MEJO 704: **Statistics for Social Science Research**

A primer on descriptive and inferential statistical analysis

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Office Hours
Tuesdays & Thursdays: 1:30pm – 2:30pm
Fridays: By appointment only

Description and Policies

Course Description

This course emphasizes the application of exploratory data analysis as well as descriptive and inferential statistical analysis to address the development, execution, and evaluation of research questions, hypotheses, and various kinds of empirical inquiries that are typical of quantitative social science research. Course lectures, discussions, and assignments will pertain to the application, calculation, and interpretation of descriptive statistics, t-tests, analyses of variance (ANOVAs), analysis of covariance (ANCOVAs), categorical data analysis, and the measurement of reliability. We will also cover topics such as data wrangling, experimental design, and the appropriateness of parametric tests as well as their nonparametic counterparts.

Building statistical expertise comes with practice and this class is comprised of a series of readings, homework assignments, exercises, and tests. This course is theoretical and practical in nature and you will learn how to use Microsoft Excel and IBM Statistical Package for the Social Sciences (IBM SPSS) for data analysis. Hand calculations involving basic algebra will be required as well. After completing this course you will be able to review and interpret the methods and quantitative results sections of research articles, accurately select and employ the correct inferential statistical tests when engaging in your own inquiries, and you will have a sound basis for the expansion of your knowledge of applied statistics.

Because of the structure of this course attendance is necessary for learning and is required (unexcused absences will affect your final grade). Deadlines are fixed. If you need to miss a class it is your responsibility to inform me in advance and to subsequently make up the work. You are expected to conduct yourselves within the guidelines of the UNC-CH Honor Code (see p. 9). All work must be completed with the high levels of honesty and integrity that this university demands.

Goals of the Course

There are three primary goals for this class:

FUNDAMENTALS: You should finish the semester with a working knowledge of inferential statistical tests and techniques which will enable you to expand your repertoire of research skills.

RESEARCH INQUIRY: You should have a intermediate understanding of how to apply statistical analysis to explore a given research inquiry and to evaluate its corresponding hypotheses and assertions.

SOFTWARE SKILLS: By the end of the course you should have a working knowledge of Microsoft Excel and IBM SPSS which will create a solid foundation for continued learning via advanced statistics and experimental design classes offered by the university.

Required Materials

You will be required to use Microsoft Excel and IBM SPSS to complete course assignments and exercises. Microsoft Office can be acquired at this site: **https://software.sites.unc.edu/software/microsoft-products/** .

IBM SPSS can be acquired on your personal computer by submitting a ticket to **https://help.unc.edu/** . In the subject line of your email please include your name and the phrase "MEJO 704 SPSS Installation Request". Within the body of your email please include your name, UNC email address, ONYEN (i.e., UNC username), and the operating system of your personal computer.

You will be required to use LinkedIn Learning.com for this course and video tutorials will be made available to you on this site: **https://software.sites.unc.edu/linkedin/** . The tutorials will sometimes be assigned for required viewing.

Additionally, I will assign videos for specific exercises and skills. I will also assign a variety of required reading materials and scholarly journal articles to be supplied during the semester.

Sakai, https://sakai.unc.edu, will house our course website, your grades, and the schedule of your daily homework assignments.

Textbook

Discovering Statistics Using IBM SPSS Statistics (North American Edition/5th Edition)
Andy Field (2018) - SAGE
ISBN: 9781526436566

Backup tools
USB flash drive, portable hard drive, or Dropbox.com account. Remember that you are responsible for backing up your work. No deadline will be extended due to a loss of files.

Assignments and Grading

Grading

This is an assignment based course with grading based on your performance on several key exercises, a research inquiry presentation, tests, and a comprehensive final exam. There will also be daily homework assignments that will be graded.

Assignments

	Value
Homework	15%
Exercises	20%
Research Inquiry Presentation	15%
Test 1	15%
Test 2	15%
Final Exam	20%
	100%

Scale

Percentage	Grade	
100-95.5%	H	High Pass
95.4-77.0%	P	Pass
76.9-68.0%	L	Low Pass
67.9% and below	F	Fail

Attendance Policy

Each student will be allowed two (2) unexcused absences and beyond that amount of unexcused absences the student's final grade will be reduced by 10% for each additional unexcused absence. Excused absences (doctor's note or cleared with me in advance) do not affect your grade. **If no documentation is presented within one day of your return to class the absence will be considered unexcused.**

Notes

The work that you submit is what will be graded. No exceptions.

