

Applied Research Methods

POL 306
Fall 2020

Harrison Hall 204
Tue & Thur 2:50 pm – 4:10 pm

Instructor: Dr. Kevin Reuning (ROY-ning)
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Course Website: Canvas
Office: Harrison Hall 222
Office Hours: 12 - 2pm Tue & Thurs
Schedule appointments:
<https://calendly.com/reuning>

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Course Description

In this course we will learn how quantitative analysis can be used to test social science theories and analyze public policy. This will require covering both theoretical questions as well as directly applying what we learn using R, a common statistical software. By the end of the term students will be able to understand quantitative analysis done by others as well as implement their own.

Student Learning Objectives

1. Students will be able to define and explain statistical concepts used in the analysis of political phenomenon.
2. Students will demonstrate skill in evidence-based reasoning by identifying the appropriate research design and data for a given research question.
3. Students will be able to identify and apply the appropriate statistical methodology and analysis for a given problem and understand the limitations of their research choices.
4. Students will be able to apply statistical methodologies to contemporary political issues and problems and be able to identify and evaluate alternative political science-based solutions.
5. Students will be able to evaluate the possibilities for positive change in democratic society as engaged researchers.

Recommended Book

In the first half of the semester the readings will be from online sources. The second half will be based off of *Real Stats*. The book is not cheap, but there is a copy available through course reserves in King Library.

Bailey, Michael A. 2016. *Real Stats: Using Econometrics for Political Science and Public Policy*.

Masks are mandatory for any in-person meeting.

Course Policies

Hybrid/Online Plan

I will be posting weekly videos (on Monday) for the course to watch. In addition to this there will be weekly check-ins, both as canvas quizzes and as video chats with me. For the video chats the class will be divided into small groups and you will have the chance to ask me any questions and talk through the material. You will be expected complete all the canvas quizzes by Friday at midnight. Any homework that is assigned will be due by Sunday at midnight.

If we return to campus then this class will transition to a hybrid system where half of the class will attend Tuesday and half on Thursday.

Respect

In this course we will learning how to test social scientific theories and evaluate public policy. At times this will require discussing issues that touch many of us personally. In these discussions our aim is to understand what the evidence implies about the world. In these discussions we will treat everyone with respect.

Preparation

This course builds on itself and so students need to come to class everyday ready and willing to learn. Most weeks we will spend one day in a lecture and another day working on assignments. On working days students are expected to bring a laptop and be prepared to actively engage in the assignment.

Technology

In the class you are expected to be focused on what is going on within the class. Laptops will be required on some days. On those days that laptops are not required you may bring one to take notes, etc. If the laptop becomes a distraction to those around you we will look at reevaluating this policy.

Email Policy

I will check email between 8am and 6pm, and will try to always respond to any contact within 24 hours. Although I do not expect formality in email communications, I do expect you to respect that emails are not a costless act. In addition, just as I am responsive to email you must be responsive to email as well. Email is how the world runs.

Grade Distribution and Assignments

Item	Percentage
Weekly Check-ins	15%
Assignments	25%
Midterm	30%
Final	30%

Weekly Check-ins

There will be short Canvas quizzes every week that will be graded on a 5 point scale based on completion. You will get full credit if you make a full attempt at answering all questions. You will not get full credit if you have copied and pasted answers from the slides, readings the internet, or each other. These assignments will be due

by the end of the week.

In addition to the quizzes there will be weekly small group Google Hangouts. You will be expected to attend those Hangouts and will also receive 5 points for that. If for whatever reason you do not attend them you must email me that week with any questions you have about that week's content. This will serve as a check in. If you consistently miss them then we will figure out an alternative system.

If, for whatever reason, you cannot attend class for 2 or more weeks in a row you will be expected to contact me to work out a schedule. If you do not contact me within the first 2 weeks you miss class, you will not be able to receive any credit on the assignments you missed.

Assignments

Throughout the semester I will assign out of class work. This will be graded on accuracy. You will have at least a week to complete it.

Midterm

The midterm will take place on Tuesday, September 29th. We will discuss the format of the midterm as we approach it.

Final

The final will take place during finals week as scheduled by the school. We will discuss the format of the midterm as we approach it.

Extra Credit

I will provide extra credit opportunities throughout the semester.

