Statistical Analysis for Public Policy

Last Updated: Mon, 07/14/2025

Course prefix: PUBP

Course number: 3120

Section: ACB

CRN (you may add up to five):
82366

Instructor First Name: Ashley

Instructor Last Name: Bradford

Semester: Fall

Academic year: 2025

Course description:

This course serves as an introduction to probability, descriptive statistics, inferential statistics, and spreadsheets. The focus of the course is the application of basic statistical concepts to public policy and administration. It is intended for students who have a wide range of methodological backgrounds (e.g. mathematics, statistics, econometrics, and computer science).

Course learning outcomes:

This course introduces students to the foundational concepts of statistics. The primary emphasis will be on applying statistics to applications in public policy. Throughout the semester, students will learn how to extract meaning from statistical data and how to generate conclusions with a critical lens.

This course provides a basic introduction to:

1. Descriptive statistics
2. Probability
3. Inferential statistics
4. Regression
5. Research design

Upon successful completion of this course, you will be able to:

1. Discuss basic concepts in probability and statistics with experts and laypeople.
2. Describe and analyze social science data.
3. Understand the importance and limits of social science data.

4. Interpret and critique public policy research.

Required course materials:

We will be using *Statistical Methods for the Social Sciences 5th Edition* by Alan Agresti (previous editions co-authored with Barbara Finlay) as our primary textbook. We will be using the 5th edition, but you can feel free to purchase an earlier version if it is more affordable. You may purchase this book in electronic format or in hard-copy. More details on this will be provided on the first day of class.

Additionally, there is an optional book for this class: *Naked Statistics: Stripping the Dread from the Data* by Charles Wheelan. We will be using this book to gain intuition on the concepts we will be discussing in class. You may purchase this book in electronic format or in hard-copy.

Additional readings will be made available through Canvas.

Grading policy:

Course Requirements and Grading:

Participation:	10%
Problem Sets:	40% (10% each)
Midterm Exam:	20%
Final Exam:	30%

Attendance is required for this class and contributes to the participation component (10%). You will be permitted 3 absences with no questions asked. After that point, only excused absences will be permitted with no cost to your grade.

There will be four problem sets spread throughout the semester, each worth 10% of your overall grade (40% total). These assignments will be a mix of statistical and conceptual questions.

There will be two exams in this class. The first exam, which will cover the material from the first half of the semester, will count for 20% of your grade. The second exam will cover material from the entire semester, but will focus more heavily on the material that we learned after the midterm exam took place. This exam is worth 30% of your grade and will occur on the date and time assigned by the university.

Late work:

Late work will be accepted for 5 days following the due date. On each day that an assignment is late, 10% of the grade for that assignment will be deducted. An assignment

turned in one day late can receive a maximum of 90%, while an assignment turned in two days late can receive a maximum of 80%, and so on. After 5 days, I will no longer accept the late assignment.

Grading Scale

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F 0-59%

Attendance policy:

Attendance is required for this class and contributes to the participation component (10%). You will be permitted 3 absences with no questions asked. After that point, only excused absences will be permitted with no cost to your grade.

Academic honesty/integrity statement:

Students are expected to maintain the highest standards of academic integrity. All work submitted must be original and properly cited. Plagiarism, cheating, or any form of academic dishonesty will result in immediate consequences as outlined in the university's academic integrity policy.

Core IMPACTS statement(s) (if applicable):

This is a Core IMPACTS course that is part of the Social Sciences area.

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help master course content, and support students’ broad academic and career goals.

This course should direct students toward a broad Orienting Question:

- How do I understand human experiences and connections?

Completion of this course should enable students to meet the following Learning Outcomes:

- Students will effectively analyze the complexity of human behavior, and how historical, economic, political, social or geographic relationships develop, persist or change.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:

- Intercultural Competence
- Perspective-Taking
- Persuasion