Research Methods II: Data Analysis

Professor Agustin Leon-Moreta
Fall 2019
Class Sessions: Dane Smith Hall (DSH) 134, Friday 4:00 - 6:30 pm
Office Hours: Friday 2 - 4:00 pm. Other times available by appointment.
Address: Social Sciences 3006
Phone: (505) 277 1092
Email: apleonmoreta@unm.edu

Note: Email is best to get in touch. Allow up to 24 hours for a response to emails.

Teaching Assistant (TA): 'Wonu Fayemiro
Phone: (929) 413 3818
Email: ofayemiro@unm.edu

RECOMMENDED BACKGROUND
- STAT 145 Introduction to Statistics (or equivalent coursework)
- PADM 595 Research Methods I

COURSE DESCRIPTION
Welcome to PADM 596 *Research Methods for Public Managers: Data Analysis*. This course introduces students to basic statistical methods and their application to public management, policy, and decision-making. It covers the essential elements of descriptive statistics, univariate and bivariate statistical inference, and an advanced introduction to multivariate analysis. While discussing the foundations of statistical theory, the course emphasizes applied statistics and data analysis, using the software package SPSS.

The course provides MPA students with fundamental tools for applied research and analysis in public and nonprofit organizations. It develops the knowledge and skills you will need to understand and effectively use statistical methods of research. We'll begin the course by reviewing fundamental concepts and techniques of descriptive statistics and then concentrate on methods of inferential statistics, emphasizing data analysis and reporting for applied public management and policy research. We'll study a variety of methods, including measures of central tendency, measures of dispersion, normal distribution theory, analysis of variance (ANOVA), chi-square, correlation, and multiple regression.

COURSE OBJECTIVES
This course presents methods for inquiry and analysis by public managers and students of public administration. It covers strategies for the design of quantitative research the analysis of statistical data in institutional and field settings.

Students who complete the course are expected to leave with the ability to:
- Propose research questions for empirical analysis
- Design research strategies to test research hypotheses

- Understand the different types of data used by public managers, policy analysts, and researchers in public administration, policy, and applied social science
- Learn when and how to use alternative methodological techniques
- Appreciate the importance of using plain language to report data analyses and findings
- Use SPSS to analyze statistical data

The following MPA core outcomes of learning are addressed in this course. Students will be able to analyze:
1. Policies and programs by applying appropriate information technology and data management techniques
2. Policies and programs by applying appropriate quantitative methods of data analysis and reporting

POLICIES

Punctual Attendance Required: Beginning the first day, attendance will be recorded at 4:00 pm. Per the UNM Student Handbook, a student may be dropped from the course as a consequence of absences from class. **This attendance requirement applies equally to main-campus students and distance/online students**. Distance/online students are required to use a computer with a camera and internet connection for participating in class. Your camera must be *on* during the class meeting: students not visible to the professor aren't considered in attendance.

No Late/Makeup Assignments: Late or makeup assignments won't be accepted. Under extraordinary circumstances, I may consider a late submission for partial credit.

Time/Workload Commitment: This is a core course of the MPA program that requires **independent work and study**. To successfully learn the course material, graduate **students should commit at least 12 hours per week** to the course outside of class.

Electronic Devices: In class, **turn off cell phones**. A laptop is permitted only for class-relevant work, such as taking notes. **Don't use laptops for any other purpose**.

Academic Integrity: The University of New Mexico believes that academic honesty is a foundation principle for personal and academic development. All University policies regarding academic honesty apply to this course. Academic dishonesty includes, but is not limited to, cheating or copying, plagiarism (claiming credit for the words or works of another from any type of source such as print, Internet or electronic database, or failing to cite the source), fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. The University's full statement on academic honesty and the consequences for failure to comply is available in the Catalog and the Pathfinder.

Accommodation Statement: In accordance with University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for accommodation. It is imperative that you take the initiative to bring any such needs to my attention since I'm not legally permitted to inquire. Students who may

need assistance in emergency evacuations should contact me as to the most appropriate procedures to follow. If you need an accommodation based on how course requirements interact with the impact of a disability, you should contact me to arrange an appointment as soon as possible. At the appointment, we can discuss the course format and requirements, anticipate the need for adjustments and explore potential accommodations. I rely on the Disability Services Office for assistance in developing strategies and verifying accommodation needs. If you have not previously contacted them, I encourage you to do so. Contact Accessibility Resource Center at 277-3506 for additional information.

Email Communication: Using your UNM email account is recommended for electronic communication.

Student Feedback: Your feedback on the course will be welcome and appreciated. We'll ask for your feedback through various channels, formal and informal, throughout the semester.

Syllabus Changes: This syllabus will be updated as needed. I reserve the right to change any content of the syllabus, at any time, including the grading rubric, re-weighting, and assignments. Assignments may be changed or added over the semester. If a change is made, I'll update the syllabus. **Use the most recent syllabus posted on Learn**.

GRADING

Participation	10
Problem sets	10
Tests	20
Research Project	30
Final exam	30
Total grade	**100 points**

Participation: This will be worth 10 points out of 100 course points. **Punctual attendance is required for every class** meeting of the semester. Active participation in class is expected. In class, please feel free to interrupt me with questions or comments. Please thoroughly study the weekly material in preparation for class participation. Participation includes asking questions, commenting on the class material, answering instructor's questions, collaborating in group activities, and citizenship behavior in class. These requirements apply equally to Zoom and main-campus students.

