

Regression and Data Analysis (SOCI 4366 001)

Contact Information

Dr. Joseph M. Simpson, Associate Professor of Sociology

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Office: 347E CAB

Student Hours: Tuesday & Thursday 10:00-10:45 am & 3:15-4:45 pm

Or make an appointment:

<https://outlook.office365.com/owa/calendar/MeetingwithDrSimpson@tamusa.edu/bookings/>

Course Information

When: Tuesdays and Thursdays from 2:00 pm – 3:15 pm

Where: Science & Technology 121

Course Description

This course covers the principles of linear and logistic regression, including simple and multiple regression, dummy variables, interaction and moderation effects, and regression assumptions and diagnostics. Students will continue to develop their professional statistics software skills and research production.

Text Book

Mehmetoglu, Mehmet and Georg Jakobsen. *Applied Statistics Using STATA: A Guide for the Social Sciences Second Edition*.

Optional:

STATA/BE <https://www.stata.com/order/new/edu/profplus/student-pricing/>

Learning Objectives

Students who successfully complete the course will:

- Develop the enhanced ability to conduct statistical analysis of quantitative data using regression analysis.
- Have increased understanding of the appropriate use of regression techniques including: simple and multiple regression, dummy-variables, interaction and moderation effects, and regression assumptions and diagnostics.

- Will be able to interpret regression results
- Will be able to use professional statistics software to conduct their own research.
- Have experience in exploring and working with secondary data with an expectation they conduct their own research.
- Will be introduced to advanced techniques in statistics including: logistic regression, survival analysis, multilevel analysis

Attendance, Early or Late Work, and Extra Credit

You are expected to attend class and read and review course materials before it is scheduled to be covered in class. I will be recording your attendance and participation in class and Blackboard allows me to track your time online.

As adults, you are expected to handle your own time. A normal 3-hour university course should require 2-3 hours of work outside the classroom for every hour in the classroom. That means 6-9 hours per week of work for each class. You may complete this work at whatever time works best for you, but you must devote enough time to complete the assigned work on time. Since the only time constraint is that you must complete assignments within the assigned time. Work that is not completed on time will be ineligible to receive a letter grade of "A" (90%).

I will review excused absences or extensions for late work on a case-by-case basis. You must get prior approval for an extension or inform me as soon as you are able to about an absence or late submission.

I may offer extra credit opportunities.

Classroom Courtesy

Courtesy is expected, especially when we are dealing with sensitive topics. For that reason, the following rules will be enforced.

- If you have questions, ask them. But do so in a respectful manner.
- All comments made to classmates and/or the instructor must be respectful. This includes comments made through private channels such as email.
- If you are uncomfortable about a statement made by any other student, notify me as quickly as possible.

- Do not link to other online information or send links to other websites without consulting me first. There is a great deal of “information” on the Internet that is inappropriate and/or incorrect.

Any statement that is discriminatory or disrespectful toward any group of people or that creates a forum hostile to others will not be tolerated. It is possible that comments will not be intended as discriminatory or disrespectful but may be interpreted as such. In these cases, I will discuss why the statement is inappropriate the first time. Use of identified terms or phrases after that will be interpreted, as intentionally disrespectful and appropriate disciplinary actions will be taken.

Assignments

- ❖ Labs: 25 points each (275 points total)
 - All Labs are to be completed by the date listed in the schedule by 11:59 PM. An online drop box for each assignment will be under Course Content on blackboard.
 - All questions must be turned in as a Microsoft Word document (*.doc or *.docx). All Labs must also include the output log from Stata with the practical applications.
 - If you turn in your lab late you will lose 10% from your earned grade.
- ❖ Exams: 75 points each (225 points total)
 - There will be three take home exams.
 - You will have a week to compete each exam.
 - All exams must be turned in as a Microsoft Word document (*.doc or *.docx). All Exams must also include the output log from Stata.

Grading Scale

A	100-90%	500-450 points
B	89-80%	449-400 points
C	79-70%	399-350 points
D	69-60%	349-300 points
F	59-00%	299-000 points

SCHEDULE: TOPICS, READINGS, and ASSIGNMENTS

Week	Day	Topics and Readings
1	8/27/24	Welcome and Course Overview (Read Syllabus)
	8/29/24	Research and Statistics Overview (Chapter 1)
2	9/3/24	Introduction to Stata (Chapter 2)
	9/5/24	Lab 1: Familiarizing Yourself with Stata Complete the Chapter 2 Questions and Practical Exercises Due 9/9 at 11:59 PM
3	9/10/24	Simple Bivariate Regression (Chapter 3)
	9/12/24	Lab 2: Simple Regression Complete the Chapter 3 Questions and Practical Exercises Due 9/16 at 11:59 PM
4	9/17/24	Multiple Regression (Chapter 4)
	9/19/24	Lab 3: Multiple Regression Complete the Chapter 4 Questions and Practical Exercises Due 9/23 at 11:59 PM
5	9/24/24	Dummy-Variable Regression (Chapter 5)
	9/26/24	Lab 4: Dummy Variables Complete the Chapter 5 Questions and Practical Exercises Due 9/30 at 11:59 PM
6	10/1/24	Exam 1: Regression Application
	10/3/24	Exam 1 Due 10/7 at 11:59 PM
7	10/8/24	Interaction/Moderation Effects Using Regression (Chapter 6)
	10/10/24	Lab 5: Interaction and Moderation Effects Complete the Chapter 6 Questions and Practical Exercises Due 10/14 at 11:59 PM
8	10/15/24	Regression Assumptions & Diagnostics (Chapter 7)
	10/17/24	Lab 6: Regression Assumptions Complete the Chapter 7 Questions and Practical Exercises Due 10/21 at 11:59 PM
9	10/22/24	Logistic Regression (Chapter 8)
	10/24/24	Lab 7: Logistic Regression Complete the Chapter 8 Questions and Practical Exercises Due 10/28 at 11:59 PM
10	10/29/24	Survival Analysis (Chapter 9)
	10/31/24	Lab 8: Survival Analysis Complete the Chapter 9 Questions and Practical Exercises

