Syllabus

SMPA 2152: Data Analysis for Journalism and Political Communication (Spring 2026)

Meeting Times:	Mondays and Wednesdays, 8:00-9:15am
Classroom:	MPA 307
Professor:	Nicholas Bell, Ph.D. (he/him) nicholasbell@gwu.edu
Office Hours:	Tuesdays 5:45 - 6:45pm MPA 425 By appointment only. Appointments must be made at least three hours prior to office hours. The scheduling link is https://tinyurl.com/smpa2152officehours If you would like to meet outside of office hours, please email me to schedule an appointment. I try to respond to emails by the end of the next business day (M-F).

Course Description

Data has been democratized. More data is available to the ordinary person than ever before, and leaders in every industry – including journalism and political communication – want to join the big data revolution. However, most of us lack the data literacy skills to make good use of these resources, and this can lead to the misapplication and misuse of data. To fully leverage the promise of big data, we must become familiar with the basic challenges inherent in data analysis and how to overcome them. This course is an introduction to the principles and practices of data analysis. The goal is for students to become responsible consumers and producers of data. Students will learn how to critically evaluate claims derived from data. Students will also learn how to ethically present data in compelling and persuasive ways to non-expert audiences. This class includes a special discussion of political polling, which is widely used in journalism and political communication but has come under increasing scrutiny in recent years. Students require only a basic aptitude in numeracy (e.g. percentages and averages) for this course.

In addition to developing data literacy, students will be introduced to the R program-

ming language. There are many advantages to learning R: it is free and open-source, meaning that developers are continually releasing new tools to make coding easier; it is widely used by news organizations and researchers around the world; and R is one of the most powerful programming languages for statistical analysis. Students will learn data literacy by applying the same tools and techniques used by professional data scientists.

Learning Objectives

1. You will be able to assess the pragmatic and ethical issues in collecting, manipulating, and analyzing data, known as "data literacy."
2. You will be able to obtain publicly-available data and perform basic manipulations on that data using the programming language R.
3. You will be able to visualize and present data in accurate and persuasive ways.
4. You will be familiar with the statistical concepts of sampling, uncertainty, hypothesis testing, and linear regression and how to conduct basic statistical analyses in R.

Course Materials

We will be using Google Colab in this course. Currently, Google is offering a free Colab Pro subscription for one year to university students. Although a subscription is not strictly required, it will ensure that Colab is always available to you (free users may experience usage limits in order to keep the service available to subscribed users).

In addition, I recommend purchasing a ChatGPT Pro, Claude Pro, or Gemini Pro plan. Google is currently offer one year free of Gemini Pro for university students.

Time Required

This course requires 2.5 hours of direct instruction and a minimum of 5 hours of independent learning per week for a combined minimum total of 7.5 hours per week or 112.5 hours per semester.

How the Course Will Work

This course is primarily an introduction to the principles and practices of data analysis. Most class days will consist of a lecture on a topic related to consuming and producing data. However, there are seven class days reserved as "Lab Days" for students to be introduced to the R statistical programming language. The purpose of learning R is so that students can apply the principles learned during lecture to real-world data and gain exposure to the types of tasks undertaken by professional data analysts in their chosen career field.

To prepare for the Lab Days, students should watch the associated video lecture **before** attending that class. Failure to watch the video lecture will significantly hinder the student's ability to complete the lab assignment. During Lab Days, the instructor will provide a brief review of the material covered during the video lecture, and then be available to answer student questions as they work through their lab assignment in class. Students will then complete the lab assignment on their own for credit.

In addition, students will participate in a class project to conduct a survey of their fellow GW students. Each student will be assigned a role (based on their preference) in designing, executing, and analyzing the survey, and their participation will make up a portion of their final course grade. In addition, there is a Lab Day assignment which uses the survey data collected by students.

On January 26, students will be provided instructions to complete CITI Research Ethics training. This training is required by the university in order to be able to participate in the class survey project. Failing to complete CITI training will result in a 0 grade for the class project and the associated lab assignment.

There is a final exam in this course (see below).