Late Work: The maximum grade that can be attained for a late assignment (e.g., homework assignment, exercise, project, etc.) will be reduced by 15% for every day that it is late. You have a maximum of one class period to submit late work, otherwise you will receive a zero for the assignment.

Please be aware that I reserve the right to reduce grades at the end of the semester in some cases based upon your class attendance, performance, and the overall quality of your work.

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Grading Criteria

Homework (15%) and Exercises (20%)

Daily homework assignments will be posted on Sakai, the course management system for MEJO 704. These assignments will compliment class lectures and readings and they will be assessed for completeness and accuracy.

There will be several exercises that you will complete in order to apply the statistical and technical knowledge that you have been taught in class lectures and readings. These exercises will require the use of Microsoft Excel and IBM SPSS.

Research Inquiry Presentation (15%)

This project will allow you to elaborate upon your research interest(s) by posing a research question, generating hypotheses pertaining to your inquiry, and determining how the statistical analyses that you have been taught can be applied to the exploration of your inquiry.

Tests (30%) and Final Exam (20%)

There are two tests and one comprehensive exam scheduled for this course. All tests and exams in this course will be comprised of multiple choice questions as well as short answer questions related to the calculation and application of descriptive and inferential statistical analysis procedures. All tests will cover any information that has been presented in class lectures and any information that has been presented in readings, homework assignments, and exercises. The final exam, which will occur during the course's scheduled exam period, is comprehensive and there will be no make-up opportunities for the final exam.

Tips for Success

This course requires effort and perserverance.

All assignments and tests will be graded for accuracy and thoroughness.

All grades are final, non-negotiable, and will not be approximated. No exceptions.

If your completed work is not submitted to the Dropbox you will receive a grade of zero for the assignment. No exceptions.

You are expected to remain in class until class is dismissed.

You are expected to complete all readings and to watch all tutorial videos that are assigned for homework.

All assignments are to be completed as detailed and all requirements must be followed.

If you are absent for more than 25% of the class periods during the term you will fail the course.

		Topic/Theory*	Major Assignments
8-20	Tuesday	Introduction to MEJO 704 and orientation to the lab/ Review of Basic Algebra	Read Chap. 1
8-22	Thursday	Measures of Central Tendency/ Making Graphs	Read Chap. 2
8-27	Tuesday	Central Limit Theorem/ Standardization	Exercise 1 is due
8-29	Thursday	Central Limit Theorem/ Standardization	Read Chap. 6
9-3	Tuesday	Cleaning Data/ Independent and Dependent T-Tests	
9-5	Thursday	Independent and Dependent T-Tests	Read Chap. 10
9-10	Tuesday	Independent and Dependent T-Tests	Exercise 2 is due
9-12	Thursday	One-way ANOVAs	Read Chap. 12
9-17	Tuesday	One-way ANOVAs	
9-19	Thursday	One-way ANOVAs	Read Chap. 14
9-24	Tuesday	Factorial ANOVAs	
9-26	Thursday	Factorial ANOVAs	
10-1	Tuesday	Review	Exercise 3 is due
10-3	Thursday	Test 1	Read Chap. 15
10-8	Tuesday	Repeated-Measures ANOVAs	
10-10	Thursday	Repeated-Measures ANOVAs	Read Chap. 16

*This is meant to be a guide for topics discussed in the course this semester. Some dates for topics may fluctuate depending upon the class' progress.

		Topic/Theory*	Major Assignments
10-15	Tuesday	Mixed ANOVAs	
10-17	Thursday	HOLIDAY	
10-22	Tuesday	Mixed ANOVAs	
10-24	Thursday	ANCOVAs	Read Chap. 13
10-29	Tuesday	ANCOVAs	
10-31	Thursday	ANCOVAs	Read Chap. 8
11-5	Tuesday	Correlation and Reliability Analysis	Exercise 4 is due
11-7	Thursday	Correlation and Reliability Analysis/ Chi-Square	
11-12	Tuesday	Review	
11-14	Thursday	NO CLASS	
11-19	Tuesday	Test 2	Read Chap. 19
11-21	Thursday	Chi-Square	
11-26	Tuesday	Chi-Square	
11-28	Thursday	HOLIDAY	
12-3	Tuesday	Research Inquiry Presentations/ Review	Exercise 5 is due
		FINAL EXAM	
12-12	**Thursday**	**Final Exam @ 12pm**	

*This is meant to be a guide for topics discussed in the course this semester. Some dates for topics may fluctuate depending upon the class' progress.

