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**Department of Political Science  
University of Toronto**

**Political Science 242Y1:  
An Introduction  
To Research Methods**

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**Instructor:** Anthony Sealey

**E-mail:** anthony.sealey@utoronto.ca

**Class Time:** TU and TH 6:00-8:00 p.m.

**Location:** FE 36

**TAs:** Shaukut Ansari,  
Aarie Glas

**Webpage:** <http://individual.utoronto.ca/sealey>

**Coursepage:** <http://groups.chass.utoronto.ca/pol242>

**Office Hours:** One half-hour after each class

**Location:** FE 36

**E-mails:** shaukut.ansari@utoronto.ca,  
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### **Course Content**

The purpose of this course is to improve your understanding of the principal research methods used in the discipline of political science. Although it is more inclined towards quantitative research methods, the course will introduce you to both qualitative and quantitative approaches to political science research. Regardless of your particular field of interest in the discipline, the use of more rigorous analytic techniques is a key aspect of the development of your capacity to engage in creative high-level research. Opportunities to work with data oriented towards those interested in comparative analyses of post-industrial, post-communist, or any of the ‘developing’ regional contexts will be provided for all students in the course. Data suitable for the investigation of questions in the fields of Canadian politics and international relations will also be made available.

### **Course Objectives**

The principal pedagogical objective of this course is to enable you to both critically assess and perform political science research that employs rigorous methodological analytic techniques. This course has been constructed around three core learning objectives.

The *first* is to develop a comprehensive knowledge of a broad range of key methodological techniques employed in the social sciences. Students will be introduced to a range of both qualitative and quantitative approaches, including interviews and focus groups, content analysis, crosstabulation and graphical techniques, descriptive and inferential univariate statistical methods and both simple and advanced regression analysis.

The *second* objective is to develop your capacity to practically apply these analytical tools. During the course you will be introduced to a broad range of data and software packages in order

to allow you to bring to bear a variety of sophisticated analytic techniques in order to investigate a broad range of questions that are relevant to the study of politics.

The *third* objective is to allow students to develop a marked level of expertise with one key data set used in quantitative political science research. Data will be made available to students interested in each of the key fields of political science save for political theory, including Canadian politics, comparative politics, and international relations. This course should meaningfully contribute to the extension of your knowledge in one of these three fields beyond the usual method employed in undergraduate political science research, the synthesis of the findings of other authors. This course requires students to engage first-hand with unmediated political science data, enabling them to use it to investigate their own ideas and develop the capacity for original, creative research.

### Evaluation

Students' evaluations include six basic components: (1) five quizzes, (2) five assignments, (3) a final test, (4) an in-class presentation, (5) a term paper, and (6) attendance and participation. The relative weights of each of these three components are as follows:

Component	Weight
Quizzes (5):	10%
Assignments (5):	40%
Final Test:	10%
In-Class Presentation:	10%
Term paper:	20%
In-class and tutorial attendance and participation:	10%

The quizzes are intended to provide a holistic assessment of your knowledge of the more theoretical aspects of the presented material. The assignments are the backbone of the course. They will develop and allow your course instructor and TAs to assess your ability to practically apply the methodological tools presented in lectures. The final test assesses whether you have retained the core lessons learned from the assignments. The in-class presentation and term paper are designed to evaluate your ability to produce creative and insightful research, focused on the particular field of political science in which you are most interested. A presentation of the main findings of your research will take place during the final week of the class. You will then have an additional week in which to refine your analysis and compose a paper that presents your key results in scholarly form. The final element of your grade will be based upon your attendance and participation during in-class exercises, labs and tutorials.

As they are often in the best position to assess this component of your grade, attendance and participation scores will typically be determined largely by the course's TAs, but will also be affected by the extent of your participation during both the in-class exercises and labs, and the presentations during the final week of the course. Because it is a component of your overall grade for the course, we will endeavour to carefully track relevant attendance by circulating attendance sheets when appropriate. *Students should note that it is their individual responsibility to ensure that their attendance is recorded for any given session.* While we are willing to consider all relevant evidence of a student's attendance, attendance records are the primary basis upon which this component of the grade is adjudicated. If your instructor or TA does not circulate an attendance sheet at the beginning of an exercise, lab or tutorial, please enquire.

