

PPD 504

Essential Statistics for Public Management

2 Units

Term: Fall 2023

Instructor

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Location: VPD 112

Schedule:

Mondays, 6:00 – 7:50 pm

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Course Description

PPD 672 - Collaborative Governance

"Essential statistics for public managers and administrators; application of statistical methods in addressing public policy and management questions." ~ USC Course Catalogue. USC Catalogue

This class gives students the foundations required to work intelligently with data in managerial situations and other circumstances relevant to public policy. The course also prepares students for future, more advanced coursework in quantitative analysis and policy/program evaluation. Students will learn about various techniques for summarizing and analyzing data and for addressing public policy and management questions using statistical methods. No previous background in statistics is assumed or necessary for successful completion of the course.

Learning Objectives

By the end of this course, students should be able to:

1. Apply principles of validity and reliability to evaluate data quality.
2. Calculate descriptive statistics and display data in tabular and graphical forms to describe magnitude, frequency, diversity, trends, and relationships among variables.
3. Summarize and analyze survey data.
4. Analyze sample data to make inferences about broader populations.
5. Use probability distributions to quantify uncertainty about statistical inferences.
6. Compare two or more populations to draw inferences about cause-and-effect relationships in public policy contexts.
7. Calculate and interpret measures of correlation to draw inferences about cause-and-effect relationships.
8. Build and interpret simple regression models to test hypotheses about cause and effect.
9. Interpret complex regression models (such as those in studies published by public agencies, think tanks, or academic journals).
10. Use computer spreadsheet programs efficiently and effectively.

Textbooks and Materials

Required books to purchase:

- *Applied Statistics for Public and Nonprofit Administration (Ninth Edition)* by Kenneth J. Meier, Jeffrey L. Brudney, and John Bohte (Cengage Learning). eBook: ISBN: 9781285974521

<https://www.vitalsource.com/referral?term=9781285974521>

Computer and software requirements

- Students should bring a laptop computer to each class session.
- Microsoft Excel. Free for all USC students (as part of Microsoft Office).
<https://itservices.usc.edu/officestudents/>
- JMP Pro 17 (for Windows or Mac). Free for all USC students. <https://software.usc.edu/jmp/>

Other articles and e-books:

- Supplemental readings provided in the Readings Folder within Blackboard.

Grading Policies

Grading Ranges for Final Course Grades

A	≥ 94%	B-	≥ 80%, < 84%	D+	≥ 67%, < 70%
A-	≥ 90% < 94%	C+	≥ 77%, < 80%	D	≥ 64%, < 67%
B+	≥ 87% < 90%	C	≥ 74%, < 77%	D-	≥ 60%, < 64%
B	≥ 84%, < 87%	C-	≥ 70%, < 74%	F	< 60%

Course Grade of Incomplete

Only when work is not completed because of documented illness or other "emergency" occurring after the 12th week of the semester (or 12th week equivalent for any course scheduled for fewer than 15 weeks) may the professor assign a course grade of Incomplete (IN). An "emergency" constitutes a situation or event that could not be foreseen, and which is beyond the student's control and which prevents the student from taking any final paper or exam or completing other work during the final weeks of class. A student may not request an Incomplete (IN) before the end of the 12th week (or 12th week equivalent for any course scheduled for fewer than 15 weeks).

Course Grade Components

Assignment Category	Contribution to course grade
Weekly assignments (10 x 5%)	50%
Midterm Exam	20%
Final Exam	30%
Total	100%

Weekly assignments (50%). Ten weeks of the course involve a graded problem-set or Excel-based exercise. Some weeks, we will start the assignment together in class and you will have the rest of the week to complete it. Each assignment is due before class as specified in the Weekly Activity Schedule at the end of the syllabus.

I encourage you to work in groups of up to three students, but each student is required to write their own response to each question and to describe results in their own words. Copying answers from someone else's assignment is a violation of the University's conduct code, as is allowing another student to copy your work. Presenting another person's work as your own or soliciting external help on problem sets from someone other than the instructor, teaching assistant, your classmates, or an approved external party (e.g., a USC student that is tutoring you) are academic integrity violations. An academic integrity violation related to problem sets may result in a zero on the assignment upon the first offense and an F for the course upon a second offense.

