INAF 3200: Quantitative Methods for International Affairs

Summer 2025

Professor Information

Parina Patel

Email:Parina.Patel@georgetown.edu

Office Hours: Information on Canvas

This class is scheduled for two sessions over the summer:
INAF.3200.10 – M, T, W, TH 10:45 to 12:45 pm – June 2 to July 3
INAF.3200.20 – M, T, W, TH 10:45 to 12:45 pm – July 7 to August 8

Please note all the materials for this class (including the course packet, the online modules, and the materials on Canvas) were designed by Professor Patel specially for this class. Students are not allowed to take any of these materials and post externally (on any website including Course Hero or ChatGPT) or share without permission from Professor Patel.

The goal of this course is to train students to perform and analyze quantitative research in International Relations and Comparative Politics. By the end of this course, students should be able to read and understand the quantitative research found in reports and articles. Students should also be able to formulate hypotheses, design a research project, and use the correct statistical method(s) to test their hypotheses. All students will work with real data using a statistical package (Stata) and

learn to manage, graph, display, and analyze different types of data.

This course is divided into three parts: 1.) definition of key terms, 2.) descriptive statistics, and 3.) inferential statistics. Unlike other classes, this class will focus on quantitative methodology, which means that over 95% of this course involves math and correctly interpreting numbers. At the end of the semester, students should be able to:

1. Articulate an appreciation for the diverse application of statistics and its relevance to the field of political science and international politics.
2. Demonstrate conceptual understanding of fundamental statistical ideas such as variability, distribution, association, causation, confidence, and significance.
3. Show introductory level practical ability to choose, generate, and properly interpret appropriate descriptive and inferential methods.
4. Exhibit critical thinking about statistics (e.g., demonstrate the ability to assess the 'validity' of statistical arguments in the popular press and scholarly publications).
5. Demonstrate the ability to effectively communicate statistical ideas (and thus be able to knowledgeably participate in social debates).
6. Demonstrate introductory level experience by using Stata, a statistical software widely used in the social sciences, to perform data analysis.

Academic Integrity

Students should familiarize themselves with the following University policies:

- Georgetown's honor system http://bulletin.georgetown.edu/regulations6.ht
- Students may not post externally or share any materials in course packet or on Canvas without permission from Professor Patel. More information about intellectual property and copyright can be found here: https://www.library.georgetown.edu/copyright
- Plagiarism policy http://gervaseprograms.georgetown.edu/honor/system/5

Required Readings and Materials:

The following materials are required for this course. Students are expected to bring the following to each class each week:

- Scientific Calculator. Students MUST bring their calculators to every lecture and exams. The use of a calculator on your phone and/or tablet is unacceptable.
- I will print and hand out course materials to students in class. Other materials, I will make available in Canvas.
- There are required readings in the form of online modules. Note to do well in the graded portions of this class, you must complete the required online modules.

Recommended Readings

I have included recommended policy readings that cover each of the topics we cover in class and also use the data that we will be using in class. I also include readings and newspaper briefings that use the same data we will be using in the course. These readings can be found in Canvas -> Pages -> Policy Readings.

Stata

In this course, we will be using a statistical software called Stata. Stata is now available to ALL students. Students must use **Stata 18 BE**.

1. Students can download the software online by visiting the following website:
   https://uis.georgetown.edu/ordering/software/.
2. Select the link for "GU software webstore for students"
3. From this site, click on GU Free Software pull down menu and select "Stata"
4. Click on "Stata License Request" link
5. Select Affiliation (Student) and click place request
6. You will get two emails from Georgetown Service. One of them has a google doc link. Click on this link and fill out the form
7. After filling out the form, you will get information with licensing information and download instructions
8. Download the latest version of Stata 18 BE.

Please Note: (1) Stata licensing with the university expires in February. Around this time, you will need to get new licensing information. (2) If you are having trouble with downloading Stata, please contact UIS directly (they have a kiosk at the University Bookstore in Leavy Center and accept walk-ins during business hours).

Grades

The final course grade will be evaluated on attendance and HW assignments. The grade breakup is as follows:

- Attendance–5%

- Quizzes–15%
- HW assignments–20%
- Midterm Exam–25%
- Final Exam–35%

Final grades will be distributed as follows:

- 95 and above – A
- 90-94 – A-
- 87-89 – B+
- 83-86 – B
- 80-82 – B-
- 77-79 – C+
- 73-76 – C
- 70-72 – C-
- 60-69 – D
- below 60 – F

Note: I do not round the numerical final grade. A grade of 94.99 will be an A-, while a grade of 95 will be an A.

