



Applied Data Analysis

PSCI 348 01E

Spring 2024

3:30-4:45 PM T/Th

SS 312

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Office hours: Tue/Thr 9:30-11:00 AM; 1:00-2:00 PM

Very often a solution turns on some means of quantifying phenomena or states that have hitherto been assessed in terms of "rather more," "rather less," or "a lot of" or - sturdiest workhorse of scientific literature - "marked" ("The injection elicited a marked reaction"). Quantification as such has no merit except insofar as it helps to solve problems. To quantify is not to be a scientist, but goodness, it does help.

- P.B. Medawar, *Advice to a Young Scientist*

Course Information

Textbook required:

Johnson, Janet Buttolph, H.T. Reynolds, and Jason D. Mycoff. 2019.

Political Science Research Methods (9th edition).

Thousand Oaks, CA: CQ Press (ISBN: 978-1544331430).

Additional readings may be supplied on the web or in class.

Textbook Readings. Given the vast amount of information available in the course, we will not have enough time to "cover" all of the readings in the assigned books—chapter by chapter. Consequently, this course will depend on you to **complete all assigned readings** and be prepared to participate in the class in a timely manner. Please note that all assigned readings are critically important for successfully completing assignments, exams, and other class requirements.

Course Description

Students will be introduced to introductory empirical and statistical methods in political science. Students will focus on applied methods of sampling, probability, descriptive and inferential statistics, and hypothesis testing for application to political science and social science research.

The specific purpose of this course is to introduce students to the use of statistics in political science research. Statistical topics to be covered in this class begin with what we refer to as descriptive statistics where students are introduced to such things as measure of central tendency, measures of dispersion, and the normal curve. We will then proceed to what is known as inferential statistics which include such things as probability and hypothesis testing. We will turn next to measures of association, first, associations between two variables and then associations using what we call multivariate measures. As part of the statistical training offered in this course, students will use the statistical package known as SPSS. However, the course does not require advanced mathematical skills (i.e., above the ninth grade level) or any prior knowledge of the computer.

Learning Objectives

Upon completion of this course

1. Describe the role of statistics in social science research and demonstrate how to create testable hypotheses.
2. Calculate and describe the different measures of central tendency and measures of dispersion.
3. Demonstrate the ability to make comparisons between groups and correctly analyze relationships between categorical variables.
4. Demonstrate knowledge of the appropriate methods, technologies, and data that social and behavioral scientists use to make an inference.

Course Policies and Procedures

All students are expected to comply with the following requirements.

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Classroom Civility

Students are expected to assist in maintaining a classroom environment which is conducive to learning. In order to assure that all students have an opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited from using electronic devices, challenging instructor's authority, eating or drinking in class, coming in late or leaving early, making offensive remarks, reading newspapers, sleeping or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in, minimally, a request to leave class. No student will be allowed to "dominate" any class period.

Electronic Devices

No personal electronic devices (laptops, tablets, cell phones, smartphones, iPads, iPods, mp3 players, and any kind) should not be present during class. Also tape recorders, camera and video phones, and all other visual and auditory recording or retention devices, are strictly prohibited in this class. Please do not bring or use those devices.

Plagiarism

Plagiarism is a serious offense and will not be tolerated. Plagiarism occurs when a student purposefully or unintentionally takes information directly from a source without proper citation. For example, forgetting to cite an author and page number with a quote is plagiarism, as is direct copying and pasting from a website. Plagiarism will result in an F for the course and notification to the university. If a student needs additional assistance, please consult me during my office hours.

AI (ChatGPT) Use in Course

The use of generative AI (Artificial intelligence) or ChatGPT is prohibited in this course, resulting in the lowest grades.

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
13.99.99.R0.10 Graduate Student Academic Dishonesty

Technology Requirements

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

Communication and Support

Student Support

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

System Maintenance

Please note that on the 4th Sunday of each month there will be System Maintenance which means the system will not be available 12 pm-6 am CST.