**Due Dates and Late Penalties:**

Quizzes will generally be held at the beginning of class every two weeks, starting at the beginning of the third week and covering the material presented in the preceding two weeks. The timing of the distribution of assignments is indicated in the ‘Course Plan and Readings’ section below. Assignments will be distributed during class starting from the second week, and will usually be due at the start of class at the end of the following week. Thereafter, save for documented medical and personal emergencies, late penalties will be assessed at a rate of 2% per day. If unforeseen circumstances arise, please inform the course instructor of your situation as soon as you can, ideally before the due date; please avoid simply submitting late work with medical documentation attached without some type of forewarning. Students are strongly advised to keep rough and draft work and hard copies of their essays and assignments before handing in their assignments and papers. These should be retained at least until the graded materials have been returned. Please note that computer problems are not considered to be an emergency, so be sure that the computer you use is in good working order and that you back up your work and print out and retain rough work and drafts. A key to success in this course is to keep pace with the delivery of the course material, so the best course of action is to avoid late submissions entirely and to ensure that all work is submitted on time.

Formal List of Due Dates for the Course	Due Date
Assignment 1:	Thursday, June 7
Assignment 2:	Thursday, June 21
Assignment 3:	Thursday, July 5
Assignment 4:	Thursday, July 19
Final Test:	Tuesday, July 31
Assignment 5:	Thursday, August 2
Presentation:	Tuesday, August 7 –
Final Paper:	Friday, August 15

**Methodological Tools**

This course will introduce you to three methodological software packages. The first is *Nvivo*, which we will learn to use to organize and analyze qualitative data. The second and third are quantitative data analysis tools. One is *Webstats*, which is a statistical software platform based on another statistical package named the Statistical Package for the Social Sciences (SPSS). *Webstats* has been specifically designed by the University of Toronto’s Department of Political Science to provide students with an accessible, user-friendly program from which to begin learning quantitative analytic techniques. The other is *R*, a much less user-friendly statistical package which has many advanced features and is especially effective for producing high-quality graphics. You will be provided with an introduction to both of these statistical packages, and given the option of which of them you prefer to use for the remainder of the course.

- A free trial version of *Nvivo* can be downloaded from: [http://www.qsrinternational.com/products\\_nvivo.aspx](http://www.qsrinternational.com/products_nvivo.aspx). Alternatively, you can try <http://www.qsrinternational.com/DownloadFreeTrial.aspx?pid=10>, a link provided to me by an *Nvivo* representative which, as long as it remains functional, requires you to provide less information in order to download a trial version. A helpful document to get you started is available at: <http://downloads.qsrinternational.com/Document/NVivo9/NVivo9-Getting-Started-Guide.pdf>.

- You can access Webstats at: <http://groups.chass.utoronto.ca/pol242>.
- R is a free, open source statistical software package that you can download from: <http://cran.r-project.org/>. A fancier interface for R – called ‘R Studio’ – is available from: <http://rstudio.org/>. I recommend downloading *An Introduction to R*, which provides a comprehensive overview of most of the core functionality of the R environment. It is available at <http://www.r-project.org/>. In the menu on the left, click on the < Manuals > tab under the < Documentation > heading.

You will complete the first assignment of the course using Nvivo. The second will require the use of both Webstats and R. For the third through fifth assignments, the presentation and the term paper, you can use either Webstats or R, although in limited instances feasibility may oblige you to use one instead of the other. The advantage of Webstats is simplicity. The advantage of R is that it is much more sophisticated, and will be available for you to use once you have completed your studies at the University of Toronto. You are welcome to use whichever you prefer. Please, however, bear a few things in mind when deciding. Both packages have potential drawbacks. On the one hand, because Webstats was built by members of the department and other members of the university community, I have very little influence over it. If you experience any problems accessing Webstats – which does happen unusually – I recommend switching to SPSS and continuing your work using it, particularly if you have an upcoming deadline. I will endeavour to ensure that my instruction in the course introduces you sufficiently to SPSS to allow you to develop the capacity for this versatility. That being said, in case you view this as a promising career path, I recommend trying to develop your familiarity with SPSS independently, as SPSS is often used by a number of Canadian government agencies. On the other hand, you will find that whenever you open the software, R will indicate to you that it is “free software and comes with ABSOLUTELY NO WARRANTY”. However, this software is used by some of the highest-level statistical political scientists and courses using it are offered at some of the best universities in the world, so you can safely assume that it is generally highly reliable. My advice is to develop capacities in both, as each is much more effective at doing some things and much less so at doing others.

