|  |
| --- |
| **Course:** POLS 4150 Applied Politics |
| **Title:** Research Methods in Political Science |
| **In-person Class Meetings:** MWF, 3:00pm - 4:00pm |
| **Location:** Baldwin Hall 101D |
| **Term:** Fall 2022 |
| **Professor:** David Cottrell |
| **Email:** [david.cottrell@uga.edu](mailto:david.cottrell@uga.edu) |
| **Office Hours:** MW from 4:00pm-5:00pm or by appointment @ Baldwin Hall 380D. |

**COURSE DESCRIPTION:**

Scholars in political science and in disciplines across the social sciences are increasingly relying on quantitative, data-driven methods to answer important questions in their field. This course provides an introduction to the study of politics through quantitative reasoning and data analysis. Like a traditional research methods course, we will cover the fundamentals of empirical research in political science including causal inference, summary statistics, data visualization, and regression. However, unlike a traditional research methods course, this course places a particular emphasis on developing technical skills used to conduct real world data analysis. Therefore, a significant amount of the coursework will be dedicated to learning how to program in the statistical computing environment, R. The goal is for you to gain a valuable skillset in data analysis that you can use in your political science classes and, more importantly, in your future careers.

**PREREQUISITES:**

You do not need any prior experience with coding. The class is designed to help you develop these skills without such experience. Nevertheless, you should be aware that there is a steep learning curve to coding. It will require time, effort, practice, and patience.

**REQUIRED TEXTS:**

|  |  |
| --- | --- |
| TEXTBOOK: | Llaudet and Imai, (Forthcoming). *Data Analysis for Social Science: A Friendly Introduction*. Princeton University Press |
| Chapter 1… | Introduction |
| Chapter 2… | Estimating Causal Effects with Randomized Experiments |
| Chapter 3… | Inferring Population Characteristics via Survey Research |
| Chapter 4… | Predicting Outcomes Using Linear Regression |
| Chapter 5… | Estimating Causal Effects with Observational Data |

This text has not yet published. We have been a given access to a pre-print version using a Dropbox link. The link to the textbook can be found on ELC.

**LAPTOPS:**

We will be conducting data analysis in class so that you can practice the skills that you’ve learned from the textbook and lectures. To conduct data analysis, we will be using the R statistical computing environment on your computer. Please bring your laptops with R installed to every class. If you are unable to bring a laptop to class please speak with me.

**STATISTICAL SOFTWARE**

For data analysis, we will be using R, which is an open-source (free!) statistical computing environment widely used for manipulating data, performing statistics, and producing graphics. To run R, we will take advantage of a commonly used integrated development environment (IDE) called RStudio. RStudio provides a user-friendly interface for accessing and computing in R. Complete the following steps:

1. First, go to <https://cran.r-project.org> and follow the links to download R. Be careful to download the correct R package for your system’s platform. Pay close attention to your system’s operating system and processor. Once you’ve downloaded the proper R package to your computer, open it and follow the instructions to install.
2. Second, go to this [website](https://www.rstudio.com/products/rstudio/download/#download)  to download RStudio Desktop by clicking on the big blue button listed under the second step. Follow the instructions to install.

**METHOD OF INSTRUCTION:**

This course will be taught face-to-face. Instruction will consist of lectures and in-class assignments. You must attend class in-person, as there is no online alternative

**UGA STUDENT HONOR CODE:**

Please adhere to the university’s standards for academic honesty and integrity. Procedures for handling cases of suspected dishonesty, can be found at [www.uga.edu/ovpi](http://www.uga.edu/ovpi).

**PREFERRED NAMES/PRONOUNS**

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student’s legal name. I am eager to address you by your preferred name and/or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

**PROHIBITION ON RECORDING LECTURES]**

In the absence of written authorization from the UGA Disability Resource Center, students may not make a visual or audio recording of any aspect of this course. Students who have a recording accommodation agree in writing that they:

* Will use the records only for personal academic use during the specific course.
* Understand that faculty members have copyright interest in their class lectures and that they agree not to infringe on this right in any way.
* Understand that the faculty member and students in the class have privacy rights and agree not to violate those rights by using recordings for any reason other than their own personal study.
* Will not release, digitally upload, broadcast, transcribe, or otherwise share all or any part of the recordings. They also agree that they will not profit financially and will not allow others to benefit personally or financially from lecture recordings or other course materials.
* Will erase/delete all recordings at the end of the semester.
* Understand that violation of these terms may subject them to discipline under the Student Code of Conduct or subject them to liability under copyright laws.