Attendance

I will take attendance every class. If you do not attend class in person, you cannot get credit for attendance. This is worth 5% of the total grade. Students will get the full 5% as long as they miss **no more than** 4 classes. After this, I will subtract one point for every additional

class missed. For instance, if you miss 5 classes, the highest score you can receive is 4 points. If you miss 6 classes, the highest score you can receive is 3 points, and so on. I **do not record or keep track of excuses for missing class.** Note: Coming to class, ensures you understand the material, allows you to ask questions, and helps you perform better on the midterm and final exam.

Quizzes:

Throughout the session, students will complete 10 quizzes at home. The quizzes are open book and open notes. The format for the quizzes are multiple choice. The quizzes will ask questions we cover in class and questions about interpretation of Stata output. Quizzes will usually be posted and due one or two days after we cover the topic. Students quiz grades will be average and worth 15% of their final grade. If you cannot meet deadlines, please communicate with me and we can work something out. If you are asking for extensions every week, I will ask you to go through your dean to get full credit. Note: The quizzes are meant to prepare you for the midterm and final exam. Topics of Quizzes and When we will cover these topics:

1. Intro to Key Terms–Week 1
2. Descriptive Statistics–Week 1
3. Probability and Normal Curve–Week 2
4. Confidence Interval–Week 2
5. Chi Square–Week 2
6. T Test and Proportions Test–Week 3
7. ANOVA–Week 3
8. Bivariate Regression–Week 3

9. Multivariate Regression with Dummy IV–Week 4
10. Multivariate Regression with Interactions–Week 4

Homeworks:

There will be four homework assignments throughout the session as well. The homework assignments will cover materials we also go over in class. In these homework assignments, students will be asked to use real data, clean up the data, and test hypotheses. Homework 1, 2, and 3 will be posted on Thursday after class, and due on Sunday at 11:59 for the first three weeks. Homework 4 will be posted on our last Monday meeting and be due on Wednesday at 11:59. I will provide details on homework submission and requirements on Canvas. The homework assignments will be averaged and worth 20% of the student's grades. If you cannot meet deadlines, please communicate with me and we can work something out. If you are asking for extensions every week, I will ask you to go through your dean to get full credit.

Midterm:

The midterm exam will be in class during the last day of our meeting (so Thursday) in Week 2. This midterm will be worth 25% of the student's grade.

Final Exam:

The final exam will be in class on the last day of class. The final will be worth 35% of the student's grade.

Class Schedule

This is a tentative class schedule broken down by each week (it also includes assignments due that week).

1. Week 1:
    - Introduction and Definition of Key Terms
    - Descriptive Statistics
    - Recoding Variables
    - Proability
    - Assignments: Online Modules 1-3, Quiz 1, 2, and HW 1
2. Week 2:
    - Normal Curve
    - Confidence Interval
    - Chi Square
    - Midterm
    - Assignments: Online Modules 4-6, Quiz 3, 4, 5, and HW 2
3. Week 3:
    - T Test and Proportions Test
    - ANOVA
    - Correlation and Bivariate Regression
    - Multivariate Regression
    - Assignments: Online Modules 7-8, Quiz 6, 7, 8 and HW 3
4. Week 4
    - Multivariate Regression with Dummy IVs
    - Multivariate Regression with interactions
    - Final will cover topics from Chi Square to Multivariate Regression with Interactions
    - Assignments: Quiz 9, 10, and HW 4

Canvas

Everything you need for this class will be on the Canvas Course site. This section will go over the different course content on Canvas.

- Home and Syllabus–Both these sections include the syllabus and important information about the course.
- Assignments–You will find under this section, the HW assignments. I will update this as we move through the semester.
- Quizzes–You will find the quizzes under this section.
- Panopto–This section will include the recorded lectures. I will try (if technology cooperates and there are no issues) to record all lectures and post them on panopto. If you don't see the lecture posted the evening of the lecture, send me an email.
- Pages–This section includes all the documents you will need including handouts for each lecture, statistical tables, etc.
- Modules–This section includes the link to access the online modules. Online modules are used to give students additional practice on topics we cover in class. Students are encouraged to do the online modules to ensure they truly understand the material.
- Announcements–I will use this section to post any important announcements. Please make sure that you change the settings so that you get an email once a new announcement is posted or that you check this section frequently.