## **Tutorials**

A series of tutorial sessions are designed to supplement the material presented in lectures and provide you with the opportunity to learn how to practically apply the techniques presented in lectures more directly from the course instructor and TAs on a one-on-one basis. In each week that an assignment is distributed, there will be a tutorial to assist you in learning the methodological software and skills necessary for completing the assignment. In each of the following weeks, tutorials will be held on a ‘drop-in’ basis so we can help you with any difficulties that you encounter. In this latter tutorial, there will be no formal presentation of material, but your instructor and/or TAs will be available to aid you with the completion of your assignment. Likewise, tutorials will also be held during the final week of the course and the following week in order to help you develop and assess the findings you will present in your final term paper. There will be two sets of tutorials. The first set will be scheduled immediately before class, while the second set will be immediately afterwards (i.e. 5:00 to 6:00 and 8:00 to 9:00 p.m.). Sign-ups for tutorial spaces will take place on a first-come, first-served basis within the first two weeks of the beginning of the course.

## Office Hours

Generally speaking, I will hold ‘office hours’ immediately following the conclusion of each class. In this time, please feel welcome to approach me with any questions, issues or concerns you have with the course. It is worthwhile noting, however, that this time is not primarily meant as a means to assist students with problems that they are having with the completion of course assignments, as this is the principal purpose of tutorials. While I hold these hours in the computer lab in order to allow us to discuss concerns you may be having with any of the resources or software packages used in the course, please do not think of these as additional tutorial hours. If you would prefer to meet in a more formal setting, my office in Sidney Smith Hall is 3105, but please contact me by e-mail and let me know beforehand so that we can make appropriate arrangements.

## Communications

Most communication from the instructor will originate from in-class announcements. Students are responsible for finding out about any announced changes if they miss class. On some occasions, e-mail will also be used. Students are responsible for accessing and regularly checking the UTOReMail addresses linked to their student identities on the Blackboard portal. If you have any questions about your account, please speak to me during office hours.

E-mail is great for communicating simple information, but extended conversations are best conducted face to face, so please feel welcome to approach me about any thoughts, queries or concerns you have about the course. Generally, you should expect a reply to email enquiries from myself or the course TAs within 2 weekdays. Please do not send more than one message within a 24 hour period (although please don’t worry if you accidentally hit the < send > button for the same message more than once). University policy requires that course instructors, TAs and students only communicate via their UTOReMail accounts, so please use this venue. Please bear in mind that the university reserves the right to access these accounts and that I will often ask TAs to copy me on replies to messages sent to them. Broadly speaking, unless a TA or instructor indicates otherwise, please feel free to send follow-up messages with a frequency of up to once a day depending on your level of urgency. Please, however, endeavour to include all relevant information necessary to follow up on your concern (e.g. if you suspect that you have attended a tutorial that you have not been given credit for, please let us know the date and time of the tutorial you believe you attended). Please avoid asking myself or your TAs to do things that generally you should be capable of doing for yourself (e.g. calculating your current average for the course).

## Coursepage, Webpage and Blackboard

There are three primary on-line resources for the course: the coursepage, my webpage and the Blackboard page for the course. It is worthwhile stressing that *the coursepage is not my page*. It is owned and operated by Prof. Joseph Fletcher, a professor in the department who often teaches this course during the fall and winter semesters. We will primarily use this as an access point for Webstats; otherwise please disregard other information that you find on it. I will keep an array of materials on subpages of my webpage that I’ve set up for the course. Most often course materials will be most easily accessed here, as it is the easiest point from which I can make modifications. By far the most important one-line resource will be the Blackboard portal for the course. We will use this portal to allocate tutorial spaces, archive course materials, and track grades for the course.

