POLS 2100: EMPIRICAL APPROACHES

INSTRUCTOR: Dr. N. Uras Demir *(Call me Uras)*

E-MAIL: uras.demir@lmu.edu

CLASS LOCATION/HOUR: STR 354 | MW 8:00 AM – 9:40 AM

OFFICE HOURS: 11:00 AM – 1:00 PM @ UNH4203

COURSE DESCRIPTION (WHAT IS THIS COURSE ABOUT?)

How do political scientists ask and answer important research questions about politics? This course introduces you to the core principles and fundamental quantitative methodologies underlying political science research. We will explore what constitutes a compelling research question, how to develop and test causal theories, translate abstract ideas into measurable concepts, and design effective empirical studies using quantitative and computational methods. Through statistical programing workshops, practical exercises, and hands-on data analysis, you will learn how to produce, interpret, and present empirical findings. While designed for political science majors, students from all social science backgrounds will benefit from the practical research skills and experience gained in this course.

COURSE OBJECTIVES (WHAT WILL I GET OUT OF THIS COURSE?)

This course emphasizes practical, transferable skills that will support your academic progress and enhance your professional opportunities. By the end of this course, you will:

Formulate clear, causal arguments about political phenomena and events.

- Construct effective research designs for empirical inquiry.
- Collect, summarize, visualize, and interpret quantitative data.
- Apply a variety of quantitative methods to address research questions.
- Communicate research findings clearly and professionally, both in writing and through presentations.

You will also gain hands-on experience using the statistical software R and develop foundational knowledge in data science relevant across multiple disciplines. Whether pursuing further studies, careers in research, policy analysis, or related professional fields, the skills and experiences from this course will provide lasting benefits beyond the classroom.

COURSE MATERIALS:

Textbook	The Fundamentals of Political Science Research, by Paul M. Kellstedt and Guy D. Whitten (3rd edition, Cambridge University Press). New~$50, Rent ~$20 on Amazon. You should also check out the library! I will occasionally share additional readings!
Slides	All slides and materials will be posted on the course space.
Software	We will use R for our analyses. **You will need access to a computer for this course. No previous coding or statistical proficiency is necessary.** We will build this skill from the ground up! After this course, you will be able to mention R on your resume.
Ed-tech	We will also use third-party applications, like, Kahoot and polleverywhere, in the course.

COURSE COMMUNICATION:

Course materials and updates will be posted on the online course space. Turn on course notifications and check your email account regularly.

EMAIL POLICY

Send emails regarding the course to uras.demir@lmu.edu. Emails should be sent from your lmu.edu email and include the course name (POLS2100) in the subject line. Resend your email if you don't receive a reply within 48 hours.

ASSESSMENTS & GRADES

ASSESSMENT	DESCRIPTION	GRADE PERCENTAGE	DUE
ATTENDANCE	Required. You can miss 3 days out of the twenty-eight days that we are meeting—no questions asked. Beyond that, you lose 2 points off for each day missed, *except for an excusable circumstance (requires documentation).*	15%	Each week
WORKSHOPS	Fifteen in-class workshops. We will go over problem sets and learn how to write and run code on R to conduct different analyses. Then in a lab setting, everyone will work on their own code. At the end of these workshops, you will turn in a short report. We will try to finish these in class.	37.5%	See schedule
MIDTERM	No midterm exam	-	-
PROFESSIONALIZATION PORTFOLIO	You will develop a data science/researcher oriented CV.	2.5%	TBD
FINAL PROJECT	You will develop a research project in three phases. See below for instructions.	50%	Week 6 + Week 12 + Week 15 + Finals week
EXTRA CREDIT	Fill out both the midterm and final instructor evaluations.	TBD%	TBD
FINAL	No final exam	-	-

THE GRADING SCALE

A	100-95%	C	69-65%
A-	94-90%	C-	64-60%
B+	89-85%	D+	59-55%
B	84-80%	D	54-50%
B-	79-75%	D-	49 -45%
C+	74-70%	F	44% and below

LATE POLICY

1 % off from the assignment for each late day. *Except for an excusable circumstance (requires documentation).*

Not happy with your grade? Formal grade appeals must be made via email within two days after the grade was posted. If you request a grade review, I will regrade your entire assignment. Therefore, understand that your grade may go up or down following regrading.

ASSIGNMENT BREAKDOWN

1) WORKSHOPS

Course specific problem sets on statistics and coding sets. In-class assignments due during class or end of each week.

2) THE RESEARCH PROJECT – PARTS DUE WEEKS 6, 15 AND FINALS WEEK

Half of your grade will come from the research project assignment. This assignment has three components.