Assessment

Your course grade is calculated as your grade on each of the following course components weighted by:

Lab assignments	35%
Class project	20%
Final exam	35%
Attendance	10%

Course grades are converted into letter grades according to the following rubric:

93-100 = A (4.0 GPA points)
90-92 = A- (3.7 GPA points)
87-89 = B+ (3.3 GPA points)
83-86 = B (3.0 GPA points)
80-82 = B- (2.7 GPA points)
77-79 = C+ (2.3 GPA points)
73-76 = C (2.0 GPA points)
70-72 = C- (1.7 GPA points)
67-69 = D+ (1.3 GPA points)
63-66 = D (1.0 GPA points)
60-62 = D- (0.7 GPA points)

Lab Assignments

There are seven lab assignments in this course that will ask you to apply the R skills that you learn in the video lectures. I will be available to help you get started on your lab assignment during class Lab Days, and then you will finish the lab assignment on your own. You may complete these assignments on your own or in collaboration with other students. This means that you may work together to write code and/or solve problems. Do not split up the questions or combine independent work. **It is a violation of the academic integrity policy to submit any code to which you did not contribute as your own.** If you work with other students, please indicate their names at the top of your submission. Each student must submit an assignment on Blackboard.

Assignments are typically due by 11:59pm Eastern of the day following the lab day. Late assignments are deduced 25% per day.

Final Exam

The final exam will be held at the University-prescribed time on Blackboard and may be completed from the location of your choosing. The final exam will consist of true-false/multiple choice questions, short answer questions, and an essay prompt. There is no coding required for the final exam.

Attendance

Attendance is mandatory. Each student is permitted two excused absences; the third and subsequent absences are only permitted due to due to illness, family emergencies, University-scheduled events, and other unusual circumstances. If you will be absent for the third or subsequent time, you must email me and let me know the reason for your absence. You do not need to provide proof of your reason for missing class, but misrepresentation of your reason for excusal is a violation of the Code of Student Conduct.

Your attendance grade is the percentage of class meetings with an unexcused absence deducted from 100 (rounded up). For example, if you have two unexcused absences, your attendance grade is $100 - ((2/27) * 100) = 93$.

University Policy on Observance of Religious Holidays

Students must notify faculty during the first week of the semester in which they are enrolled in the course, or as early as possible, but no later than three weeks prior to the absence, of their intention to be absent from class on their day(s) of religious observance. If the holiday falls within the first three weeks of class, the student must inform faculty in the first week of the semester. For details and policy, see "Religious Observance Policy" at provost.gwu.edu/policies-procedures-and-guidelines.

Support for Students with Disabilities

Any student who may need an accommodation based on the impact of a disability should contact the Office of Disability Support Services (DSS) to inquire about the documentation necessary to establish eligibility and to coordinate a plan of reasonable and appropriate accommodations. DSS is located in Rome Hall, Suite 102. For additional information, please call DSS at 202-994-8250, or consult disabilitysupport.gwu.edu/.

Academic Integrity

Academic integrity is an essential part of the educational process, and all members of the GW community take these matters very seriously. As the instructor for this course, my role is to provide clear expectations and uphold them in all assessments. Violations of academic integrity occur when students fail to cite research sources properly, engage in unauthorized collaboration, falsify data, and otherwise violate the Code of Academic Integrity. If you have any questions about whether or not particular academic practices or resources are permitted, you should ask me for clarification.

If you are reported for an academic integrity violation, you should contact Conflict Education and Student Accountability (CESA), formerly known as Student Rights and Responsibilities (SRR), to learn more about your rights and options in the process. Consequences can range from failure of assignment to expulsion from the university and may include a transcript notation. For more information, please refer to the CESA website, email cesa@gwu.edu, or call 202-994-6757.

Course Policy on Generative AI

Generative Artificial Intelligence (GAI) tools like Gemini, ChatGPT, and Claude are increasingly used in academic and professional settings to make certain non-analytical tasks more efficient. Therefore, this course permits the use of GAI tools on **code** submitted for evaluation. However, the use of GAI tools for **written text** (e.g., exposition, analysis, etc.) is not permitted.