It is very important to go to this online course 4-5 times each week to:

1. Read new announcements
2. Check your university email
3. Review activities and assignments
4. Check the schedule of activities and assignments
5. Communicate as needed with your instructor and class members.

Submitting Assignments

You are responsible for attaching the correct assignment to the correct submission folder. When you submit your assignment, you should always click on the submitted file(s) to make sure the assignment is there. You can tell if it is attached by clicking on the submitted file(s) and actually open and view the document. Submitting an incorrect document, a blank document, or no document is counted as failure to complete the assignment on time.

Each assignment or work should be done in MS-Word, including your name in the content. Also make your computer file name, when adding your file(s) in the submission folder, using your last name and a specific assignment (i.e., Choi Activity1.docx).

Announcements

Announcements are posted often in the course. When you go to the course, you should first read any announcements that have been posted since you were last in the class.

Email Correspondence

Email from me is sent to your University email account. It is important to go to MyLeo mail regularly to check for messages.

If you need to contact me, email is the best way to reach me. Please send your message with your first and last name so I know who you are. Unless otherwise announced, I will do my best to respond within 48 hours except weekends.

Access to SPSS

You will learn how to use SPSS (statistical software package) to conduct empirical research in social science using the tools covered in class. Some homework assignments require access to SPSS. Students can access SPSS through the computer lab or computers in the university library. You can also purchase IBM® SPSS® Student GradPack.

USB Jump Driver and Hand Calculator

Bring a USB jump driver and a hand calculator to the class so that you can save data files and calculate by hand.

University Procedures/Policies

Code of Student Conduct: All students enrolled at the university shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. Faculty have the authority to request students who exhibit inappropriate behavior to leave the class and may refer serious offenses to the University Police Department and/or the Dean of Students for disciplinary action. Failure to comply with the Code of Student Conduct and commonsensical directions listed above may result in a verbal request to cease inappropriate behavior, your immediate removal from the class, being immediately dropped from the class, and/or a review by an appropriate university disciplinary agency. For more information on this subject, please see the Student Guidebook.

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex,

national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

The Counseling Center

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel.

University's Pandemic Response

A&M-Commerce recommends the use of face-coverings in all instructional and research classrooms/laboratories.

"Students should not attend class when ill or after exposure to anyone with a communicable illness. Communicate such instances directly with your instructor. Faculty will work to support the student getting access to missed content or completing missed assignments."

Grading and Evaluation

Grading

The final grade will be determined on the following basis:

Requirement	Percentage
Attendance/Participation	10%
Exam 1	30%
Exam 2	30%
Assignments	30%

Grading Scale

Standard	Grade	Points
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Excellent	A	100-90
Good	B	89.9-80
Average	C	79.9-70
Below Average	D	69.9-60
Unacceptable	F	59.9-0

I will do my best to help students with any other needs they may have. Do not wait until the end of the semester to see assistance as that will be too late to make a difference. In all cases, it is necessary for the student to discuss their concerns with me as soon as possible after the concern develops. There is little that can be done at the end of the semester to compensate for earlier difficulties.

Note: I am not responsible for your scholarships, academic eligibility in extracurricular activities, or graduation eligibility. Do not come to me pleading that you “need” or “have to” get a certain grade. The grade you earn is the grade you will get. Under no circumstance will I arbitrarily change a grade, so do not ask. NO exceptions! Also, there will be NO extra project for this class regardless of the situation. Also, I am not allowed to dispense or discuss grades over the phone or via email, but grades will be posted on the class web.

Attendance/Participation (10% of total course grade)

“Eighty five percent of success is merely showing up.” — Woody Allen —

Attendance is mandatory. Class attendance is crucial to your understanding of the concepts, issues, processes and not all of them will be covered in the assigned texts. Attendance is part of the course experience the same as lectures, texts, exams, and other course elements. Attending class can only help your grade so I strongly suggest you show up to class on a regular class.

