Introduction to Political Science Research Methods
POLS 209[*]

Carlisle Rainey[‡]

Course Information

Course Number: POLS 209
Section 902: Tuesday and Thursday, 4:40pm-5:55pm
Section 909: Tuesday and Thursday, 1:30pm-2:45pm
Place: Bush Academic Building West 1015

My Contact Information

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Office: Allen 2051
Office Hours: Tuesday and Thursday, 3:00pm-4:00pm
Course Website and Schedule: http://www.carlislerainey.com/teaching/pols-209

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Office: Allen 2101
Office Hours: Monday, 10:30pm-11:30pm

Overview

This course provides an introduction to political science research methods or to the analysis
of political data. We'll discuss the role of models in political science, causality, description,

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[*]All course materials for this course are available on GitHub at github.com/carlislerainey/intro-methods. I
thank Kosuke Imai for helpful advice in planning and designing the course.

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measurement, regression, the basics of probability, and hypothesis testing. We'll examine applications, concepts, and computation all together.

Political methodology is a large field and any introductory class must necessary be incomplete. I have the following goals:

1. Lay a foundation for future work in political methodology, such as data analysis in industry or future coursework such as POLS 309 or a graduate methodology sequence.

    a. Show you lots of applications of the methods we're examining.

    b. Teach you the basics of statistical computation in R.

    c. Teach you the basics of statistical theory, roughly up to linear regression and significance testing, plus a few special topics.

2. Teach you how to explain data and analyses in an honest and compelling manner.

We'll cover the following topics: models, description, measurement, sample surveys, prediction, regression and extensions, special data types, probability, and hypothesis testing.

My Approach

The average American can read about 300 words per minute. You, as a college student, can probably read *much* faster. This is about as fast as an auctioneer can speak. I can't speak as fast as an auctioneer, nor would it be helpful if I could. I'd say I average about 100 words per minute, maybe less. This means that you can read *at least* three times as fast as I can talk. If I'm talking to a class full of students, I must choose a pace that works well for some students, but is too fast or too slow for others. If you are reading, you can choose a pace that works for you, adjust that pace as necessary, and re-reading and review as you see fit. In their usual form, lectures are an inefficient form of communication. Lectures are not a good use of your time.

So what is the best use of class time then? In my experience, there are three valuable ways to spend our class time.

1. First, I'll usually assign practice problems, and we'll need to discuss those problems. That is best done in class, when you can stop me and ask questions.

2. Second, we'll have several in-class exercises and discussions to give you a chance to engage the material and we'll have a lot of fun with those.

3. Lastly, we'll do a lot of coding. Statistical computing is just as important the statistical concepts we'll learn. But programming is hard, and I think it is easier to learn if we do it together, live.

I'll occasionally have comments to make in a lecture format, but for the most part, we'll use class time for homework discussion, in-class exercises, and coding.

Of course, this means that you'll need spend time before class doing to readings and working on the homework problems. You'll want to do these before the exam–the exam questions will come from the readings and homework. You'll also want to do these so you know what's going on in class. Ideally, you will give the readings and practice problems a good effort and we can address any problems in class. However, if we consistently have problems with students coming to class unprepared, then I may resort to pop quizzes.

In order to succeed in this class, I recommend the following:

1. Read the assigned chapters and articles. Don't just skim, but try to engage and understand the ideas.

2. Do the assigned practice problems. They are intended to be hard. If you are not struggling then you are not learning.

3. Ask questions in class. If there is a concept, practice problem, or bit of code that you do not understand, then ask about it during class. That is a valuable use of class time.

4. Make sure your writing assignments are done well. Importantly, learn from your mistakes on earlier assignments.

Lastly, I try to follow a specific structure:

1. Near the end of class-time, I conclude with a preview of the next topic.

2. You read carefully about that topic.

3. You work on practice problems on that topic.

4. At the beginning of class-time, we work through any difficulties you encountered in the readings and practice problems.

Required Textbook and Software

There's no need to buy a textbook for the class–here's the one we'll use.

Assignment	Possible Points
Writing Assignment 1	10 pts
Writing Assignment 2	10 pts
Midterm	15 pts
Writing Assignment 3	15 pts
Writing Assignment 4	15 pts
Final	25 pts
Pop Quizzes	10 pts
Participation	5 pts (possible bous)
Total	105 pts

Table 1: *Note that if you receive less than 60% of the 50 possible points on the writing assignments, you will receive an F in the course. The university mandates that students must pass the writing portion of the class in order to pass class overall.

QSS *A First Course in Quantitative Social Science*, by Kosuke Imai (Princeton University Press)

The required textbook is forthcoming at Princeton University Press. PUP and the author have kindly given us permission to use the textbook free of charge in advance of its official release. The PDF of the book is posted on eCampus. Please repay their generosity by not circulating it!

We'll also read several articles and chapters from different books, but I'll make those available to you, either on the course webpage or on eCampus.

You'll also need to download two pieces of free software. First, download R, then download RStudio. This should be straightforward. If you need a little help, there are helpful videos on the web for Windows and Mac Mac. RStudio is just an integrated development environment (IDE) for R. We'll only use RStudio, but RStudio will run R in the background. If you want to experiment a bit with RStudio, see the beginning bit of this guide.

