

**GOV 2080**  
**Quantitative Analysis in Political Science**  
Spring 2021

Group A M 3:00-3:40 PM W 10:30-11:10 AM	Group B M 3:40-4:20 PM W 11:10-11:50 AM
Groups A and B (Lab session) Th 7-8:20pm	

Instructor: Michael Franz Email: mfranz@bowdoin.edu Phone: 207-798-4318 (office) Office: 200 Hubbard Hall	<u>Office Hours:</u> Tuesday, 8:30-10am Book an appointment in Blackboard; Or email about a different time as needed
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This course examines the use of empirical methods to study political phenomena. It is designed to help you think like a social scientist and to give you the tools to investigate interesting and important social/political phenomena. Research begins with a puzzle and a question. What makes a puzzle worth investigating? What makes a particular research project worth pursuing? Ask first, who cares? After surmounting this hurdle (a hard enough challenge), it is imperative that we think first about process. How is my puzzle generated? For example, what process generates turnout rates on Election Day? Do voters make rational decisions about the costs and benefits of voting? Or do they care more about civic and democratic responsibilities? Once we hypothesize a process, we must then consider its implications—what should we observe if I'm right? This should motivate us to collect data and leverage it against our expectations. Does the evidence support my claims? How might I be wrong? Finally, we must write it all down, and in a way that is digestible to our readers.

We begin the semester with one major goal of social science, descriptive inference. This is not just description as in the collection and discussion of facts. Descriptive inference is the use of a sample of data to explain a larger social or political phenomenon. Polls are the most common example of a descriptive inference. We will discuss and review the use of polls in American politics, with a specific emphasis on good and bad practices in the polling profession. We follow this with a consideration of causal inference. That is, how do we identify relationships between variables? How are we sure that one variable has a causal effect on another? When are those relationships significant? This raises important questions about how to collect and code our data.

Ultimately, the best way to think like a social scientist is to act like one. As such, your assignments will push you to practice the tools we will read about and discuss in class. This course satisfies the MCSR distribution requirement. To that effect, we cover issues of data collection (which can be simple but challenging) and data analysis (which can be as basic a cross-tabulation and as complex as statistical inference tests).

\*This class is labeled as having in-person components. For us, this will mean the possibility of in-person discussions or consultations about data and data analysis. This will occur, most likely, in the second half of the semester when the weather is warmer and we can potentially meet outside. If you are taking this course from off-campus, these opportunities will not disadvantage you; we will do similar discussions on Zoom.

## Learning Goals

In this course, you should:

1. Learn about the basics of social science research. You should, in meeting this goal, become familiar with the goals of descriptive and causal inference.
2. Learn about and practice some common and important statistical analysis tools.

## Class Structure

The course will consist of three key parts:

1. Recorded lectures, 1-3 per week. Your professor will upload these, and you will watch them asynchronously. Lectures for the week will (most often) be posted by the preceding Friday.
2. Twice weekly discussion groups. These will last 40 minutes and will involve about 17-18 students. These will happen synchronously and will be moderated by the professor. You will be assigned to one of two discussion groups and meet at consistent times throughout the semester. You may also at times be assigned into smaller “breakout rooms” to discuss readings and concepts.
3. A weekly lab session that all students will attend for 90 minutes. This will involve listening to your professor explain a statistical tool, technique, or software, followed by an opportunity to practice it with other students in small groups.

## Course Requirements

There are six major components to your grade:

1. **Three short assignments** (15 points; each worth 5 points)—Topics and instructions are provided below on each due date.
2. **Four problem sets** (40 points; each worth 10 points)—these will cover topics from the Pollock and Edwards text. Due dates are listed on the syllabus. Two will be completed as timed assignments and two will be take-home assignments with a longer completion time.  
**\*On the third and fourth problem sets, you may work together on problem sets, if and only if it is a collaborative process. Should you find yourself relying on your partner to “carry” you through the exercise, you are not collaborating. Even if working together in some capacity, you are responsible for writing up and turning in work separately. You must also list on the top of the problem sets your collaborators. Any evidence that your work is not your own (e.g., copying significant portions of a write-up) will result in a referral to the College’s Judicial Board.**
3. **Discussion Board posts** (5 points)—You will post three times to Blackboard Discussion Boards. I will assign you specific weeks. Prompts are provided in the linked Discussion Boards in the relevant weeks. You will be asked to identify a news story or website that raises an interesting data question. This can cover any course concept or idea that we have covered to date in the semester.
4. **Lab assignments** (5 points)— See the end of the syllabus for due dates and details on each assignment. You will not be graded on how well you complete this work, but on whether you demonstrated effort in understanding the concepts and ideas.
5. **Class participation** (10 points)—this includes attendance and class participation. Attendance is required, and I will take regular note of who is and who is not in the scheduled Zoom discussion groups. Be advised, simple attendance is not sufficient.