		Due 11/4 at 11:59 PM
11	11/5/24	Exam 2: Regression Diagnostics and Generalizations
	11/7/24	Exam 2 Due 11/11 at 11:59 PM
12	11/12/24	Multilevel Analysis (Chapter 10)
	11/14/24	Complete the Chapter 9 Questions and Practical Exercises Due 11/18 at 11:59 PM
13	11/19/24	Panel Data Analysis (Chapter 11)
	11/21/24	Complete the Chapter 9 Questions and Practical Exercises Due 11/25 at 11:59 PM
14	11/26/24	Exploratory Factor Analysis (Chapter 13)
	11/28/24	Thanksgiving Day
15	12/3/24	Complete the Chapter 9 Questions and Practical Exercises Due 12/5 at 11:59 PM
	12/5/24	
	12/6/24	Study Day
	12/7-13	Finals Week Final 2:00-3:50 pm 12/10 Final Exam Due 12/13 11:59 PM

IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Individuals with Disabilities

Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, Disability Support Services is located in the Central Academic Building, Suite 210. You can also contact us via phone at (210) 784-1335, visit us <https://www.tamusa.edu/Disability-Support-Services/index.html> or email us at dss@tamusa.edu. Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services and their instructors as soon as possible.

Academic Learning Center

The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu calling (210) 784-1307, or visiting the Central Academic Building, room 202.

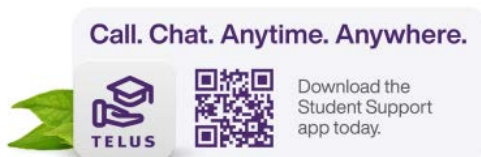
Counseling/Mental Health Resources

As a college student, there may be times when personal stressors interfere with your academic performance and negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment, call 210-784-1331 or visit Madla 120.

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. For more information on SCC services visit tamusa.edu/studentcounseling

Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option '2').

Additionally, the TELUS Student Support App provides a variety of mental health resources to including support for in the moment distress, an anonymous peer to peer support network, mental health screenings, podcasts, and articles to improve your mental wellbeing.



Emergency Preparedness

JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>.

More information about Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/emergency-management/>.

Download the SafeZone App (<https://safezoneapp.com/>) for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900.

Financial Aid and Verification of Attendance

According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend the first week of class will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Writing, Language, and Digital Composing Center

The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in

Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on “Writing, Language, and Digital Composing Center” to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://www.tamusa.edu/academics/>

Meeting Basic Needs

Any student who has difficulty affording groceries or accessing sufficient food to eat every day or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to submit a CARE referral

(<https://www.tamusa.edu/university-policies/Student-Rights-and-Responsibilities/file-a-report.html>) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources.

Military Affairs

Veterans and active-duty military personnel are welcomed and encouraged to visit the Office of Military Affairs for any question involving federal or state VA Education Benefits. Visit the Patriots’ Casa building, room 202, or to contact the Office of Military Affairs with any questions at military.va@tamusa.edu or (210)784-1397.

Religious Observances

Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or course work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule

Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student’s GPA. However, course drops

that exceed the maximum allowed by SB 1231 will be treated as “F” grades and will impact the student’s GPA.

Statement of Harassment and Discrimination

Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equal opportunity, and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, gender expression, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio’s Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment, sexual violence, or other related misconduct, the faculty member must share that information with the university’s Title IX Coordinator (titleix@tamusa.edu, 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students

Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student’s studies; (3) participate in an alternative program; (4) change the student’s major, degree, or certificate program; or (5) refrain from joining or cease participating in any course,

activity, or program at the University. The university will provide such reasonable accommodations to pregnant students as would be provided to a student with a temporary medical condition that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status (titleix@tamusa.edu; 210-784-2061; CAB 439K).

Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

Students' Rights and Responsibilities

The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

Students' Rights

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, gender identity, gender expression, and pregnancy/parenting or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
4. Each student subject to disciplinary action arising from violations of university student rules shall be assured a fundamentally fair process.

Students' Responsibilities

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty, and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, [Student Code of Conduct](#), on our website, and University Catalog, and to comply with them, as well as with federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide a safe environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notifications.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation, or disability. Conduct that infringes on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the Student Code of Conduct (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/documents/Student-Handbook-2022-23.pdf>) or visit the resources available in the OSRR website (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/academic-integrity.html>).

AI Policy

There are situations and contexts within this course where you may be asked to use artificial intelligence (AI) tools to explore how they can be used. Outside of those circumstances, you should not use AI tools to generate content (text, video, audio, images) that will end up in any student work (assignments, activities, discussion responses, etc.) that is part of your evaluation in this course. Any student work submitted using AI tools should clearly indicate with attribution what work is the student's work and what part is generated by the AI. In such cases, no more than 25% of the student work should be generated by AI. If any part of this is confusing or uncertain, students should reach out to their instructor for clarification before

submitting work for grading. Use of AI-generated content without the instructor's permission and/or proper attribution in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity

Important Dates

August 26	First day of class
September 2	Labor Day Holiday
November 11	Last day to drop with an automatic "W"
November 19	Last day to drop a course or withdraw from the University
November 27	Study Day – No classes
November 28-30	Thanksgiving Holiday – No classes
December 5	Last day of classes
December 6	Study Day – No classes
December 7-13	Final exams

The complete academic calendar is available online:

<https://www.tamusa.edu/academics/academic-calendar/index.html>