

## POLI 3000-002: Political Science Research Methods I

Spring 2022 | TR 9:30 AM - 10:45 AM | Haley 2206

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Office Hours:     TR 11:00 AM - 12:15 PM; Appointment (email me; Zoom ID: 7720942787)

### Overview, Objectives, and Outcomes

This course is a Political Science course, mostly full of Political Science majors. Most of you have probably not seriously considered the *science* component of these courses. That will be the main focus of this course.

So what is “science”? Science offers a rigorous, systematic way to satisfy our curiosity about the natural world. Political scientists in particular work to offer explanations for how or why particular phenomena occur (why do countries go to war? why do people vote? who do they vote for?), and the scientific method helps to ensure that those explanations are developed and tested in such a way that gives us the best evidence about how the world works.

Specifically, this course is designed to train you to be . . .

1. A critical *consumer* of (political) scientific research
2. A careful *producer* of (political) scientific research, and
3. Literate in the basic statistics that enable both objectives.

You read that correctly: *statistics* are a large component of this course. As we will discover, statistical tools help political scientists to test their theories and explanations of the world. Not to mention, they are some of the most marketable skills you will have upon graduation!

Student Learning Outcomes: by the end of the course, you should be able to . . .

1. Clearly outline the scientific method as it is applied to political science.
2. Differentiate what makes a measure better than other measures, as well as types of measurement.
3. Use the null hypothesis to test an explanation of the social world.
4. Use three types of bivariate methods (tabular analysis, difference of means, and correlation coefficients).
5. Use bivariate and multivariate regression.
6. Execute these methods in the statistical software R.

Official catalog description: Political Science Research Methods I. (3). LEC 3. Introduction to the basic concepts and methodology used in contemporary political analysis.

## Prerequisites

Any of POLI 1090, POLI 1093, POLI 1097, PHIL 1090, PHIL 1093, or PHIL 1097 with a minimum grade of C.

## Expectations

College is an environment in which you learn how to manage your time and set your priorities. I do not take attendance. There is, however, a strong correlation between course attendance and performance. We will spend a considerable amount of class time in the “computer lab,” meaning working on code together. Your performance in this class, particularly on the homework assignments and the group project, is strongly related to your attendance at these lab sessions. The success of your final group project is strongly related to your attendance at lecture sessions. Part of your grade to be determined by in-class quizzes and exercises (see below). I recommend, therefore, that you attend class regularly. If you choose to come to class, you should do so responsibly. I fully expect that you will have done any assigned readings before coming to class. Class is much more interesting when you engage with both your instructor and the material. I also expect that you make a reasonable effort to maintain classroom decorum by refraining from reading newspapers, doing crossword puzzles, sleeping, texting, or playing on whatever social network/game/trend that I’m oblivious to. Please silence all cell phones. These ideas are formally outlined in the Auburn University Classroom Behavior policy: see [tinyurl.com/au-st-pol](http://tinyurl.com/au-st-pol) for more details. Consist with Auburn University policy, I encourage class attendance from all students.

## Required Materials

There is only one required textbook for this class (referred to in this syllabus as “K&W”).

Kellstedt, Paul M. and Guy D. Whitten. 2018. *The Fundamentals of Political Science Research (3rd Edition)*. Cambridge. ISBN: 978-1-316-64267-2.

The textbook is available at the Auburn University Bookstore, as well as the internet. There are older editions of this textbook. I will teach from the third edition; roll the dice at your own discretion. **There may be additional readings posted to Canvas. These are not outlined in the syllabus, but they will be posted online and announced in class.** You are responsible for reading the assigned textbook reading *and* any other assigned reading by the *Monday* of that week of class.

You must obtain a copy of R (available from <https://cran.revolutionanalytics.com/>). You will probably hate, then maybe learn to love, using R. We will use it because it is (a) free, (b) flexible enough to test most theories of political science, and (c) widely popular in both public service and private industry. We will devote an extensive amount of class time to learning to use R effectively.

## Assignments

The course is divided into the following components:

Homework (four assignments)	175 points
Quizzes (five)	10 points (each)
Exercises (five)	10 points (each)
Midterm examination	100 points
Final examination	125 points
Group project	100 points
Total	600 points

In order, those components are . . .

**Homework:** these will be assigned in class. Due dates are outlined in the syllabus. They will be exercises in R, with datasets provided on Canvas, that will require you to apply concepts and code learned in class to different data. Homework assignments *must be typewritten*, and they *must look professional*. You should not simply copy and paste output from R, unless the assignment specifically requires that you do so. The first two homework assignments are worth 25 points. The third is worth 50 points. The fourth is worth 75 points.