\*You are encouraged also to read and comment on classmates' Discussion Board posts. This is a good way to make up for gaps in your in-class participation.

6. **Final paper** (25 points)— This paper sets out a research design for a major research project. You will state what your question is; what your theory and hypotheses are; what data you would use to test your empirical expectations; and what data analysis tools you would employ. You should also consider how you would collect the data and what challenges that might pose for the project. You will also provide a brief literature review of prior work in your issue area. You **may** write this paper with another student. Groups of no more than 2 are allowed, however. If working alone, the paper should be about 10-pages (double-spaced). If you write with another student, the paper must be about 15 pages (double-spaced) and should provide a more expansive literature review and data collection section.

## Readings

There are two books for this course, and a number of outside articles. All of the outside readings can be accessed through Blackboard.

1. *The Essentials of Political Analysis*, 6<sup>th</sup> edition, by Philip Pollock III and Barry Edwards. Sage.
2. *Lost in a Gallup: Polling Failures in U.S. Presidential Elections*, by W. Joseph Campbell. University of California Press.

## Lab Sessions

Every Thursday night. See schedule at the end of the syllabus. The focus of the labs will be to develop software and data analysis skills. There may be occasional short readings for the lab sessions, and we will use various lab sessions to work also on aspects related to the problems sets. There will be small assignments on various lab sessions.

## Other Issues

1. I expect all students to abide by the Bowdoin Academic Honor Code, which can be accessed online at: <https://www.bowdoin.edu/dean-of-students/student-handbook/the-academic-honor-code-and-social-code.html>. If you have any concerns or questions about how to cite work appropriately, please consult a reference librarian or me.
2. If you have chosen to take the class as Credit/D/F, I will only grant a Credit grade if the student has completed all of the work for the class.
3. Cite your sources. Talk with me about proper citation if you have any questions. I'm open to any approach you take, so long as it is consistent and generally well-regarded. Consider [the Chicago Style](#), as I'm partial to that one.

## Class Schedule

### Week 1 (2/8)

Meeting 1: Introductions and Expectations

Meeting 2: Understanding Concepts

- Pollock and Edwards, Chapters 1

## Week 2 (2/15)

Meeting 1: Understanding Concepts, cont.

- Pollock and Edwards, Chapters 2

Meeting 2: An Introduction to Polls

- Pew Research Reports:
  - “U.S. Survey Research”
  - “What our transition to online polling means for decades of phone survey trends”

**Short Assignment 1, due Feb. 19 (5 points):** Choose of the following concepts, all of which are used a lot on our campus: intellectual fearlessness, the Common Good, and Inclusive Excellence. Define the concept using the template in Chapter 1 of Pollock and Edwards. Discuss how you might operationalize and therefore measure the concept. What type of variable would it be, given the discussion in Chapter 2? Conclude with a brief discussion of the challenges of defining this concept.  
\*3 pages (double-spaced)

**\*\*Upload the assignment in Blackboard, in the “Assignments” section located in the left-side menu options.**

## Week 3 (2/22)

**Short Assignment 2, to be completed by March 8 (5 points)**

\*See Explanation at the end of the syllabus

Meeting 1: Descriptive Inference

- John Gerring, 2012. “Mere Description,” *British Journal of Political Science*. 42(4): 721-746.
- Advice: Start reading Campbell’s book for next week
- We’ll briefly review Short Assignment 2 as well.

Meeting 2: Descriptive Inference, cont.

- *No readings, but...*
- Advice: Start reading Campbell’s book for next week

## Week 4 (3/1)

Meeting 1: Polling Failures

- Campbell, Chapters 1-4

Meeting 2: Polling Failures, cont.

