PSCI 427: Research Methods (Section: 800)
Spring 2020
MWF 12:50 p.m. – 1:50 p.m., COE 421
Department of Social Sciences and Cultural Studies
Montana State University Billings

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Office Hours: MW 9:20 a.m. – 10:20 a.m., TTh 10 a.m. – 11:30 a.m.

Course Description

The study of politics is more than just describing what is taking place. Political science involves investigating political phenomenon in a scientific manner, that is, using accepted research methodologies to investigate some issue of interest. Common political science questions include why people vote a certain way, what influences how legislatures, what causes war, and also interpreting and critically examining actions by relevant actors. This course will cover both qualitative and quantitative research methods.

Students will learn how to develop their research interests and turn those into research questions, develop theories regarding how to explain certain observations or results (e.g. what, how, why, and under what conditions something occurs), how to develop testable hypotheses to explain theory, and developing skills to test those hypotheses and interpret results. This course will help students build a foundation in data analysis and interpretation that can be utilized in a variety of careers, or provide a solid introduction for future graduate coursework. This course provides students with the opportunity to initiate lifelong learning through the development and application of academic knowledge and skills in new or different settings.

Course Objectives

At the conclusion of this course, you will be able to:

1. Acquire and demonstrate knowledge of the scientific method and what constitutes science.
2. Critique political arguments using both supporting and opposing viewpoints, and able to determine what are appropriate sources of information.
3. Develop written and oral communication skills to communicate viewpoints to others, including writing an original research question, literature review, and hypothesis.
4. Define what is a research question, what a hypothesis is, and what is theory.
5. Develop a knowledge of qualitative and quantitative methodologies, and identify which method helps answer a particular research question.
6. Develop a knowledge of various statistical techniques for analyzing data.

Required Text

Imai, Kosuke. 2017. *Quantitative Social Science: An Introduction*. Princeton, N.J.: Princeton University Press. (ISBN: 978—0-691-17546-1)

The textbook is available at the University Bookstore as well as online retailers (e.g., amazon.com, barnesandnobles.com, half.com, etc.).

There are also readings that will be uploaded to D2L. Those are indicated in the course schedule.

Software Requirements

We will be using RStudio Cloud, which is a free platform to write the programming code to complete the assignments. You must register for an account on RStudio Cloud and accept the invitation to my "workspace." You can also download R and RStudio on your own computers if you would like so you can work without needing an Internet connection.

Additional Resources

R – https://www.r-project.org
Free, open-source, statistical programming language. Download R from the "Comprehensive R Archive Newtork" (CRAN) for Windows, Macs, or Linux operating systems.

R-Studio– https://www.rstudio.com
A free software programs that "sits on top" of R. Makes R easier to use. Make sure to download the free version.

Swirl – http://swirlstats.com/
A "package" within R that helps you learn R. Completing the Swirl exercises that go with the textbook will help you learn the commands, syntax, and programming to do social science data analysis.

R for Data Science (optional) Wickham, Hadley, and Garrett Grolemund. 2017. *R for Data Science*. O'Reilly. http://r4ds.had.co.nz/ . A free online textbook that is a good reference.

R Bloggers – https://www.r-bloggers.com/
Blog for various issues with R.

Quick-R – https://www.statmethods.net/index.html
Another resource for learning R and getting help.

YouTube also has plenty of videos on learning R.

Student Responsibilities

Please come to class prepared. This means you need to read and take notes on the assigned readings beforehand. Attending class and participating is important, as there will be material

discussed only in lectures that will be tested on exams and quizzes. You are also responsible for treating your fellow classmates with respect, especially during class discussions. We each come to this course with diverse backgrounds and different ideas regarding various issues and how government should work. Please respect your classmates by not talking when others have the floor.

