

# PSYC 3316 Physiological Psychology



## INSTRUCTOR

Alan M. Daniel, PhD

## EMAIL

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## OFFICE LOCATION

Science and Technology 249D

## OFFICE HOURS

Tuesdays 11-12:30

or by appointment.

Virtual meetings available

## COURSE OVERVIEW

This course will provide a theoretical background and practical experience to statistics for psychology and other behavioral sciences. Statistics are the tools we use to summarize and describe the world around us and to explore the causal processes at work. Understanding statistics and how they are used and misused is vital to assimilating information as an informed citizen, as well as pursuing a career in the behavioral sciences or similar fields. In this course will cover topics including: principles of measurement, measures of central tendency and variability, probability and distributions, correlation and regression, hypothesis testing, t-tests, analysis of variance, and chi-square tests. You will learn and use computer programs to help you understand and perform select statistical analyses.

## REQUIRED TEXTS

Navarro, D., Foxcroft, D., & Faulkenberry, T. (2019). Learning statistics with JASP: A tutorial for psychology students and other beginners. <https://tomfaulkenberry.github.io/JASPbook/index.html>

Clyde et al. (2022) An Introduction to Bayesian Thinking. <https://statswithr.github.io/book/>

## COURSE GOALS AND OBJECTIVES

As a result of successfully completing this course, the student will be able to:

- Design experiments with statistics in mind
- Become proficient in using software for statistical analysis
- Identify best practices and common misuse of data
- Apply the appropriate statistical tests to novel data sets
- Attain broad familiarity in statistical approaches to different kinds of data covering many disciplines in psychology

## GRADING

### *Types of Assignments*

- **Class analyses.** For each statistical test we discuss, we will analyze data from a data set and you will produce an APA style results section to turn in to demonstrate that you can successfully conduct this analysis.
- **Experiment proposals.** For each of the statistical tests we discuss, you will develop an experiment proposal appropriate to the topic of the week. We will choose one proposal to discuss in class.
- **Exams.** We will have a midterm and a final exam, which may consist of assessment of concepts for that unit but will primarily focus on your ability to identify the appropriate statistical test for a given data set and carry out an analysis of that data.

### *Graded Items:*

- Class Analyses: 8, 2 points each
- Experiment Proposals, 8, 4 points each

- Mid-term Exam, 26 points
- Final Exam, 26 points

All assignments will be submitted through blackboard, and instructions/rubrics will be available on blackboard unless otherwise noted. Your final grade in this class will be calculated as a simple average: your points earned divided by the maximum number of points you could have earned. The total points for the course is 100. You can take your final total and calculate the percentage and letter grade based on the usual cutoffs (90 = A, 80 = B, 70 = C, 60 = D, 59 or lower = F).

## LATE WORK

Due dates and times are clearly listed on every assignment. In general, work for the week is due by class time on Monday of the following week. Work turned in after the due date and time is considered late and will not be accepted. If you have an emergency situation, notify me ASAP for consideration, and include any necessary documentation.

## WITHDRAWAL POLICY

Any withdrawals after the last day for an automatic "W" date established by the university will receive the grade of "F".

## COURSE SCHEDULE

WEEK	SUBJECT	ASSIGNMENT DUE
8/25	Overview, Designing Experiments, Ethical concerns	
9/1	Using JASP; Graphs, Error Bars and Confidence Intervals	<i>Labor Day Monday, no class</i>
9/8	Descriptive Stats Review; Means, SDs, Degrees of Freedom	
9/15	NHST, Error, Sampling Distributions	
9/22	T-tests	Analysis and Proposal 1 Due 9/29
9/29	Nonparametric tests	
10/6	One-way ANOVA and Post hoc tests	Analysis and Proposal 2 Due 10/13
10/13	Factorial ANOVA	Analysis and Proposal 3, Mid Term Due 10/20
10/20	Repeated Measures ANOVA	Analysis and Proposal 4 Due 10/27
10/27	ANCOVA, MANOVA, MANCOVA	
11/3	Working with Ordinal data	Analysis and Proposal 6 Due 11/10
11/10	Correlation and Regression; Mediation/Moderation, Paths	Analysis and Proposal 7 Due 11/17
11/17	Bayesian Inference	
11/24	Bayesian Hypothesis testing	Analysis and Proposal 7 Due 12/1
12/1	Power Analysis, Missing Data	Analysis and Proposal 8 Due 12/8
		Final Exam Due 12/8

## TIME COMMITMENT

Federal law mandates that each "hour" of course credit requires two hours outside of class. As such, we expect you to spend time outside of class studying (even if we don't assign any homework)! You will be tempted to make that time as close to zero as

possible. This is a big trap that you *\*must\** avoid. A full-time student (12+ hours of class) is a full-time job, and expect to spend at least 36+ hours a week.

## **QUALITY OF WRITTEN WORK**

All written work should be academic quality submitted in APA format in order to expect full credit.

## **AI POLICY: USE OF GENERATIVE AI PERMITTED UNDER SOME CIRCUMSTANCES OR WITH EXPLICIT PERMISSION**

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 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](mailto: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 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](mailto:tutoring@tamusa.edu), calling (210) 784-1307, or visiting the Central Academic Building, room 202.

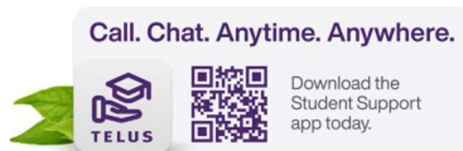
Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the 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 <http://tamusa.edu/studentcounseling>

*Crisis support is available 24/7 by calling the SCC at 210-784-1331.*

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 by the published Census Date (the first week of class). Any student receiving federal financial aid who does not attend prior to the published Census Date (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](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.

Office Hours: All faculty with teaching assignments should include regularly scheduled office hours on each syllabus in addition to "by appointment." Please review your appointment letter for the number of weekly office hours you are expected to set. Regularly scheduled office hours should also be posted outside your office door (where applicable).

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](mailto: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 with 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 on our campus and within our state, nation, and world. All decisions and actions involving students and employees are to 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, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the University's Civil Rights Officer at 210-784-2061 or [titleix@tamusa.edu](mailto:titleix@tamusa.edu).

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 based on sex, 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 sex-based misconduct, the faculty member must share that information with the university's Title IX Coordinator ( [titleix@tamusa.edu](mailto: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 modifications to pregnant students as would be provided to a student with 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](mailto: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.

Young Jaguars: can support parenting students with daycare who meet this criteria: Must be enrolled in classes at TAMUSA in the current semester. Must be Pell eligible or a single parent. They serve children ages 3 to 12-years-old. Children must be enrolled in Pre-K-3 through 6th grade. [youngjaguars@tamusa.edu](mailto:youngjaguars@tamusa.edu) (210) 784-2636

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 students' 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>).