Midterm exam (20%). In-class, timed exam. No electronic devices.

Final exam (30%). Comprehensive, cumulative, timed exam. No electronic devices.

Other Policies

Contacting the Instructor

Email is the most reliable way to contact me. I typically respond within a few hours, and rarely more than 24. Email is also the best way to schedule a time for an in-person meeting, phone call, or video call. You may call or text me if you need my immediate attention.

Form and Style for All Written Work

Write in plain, concise prose (such as described in Strunk and White's classic *Elements of Style*). Provide in-text author-date citations for all ideas, phrasing, or facts you borrow from other sources. Include page numbers in citations wherever feasible; if your citation is especially insightful, novel, or contentious, your instructor or classmates may wish to look it up. Provide a list of cited references in APA format. Err on the side of being too inclusive in your citations of facts and ideas included in your work. It is good professional practice to guide your readers to your source materials, and liberal citations helps avoid plagiarism issues.

If addressing a topic that is highly contested, one way to strengthen your response is to clearly and fairly articulate both sides of the controversy. Analytical arguments that come down on one side or the other are welcome, especially if they critique the opposing perspective through theoretical or empirical arguments that reference the assigned readings, videos, lectures, or other sources. In addition to demonstrating your knowledge of the assigned readings, feel free to cite sources beyond the required materials. This helps you integrate your new knowledge from this course with ideas you have gleaned from your other courses or experiences.

File Submission Protocol

All file submissions will be handled electronically through Blackboard. In the event of electronic submission problems via Blackboard, you may provide duplicate submissions via e-mail to the instructor as a record of your timely submission.

Unless otherwise noted by your instructor, all written assignments and submissions should be single-

spaced and submitted in Microsoft Excel, Microsoft Word, or pdf. Assignments requiring calculations or graphing can be handwritten and then photographed/scanned using the phone on your camera. Phone apps that I recommend include Adobe Scan (free) or TurboScan (\$), available in the Apple and Google stores.

Please label all submitted files with your last name followed by the name of the assignment (e.g., Lastname_HW1.doc).

Late Assignments

No assignments are accepted after their due dates without prior permission. At their discretion, faculty may grant extensions for extenuating circumstances, as defined in the USC student handbook. If you are unable to complete an assignment on time, please notify your instructor as soon as feasible. Please communicate with your instructor if you find yourself falling behind or if you need any assistance with an assignment.

Prohibition on Distributing Course Materials

The distribution of course materials, including this syllabus, is explicitly prohibited per [The USC Student Handbook](#), pages 13 and 57:

“Distribution or use of notes, recordings, exams, or other intellectual property, based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study. This includes but is not limited to providing materials for distribution by services publishing course materials. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the internet, or via any other media. (Also see Class Notes on page 57.)”

Prohibition on Uploading Course Materials to Generative AI Services

Submitting assignment prompts or other course materials to an AI generator is a violation of intellectual property and is disallowed under the USC policy prohibiting distribution of course materials ([The USC Student Handbook](#), p. 13).

Policy on Generative AI

The learning goals for homework assignments in this course are to prod students to expand their knowledge of course concepts by working through applied problems. Use of artificial intelligence (AI) tools such as Grammarly or generative AI tools such as ChatGPT is allowed in this course so long as it helps you achieve both of these learning goals, and so long as it otherwise adheres to the principles of academic integrity described elsewhere in this syllabus and in [The USC Student Handbook](#).

In professional and academic writing, it is essential to cite sources for all evidence and ideas borrowed from others. The main purposes of proper citation are (1) to support your argument with evidence from reliable and credible sources, and (2) to give credit to other people whose intellectual product you have borrowed. Do not cite generative AI tools in your writing because (a) such tools are not a credible and reliable source of information or analysis, and (b) these tools are not human sources that need to be credited for their “ideas” or “labor.” (Similarly, avoid citing other unreliable or non-credible sources such as Wikipedia.org or ProCon.org, to name two. By the same token, there is usually no need to use citations to give credit to non-human writing and research aids including commonplace computerized tools such as internet search engines, PC software, or AI tools).