Tests: These will be worth 20 points out of 100 course points. They will assess weekly reading assignments. **Readings must be completed before class** meetings when those readings will be discussed. Weekly readings are based on the textbook, but additional readings may be assigned during the semester. The weekly test will open on *Learn* after class and is due on Thursday at 10:00 PM—the day before the next class meets. Tests include a variety of questions. Tests are an essential component of this course because they give you opportunities for skill application and practice toward the final exam.

Problem Sets: Problem sets will be worth 10 points out of 100 course points. They will be applied exercises regarding the weekly material. Problem sets are an essential component of the course

because they give an opportunity for practical applications. The problem sets will be announced by Learn or email. The weekly problem set will open on *Learn* after class and is due on Thursday at 10:00 PM—the day before the next class meets.

Research Paper: A research paper will be worth 30 points out of 100 total points. This project will include the submission of a paper. The paper should be written in the format of the PADM 553 professional paper (pro-paper). In this research, you'll follow and complete the projects 1 and 4 from Appendix E of the text (plus the project 2 from page 393), using data from the General Social Survey (GSS) of 2012. You'll provide reports of your research over the semester and an oral presentation. Students' submitted work will be checked for originality through the UNM SafeAssign system. Your research paper should effectively apply methodological techniques learned from the course. I will give, in class or by email, further information regarding this research paper.

Final Exam: The final exam will be worth 30 points out of 100 total points. The exam format will be similar to the tests but comprehensive of all course materials. This final examination will be administered on the day determined by the UNM Final Exam Schedule.

Grading Rubric:
(A+) Excellent: Exceptional work for a graduate student. Work at this level is unusually thorough, well-reasoned, creative, methodologically sophisticated, and well written. Work is of exceptional, professional quality.

(A/A-) Very good: Very strong work for a graduate student. Work at this level shows signs of creativity, is thorough and well-reasoned, indicates a strong understanding of appropriate methodological or analytical approaches, and meets professional standards.

(B+) Good: Good work for a graduate student; well-reasoned and methodologically sound. This is the graduate student grade that indicates the student has accomplished the basic objectives of the course.

(B) Adequate: Competent work for a graduate student even though some weaknesses are evident. Demonstrates competency in the key course objectives but shows some indication that understanding of some important issues is less than complete. Methodological or analytical approaches used are adequate but the student has not been thorough or has shown other weaknesses or limitations.

(B-) Borderline: Weak work for a graduate student; it barely meets the minimal expectations for a graduate student in the course. Understanding of salient issues is incomplete. Methodological or analytical work performed in the course is minimally adequate. Overall performance, if consistent in graduate courses, would not suffice to sustain graduate status in good standing.

(C/-/+) Deficient: Inadequate work for a graduate student; doesn't meet the minimal expectations for a graduate student in the course. Work is inadequately developed or flawed by numerous errors and misunderstanding of important issues. Methodological or analytical work performed is weak and fails to demonstrate knowledge or technical competence expected of graduate students.

(F) Fail: Work fails to meet even minimal expectations for course credit for a graduate student. Performance has been consistently weak in methodology and understanding, with serious limits in many areas. Weaknesses or limits are pervasive.

COURSE MATERIALS
Required to rent:
1. SPSS Base Grad Pack 26.0: https://www.ibm.com/us-en/marketplace/spss-statistics-gradpack

The textbook will be automatically loaded via RedShelf onto your UNM Learn page. The cost of the book ($22.50 according to the Bookstore) will be charged to your bursar account. If you prefer to buy the book from another vendor, **opt out before the deadline**. Please check out https://bookstore.unm.edu/t-1unm_inclusiveaccess.aspx or contact inclusiveaccess@unm.edu for more information.
*   Healey, Joseph. 2016. *The Essentials of Statistics: A Tool for Social Research*, 4th edition. Boston, MA: Cengage. ISBN-13: 978-1305093836 (available on Learn)
*   Additional materials posted on Learn

COURSE CALENDAR

Week	Read	Test-Set by
I	Ch 1 introduction — Ch 2 basic descriptive statistics	Aug 22
II	Ch 3 measures of central tendency	Aug 29
III	Ch 4 measures of dispersion	Sep 05
IV	Ch 5 the normal curve	Sep 12
V	Ch 6 introduction to inferential statistics	Sep 19
VI	Ch 7 hypothesis testing I	Sep 26
VII	Ch 8 hypothesis testing II	Oct 03
	FALL BREAK	
VIII	Ch 9 hypothesis testing III	Oct 17
IX	Ch 10 hypothesis testing IV	Oct 24
X	Ch 11 association for nominal variables	Oct 31
XI	Ch 12 bivariate correlation and regression	Nov 07
XII	Ch 13 partial correlation and multiple regression	Nov 14
XIII	TBA	Nov 21
	THANKSGIVING	
XIV	In-class presentation of research projects	Dec 06
	FINAL EXAM	Dec 13

Note: There is no class meeting on October 11, November 8 (APPAM conference), and November 29. A class picture is scheduled for the last class meeting.