Learning R is a difficult exercise. The best coders and practitioners rarely work alone, and I don't find it realistic to ask you to work alone, either. To reiterate: it is permissible to work with your classmates to solve R problems and work on coding assignments. This comes with two caveats: (1) you should never “divide and conquer” the assignment. All students are responsible for all portions of each assignment (this is actually easy to detect if multiple students get the same questions incorrect), and (2) you are not allowed to collaborate on the “applied” or “discussion” portions of questions. For instance, if an assignment says “what does X mean for our study of politics,” you must answer it on your own. *When questions begin with “In your opinion,” you **must** answer it alone. I reserve the right to issue no credit if you're found dividing and conquering the assignment.* See me with any questions.

***Specifically:*** if you are working from a common Google Doc, and you all miss the same parts of the same questions, every person in the group will get a zero. You are encouraged to work and code and discuss together, but what you write down *must* be your own words and own thoughts.

My virtual office hours double as a “computer lab” to learn and practice R. You are encouraged to come, screenshare, work in pairs, and code together during this time.

**Quizzes:** often (in and out of class), we will have quizzes. They can be unannounced. They cover the reading assigned for the day, as well as force you to interact with any conceptual material we've been discussing in class. To learn statistics, you have to practice statistics! And these are designed to get you that practice. I only keep your highest five grades (for a total of 50 points), and I promise there will be at least six quizzes (meaning you can do poorly on one without being punished).

Because there are more quizzes assigned than ultimately count towards your grade, if you miss a quiz, it will just count as a zero. In other words, *attend lecture sessions*, as there might be a quiz.

**Exercises:** strictly in class, these will be opportunities for you to work with classmates on applying concepts from class. The goal is to make the problem sets more applied in terms of how to use statistics to talk about the world. I only keep your highest five grades (for a total of 50 points), and I promise there will be at least six exercises (meaning you can do poorly on one without being punished).

**Midterm examination:** there is a midterm exam on March 8. Details of the midterm exam can be found under the assignment on **Canvas**.

**Final examination:** there is a final exam on May 3. See the final exam schedule at [tinyurl.com/AU-S-Finals-2022](http://tinyurl.com/AU-S-Finals-2022). Details of the final exam can be found under the assignment on **Canvas**.

I do not believe in closed-book exams. The exams will be open-book, open-note, and taken on **Canvas**. However, I have absolutely zero tolerance for two things: cheating (taking the answers from others) and plagiarizing. Both earn an automatic zero for the entire exam.

**Group project:** ultimately, you will be responsible for working in an assigned group simulating a consulting group for an election. We will discuss the assignment in more detail in class. Note, though, that you are responsible for a presentation (as a group) on the last scheduled day of class: April 28. Everyone in the group will receive the same grade, except for a peer evaluation component.

## Makeups and Grades

Writing assignments and homework assignments must be turned in, electronically, on the day assigned. Makeup examinations will only be offered to those with a University excused absence, which can be found at [tinyurl.com/au-st-pol](http://tinyurl.com/au-st-pol). It is your responsibility to ensure that your absence is covered by the University, and it is your responsibility to comply with all policies. These policies require that you notify me of your absence prior to the date of absence if such notification is feasible, but within one week from the missed class. Your makeup examination must be scheduled within two weeks of this notification (though I recommend much, much earlier). If I need additional information on your absence (doctor's notes, for instance), you must provide this additional documentation within one week of the last date of the absence. Note that this policy also allows for makeup examinations for reasons deemed appropriate by the instructor. If you do not have a University excused absence, and you are going to miss an examination, it is much easier for me to work with you if you notify me promptly, especially if you can provide some sort of documentation.

If you turn in a homework assignment late, you will be penalized 10 points (not 10%, but 10 points) each day that the relevant assignment is late.

I use the following grading scale. To maintain fairness, I do not change grades under any circumstances except when I make a mathematical error in computing your grade.

536.7 - 600 points	= 89.5-100:	A
476.7 - 536.69 points	= 79.5-89.49:	B
416.7 - 476.69 points	= 69.5-79.49:	C
356.7 - 416.69 points	= 59.5-69.49:	D
356.69↓	= 59.49↓:	F

There is a course grade calculator on **Canvas**. There is no extra credit. All grades will be posted to **Canvas**.

### Contacting Me

I will be in Haley 8024 (my physical office) daily from around 9 AM to 2 PM. I am also an adamant email checker, I have regular office hours, and I will supplement them (including virtually) as required (by appointment). If you do contact me over email, I encourage you to follow these guidelines. First: include the course number [3000] in the subject of your email. Your email will almost certainly get lost in the abyss if it missing this information. Second: wait at least 48 hours, not including weekends, to send a second email. I promise I will get to it, but it may not be immediate. Third: email me only from your Auburn University official email address. In the event that I need to contact you, it will almost certainly be at your **@auburn.edu** email address. You should check this email often!