1. RESEARCH PROJECT PART 1 (DUE END OF W6, SUNDAY 11:59 PM)

This is the front end of your research project. This assignment should be about 6-7 double-spaced pages, excluding tables and graphs. Data? Check course space for options. This assignment should have four sections:

- Introduction (one to two page)
  - Identify a research topic
  - Identify a causal research question
  - Explain scope conditions
- Literature Review (two pages)
  - Produce a short literature review
- Argument and Hypotheses (two pages)
  - Conceptual framework/definitions (define your terms)
  - Provide a causal explanation
  - Include a simple causal diagram with the variables
  - Operationalize your dependent and independent variables
  - Reflect on measurement challenges (validity & reliability)
  - Produce a hypothesis
- Data (half a page to one page excluding the tables and graphs)
  - Gather data for your variables and describe sources
  - Produce summary statistics
  - Produce data visualizations
  - Discuss data limitations

2. RESEARCH PROJECT PART 2 (DUE END OF W12, SUNDAY 11:59 PM)

These are the preliminary findings. This assignment should be about 5-6 double-spaced pages, excluding the tables. This assignment should ideally have four sections:

- Method and Findings (two to three pages page excluding the tables)
  - Discuss your sample in detail
  - Provide reasoning for the method that you chose
  - Run the preliminary hypothesis test
  - Present the results
  - Add a visualization for the results
  - Interpret the results
- Discussion (one to two pages)
  - Discuss what the results mean for your argument
  - Discuss limitations (what other variables might explain the DV)
  - Explicitly link results back to at least one study from the literature review (does it support, contradict, or extend it?).
- Conclusion (half a page to one page)
  - Summary of the question, the argument, and the findings.
  - Policy implications of your findings
  - Future Directions
- Bibliography (separate page, APA style citations, [here's a link to a cheat sheet](#)).

3. RESEARCH CONFERENCE (DUE W15, IN-CLASS)

We will have a two-day research workshop where everyone will present their research projects. You will produce a 10-minute PowerPoint presentation for the participants. This presentation should have slides on:

- The research question.
- The argument.
- The hypothesis.
- The data.
- Summary statistics table for the variables.
- The histograms for the variables.
- Rationale for the selected method
- The hypothesis test
- Interpretation of the results of the results.
- Limitations of the study.
- Implications of the findings

The hypothesis test can either be a proposed one (i.e., I am planning to use regression analysis because...) or a completed one (i.e., I used regression analysis because...). In the first case include a slide on expected findings. In the second case, include a slide with the findings table. On limitations, thin about the following questions. Are there any possible confounders? What about ignored variables? Can you apply this in a different setting? What do you need to do to improve your research?

4. FINAL SUBMISSION OF THE RESEARCH PROJECT (FINALS WEEK)

Revised Part 1 + Part 2, along with an abstract, full citations, graphs, tables, and appendices. **You will also submit your code.**

Data? Again, check course space. What if my results don't look good? You are not graded on the statistical significance of your findings! Not statistically significant findings are fine. I am interested in your reasoning behind using a method and your interpretation of the results! Page limit? Around the numbers mentioned above (it could be slightly under or above). Editing rules? Standard margins, Times New Roman 12 pts—Don't mess with these! **Please talk to me if you feel lost!**

SCHEDULE	TOPIC
Week 1 M (August 25th)	Introduction
Week 1 W (August 27th)	From Theories to Hypotheses
Week 2 M (September 1st)	*Labor Day*
Week 2 W (September 3rd)	Causal Theory, Hypotheses, and Literature Review
Week 3 M (September 8th)	Research Design, Measurement and Data
Week 3 W (September 10th)	Fieldtrip to the Library (We will meet at WHH118)
Week 4 M (September 15th)	R Crash Course I
Week 4 W (September 17th)	R Crash Course II
Week 5 M (September 22nd)	Describing Data & R Workshop
Week 5 W (September 24th)	Visualizing Data I & R Workshop
Week 6 M (September 29th)	Visualizing Data II & R Workshop
Week 6 W (October 1st)	Review I & Research Session I
Week 7 M (October 6th)	Probability & The Logic of Statistical Inference

Week 7 W (October 8th)	One sample t-test & R Workshop Research
Week 8 M (October 13th)	Dependent Sample t-test & R Workshop
Week 8 W (October 15th)	Independent Sample t-test & R Workshop
Week 9 M (October 20th)	Chi Square Test & R Workshop
Week 9 W (October 22nd)	Correlation Coefficient(s) I & R Workshop
Week 10 M (October 27th)	Correlation Coefficient(s) II & R Workshop
Week 10 W (October 29th)	Review II & Research Session II
Week 11 M (November 3rd)	ANOVA I & R Workshop
Week 11 W (November 5th)	ANOVA II & R Workshop
Week 12 M (November 10th)	Regression I & R Workshop
Week 12 W (November 12th)	Regression II & R Workshop
Week 13 M (November 17th)	Regression III & R Workshop
Week 13 W (November 19th)	Regression IV & R Workshop
Week 14 M (November 24th)	Review III & Research Session III
Week 14 W (November 26th)	Thanksgiving Break
Week 15 M (December 1st)	In-class Conference Session I
Week 15 W (December 3rd)	In-class Conference Session II

ACADEMIC HONESTY:

Loyola Marymount University is a community dedicated to academic excellence, student-centered education, and the Jesuit and Marymount traditions. As such, the University expects all members of its community to act with honesty and integrity at all times, especially in their academic work. Academic honesty requires that all members of the LMU community act with integrity, respect their own intellectual and creative work as well as that of others, acknowledge sources consistently and completely, act honestly during exams and on assignments, and report results accurately. As an LMU Lion, by the Lion's Code, you are pledged to join the discourse of the academy with honesty of voice and integrity of scholarship.