## **A Note on Plagiarism**

*Plagiarism is a serious academic offense.* You must be careful to indicate the source of all thoughts and ideas that you use in your papers. If the words you are using in your paper are the same as or very similar to those of another author, you must be sure to enclose them in quotations marks and indicate their source. If you draw an idea of yours from the thoughts of another author, you should be sure to provide a citation for the relevant literature. If you use other material during the course of your research but do not include any of the specific words or ideas contained within the material, be sure to include it in your bibliography. Papers that do not correctly indicate attribution to the full range of sources used will be penalized. Evidence of substantial plagiarism will be communicated to the department. While you are encouraged to discuss your homework assignments and papers with you peers, instructor and TAs, you must be the only author of your paper and written assignments. This means that though you may discuss an assignment with colleagues, the write-up should be done alone and separately from them. You can meet to discuss the assignment, but should go your separate ways to write up your answers. If computer analysis is required for an assignment, you must analyze your own data separately from your peers. You must generate your own output and write up your own answers. All references to or paraphrasing of course readings or outside readings must be properly documented to avoid plagiarism. If you have any doubts, please ask me before turning in your assignment. More detailed instructions on proper use of sources and references will be provided in the directions for the term paper. Helpful guidance on the issue of plagiarism is available at: <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>.

*Normally, students will be required to submit their course assignments and their final paper to Turnitin.com for a review of textual similarity and detection of possible plagiarism.* In doing so, students will allow their essays to be included as course documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com website.

## **Religious Accommodations**

The university is committed to the accommodation of religious observances, and cultural diversity is welcome in this course. By and large, please try to provide advanced warning of any type of accommodation that you anticipate that you may require as close as possible to the beginning of the course as this will enable your instructor and TAs to integrate these requests as seamlessly as possible into the overall structure of the course.

## **Accessibility**

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability or health consideration that may require accommodations, please feel free to approach me and/or the Accessibility Services Office as soon as possible. The Accessibility Services staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. The sooner you let them and me know of your needs, the quicker we can assist you in achieving your learning objectives for the course. They can be contacted at: [disability.services@utoronto.ca](mailto:disability.services@utoronto.ca). You can find helpful information on their website, which is located at: <http://studentlife.utoronto.ca/accessibility>.

## Course Plan and Readings

The following outline indicates the topics to be considered, the key concepts associated with each topic, and the readings from the course text for each week of the course. Please note that there are readings from additional sources in the final weeks of the course. The course text is:

**Archer, Keith and Loleen Berdahl. (2011). *Explorations: Conducting Empirical Research in Canadian Political Science*, 2<sup>nd</sup> Edition. Oxford: Oxford University Press.**

### **Week 1: An Introduction to Research Methods**

Key Concepts: Normative, Argumentative and Empirical Analysis; Theories, Concepts, Variables, Measures and Indicators; Falsifiability and Replicability; Null and Alternative Hypotheses; Independent, Dependent, Intervening and Reinforcing Variables; Correlation, Causation and Spuriousness; Inductive and Deductive Logic.

Readings: Chapter 1, pages 3-26; Chapter 2, pages 28-46; Chapter 3, pages 48-51.

### **Week 2. Qualitative and Quantitative Approaches to Comparative Research**

Key Concepts: Qualitative and Quantitative Approaches to Research; Descriptive, Exploratory and Explanatory Research; Building and Testing Theories; Populations and Samples; Measurement, Sampling and Error; Credibility, Transferability and Validity; Dependability and Reliability; Research Designs; Cases, Units of Analysis and Bases of Comparison; Research Ethics.

Readings: Chapter 6, pages 123-43; Chapter 7, pages 145-52; Chapter 8, pages 154-74.

### **Week 3. Qualitative Techniques: Content Analysis, Interviews and Focus Groups**

Key Concepts: Manifest and Latent Content; Message Frequency, Direction, Intensity, Prominence and Size; Coding, Themeing, Tagging, and Intercoder Reliability; Structured, Semi-Structured and Unstructured Interviews; Recording and Transcription; Group Sizes and Participant Selection; Hawthorne Effect.

Readings: Chapter 12, pages 212-21; Chapter 13, pages 223-30; Chapter 14, pages 232-39; Chapter 19, pages 349-56.