At some point over the semester, you will almost certainly become frustrated with R. My first recourse: if you don't know how to do something in R, or don't know the function, **Google** it! R is supported by a core group of users who are all nerds with nothing better to do than answer questions about R. If **Google** fails, feel free to email me. I am happy to answer R questions, but I don't ensure that I can answer them at 2:30 AM before assignments. If you do email me, **YOU MUST BE SURE TO INCLUDE A MINIMAL WORKING EXAMPLE (MWE)**. This means email me your data (if not provided by me), your code, and the output R is giving you. By "code," I mean the stuff in the R Editor. By "output," I mean the stuff in the R Console. If you email me "when i run `mean(variable)` it says NA does that mean r is broken thx" Instead of "Here is my data. I created the variable `x <- data$x`, but when I run `mean(x)`, it gives me no output. Here's what I tried." I can basically do nothing with the first one, because I don't have your data and I have no way to tell what is going on.

### Student Academic Honesty

Auburn University is a institution committed to integrity and honor. It is your job as a University citizen to uphold those values. I will not tolerate any cheating or plagiarism, broadly defined as using unauthorized aids during examinations or attempting to represent someone else's work as your own. You are not as sly as you think you are. Be aware that academic dishonesty can lead directly to failing the course and being referred to the Academic Honesty Committee. Penalties include expulsion from Auburn, as per Chapter 1202 of Title XII. For additional information visit

[tinyurl.com/au-st-pol](http://tinyurl.com/au-st-pol).

### **Emergency Contingency**

If normal class is disrupted due to illness, emergency, or crisis situation, the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.

### **Students with Disabilities**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please electronically submit your approved accommodations through AU Access and make an individual appointment with me during the first week of classes (or as soon as possible if accommodations are needed immediately). If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).

Any requests or arrangements made with the instructor in person must be followed up with an official email request for documentation. If you believe you may need an accommodation, it is your responsibility to secure it before the first exam.

### **Copyrighted Materials**

The lectures, presentations (including slides), readings, and exams for this course are copyrighted, so you do not have the right to copy and distribute them. This includes recording class lectures.

### **Important Dates**

- January 19 (Wednesday): Last day to add course.
- February 2 (Wednesday): 15th Class Day (last day to drop with no grade assignment).
- March 3 (Thursday): Mid-semester grades posted.
- March 8 and 10 (Tuesday and Thursday): Spring Break (no class).
- March 17 (Thursday): 41st Class Day (deadline to request moving final exam).
- April 7 (Thursday): No in-person class.
- April 22 (Friday): Last day to withdraw with no grade penalty (W).

### **Course Outline**

#### Week 1 (January 13): Read the Syllabus

- The syllabus.

Week 2 (January 18 - 20): What is “Politics” or “Science”? Developing Theories, Testing Hypotheses, and Reading Research

- *K&W*, Chapter 1 and 2.
- Hill, Kim Quaile. 2004. “Myths about the Physical Sciences and Their Implications for Teaching Political Science.” *PS: Political Science and Politics* 37(3): 467-471.
- “Reading and Taking Notes on Research Articles.” (From Meriam Library, California State University, Chico)

Week 3 (January 25 - 27): Research Design and Causality

- *K&W*, Chapters 3 and 4.
- Feyrer, James and Bruce Sacerdote. 2009. “Colonialism and Modern Income: Islands As Natural Experiments.” *The Review of Economics and Statistics* 91(2): 245-262.

Week 4 (February 1 - 3): Measurement

- *K&W*, Chapters 5 and 6.

Week 5 (February 8 - 10): Probability and Inference: the Central Limit Theorem

- *K&W*, Chapters 7 and 8.

Week 6 (February 15 - 17): Probability and Inference: Introducing the Null Hypothesis

- *K&W*, Chapters 7 and 8.

**February 17 (Thursday): Homework I Due at 11:59 PM.**

Week 7 (February 22 - 24): Bivariate Hypothesis Testing in R

- *K&W*, Chapters 7 and 8.

Week 8 (March 1 - 3): Midterm

**March 3 (Thursday): Midterm.**

Week 8.5 (March 8 - 10): No Class (Spring Break)

Week 9 (March 15 - 17): The Beauty and Logic of Regression

- *K&W*, Chapter 9.

**March 17 (Thursday): Homework II Due at 11:59 PM.**

Week 10 (March 22 - 24): Two Variable Regression and Model Fit

- *K&W*, Chapter 9.

Week 11 (March 29 - 31): Multiple Regression in Theory

- *K&W*, Chapters 10 and 11.

Week 12 (April 5 - 7): Multiple Regression in Practice

- *K&W*, Chapters 10 and 11.

**April 7 (Thursday): No in-person class.**

**April 7 (Thursday): Homework III Due at 11:59 PM.**

Week 13 (April 12 - 14): Practical Issues with Regression

- *K&W*, Chapters 10 and 11.

Week 14 (April 19 - 21): Regression in Real Life

Week 15 (April 26 - 28): Group Project Work and Presentations

**April 28 (Thursday): Group Presentations.**

**May 2 (Monday) : Homework IV Due at 11:59 PM.**

**May 3 (Tuesday): Last Exam.**