Academic dishonesty will be treated as an extremely serious matter, with serious consequences that can range from receiving no credit for assignments/tests to expulsion. It is never permissible to turn in any work that has been copied from another student or copied from a source (including Internet) without properly acknowledging/citing the source. It is never permissible to work on an assignment, exam, quiz or any project with another person unless your instructor has indicated so in the written instructions/guidelines. It is your responsibility to make sure that your work meets the standard of academic honesty set forth in the "Academic Honesty Policy" found at: https://academics.lmu.edu/honesty/. For an additional resource, see the "LMU Honor Code and Process" at: https://bulletin.lmu.edu/content.php?catoid=1&navoid=18#LMU_Honor_Code_and_Process

---

SPECIAL ACCOMMODATIONS:

The DSS Office offers resources to enable students with physical, learning, ADD/ADHD, psychiatric disabilities and those on the autism spectrum to achieve maximum independence while pursuing their educational goals. Staff specialists interact with all areas of the University to eliminate physical and attitudinal barriers. Students must provide documentation for their disability from an appropriate licensed professional. Services are offered to students who have established disabilities under state and federal laws. We also advise students, faculty and staff regarding disability issues. Students who need reasonable modifications, special assistance, academic accommodations or housing accommodations should direct their request to the DSS Office as soon as possible. All discussions will remain confidential. The DSS Office is located on the 2nd floor of Daum Hall and may be reached by email at dsslmu@lmu.edu or phone at (310) 338-4216. Please visit http://www.lmu.edu/dss for additional information.

_____

LIBRARY:

The library offers many services to students: https://library.lmu.edu/studentservices/

You can get help with and "Ask a Librarian" questions here: https://library.lmu.edu/gethelp/#d.en.174024

_____

ACADEMIC RESOURCE CENTER:

This center provides student support in the form of writing support, tutoring services, and first-to-go support: https://academics.lmu.edu/arc/

ARC Writing & Course Tutoring: The Academic Resource Center provides writing support and peer tutoring in a variety of subjects. Be sure to make tutoring a part of your academic experience when you want feedback on a writing project or help understanding course concepts and preparing for exams. To make an appointment with a tutor, follow the "Writing & Course Tutoring" link in myLMU. Here's how to reach them: academics.lmu.edu/arc or tutoring@lmu.edu.

First-Generation Student Resources: The Academic Resource Center (ARC) offers academic advising, writing center and tutoring support, and first-generation student resources. For information about these services visit https://academics.lmu.edu/arc/

_____

REPORTING REQUIREMENTS OF SEXUAL OR INTERPERSONAL MISCONDUCT:

As "responsible employees," faculty are required to report any case of suspected sexual or interpersonal misconduct and cannot protect student confidentiality. For information about confidential counseling on campus and for general information about consensual relationships, sexual harassment, and sexual assault, please see the LMU Cares website: http://studentaffairs.lmu.edu/lmucares/.

_____

EMERGENCY PREPAREDNESS INFORMATION:

To report an emergency or suspicious activity, contact the LMU Department of Public Safety by phone (x222 or 310-338-2893) or at the nearest emergency call box. In the event of an evacuation, follow the evacuation signage throughout the building to the designated safe refuge area where you will receive further instruction from Public Safety or a Building Captain. For more safety information and preparedness tips, visit http://www.lmu.edu/emergency Public Safety can be reached 24 hours a day/7 days a week/365 days a year at 310.338.2893 (or x222 from a campus phone). In a life-threatening emergency, call 9-1-1 first and then call Public Safety if possible. To report an incident, call Public Safety, submit an e-report on the Public Safety website or via the Rave Guardian mobile app, or visit Public Safety in Foley Annex. Review evacuation information and other safety tips posted in each learning space. Make sure you are registered to receive emergency alerts – confirm your contact info at lmu.edu/alert, and download Rave Guardian in the Apple or Google Play store. For more information and emergency preparedness tips, visit https://publicsafety.lmu.edu.

_____

COMMUNITY OF CARE:

LMU provides a collaborative case-management program to enhance community safety and support student well-being. This program provides support for prevention, assessment, and intervention as needed to assist students with navigating personal and academic challenges. Faculty can make a community of care referral for students. To learn more about their services, visit: https://studentaffairs.lmu.edu/wellness/coc/learnmoreaboutus/

_____

WELLNESS:

I care about your health and well-being. Caring for your whole person means balancing your mental, physical, emotional, spiritual and social needs, in addition to your academic commitments. Check out all of these health and wellness resources, from a cookbook to outdoor activities, at www.lmu.edu/lionwellness.

_____

MENTAL HEALTH:

Mental health is a key part of one's overall health. LMU offers confidential Student Psychological Services. Click here to learn more: https://studentaffairs.lmu.edu/wellness/studentpsychologicalservices/