Assignment 1: Computer Assisted Qualitative Data Analysis. *Due date: June 7.*

### **Week 4. An Introduction to Quantitative Data**

Key Concepts: Levels of Measurement; Discrete and Continuous Variables; Descriptive Statistics; Measures of Central Tendency, Variation and Skew; Linear Equations; Solving for Unknowns; Percentages, Proportions and Probabilities; Rounding Off.

Readings: Chapter 4, pages 77-82; Chapter 15, pages 243-55 and Table 15.3, page 256.

### **Week 5. Visualizing and Assessing Quantitative Data: Tables and Graphs**

Key Concepts: Crosstabulations; Phi, Lambda, Cramer's V, Gamma, Tau B and Tau C; Histograms; Mosaic Displays; Scatterplots; Pearson's R; Spearman's Rho.

Readings: Chapter 17, pages 290-312

Assignment 2: Working with Webstats and R. *Due date: June 21.*

### **Week 6. Measurement: How Indicators Fit Together**

Key Concepts: Indicators, Measures, and Latent Variables; Cronbach's Alpha; Standardized Alpha, Factor Analysis, Principal Component Analysis, Cluster Analysis, Multidimensional Scaling, Missing Data

Readings: Chapter 4, pages 67-94; Chapter 9, pages 177-91.

Assignment 3: Building Measures. *Due date: July 5.*

## **Week 7. Midterm Break**

## **Week 8. Probability and Inference**

Key Concepts: Relationships of Probability; Binomial and Poisson Distributions; Exponential Distributions; Normal Distributions; Chi-squared Distributions; Probability and Cumulative Density Functions; Inferential Statistics; Sampling Distributions; Standardized Scores; Levels of Confidence and Significance; Confidence Intervals.

Readings: Chapter 15, pages 255-63; Chapter 16, pages 265-79.

## **Week 9. Testing Hypotheses**

Key Concepts: Null and Alternative Hypotheses; Critical Values and Test Statistics; t-tests; z-tests; Statistical Significance and P-Values; Degrees of Freedom; Type I and Type II Error; Analysis of Variance.

Readings: Chapter 16, pages 279-87; Chapter 17, pages 290-97.

Assignment 4: Statistical Inference. *Due date: July 19.*

## **Week 10. An Introduction to Regression Analysis**

Key Concepts: Bivariate Regression; Intercept, Slope and Beta Coefficients; Standard Error of the Estimate;  $R^2$ ; Adjusted  $R^2$ ; Multivariate Regression; Regression Diagnostics; Non-Linearity; Multicollinearity; Homoscedasticity; Outliers.

Readings: Chapter 18, pages 323-41

## **Week 11. Advanced Regression Analysis**

Key Concepts: Dummy Variables; Base Category; Interaction Terms; Replication, Specification and Spuriousness, Generalized Linear Models; Maximum Likelihood; Logistic Function; S-Curves.

Readings: None.

Assignment 5: Regression. *Due date: August 2.*

## **Week 12. Presenting Your Research**

Key Concepts: Audience; Outlines; Titles and Subtitles; Abstract; Literature Review; Research Design; Presentation of Findings; Discussion; Proofreading.

Readings: Chapter 20, pages 357-367.

Additional Reading: Bennett, Stephen Earl and Linda L. M. Bennett. (1993). "Out of Sight, Out of Mind: Americans' Knowledge of Party Control of the House of Representatives, 1960-1984," in *Political Research Quarterly* 46(1): 67-80.

Final Term Test: *July 31.*

## **Week 13. Optional Topics: \*Mixed Methods\* and ★Social Network Analysis★**

Key Concepts: \* Triangulation; Monostrand, Multi-Method and Mixed Method Research; Prioritization, Sequential and Concurrent Data Collection and Analysis; Strengths and Weaknesses of Mixed Method Research \*; ★ Nodes, Links and Matrices; Symmetric and Asymmetric Relationships; Undirected and Directed Links; Link Intensities and Densities; Types of Networks, Groups and Connections ★

Readings: To be determined.

Presentations: *August 7 to August 9.*

Final Paper Submissions: *August 15.*