By submitting written work for evaluation in this course, you represent it as your own intellectual product. Impermissible use of GAI tools for written work submitted for evaluation constitutes cheating under the GW's Code of Academic Integrity. If you have any questions about the application of this policy (or any other questions about academic integrity in this course), please email the instructor.

Class Recordings and Use of Electronic Course Materials

Class meetings will be audio/video recorded and made available to other students in this course. As part of your participation in this course, you may be recorded. If you do not wish to be recorded, please contact me during the first week of class to discuss alternative arrangements.

Students are encouraged to use electronic course materials, including recorded class sessions, for private personal use in connection with their academic program of study. Electronic course materials and recorded class sessions should not be shared or used for non-course related purposes unless express permission has been granted by the instructor. Students who impermissibly share any electronic course materials are subject to discipline under the Code of Student Conduct. Please contact the instructor if you have questions regarding what constitutes permissible or impermissible use of electronic course materials and/or recorded class sessions. Please contact Disability Support Services if you have questions or need assistance in accessing electronic course materials.

Additional Resources for Students

Academic Support

- **Academic Commons**
  Academic Commons is the central location for academic support resources for GW students. To schedule a peer tutoring session for a variety of courses visit go.gwu.edu/tutoring. Visit academiccommons.gwu.edu for study skills tips, finding help with research, and connecting with other campus resources. For questions email academiccommons@gwu.edu.

- **Writing Center**
  GW's Writing Center cultivates confident writers in the University community by facilitating collaborative, critical, and inclusive conversations at all stages of the writing process. Working alongside peer mentors, writers develop strategies to write independently in academic and public settings. Appointments can be booked online at gwu.mywconline.com.

Health and Wellness Support

- **Disability Support Services**
  202-994-8250
  Any student who may need an accommodation based on the potential impact of a disability should contact Disability Support Services at disabilitysupport.gwu.edu to establish eligibility and to coordinate reasonable accommodations.

- **Student Health Center**
  202-994-5300
  The Student Health Center (SHC) offers medical, counseling/psychological, and psychiatric services to GW students. More information about the SHC is available at healthcenter.gwu.edu. Students experiencing a medical or mental health emergency on campus should contact GW Emergency Services at 202-994-6111, or off campus at 911.

GW Campus Emergency Information

GW Emergency Services: 202-994-6111 For situation-specific instructions, refer to GW's Emergency Procedures guide.

GW Alert

GW Alert is an emergency notification system that sends alerts to the GW community. GW requests students, faculty, and staff maintain current contact information by logging on to alert.gwu.edu. Alerts are sent via email, text, social media, and other means, including the Guardian app. The Guardian app is a safety app that allows you to communicate quickly with GW Emergency Services, 911, and other resources. Learn more at safety.gwu.edu.

Protective Actions

GW prescribes four protective actions that can be issued by university officials depending on the type of emergency. All GW community members are expected to follow directions according to the specified protective action. The protective actions are Shelter, Evacuate, Secure, and Lockdown (details below). Learn more at safety.gwu.edu/gw-standard-emergency-statuses.

- Shelter
  - Protection from a specific hazard.
  - The hazard could be a tornado, earthquake, hazardous material spill, or other environmental emergency.
  - Specific safety guidance will be shared on a case-by-case basis.
  - **Action:**
    - Follow safety guidance for the hazard.
- Evacuate
  - Need to move people from one location to another.
  - Students and staff should be prepared to follow specific instructions given by first responders and University officials.
  - **Action:**
    - Evacuate to a designated location.
    - Leave belongings behind.
    - Follow additional instructions from first responders.
- Secure
  - Threat or hazard outside of buildings or around campus.
  - Increased security, secured building perimeter, increased situational awareness, and restricted access to entry doors.
  - **Action:**
    - Go inside and stay inside.
    - Activities inside may continue.

- Lockdown
  - Threat or hazard with the potential to impact individuals inside buildings.
  - Room-based protocol that requires locking interior doors, turning off lights, and staying out of sight of corridor window.
  - **Action:**
    * Locks, lights, out of sight.
    * Consider Run, Hide, Fight.