Technology Policy

Cell phone use in class is inappropriate and distracting to both myself and other students. If you use a laptop or tablet to take notes, please do not surf the Internet during class or use social media. If you need to call or text someone in an urgent situation, quietly leave the room. However, do not make calling and texting a habit. I reserve the right to ask students to leave if you are using your cell phone, or a laptop/tablet, if not used for note-taking purposes.

Attendance

Class attendance is important and affects your final grade as exams cannot be made up unless an absence is excused (e.g. approved university activity, funeral for immediate family, religious observance). If you miss a class, you are responsible for obtaining the missed material (e.g., notes) from another student, as my notes/PowerPoint slides will not be made available.

Instructor Responsibilities

As part of being your instructor, I have responsibilities to you. I will help answer questions regarding the course, and help you understand the material. I will be available during office hours and also available by appointment if you cannot make office hours. I will also try to answer questions via email within 48 hours (does not include weekends). All questions regarding grades must be asked in person, either after class or during office hours.

My responsibility to you is to provide clear guidelines as to what is expected. I will be using D2L to communicate and post grades. Please check your campus email and D2L regularly to make sure you can view course announcements and review your grades as the semester progresses. I am also responsible for ensuring the classroom provides an environment for everyone to learn and to express themselves.

Grading

Two exams: 40% (Two at 20% each)
Research design paper: 30%
Problem sets: 15%
Programming assignments (qss-swirl): 15%

Final grade scale: A = 93% and above, A- = 90%-92%, B+ = 87%-89%, B = 83%-86%, B- = 80%-82%, C+ = 77%-79%, C = 73%-76%, C- = 70%-72%, D+ = 67%-69%, D = 63%-66%, D- = 60%-63%, F = 59% and below (Note: I do not round up final grades if you are just below the cutoff, such as having a 92.8%. I have to define the scale at some point, and some people are

always going to fall on the other side of the divide. Do not beg to be bumped up. If you have any concerns about grades for individual assignments, please see me. I do have a 48-hour "cooling off" policy and you have to see me about any grade appeals within a week of me grading an assignment. If you wish to appeal grades on individual assignments, please write a short summary of why you think the grade does not reflect your work based on the rubric for each assignment).

Exams (Two at 20% each): A midterm and a final exam will be scheduled. Exams will be given in class and alternative exams are only allowed with an approved excuse. The format of the exams will be multiple choice and short answer.

Research design paper (30%): Students will write a 8-12 page research design paper in this course. Students will develop a research question, write a literature review, articulate what method they and data to be used to answer the research question using quantitative methods that will be learned during the course, and present the proposal in class. The presentation will be at least 8 minutes that discusses the research question and method to be used. Visual aids are optional, but highly encouraged. The presentation is worth 10% of the grade for the research paper. Several class sessions will be used to help students with their projects, and students will need to meet with me later in the semester during office hours regarding their project. Notice there are several deadlines throughout the semester regarding different parts of the paper (research question, literature review, methodological approach, final paper.) The final paper is the research question, literature review, and methodical approach that is tied together with an introduction, transitions between sections, and a conclusion. The components of the research design and the final paper will be submitted D2L.

Breakdown of research design paper
Research question – 1-2 paragraphs on what the problem is and why it needs to be analyzed (Friday, January 31) – 5%
Annotated bibliography – 6-12 sources (Friday, February 21) – 10%
Literature Review– 2-4 pages (Friday March 20) 10%
Methodology – 3-4 pages (Wednesday, April 8) – 15%
Complete draft – 8-12 pages (Wednesday, April 22) – 50%
Presentations (Monday, April 20, and Wednesday, April 22) – 10%

Problem sets (15%): There will be four problem sets during the semester. Problem sets are designed to help you understand the concepts taught in the class by working with and analyzing the data correctly. You can work with your classmates, but you must write your own answers to the questions. Problem sets will be completed using the RStudio Cloud platform.

Data lab assignments (15%): Programming assignments are graded on a pass/fail basis and expected to be completed on time. Data lab assignments will be completed using RStudio Cloud using the QSS-SWIRL tutorials. These will be available on D2L and can be completed with your classmates. However, each student must write up their own code. Assignments are designed to check whether you understand the material. I will drop the lowest lab score.

