

PSYC 5340: Advanced Statistics and Design

Summer 2021: Online & Asynchroneous



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Office hours: *By appointment* via Zoom.

Important note: This course is online and asynchronous. This means we don't have to log into Zoom for class. Videos are posted in Canvas and you watch them weekly. Class will run from May 25th to August 7th 2021.

Office Hours

- Make an appointment through my **calendly** link: <https://calendly.com/sestrada>
 - You don't have to email me, **calendly** will notify me. I only ask you to make an appointment through this app because it makes the sharing of zoom links easy plus it goes straight to my calendar so I don't forget!
 - If the available in **calendly** definitely don't work for you then please email me we can work something out.

Required Texts

- Navarro DJ and Foxcroft DR (2019). Learning Statistics with jamovi: A Tutorial for Psychology Students and other Beginners. (Version 0.70). DOI: 10.24384/hgc3-7p15 You can download it here: <https://www.learnstatswithjamovi.com/>
- **Suggested Text** Publication Manual of the American Psychological Association (7th Ed.).(2020).Washington, DC: American Psychological Association.

Required Software

- We will be using a free and open source software for our data projects called **jamovi**. You can download the software here: <https://www.jamovi.org/> and you can watch a tutorial installation here: <https://www.youtube.com/watch?v=syx0f4xCxpk>
- We will also use the free and open source software **G*Power** which can be downloaded here: <https://www.psychologie.hhu.de/arbeitsgruppen/allgemeine-psychologie-und-arbeitspsychologie/gpower.html>
- Both **jamovi** and **G*Power** are available in the virtual desktop.

Course Catalog Description: Includes aspects of complex experimental designs, statistical hypothesis testing, decision theory, multiple regression analysis, ANOVA, distribution-free techniques, and factor analysis.

Required Prerequisites: PSYC 2354 and PSYC 2331 (or equivalent undergraduate statistics and research methods courses at another institution) and consent of instructor.

Student Learning Outcomes: As a result of this course, successful students will be able to:

- Identify and articulate the theoretical underpinnings of inferential statistics and experimental design.
- Articulate basic principles of statistical analyses, including measures of central tendency, variability, sampling distributions and hypothesis testing.
- Accurately choose and conduct statistical data analyses, using **jamovi** statistical software, emphasizing the basic assumptions, appropriate uses, and the interpretation of each.
- Employ qualitative, quantitative, and single-case research methods.

Data Projects

- There will be data assignment (roughly) for each of the topics we cover. The due date for these assignments will be Sundays 11:59 PM for the week each topic is covered.
- You have to pair up with another student to complete the assignment (pairs means *two* people).
 - You will sign-up for a partner in Canvas.
 - Teams may meet online or face to face.
 - I will create the the “team” in Canvas so that only one of you has to submit in Canvas.
 - Unless you find your partners is discriminatory, abusive, intimidating, it is **your** responsibility to communicate with your partner on how to best complete the assigned projects.
- Submission should be made in pdf (I find this distorts student’s APA styled graphs the least)
- Label your assignments as: **LastNamePartner1.LastNamePartner2.AssignmentName.pdf**.
- All assignments **MUST** be turned in on time to receive full credit. I will deduct 2 points for everyday a submission is late (from a total of 10 points) and the project will receive minimal feedback.
- You will get to drop one assignment no questions asked without it affecting your grade.
- **Homework Data Projects are submitted Sundays of each week at 11:59pm**

I have gotten a lot of pushback from students in the past regarding teams, to this I have three responses:

- Having people pair up in teams allows me to give more detailed feedback rather than a lot of short, quick feedback
- Do not ask me to write a recommendation letters to PhD programs if you cannot work as part of a team.
- A quote from Thomas Deetjen (2020): *We may idealize the independent researcher that secures their own funds, does their own experiments, writes their own articles and reaps the awards. But effective researchers don’t really operate in such isolation. They understand that they accomplish more as part of a research team. Or more broadly, they recognize that their work depends on the previous labors of other scientists.*

Discussion Board

- We will have a 2-3 discussion boards covering the topics specific topics learned in class (e.g. Correlation, Descriptives) learning in class. The specific discussion topics may range from discussing articles to evaluating the statistical content of research articles.
- Each discussion will be graded and moderated by the TA and myself
- Each discussion will be worth 10 points.
- There is an available rubric for grading the discussion in Canvas.
- Late discussion postings will be deducted 2 points for everyday the post is made late.

- Discussions post should be submitted by Sunday at 11:59pm of each week.

Exams

This class will have a midterm exam and a final project.

Midterm

The midterm exam will be 15 questions taken online through Canvas and a project utilizing applied concepts using `jamovi` or interpreting output.

Final Project

In a group of your choosing, you will work to design and test a hypothesis using one of the provided real data sets posted on Canvas. The final product will consist of a detailed poster/infographic and paper. Part of this final project will consist of:

- You will participate in a peer review of the literature review for this project
- You will grade other team members on their level of participation and engagement with the project.
- More information in Canvas.