Requirements

Grade Components Points can be earned in this class on tasks given in Table 1 and discusses in more detail below.

Midterm and Final Exam (15% + 25% = 40%): The midterm will occur approximately halfway through the course. The cumulative final will be during final exam week. All material from the readings and class will be fair game, but you should expect exams that closely resemble the homework problems. Consider the homework problems the study guide and our discussion of the homework problems as the review for the exam. See below on missed classes for the

Grade	Points
A	[90,105]
B	[80, 89)
C	[70, 80)
D	[60, 70)
F	[0, 60)

Table 2: *Note that if you receive less than 60% of the 50 possible points on the writing assignments, you will receive an F in the course. The university mandates that students must pass the writing portion of the class in order to pass class overall.

details of missed exams.

Four Writing Assignments (10% + 10% + 15% + 15% = 50%): For this class, you'll write four short papers. These papers give you an opportunity to write about data. For each assignment, we'll set aside some class time for peer-review and discussion. These assignments are due at the beginning of class. Note that if you receive less than 60% of the 50 possible points on the writing assignments, you will receive an F in the course. The university mandates that students must pass the writing portion of the class in order to pass class overall.

Pop Quizzes (10% total): Hopefully, everyone will make a good effort on the assigned reading and homework problems *before* class. If so, this can be a free 10%. If students consistently come to class unprepared, then I'll start giving pop quizzes at a a frequency that seems appropriate.

Participation (5%): Engaging with the readings, practice problems, and writing assignments, both in-class and out-of-class, are crucial to success for you and the class as a whole. I'll award up to five points extra credit for students who consistently engage with the material.

Grading Scale: Your grade will be determined by the number of points you earn on the from midterm exam, final exam, writing assignments, pop quizzes, and participation. Table 2 provides point totals key I'll use to assign letter grades at the end of the semester.

Collaboration

You'll be tempted to collaborate on the practice problems and writing assignments, so let me outline some suggestions and be clear about what is prohibited. For the ungraded practice problems, I recommended talking to others only as a last resort. Struggling through the problems is simply the best way to learn. It can also be really rewarding.

The writing assignments require you to write text as well as code. It is unacceptable to copy either from another student. Let me be clear:

On the writing assignments, do not, under any circumstances, copy another person's code.

Programming requires that you (1) understand the problem, (2) work out the solution conceptually, and (3) write the code to solve the problem. You may discuss the problem and the conceptual solution with your classmates, but, when actually writing your code, such discussions (except with me or the Ahbi) are no longer appropriate: the code must be your own work.

Missed Classes

I'll not formally take attendance, but the class is not one that you should expect to do well in without attending almost always. If you must miss a class, obtain class notes from other students and review the lecture slides and available on the web. I cannot give private "make-up" lectures, though I'll be more lenient about this for students with excused absences.

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Missed Exams

If you miss an exam due to an excused absence, let me know in advance if possible and please be prepared to make up the assignment after the next class. If you do not let me know in advance, then you must also provide evidence that the university-sanctioned absence was unexpected and advance notice impossible. If you fail to meet these criteria, then your score on the assignment will be reduced by 15%. It will be further reduced 15% each Tuesday and Thursday that the class meets and you do not make up the assignment.

Submit your requests to take an exam late over e-mail or in-person. Be sure to document a University-sanctioned absence. If you do not provide advance notification, be sure to explain and provide documentation that the absence was unexpected. Be prepared to make up the exam during my office hours on the next Tuesday or Thursday.

Late Assignments

You should plan to turn the writing assignments in on or before their due date at the beginning of class. Except for unexpected absences (e.g., illness), you must still turn the assignment in on time. If you turn in the assignment late, then your score will be penalized 15% per day (including the due date). For example assignments turned in the day after the due date, will be penalized 15% twice.

Classroom Conduct

Inappropriate classroom behavior is distracting to other students. Allowing your cell phone to ring, whispering with other students, coming late, and leaving early all take away from other students' abilities to pay attention. Please be respectful of your classmates and keep disruptive behavior to a minimum.

Academic Honor Code

I expect you to develop your own ideas while learning other peoples' ideas. Remember the Aggie Honor Code: "An Aggie does not lie, cheat or steal or tolerate those who do." Instances of scholastic dishonesty will be treated in accordance with Section 20 of the TAMU Student Rules. Plagiarism may result in failure. Plagiarism consists of the practice of stealing and passing off the ideas or words of another as one's own or using another's production without crediting the source. For further information, read the Aggie Code of Honor on the web: http://student-rules.tamu.edu/aggiecode.

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal antidiscrimination 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 contact the Department of Student Life, Services for Students with Disabilities in Room B-118 in the Cain Building, or call 845-1637.

Writing Help

The University Writing Center (UWC), located in Evans Library 1.214, offers help to writers at any stage of the writing process including brainstorming, researching, drafting, documenting, revising, and more. These consultations are highly recommended but are not required. To find out more about UWC services or to schedule an appointment, call 458-1455, visit the web page at `http://writingcenter.tamu.edu`, or stop by in person. The Center for Academic Enhancement and Student Counseling Center can also guide you through learning at A&M.

Changes in the Syllabus

This syllabus serves only as a guide for the course and is subject to change at my discretion with advance notice.