Grading notes: Proper spelling, punctuation, grammar, and sentence structure will be assessed

as part of your exam and paper grades. Developing the ability to write clearly is an important skill for your future careers. You are expected to carefully read, edit, and proofread their written work. If you would like help with your writing skills, there are on-campus resources that are there to help you. The university offers help in various subjects through the Academic Support Center. Assistance is free and is available in the Student Union Building. Drop-in writing help and tutoring for this course is available from 8 a.m. – 8 p.m. Monday-Thursday and 8 a.m. – 5 p.m. Friday. Appointments are also available for writing help.

Email etiquette

I try to answer emails the same day they are received, but in some cases, you may have to wait 48 hours for a response. For emails, please use an appropriate subject and appropriate salutations (e.g. Dr. Adkins or Prof. Adkins). Professors do not like it when you start with "Hey!" or "Yo!" Keep emails as short as possible and please do not email about the details of an assignment on the day it is due. I hold five office hours per week and am available by appointment outside of those hours and my other classes if needed.

Assignment and late work policy

All papers should use 12-point Times New Roman font, be double-spaced, and use 1-inch margins. You must APA for your citations. All assignments must be turned in on D2L unless noted. No exceptions will be made. All assignments must be in a Word file (.doc or .docx). Any other file format such as .pdf, .rtf, or Apple Pages will not be accepted and returned with a zero. Google Docs and Pages can export to a Word format. File names should be in the following format (Lastname_PSCI427_Assignment name). Late work will **not** generally be accepted. However, life happens. I allow **one** no-questions asked late pass good for a 48-hour extension on the research design assignments. You just need to email me if you need to use one. If you run into issues in completing assignments, visit me during office hours, especially 1-2 weeks before papers are due. Be proactive instead of reactive. I cannot do much to help once due dates have come and gone.

Registration Requirement

University policy requires all students to be officially registered in each class they are attending. Students who are not officially registered for a course by published deadlines should not be attending classes and will not receive credit or a grade for the course. Please confirm enrollment in MyInfo. Registration errors must be corrected prior to university deadlines. After the deadline for withdrawing for the class without instructor permission, I will only give permission to those who experience a documented emergency such as serious illness or death in the family that occurs after the deadline.

Plagiarism and Academic Honesty

Use of the intellectual property of others without attributing it to them is considered a serious academic offense. I will either give a zero for an assignment or you will fail the course if I detect academic misconduct. It can also lead to a disciplinary hearing where sanctions can suspension

or expulsion from the university. I report **all** instances of plagiarism to Student Affairs. The university's policy on academic misconduct can be found in Section B of the student handbook. I will provide links to how to avoid plagiarism on D2L. I am available to help. However, you are responsible for learning how to properly cite your sources and avoid plagiarism.

Student Accessibility

MSU Billings is committed to providing equal access. If you anticipate barriers related to the format or requirements of this course, please meet with me so that we can discuss ways to ensure your full participation in the course. If you determine that disability-related accommodations are necessary, please contact Disability Support Services (657-2283; located in Room 135 in the College of Education). We can then plan how best to coordinate your accommodations.

Class Schedule

Readings will come from the textbook and readings I will upload on D2L. You should be prepared to discuss the assigned reading on the day listed below. I retain the right to make changes to the schedule as needed.