**EVALUATION:**

|  |  |
| --- | --- |
| **(45%)** | **In-class data assignments** – Throughout the semester you will complete six data assignments in class. These assignments will ask you to apply the concepts we have covered in the reading and in lecture by analyzing real-world data using R. You will submit your answers in eLC for credit by the due date. |
| **(5%)** | **Attendance/Participation –** You are expected to attend every class having read the assigned readings and to participate in classroom discussions. Your participation is not only beneficial to you individually, but it also improves the classroom learning environment. Your participation will be graded based on the frequency and quality of your contributions. |
| **(25%)** | **Midterm –** The midterm exam will be completely online and will be made available in eLC on Friday, October 14th. You will have four days to begin the exam and 24 hours to complete the exam once you have begun. The midterm will cover chapters 1–3. |
| **(25%)** | **Final –** The final exam will be completely online and will be made available in eLC on Friday, December 9th. You will have four days to begin the exam and 24 hours to complete the exam once you have begun. The final will be cumulative. |

Grade scale:

A 93.0000 and above

A- 92.9999 to 90.0000

B+ 87.0000 to 89.9999

B 86.9999 to 83.0000

B- 82.9999 to 80.0000

C+ 77.0000 to 79.9999

C 76.9999 to 70.0000

D 65.0000 to 69.9999

F 64.9999 and below

**COURSE AGENDA:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| WK | DAY | DATE | AGENDA | TOPIC |
| 0 | W  F | 08/17  08/19 | Syllabus  Ch. 1.1 – 1.5 | Getting started with R |
| 1 | M  W  F | 08/22  08/24  08/26 | Ch. 1.6  Ch. 1.7  Ch. 1.8 | Introduction to R  Loading and making sense of data  Computing and interpreting means |
| 2 | M  W  F | 08/29  08/31  09/02 | In-class Assignment 1  In-class Assignment 1  In-class Assignment 1 | Chapter 1 application  Chapter 1 application  Chapter 1 application |
|  | M | 09/05 | LABOR DAY |  |
| 3 | W  F | 09/07  09/09 | Ch. 2.1 – 2.3  Ch. 2.4 | Project STAR and the problem of causal inference  Average causal effects |
| 4 | M  W  F | 09/12  09/14  09/16 | Ch. 2.5  In-class Assignment 2  In-class Assignment 2 | Relational operations, new variables, and subsetting  Chapter 2 application  Chapter 2 application |
| 5 | M  W  F | 09/19  09/21  09/23 | In-class Assignment 2  Ch. 3.1 – 3.2  Ch. 3.3 | Chapter 2 application  Survey research and its challenges  Measuring characteristics of a population |
| 6 | M  W  F | 09/26  09/28  09/30 | Ch. 3.4  Ch. 3.4 (Cont.)  Ch. 3.5 | Measuring characteristics of a population  Measuring characteristics of a population  Measuring the relationship between characteristics |
| 7 | M  W  F | 10/03  10/05  10/07 | In-class Assignment 3  In-class Assignment 3  In-class Assignment 3 | Chapter 3 application  Chapter 3 application  Chapter 3 application |
| 8 | M  W  F | 10/10  10/12  10/14 | Midterm Review  Midterm Review  Midterm |  |
| 9 | M  W  F | 10/17  10/19  10/21 | Ch. 4.1 – Ch. 4.2  Ch. 4.3 – Ch. 4.4.1  Ch. 4.3 – Ch. 4.4.1 | Using the relationship between characteristics to predict outcomes  Introduction to linear regression  Introduction to linear regression |
| 10 | M  W | 10/24  10/26 | Ch. 4.5 – Ch. 4.7  In-class Assignment 4 | Model fit  Chapter 4 application |
|  | F | 10/28 | BREAK |  |
| 11 | M  W  F | 10/31  11/02  11/04 | In-class Assignment 4  In-class Assignment 4  Ch. 5.1 – 5.2 | Chapter 4 application  Chapter 4 application  Estimating causal effects with observational data |
| 12 | M  W  F | 11/07  11/09  11/11 | Ch. 5.3  Ch. 5.4  Ch. 5.5 | Controlling for confounders  Controlling for confounders  Internal v. external validity |
| 13 | M  W  F | 11/14  11/16  11/18 | In-class Assignment 5  In-class Assignment 5  In-class Assignment 5 | Chapter 5 application  Chapter 5 application  Chapter 5 application |
|  | M  W  F | 11/21  11/23  11/25 | THANKSGIVING  THANKSGIVING  THANKSGIVING |  |
| 14 | M  W  F | 11/28  11/30  12/ 2 | In-class Assignment 6  In-class Assignment 6  In-class Assignment 6 | Cumulative application  Cumulative application  Cumulative application |
| 15 | M  T | 12/5  12/6 | Final Review  Final Review |  |
|  | F | 12/9 | Final |  |