph. Failure to observe this will lead to a loss of all marks associated with a presentation.

No credit is granted for late work.

### 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 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.

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### **Academic Accommodations**

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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](mailto:pmc@carleton.ca) for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your **Letter of Accommodation** 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*). 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*).

**For Religious Observance:** Students requesting accommodation for religious observances should apply in writing to their instructor for alternate dates and/or means of satisfying academic

requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory academic event. Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodations in a way that avoids academic disadvantage to the student. Instructors and students may contact an Equity Services Advisor for assistance ([www.carleton.ca/equity](http://www.carleton.ca/equity)).

**For Pregnancy:** Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete a *letter of accommodation*. Then, make an appointment to discuss your needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.

**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:

- 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;
- 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 which cannot be resolved directly with the course’s instructor. The Associate Deans of the Faculty conduct 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 may include a mark of zero for the plagiarized work or a final grade of "F" for the course.

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).

**Submission and Return of Term Work:** Papers must be submitted directly to the instructor according to the instructions in the course outline and will not be date-stamped in the departmental office. Late assignments may be submitted to the drop box in the corridor outside B640 Loeb. Assignments will be retrieved every business day at **4 p.m.**, stamped with that day’s date, and then distributed to the instructor. For essays not returned in class please attach a **stamped, self-addressed envelope** if you wish to have your assignment returned by mail. Final exams are intended solely for the purpose of evaluation and will not be returned.

**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

**Approval of final grades:** Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by an 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 cuLearn. As important course and University information is distributed this way, it is the student's responsibility to monitor their Carleton and cuLearn accounts.

**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. Holding social events, debates, and panel discussions, 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 numerous opportunities which will complement both academic and social life at Carleton University. To find out more, visit <https://www.facebook.com/groups/politicalsciencesociety/> or come to our office in Loeb D688.

**Official Course Outline:** The course outline posted to the Political Science website is the official course outline.