Late work policy

In order to receive a deadline extension you should contact me more than 24 hours before the deadline. If an assignment is turned in late without an extension but within 24 hours of the due date, your grade will decrease by 5 percentage points (a 95% would become a 90%). For every additional 24 hours after this it loses another 5%.

Online Work

In order to learn R in a hands on fashion, starting in the second half of the semester each week we will have an online tutorial in R. This work is NOT graded, it is solely designed to help you with the homework that will be due at the next class session.

Letter Grade Distribution

>= 93.00	A	73.00 - 76.99	C
90.00 - 92.99	A-	70.00 - 72.99	C-
87.00 - 89.99	B+	67.00 - 69.99	D+
83.00 - 86.99	B	63.00 - 67.99	D
80.00 - 82.99	B-	60.00 - 62.99	D-
77.00 - 79.99	C+	<59.99	F

Academic Integrity

Miami University is a scholarly community whose members believe that excellence in education is grounded in qualities of character as well as of intellect. We respect the dignity of other persons, the rights and property of others, and the right of others to hold and express disparate beliefs. We believe in honesty, integrity, and the importance of moral conduct. We defend the freedom of inquiry that is the heart of learning and combine that freedom with the exercise of judgment and the acceptance of personal responsibility.

Miami demands the highest standards of professional conduct from its students, faculty, and staff. As a community of scholars, our fundamental purpose is the pursuit of knowledge. Integrity in research and creative activities and in academic study is based on sound disciplinary practices and expectations, as well as a commitment to the values of honesty and integrity.

Any student caught committing academic dishonesty will, at a minimum, receive a 0 for the assignment at hand. For more information on academic dishonesty and potential punishments visit <http://MiamiOH.edu/integrity>.

Disability Services

If you are a student with a physical, learning, medical and/or psychiatric disability and feel that you may need a reasonable accommodation to fulfill the essential functions of the course that are listed in this syllabus, you are encouraged to contact the Office of Student Disability Services at 529-1541 (V/TTY), located in the Shriver Center, Room 304.

Course Outline

August 18 and 20 Theories and Hypothesis

How does research start?

<http://www.socialresearchmethods.net/kb/resques.php>

<http://www.socialresearchmethods.net/kb/relation.php>

August 25 & 27 Variables

How are we quantifying the world?

<http://www.socialresearchmethods.net/kb/variable.php>

<http://www.socialresearchmethods.net/kb/measlevl.php>

September 1 & 3 What are we researching and how?

Who or what are we researching?

<http://www.socialresearchmethods.net/kb/unitanal.php>

<http://www.socialresearchmethods.net/kb/sampterm.php>

<http://www.socialresearchmethods.net/kb/external.php>

September 8 & 10 Causality

How do we define if something is causal?

<http://www.socialresearchmethods.net/kb/intval.php>

<http://www.socialresearchmethods.net/kb/causeeff.php>

September 15 & 17 Describing Univariate Data

How do we describe a phenomenon

No Readings

September 22 & 24 Univariate and Scatter Plots and Review

No readings

September 29 & October 1 Midterm and Simple Regression

Midterm on September 29

October 6 & 8 Simple Regression

Chapter 3 Sections 1 through 4

October 13 & 15 Hypothesis Testing

Chapter 4

October 20 & 22 Confidence Intervals

Chapter 4

October 27 & 29 Multiple Variable Regression

Chapter 5

November 3 & 5 Dummy Variables

Chapter 6 Sections 1 to 3

November 10 & 12 Interactions and Transformations

Chapter 6 Section 4 and Chapter 7 Sections 1 to 2

November 17 & 19 Review and Limits of Quantitative Analysis

Read: Obermeyer, Ziad, Brian Powers, Christine Vogeli, and Sendhil Mullainathan. 2019 "Dissecting racial bias in an algorithm used to manage the health of populations." *Science* 366(6464): 447-453.

December 1-8 Final Week

– Final TBD

Additional Resources

- Howe Writing Center: <http://miamioh.edu/hcwe>
- Students also may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to call Student Counseling Service (513-529-4634). For emergencies outside of business hours, the Community and Counseling and Crisis Center (844-427-4747) has a 24-hour hotline.
- Students come to Miami from a variety of economic backgrounds. If you are having financial trouble I urge you to make use of the services available through Miami Cares Resources: <http://miamioh.edu/emss/offices/student-success-center/student-resources/index.html> (under the Emergency Needs tab)