Classroom emergency lockdown buttons

Some classrooms have been equipped with classroom emergency lockdown buttons. If the button is pushed, GWorld Card access to the room will be disabled, and GW Dispatch will be alerted. The door must be manually closed if it is not closed when the button is pushed. Anyone in the classroom will be able to exit, but no one will be able to get in.

Course Outline

Readings with an embedded link can be accessed online. All other readings are available on Blackboard.

Week	Course Material
1	January 12: Introduction Homework (all for Jan. 14) • Brown (2025), "Is Conscientiousness Cratering? It Depends on How You Twist the Data." (Reason) for class on Sept. 3 • Dattani (2024), "The rise in reported maternal mortality rates in the US is largely due to a change in measurement" (Our World in Data) • Steier (2025), "The Playbook Used to 'Prove' Vaccines Cause Autism" (New York Times Opinion) January 14: Researcher Choices Homework (all for Jan. 21) • Fry (2021), "When Graphs Are a Matter of Life and Death" (The New Yorker) (on Blackboard) • Bugden (2019), "Do you really understand the influential warming stripes?" • Watch the video lecture on Google Colab

	January 19: No Class (MLK, Jr. Day)
2	January 21: Data Visualization Homework • Aviv (2024), "Conviction" (New Yorker) (on Blackboard) for class on Feb. 4
3	January 26: Correlation vs. Causation Homework • Complete CITI Research Ethics training by Jan. 27 at 11:59pm January 28: Data Ethics Homework • Watch the video lecture on data visualization for class on Feb. 2
4	**February 2: Lab Day - data visualization** Homework • Complete lab assignment by Feb. 3 at 11:59pm February 4: Sampling Homework • Watch the video lecture on data wrangling for class on Feb. 9
5	**February 9: Lab Day - data wrangling** Homework • Complete lab assignment by Feb. 10 at 11:59pm February 11: Political Polling I Homework (all for Feb. 18) • Excerpt of AAPOR's Task Force on 2024 Pre-Election Polling Report • Morris (2025), "The best pollsters of 2024 are doing a lot of things that just don't add up" (Strength in Numbers) (on Blackboard)

5	February 16: No Class (Presidents' Day) February 18: Political Polling II Homework • None
7	February 23: No Class (Professor at conference) **February 25: Guest Speaker - Brian Sokas, Founder at GroundTruthAI** Homework • None
8	**March 2: Guest Speaker - Aidan Hughes, Data Journalist at Howard Center for Investigative Journalism** Homework • None **March 4: Guest Speaker - Matthew Herdman, Democratic Communications Strategist** Homework • Watch the video lecture on political polling for class on Mar. 16
9	**March 16: Lab Day - political polling** Homework • Complete lab assignment by Mar. 17 at 11:59pm • Excerpt of Tetlock and Gardner (2015), Superforecasting: The Art and Science of Prediction (on Blackboard) for class on Mar. 18 March 18: Predictive Election Models Homework • None

	March 23: Regression Homework • None
10	March 25: Machine Learning Homework • Watch the video lecture on machine learning for class on Mar. 30
	March 30: Lab Day - machine learning Homework • Complete lab assignment by Mar. 31 at 11:59pm
11	April 1: Preparation for Survey Project Homework • None
	April 6: Lab Day - class survey Homework • Complete lab assignment by Apr. 7 at 11:59pm
12	April 8: Qualitative Data Homework • Watch the video lecture on machine learning for class on Apr. 13
	April 13: Lab Day - text-as-data Homework • Complete lab assignment by Apr. 14 at 11:59pm
13	April 15: Data Investigations Homework • None

	April 20: Lab Day - maps Homework • Complete lab assignment by Apr. 21 at 11:59pm
14	April 22: Screening of Coded Bias Homework • None
	April 27: Guest Speaker - Emily Guskin, Polling Director at ABC News Homework • None
15	April 29: Wrapping Up Homework • None

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Last Updated: February 9, 2026
Subject to change.