Class attendance/participation counts 10% toward your final grade. Roll will be taken regularly. Repeated absence will be detrimental to your final grade, as will repeated tardiness, which is disruptive to your classmates. Students sleeping, talking, text messaging or otherwise not paying attention in class will be marked absent. Students who arrive late or leave early will be counted as absences.

Consistent with University policies and procedures, students who are absent for 4 class meetings will be administratively dropped from the class. There will be no “excused” absences aside for official university activities or documented medical issues. Students are required to provide documentation by the next class meeting to receive an excused absence.

Midterm Exams (60% of total course grade)

There will be two exams. The exams will cover material from the assigned readings, lectures, and class discussion. The exams will always include material from the readings that have not been discussed in lectures. Bring a bluebook and pencils.

After each exam full grade information will be posted on the class web. This information will be updated after each exam and immediately before the final exam period. It is each student’s responsibility to check this grade information after each exam and notify the instructor if s/he believes it contains any errors. Errors can be corrected if brought to the instructor’s attention promptly. Do not wait weeks or until the end of the semester to discover or mention errors. By then it is probably too late.

Makeup Exams

I expect that students will take exams on the day that they are given. If you have a legitimate reason for missing an exam (e.g. severe illness or injury requiring professional medical care) AND you have supporting documentation for your absence, then you may request taking the make-up exam. It is the responsibility of the student to make arrangements to take a make-up exam within two days of the date the exam was missed. If you have an excuse that is documented and have been verified by me and do miss the exam, all make up exams will be given at 3:30 pm, May 1. No makeup exam will be given for the

second exam. Make-up exams, at the discretion of the instructor, may be in a complete essay format or calculations.

Assignments (30% of total course grade)

Students are required to complete assignments. Assignments will consist of problem sets, short reports on research design, and data analysis working with data sets in SPSS. Assignments will be assigned in class and will be due at the beginning of class the following week. Late assignments will not be accepted. If you do not turn in an assignment on time, you will receive a zero on that assignment.

Assignment should be posted to the proper submission folder on D2L by a specified time. If this specified time passes, the submission folder will be automatically closed.

Course Schedule

Students are responsible for reading assigned chapters before the class covers them. This is the anticipated course schedule, but it may be subject to minor revisions as the semester progresses.

Week 1 (1/11-16)

Topics: Course Introduction

Week 2 (1/18-23)

Topics: Nature of Social Science Analysis

Readings: Ch. 1; Ch. 2

Week 3 (1/25-30)

Topics: Measurement of Concepts

Readings: Ch. 3; Ch. 4

Week 4 (2/1-6)

Topics: Building Theories and Framing Hypotheses / Research Design / Measuring Variables

Readings: Ch. 3; Ch. 4; Ch. 5; Ch. 6; Ch. 11

Week 5 (2/8-13)

Topics: Statistical Inference and Hypothesis Testing

Readings: Ch. 7; Ch. 12

Week 6 (2/15-20)

Topics: Statistical Inference and Hypothesis Testing

Readings: Ch. 7; Ch. 12

Week 7 (2/22-27)

Topics: Statistical Inference and Hypothesis Testing

Readings: Ch. 7; Ch. 12

Week 8 (2/29)

Exam #1

Week 9 (3/5-7)

Topics: Correlation

Readings: Ch. 13

Week 10 (3/12-14)

Spring Breaks

Week 11 (3/19-21)

Topics: Chi-Square Test

Readings: Ch. 13

Week 12 (3/26-28)

Topics: Introduction to Regression

Readings: Ch. 14

Week 13 (4/2-4)

Topics: Bivariate/Multiple Regression

Readings: Ch. 14

Week 14 (4/9-11)

Topics: Applications of Multiple Regression

Readings: Ch. 14

Week 15 (4/16-18)

Topics: Applications of Multiple Regression

Readings: Ch. 14

Week 16 (4/23-30)

Topics: Logit and Probit Regression

Readings: Ch. 14

Week 17 (5/2)

Exam #2