- Campbell, Chapters 5-9 and Conclusion

## Week 5 (3/8)

**Short Assignment 3, due Mar. 8 (5 points):**

Having read Campbell’s book, what is your view of the value of election polling? Is it worth the effort? Cite arguments/examples/evidence from the book in making your case.

\*3 pages (double-spaced)

**\*\*Upload the assignment in Blackboard, in the “Assignments” section located in the left-side menu options.**

Meeting 1: Conducting a Poll

- Reading TBA

Meeting 2: Discussing Short Assignment 2

- *No readings*

### **Week 6 (3/15)**

Meeting 1: Analyzing a Poll

- Pollock and Edwards, Chapter 6, pp.167-183

Meeting 2: Analyzing a Poll, cont.

- Pollock and Edwards, Chapter 6, pp.183-195
- *Review for Problem Set 1*

### **Week 7 (3/22)**

Meeting 1: Spring Break

Meeting 2: Consults for *Problem Set 1*

#### **Problem Set 1, due Mar. 26** (10 points)

You can complete this on paper and scan your work and/or take a picture of the work and upload as an image file or pdf.

\*You will have two hours to complete the problem set. It will be available starting on Wednesday morning of Week 7, and you have until 5pm on Friday to complete it. I will discuss in class additional details of accessing the problem set.

**\*\*Upload the assignment in Blackboard, in the “Assignments” section located in the left-side menu options.**

### **Week 8 (3/29)**

*Target Week for 2021 Polar Poll  
(more info forthcoming)*

Meeting 1: Analyzing a Poll, cont.

- Pollock and Edwards, Chapter 7, pp.199-215

Meeting 2: Analyzing a Poll, cont.

- Pollock and Edwards, Chapter 7, pp.215-234
- *Review for Problem Set 2*

### **Week 9 (4/5)**

Meeting 1: Introducing Causal Inference

- Reading TBA
- *Review for Problem Set 2, cont.*

Meeting 2: Consults for *Problem Set 2*

**Problem Set 2, due Apr. 9 (10 points)**

You can complete this on paper and scan your work and/or take a picture of the work and upload as an image file or pdf.

\*You will have two hours to complete the problem set. It will be available starting on Wednesday morning of Week 9, and you have until 5pm on Friday to complete it. I will discuss in class additional details of accessing the problem set.

**\*\*Upload the assignment in Blackboard, in the “Assignments” section located in the left-side menu options.**

**Week 10 (4/12)**

Meeting 1: Framing Hypotheses

- Pollock and Edwards, Chapter 3

Meeting 2: Experiments and Controlled Comparisons

- Pollock and Edwards, Chapters 4-5

**Week 11 (4/19)**

Meeting 1: Experiments and Controlled Comparisons, cont.

- Reading TBA

Meeting 2: Bivariate Regression, cont.

- Pollock and Edwards, Chapter 8, pp.239-257

**Week 12 (4/26)****Problem Set 3, due April 26 (10 points)**

You can complete this on paper and scan your work and/or take a picture of the work and upload as an image file or pdf.

\*The assignment will be posted on Monday, April 19. You must upload the completed assignment by April 26.

**\*\*Upload the assignment in Blackboard, in the “Assignments” section located in the left-side menu options.**

Meeting 1: Math Review/Final Paper Discussion

Meeting 2: Bivariate and Multivariate Regression

- Pollock and Edwards, Chapter 8, pp.257-272.

**Week 13 (5/3)**

Meeting 1: Bivariate and Multivariate Regression, cont.

- Reading TBA

Meeting 2: Bivariate and Multivariate Regression, cont.

- Reading TBA

**Week 14 (5/10)**

Meeting 1: Logistic regression

- Pollock and Edwards, Chapter 9

Meeting 2: Logistic regression, cont.

- Pollock and Edwards, Chapter 9

### Week 15 (5/17)

#### **Problem Set 4, due May 17 (10 points)**

You can complete this on paper and scan your work and/or take a picture of the work and upload as an image file or pdf.

\*The assignment will be posted on Monday, May 10. You must upload the completed assignment by May 17.