Grading

Midterm	20%
Final Data Project	20%
Homework Data Projects	40%
Discussion Board	20%

Email Netiquette

- I will respond to emails Monday to Friday from 8-5 pm.
- Make sure your question isn't addressed in this syllabus.
- When you email me, identify what course you are in. State what section, day and time you are in. I teach more than one statistics class, and more than one section every day.
- Address me as Dr. Estrada. Do not begin your email with "hey." I'm also not Ms. Estrada.

I am usually quick to respond to student e-mails. However, student e-mails tend to do several things that try my patience. I have a new policy, effective Fall 2019, that outlines why I will not respond to certain e-mails students send. Multiple rationales follow.

- The student could answer his/her own inquiry by reading the syllabus.
- Do not email me inquiring about your final grade or to help you predict your final grade.
- Grades will be available on CANVAS and you should know what you need to pass the course.
- The student should use his/hers UTT email at all times. Do not email me from your private account (eg. coolguy23@gmail.com). If you email me from a personal email, I will NOT respond.
- The student missed class for which there was no exam. I do not need to know the exact reason for a missed class. Students with excusable absences are responsible for giving me a note in hard copy that documents the reason for the missed class. An e-mail is unnecessary unless the impromptu absence

involved missing a midterm or final.

- The student wants to know what topics s/he missed during a class s/he skipped. The answer is always “you missed what was on the syllabus.”
- The students wants to know how many classes s/he missed at some point during the semester.
- I assume the student has a better answer to that question than me until the end
- The student is requesting an extension on an assignment for which the syllabus already established the deadline. The answer is always “no”.
- The student is “grade grubbing” or asking to round up a grade. The answer is always “no”.
- The student is asking for an extra credit opportunity. PSYC 5340 is a master’s level course there is no extra credit.

When to contact the Teaching Assistant (TA):

- TAs change semester by semester. To find their information more accurately you can look in the homepage of our class CANVAS.
- For question regarding discussion board grades.
- Questions regarding tutoring or review sessions.

Make-up exams and assignments: To be eligible for a make-up exam or assignment that was missed due to an absence, you will have to bring in some kind of official documentation for that absence (doctor note, work note, etc). This same policy applies to late work. The only late assignments accepted will have appropriate documentation. You are not to submit a late assignment without first providing documentation (remember you can drop ONE assignment without it affecting your grade). Late assignments may receive partial credit.

Tentative Schedule & Topics

- Week 01, 05/25 - 05/31: Data Entry & Importing Data
- Week 02, 06/01 - 06/07: Descriptive Statistics
- Week 03, 06/08 - 06/14: Recoding and Computing Variables
- Week 04, 06/15 - 06/21: Categorical Data Analysis
- Week 05, 06/22 - 06/28: Comparing Two Means
- Week 06, 06/29 - 07/05: Correlation and Regression & Logistic Regression
- Week 07, 07/06 - 07/12: Midterm Project
- Week 08, 07/13 - 07/19: One Way ANOVA
- Week 09, 07/20 - 07/26: Factorial ANOVA & ANCOVA
- Week 10, 07/27 - 08/02: Factor Analysis & MANOVA
- Week 11, 08/03 - 08/09: Final Data Project

Technical Support: If you experience technical problems or have a technical question about this course, you can obtain assistance by emailing itsupport@patriots.utttyler.edu or call 903.565.5555. When you email IT Support, be sure to include a complete description of your question or problem including: • The title and number of the course • The page in question • If you get an error message, a description and message number • What you were doing at the time you got the error message

University Policies

Grade Replacement/Forgiveness: If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

Disability Services: If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Support Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability support services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Support Services counselor. For more information, call or visit the Student Services Center located in the University Center, Room 282. The telephone number is 566-7079 (TDD 565-5579). Additional information may also be obtained at the following UT Tyler Web address: <http://www.uttyler.edu/disabilityservices>.

Student Absence due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Grade Grievances

Grade grievances can be filed only after final grades have been posted after the end of the semester, but must be made within 90 days of the semester end. To file a grade grievance, refer to the appropriate section of the UTT Catalog (p. 38).

Academic Honesty Statement

Cheating, plagiarism (submitting another person's material as one's own), or doing work for another person who will receive academic credit is impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure or give help during an examination, the unauthorized copying of examinations, assignments, reports, or term papers, or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

Civility Statement

Students are expected to interact with instructors and peers in a respectful manner that enhances the learning environment.

UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- UT Tyler Counseling Center (903.566.7254)

Library Support

The Robert R. Muntz Library strives to serve as a center of discovery, exchange, and advancement of ideas.
<http://www.uttyler.edu/library/>

I RESERVE THE RIGHT TO MODIFY THIS SYLLABUS AT ANY TIME. THEREFORE, YOUR ATTENDANCE AND ATTENTION TO THE ANNOUNCEMENTS IN CANVAS ARE CRUCIAL BECAUSE IT WILL ASSIST YOU REMAIN CURRENT ON THE MATERIAL AND KNOW WHEN THE SYLLABUS MAY BE MODIFIED.

Thomas Deetjen, P. (2020). *Published: A guide to literature review, outlining, experimenting, visualization, writing, editing and peer review for your first scientific academic journal article.*