Statement on Academic Conduct and Support Systems

Academic Integrity:

The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, compromises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the university's mission to research, educate, and contribute productively to our community and the world.

All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s).

Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.

For more information about academic integrity see [the student handbook](#) or the [Office of Academic Integrity's website](#), and university policies on [Research and Scholarship Misconduct](#).

Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. [The Office of Student Accessibility Services](#) (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

[Counseling and Mental Health](#) - (213) 740-9355 - 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

[988 Suicide and Crisis Lifeline](#) - 988 for both calls and text messages - 24/7 on call

The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24

hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

[Relationship and Sexual Violence Prevention Services \(RSVP\)](#) - (213) 740-9355(WELL) - 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

[Office for Equity, Equal Opportunity, and Title IX \(EEO-TIX\)](#) - (213) 740-5086

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

[Reporting Incidents of Bias or Harassment](#) - (213) 740-5086 or (213) 821-8298

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

[The Office of Student Accessibility Services \(OSAS\)](#) - (213) 740-0776

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

[USC Campus Support and Intervention](#) - (213) 740-0411

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

[Diversity, Equity and Inclusion](#) - (213) 740-2101

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

[USC Emergency](#) - UPC: (213) 740-4321, HSC: (323) 442-1000 - 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

[USC Department of Public Safety](#) - UPC: (213) 740-6000, HSC: (323) 442-1200 - 24/7 on call

Non-emergency assistance or information.

[Office of the Ombuds](#) - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

[Occupational Therapy Faculty Practice](#) - (323) 442-2850 or otfp@med.usc.edu

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.

Other Resources Available to USC Price Students

<https://priceschool.usc.edu/students/resources/>

Weekly Activity Schedule

Week	Date	Topics	Textbook chapters assigned	HW due before next class
1	Aug 21	Introduction to PPD 504. Introduction to data analysis in JMP Pro 17.	1	~
2	Aug 28	Descriptive statistics. Principles of data visualization.	4,5	Week 02 (1 st HW)
	Sep 4	Labor Day Holiday (no class)	~	~
3	Sep 11	Measures of dispersion and diversity.	6	Week 03 (2 nd HW)
4	Sep 18	Estimating probabilities and sampling distributions.	7,8,9	Week 04 (3 rd HW)
5	Sep 25*	Principles of valid and reliable measurement. Creating composite measures: indexes and scales. Factor analysis and reliability analysis for scales.	2 +TBD	Week 05 (4 th HW)
6	Oct 2	Inference from comparing a sample to a benchmark. Calculating confidence intervals for sample means.	10, 11	Week 06 (5 th HW)
7	Oct 9**	Research designs for causal inference. Review session for Midterm Exam.	3	~
8	Oct 16	Midterm Exam	~	~
9	Oct 23	Inference from experimental research designs: Comparing <i>means</i> for two or more groups.	12, 13	Week 09 (6 th HW)
10	Oct 30	Inference from experimental research designs: Comparing <i>proportions</i> for two or more groups.	14, 16	Week 10 (7 th HW)
11	Nov 6	Inference from <i>non</i> -experimental research designs: Correlation between two or more variables.	17, 18,	Week 11 (8 th HW)
12	Nov 13	Inference from time-series, BACI, and DID analysis.	19	Week 12 (9 th HW)
13	Nov 20	Inference from <i>non</i> -experimental research designs: Regression models and hypothesis testing.	20, 21	Week 13 (10 th HW)
14	Nov 27	Review session for Final Exam	~	~
	Dec 4	Study Day (no class)	~	~
15	Dec 11	Final Exam, 7-9 pm		

Selected notable holidays: *Yom Kippur, **Diversity Day