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Working practices

Working over a network

You will turn in your assignments by uploading them to the MJ Files server. A server is simply another computer with lots of hard drive space that is connected to the lab computers. This provides a central location from which you can access assignment files, post your assignments, and temporarily store your work. There will be four folders on the server in a master folder for MEJO 704: 1) Class Materials, 2) Drop Box, 3) Instructor, and 4) Students. All materials needed for class such as lectures, lecture notes, and data/demonstration files will be located in *Class Materials*. You will turn in or post your homework assignments, final exercises, and your project into the *Drop Box*. The *Students* folder is for your use. You may store copies of your work or any other class related files in this folder. Please create a folder within *Students* with your name (e.g., John Doe) on it for storing your files.

The network that your lab computer uses to talk to the server is shared by the entire school and it can slow down or "freeze" if too many people try to use it simultaneously. If you open a file directly from the server it may "hang" when you are trying to save it and your work will be lost. There will be nothing that we can do to retrieve the file if this happens. BEFORE WORKING ON A FILE COPY IT TO THE DATA DRIVE ON YOUR COMPUTER AND THEN OPEN IT FROM THE DATA DRIVE TO WORK WITH IT. PLEASE NOTE: IF YOU COPY A FILE TO YOUR DESKTOP INSTEAD OF TO THE DATA DRIVE, IT WILL BE ERASED AT THE END OF THE DAY. THE DATA DRIVE IS NOT ERASED UNTIL THE END OF THE SEMESTER.

While you may store copies of your work on the server during the semester other students will have access to that common folder which increases the chance of a file being accidentally damaged or lost. Also, I will maintain and organize our files on the server on a regular basis. If you do not have a backup you will lose your work. ALWAYS make a separate copy of your current work on a flash drive or other portable storage device before the end of class.

+++++++ ALWAYS BACKUP YOUR FILES! +++++++

LOST FILES AT A DEADLINE ARE NOT EXCUSABLE AND WILL ADVERSELY AFFECT YOUR FINAL GRADE.

UNC Honor Code

I expect that each student will conduct himself or herself within the guidelines of the University honor system (http://honor.unc.edu). All academic work should be done with the high levels of honesty and integrity that this University demands. You are expected to produce your own work in this class. If you have any questions about your responsibility or your instructor's responsibility as a faculty member under the Honor Code, please see the course instructor or Senior Associate Dean Heidi Hennink-Kaminski, or you may speak with a representative of the Student Attorney Office or the Office of the Dean of Students.

Seeking Help

If you need individual assistance, it's your responsibility to meet with the instructor. If you are serious about wanting to improve your performance in the course, the time to seek help is as soon as you are aware of the problem – whether the problem is difficulty with course material, a disability, or an illness.

Diversity

The University's policy on Prohibiting Harassment and Discrimination is outlined in the Undergraduate Bulletin: http://www.unc.edu/ugradbulletin/. UNC is committed to providing an inclusive and welcoming environment for all members of our community and does not discriminate in offering access to its educational programs and activities on the basis of age, gender, race, color, national origin, religion, creed, disability, veteran's status, sexual orientation, gender identity, or gender expression.

Special Accommodations

If you require special accommodations to attend or participate in this course, please let the instructor know as soon as possible. If you need information about disabilities visit the Accessibility Services website at https://accessibility.unc.edu/ .

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ACEJMC Core Values and Competencies

The School of Media & Journalism's accrediting body outlines a number of values you should be aware of and competencies you should be able to demonstrate by the time you graduate from our program. Learn more about them here:
http://www2.ku.edu/~acejmc/PROGRAM/PRINCIPLES.SHTML#vals&comps

No single course could possibly give you all of these values and competencies; but collectively, our classes are designed to build your abilities in each of these areas. In this class, we will address several of the values and competencies listed under "Professional Values and Competencies" in the link above. The specific ACEJMC core values and competencies addressed in this course are listed below:

- **Think critically, creatively and independently;**

- **Conduct research and evaluate information by methods appropriate to the communications professions in which they work;**

- **Write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;**

- **Critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness;**

- **Apply basic numerical and statistical concepts;**

- **Apply tools and technologies appropriate for the communications professions in which they work.**