Week	Date	Topic	Reading/Assignments
1	1/15	Intro/Syllabus	Register for RStudio Cloud account
	1/17	Overview of political science	Noel, Hans. 2010. "Ten Things Political Scientists Know that You Don't." *The Forum* 8 (3). Ollman, Bertell. 2000. "What Is Political Science? What Should It Be?" *New Political Science* 22 (4): 553-562.
2	1/20	**MLK Jr. Birthday**	**No class**
	1/22	Research ethics	Milgram, Stanley. 1965. "Some Conditions of Obedience and Disobedience to Authority." *Human Relations* 18 (1): 57-76. Mazzei, Julie, and Erin E. O'Brien. 2009. "You Got It, So When Do You Flaunt It?" Bhattacharjee, Yudhijit, 2013. "The Mind of a Con Man." *New York Times Magazine* (April 26). Singal, Jesse. 2015. "Michael LaCour Probably Fabricated a Document About Research Integrity." *New York Magazine Science of Us blog*.
	1/24	Qualitative methods	Coy, Patrick G. 2002. "Negotiating Identity and Danger Under the Gun: Consensus Decision Making on Peace Brigades International Teams." In *Consensus Decision Making, Northern Ireland and Indigenous Movements, Volume 24*. Oxford, England: Emerald Publishing, 85-122. Geertz, Clifford. 2005. "Deep Play: Notes on

			the Balinese Cockfight." *Daeldus (Fall) 56-86.*
3	1/27	Qualitative methods	Gerring, John. 2004. "What is a Case Study and What Is It Good For?" *American Political Science Review* (May), 341-354. Walsh, Katherine Cramer. 2009. "Scholars as Citizens: Studying Public Opinion through Ethnography." In Ed Schatz (ed.), *Political Ethnography*. Chicago: University of Chicago Press, 165-182.
	1/29	Intro to R	Imai 1.1-1.2
	1/31	Intro to R	Imai 1.3-1.4 **Intro1 and Intro2 due (qss-swirl)** **Research question due**
4	2/3	Causality	Imai 2.1-2.2 **Problem set 1.5.1 due**
	2/5	Causal effects	Imai 2.3
	2/7	Randomized control trials	Imai 2.4 **Causality1 due (qss-swirl)**
5	2/10	Observational studies	Imai 2.5
	2/12	Descriptive statistics	Imai 2.6-2.7
	2/14	Lab	**Causality2 due (qss-swirl)**
6	2/17	**President's Day**	**No class**
	2/19	Measurement	Imai 3.1
	2/21	Missing data	Imai 3.2 **Problem set 2.8.3 due**
7	2/24	Data visualization	Imai 3.3 **Measurement1 due (qss-swirl)** **Annotated bibliography due**
	2/26	Survey sampling	Imai 3.4-3.5
	2/28	Bivariate relationships and clustering	Imai 3.6-3.8 **Measurement2 (qss-swirl)**
3/2 – 3/6 – Spring Break			
8	3/9	Measurement lab and review	
	3/11	**Midterm exam**	
	3/13	Prediction	Imai 4.1
9	3/16	Regression	Imai 4.2
	3/18	Prediction lab	**Prediction1 due (qss-swirl)**
	3/20	Regression and causality	Imai 4.3 **Literature review due**
10	3/23	Regression lab	**Predication2 and Prediction3 due**
	3/25	Textual and Network Data	Imai 5.1-5.2 **Problem set 4.5.3 due**
	3/27	Textual lab	**Discovery1 due (qss-swirl)**

11	3/30	Spatial data	Imai 5.3-5.4
	4/1	Spatial data lab	**Discover2 and Discover3 due**
	4/3	Probability	Imai 6.1 **Probablity1 due (qss-swirl)**
12	4/6	Conditional probability	Imai 6.2-6.3
	4/8	Central limit theorem	Imai 6.4 **Probablity2 due (qss-swirl)** **Methodology due**
	4/10	**Spring mini-break**	**No class**
13	4/13	Estimation and hypothesis testing	Imai 7.1-7.2 **Problem set 6.6.3 due**
	4/15	MPSA Conference	No class (Work in groups for the lab) **Uncertainty1 due (qss-swirl)**
	4/17	MPSA Conference	No class – (Work on presentations)
14	4/20	Presentations	
	4/22	Presentations	**Research design paper due at 11:59 p.m.**
	4/24	**University Day**	**No class**
15	TBA	**Final exam**	TBA