

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

**14:35 to 17:25 Mondays**

**Please confirm location on Carleton Central**

Instructor: Scott Bennett

Office: A627 Loeb Building

Office Hours: 8:30 to 12:30 Mondays

11:00 to 12:00 Tuesdays

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Note that 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.

Note that the above office hours may not be held during the first week of classes and are sometimes cancelled due to conflict with various university meetings.

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

**NOTE: IN SO FAR AS POSSIBLE, YOU SHOULD TRY TO COMMUNICATE WITH THE INSTRUCTOR IN CLASS OR THROUGH ELECTRONIC MAIL. IN PERSON MEETINGS DURING OFFICE HOURS SHOULD BE RESERVED FOR PROBLEMS THAT CANNOT BE DEALT WITH IN ANY OTHER WAY.**

**NOTE: CLASS RELATED EMAIL COMMUNICATIONS SHOULD BE VIA YOUR CARLETON CONNECT ACCOUNT.**

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. **This year students will be encouraged to work on a limited number of data sets made available by the instructor.** A student may be given permission to work on some other 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. 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

Some copies are available in the bookstore, but it is usually not necessary to purchase one of those as there are copies in the library and as well as many used copies available.

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 (Dec 7)	75 % of course grade
Participation (including attendance, exercises and presentations)	25% 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 December 7, 2009. The final version of the paper is due in the last class on December 7, 2009.

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 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. However, as indicated, it is intended that most students will be working on predesignated 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 handed in at the last class on December 7, 2009. It should be in a large envelope and it must be in both typed form and on disk/cd/dvd that is both readable and writeable. 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 fifth 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 an attachment that follows. The instructor only takes responsibility for the essence of the above material.

## Academic Accommodations

**For students with Disabilities:** Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities (500 University Centre) for a formal evaluation of disability-related needs. Registered PMC students are required to contact the centre (613-520-6608) every term to ensure that the instructor receives your request for accommodation. After registering with the PMC, make an appointment to meet with the instructor in order to discuss your needs **at least two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations**. If you require accommodation for your formally scheduled exam(s) in this course, please submit your request for accommodation to PMC by **November 16, 2009 for December examinations** and **March 12, 2010 for April examinations**.

**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 include a mark of zero for the plagiarized work or a final grade of "F" for the course.

**Oral Examination:** At the discretion of the instructor, students may be required to pass a brief oral examination on research papers and essays.

**Submission and Return of Term Work:** Papers must be handed directly to the instructor 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. Please note that assignments sent via fax or email will not be accepted. Final exams are intended solely for the purpose of evaluation and will not be returned.

**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.

**Course Requirements:** Failure to write the final exam will result in a grade of ABS. FND (Failure No Deferred) is assigned when a student's performance is so poor during the term that they cannot pass the course even with 100% on the final examination. In such cases, instructors may use this notation on the Final Grade Report to indicate that a student has already failed the course due to inadequate term work and should not be permitted access to a deferral of the examination. Deferred final exams are available ONLY if the student is in good standing in the course.

**Connect Email Accounts:** All email communication to students from the Department of Political Science will be via Connect. Important course and University information is also distributed via the Connect email system. It is the student's responsibility to monitor their Connect account.

**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 in the after-hours academic life 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, please email [carletonpss@gmail.com](mailto:carletonpss@gmail.com), visit our website at [poliscisociety.com](http://poliscisociety.com), 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.