**\*\*Upload the assignment in Blackboard, in the “Assignments” section located in the left-side menu options.**

Meeting 1: Final Paper Discussion

#### **Final Paper, due May 23 (5pm) (25 points)**

**\*Upload the assignment in Blackboard, in the “Assignments” section located in the left-side menu options.**

## Lab Schedule

Week 1: February 11—Summary statistics in Excel/Sharing our experience with data

Week 2: February 18—Excel, Introduction to R

Week 3: February 25—Reading data, changing directories, and summary statistics in R

**ASSIGNMENT (due by 3/1):** Use the code in the R script for the lab session to make a graph with the “Calories\_Burned” variable in my dataset on Fitbit step counts (the “steps” data). Save the graph as a pdf and upload it in the “Assignments” link on the left-side menu on our Blackboard page.

Week 4: March 4—R scripts, manipulating data (aggregating, recoding)

**ASSIGNMENT (due by 3/8):** Create a variable in the “steps” data that assigns days of the week into a “weekday” or “weekend” variable. Show me the code you used and attach a screenshot of the results when you try to run the code.

\*Remember, you are not graded on whether the code works. Just try your best.

Week 5: March 11— R scripts, statistical analysis (comparing means and trends across groups)

Week 6: March 18— Statistical analysis (difference of means, Chi-square, etc)

**ASSIGNMENT (due by 3/23):** Create an aggregation of data and display the margins of error around a variable. To do this, create your own variable in the steps data; for example, year (2018, 2019, 2020), fall/spring semester, or weekday/weekend, etc. If you want to do this for a dataset in the 538 package, that's fine as well.

Week 7: March 25—R check-in and catch-up

Week 8: April 1— R graphics  
**ASSIGNMENT: TBD**

Week 9: April 8— Statistical analysis (regression) [Initial look at Polar Poll data]

Week 10: April 15— Statistical analysis (regression)  
**ASSIGNMENT: TBD**

Week 11: April 22— Statistical analysis (regression)

Week 12: April 29— Math review

Week 13: May 6—Ethics in research

Week 14: May 13—Ethics in research

## Short Exercise 2: Media Trades

You will be participating in a small activity for a homework assignment worth 5 points. This project is a collaboration with researchers at Clemson University.

The purpose of this assignment is to engage with classmates (at Bowdoin and with students at Clemson) about news, to experience news/analysis from across the political spectrum, and (importantly for us) **to demonstrate the way social scientists try to collect data**. Your data will be completely anonymous in any research. We expect the entire process will take less than 1 hour per week (for 2 weeks).

You will need to start out the activity by filling out a survey. Please refer to another email sent out by me with the subject name “Survey ID numbers” in order to complete the survey. Note that this survey will take 5-10 minutes of your time.

Once you have completed the survey, please make an account at [www.mediatrades.org](http://www.mediatrades.org) (a tool developed at Bowdoin to facilitate exposure to diverse news) and **sign up for a trade using the same ID number as your username**. Make sure that you are consistent in your identification of political ideology in the survey and the website.

For the second part of the activity, you will need to complete one trade in the first week (by Monday, March 1) and another trade in the second week as well (by March 8) and complete a very short post-survey to be considered for full credit.

The steps of the trade are on the Media Trades website, and also summarized here:

1. Once you log in to the website you will have to submit the URL of a news article to your library that you would like to share with someone on the other side of the political spectrum and request a trade. Articles should come from the list of >800 verified media outlets, as cataloged by allsides.com. (Gated sources, like The Wall Street Journal, are not accepted.) If you'd like to suggest another source, you can do this through the Media Trades website. A link to the allsides.com sources is on Blackboard.
2. You might receive a trade immediately or you might have to wait. If you have to wait, look out for an email notifying you when you receive your trade.

3. Once your trade begins, you have 24 hours to read your story and write a brief summary and an optional review. (Your partner may give you extra time but this isn't guaranteed.)

4. After both partners' reviews have been submitted, you have 24 hours to rate your partner's review by giving them a thumbs up or thumbs down. (Give them up a thumbs up if they got the gist of your story).

Note that the credit you receive for your work will depend on whether you receive a thumbs up or thumbs down from your partner (both of you will be anonymous to each other). You will receive 75% credit for one thumbs down and 50 percent credit for two thumbs down.

You also have the right to appeal a thumbs down which you feel was not justified. In this case, we will go through the article as well as your review and resolve the case. If we agree to your claim, then you will be awarded the full credits for a thumbs up.

Please note a good review only takes 2-3 sentences and captures 1 or 2 key points of the article. So, there should not be a lot of thumbs down. Separate opinion responses are completely optional.