PSYC 2354-060: Statistics and Laboratory
University of Texas at Tyler
Department of Psychology and Counseling
Summer I 2026

Instructor Information

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Graduate Teaching Assistant

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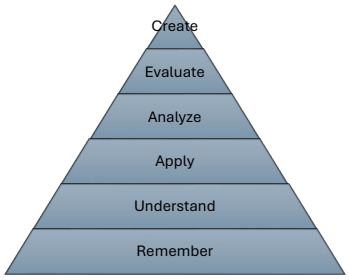
Course Overview

An introduction to descriptive and inferential statistical methods used in psychological research. Emphasis will be on hypothesis testing with t-tests, analysis of variance, correlation, and selected nonparametric techniques. Application of computers and statistical software to psychological research.

Course Outcomes and Student Learning Outcomes

These are things you should know or be able to do by the end of this course (called **course objectives**). They will consist of smaller goals, called learning objectives.



Cognitive levels indicate the complexity of thinking required for the course outcome or learning objective. “Remember” and “Understand” are the least complex levels, whereas “Evaluate” and “Create” are the most complex levels.

The big Course Outcomes in this class are as follows. Each course outcome’s Student Learning Objectives (SLOs) are listed below it.

- CO 1. Remember and understand basic vocabulary terms and concepts for introductory statistics for behavioral sciences (**Remember, Understand**). The closed-book, multiple-choice **Pretest** and **Posttest** will assess your mastery of CO 1. We will study and practice these terms throughout the term. The **Pretest** will introduce them, the module lectures and activities will expand upon them, and the **Posttest** will cumulatively test your knowledge of them.
  - SLO 1.1). Identify variables.
  - SLO 1.2). Word research questions properly.
  - SLO 1.3). Identify the level of measurement of given variables.
  - SLO 1.4). Define different descriptive and inferential statistics terms.
  - SLO 1.5). Identify different data visualizations.
- CO 2. Choose and interpret appropriate descriptive statistics and visualizations for variables based on their level of measurement (**Apply**). The Results (descriptive statistics) section of the **Data Paper** and the **Data Analysis Assignment** assess your mastery of CO 2.

    - SLO 2.1). Identify variables (**Understand**). We will study and practice SLO 2.1 in Week 2.
    - SLO 2.2). Identify the level of measurement of a given variable (**Understand, Apply**). We will study and practice SLO 2.2 in Week 2.
    - SLO 2.3). Apply the appropriate software tutorial to generate the appropriate descriptive statistics for a variable of a given level of measurement (**Remember, Apply**). We will study and practice SLO 2.3 in Weeks 2 and 3.
    - SLO 2.4). Interpret descriptive statistics and descriptive data visualizations (**Analyze, Evaluate**). We will study and practice SLO 2.4 in Week 2.
- CO 3. Apply and interpret the appropriate inferential statistics to data based on the variables' level of measurement (**Analyze**). The Results (inferential statistics) section of the **Data Paper** and the **Data Analysis Assignment** assess your mastery of CO 2.
    - SLO 2.1). Identify variables (**Understand**). We will study and practice SLO 2.1 in Week 2.
    - SLO 2.2). Identify the level of measurement of a given variable (**Understand, Apply**). We will study and practice SLO 2.2 in Week 2.
    - SLO 3.1). Apply the appropriate software tutorial to generate the appropriate inferential statistics and visualizations for a set of variables based on their level of measurement (**Remember, Apply**). We will study and practice SLO 3.1 in Week 3.
    - SLO 3.2). Interpret inferential statistics and corresponding data visualizations (**Analyze, Evaluate**). We will study and practice SLO 3.2 in Week 3.
- CO 4. Create an associative or group differences research question from variables in an existing dataset (**Create**). The Introduction section of the **Data Paper** and the **Variables and Research Question Assignment** assess your mastery of CO 3.
    - SLO 4.1). Select a dataset from given options that aligns with your interests (**Apply**). We will study and practice SLO 4.1 in Week 1.
    - SLO 2.1). Identify variables (**Understand**). We will study and practice SLO 2.1 in Week 2.
    - SLO 4.2). Select and apply the appropriate research question wording formula to your chosen variables from your chosen dataset (**Remember, Apply**). We will study and practice SLO 4.2 in Week 2.
- CO 5. Analyze the relationship between your research question and published literature on the topic (**Analyze**). The Introduction and Discussion sections of the **Data Paper**, as well as the **Literature Search Assignment** and the **Outline Assignment** assess your mastery of CO 4.
    - SLO 5.1). Identify search terms (**Understand, Apply**). We will study and practice SLO 5.1 in Week 4.
    - SLO 5.2). Conduct and document a literature search using approved databases and tutorials (**Apply**). We will study and practice SLO 5.2 in Week 4.
    - SLO 5.3). Organize the main ideas of your paper (**Analyze**). We will study and practice SLO 5.2 in Week 4.
    - SLO 5.4). Evaluate the advantages and disadvantages of your data analysis project (**Evaluate**). We will study and practice SLO 5.2 in Week 4.
- CO 6. Follow formatting tutorials to write up your data project in APA style (**Apply**). The formatting of your **Data Paper** assesses your mastery of CO 5.
    - SLO 6.1). Format your text, references, tables, and figures in APA Style 7th edition using OWL at Purdue (see resources section for recommended website) and instructor tutorials (**Apply**). We will study and practice SLO 6.1 in Weeks 4 and 5.

- CO 7. Reflect on your learning progress and products throughout the data project (**Evaluate**). The **Paper Reflection Video** and the **Progress Report Videos** assess your mastery of CO 6
    - SLO 7.1). Follow tutorial resources to create videos in Canvas Studio (**Apply**). We will study and practice SLO 7.1 in Week 1. You will first use this skill on the **Introduction Video** assignment.
    - SLO 7.2). Using Canvas Studio videos, report on your data project progress each week with attention to confidence in your skills and clarity of your knowledge (**Evaluate**). You will complete these **Progress Report Videos** during Weeks 2, 3, and 4.
    - SLO 7.3). Create a Canvas Studio video reflecting on your strengths, weaknesses, learning, and skills over the whole semester. Holistically assess the quality of your **Data Paper** (**Evaluate, Create**). You will demonstrate this learning outcome on the final assignment (**Data Paper**) during Week 5 (final exam week).

Required and Recommended Resources

- Required textbook: Oja, M. (2022). *Behavioral statistics 1e.* LibreTexts. CC BY-SA 4.0. https://stats.libretexts.org/Courses/Taft_College/PSYC_2200%3A_Elementary_Statistics_for_Behavioral_and_Social_Sciences_(Oja). **This textbook is FREE, but I am required to put this note here in the syllabus anyway by the University.** Note: A student at UT-Tyler is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.
- Required Microsoft 365 access: office.com. Log in with your university account, NOT one you created personally.
- Required Zoom access: https://uttyler.zoom.us/ Log in with your Patriots account, NOT one you created personally.
- Required free statistical analysis software: The jamovi project (2025). *Jamovi* (Version 2.6). [Computer software]. Retrieved from https://www.jamovi.org. You can use the desktop version (download and install onto your computer) or the cloud version (use in your browser window).
- Recommended website for APA Style 7th Edition: Purdue University Writing Lab. APA formatting and style guide (7th Edition). *Purdue online writing lab (OWL).* https://owl.purdue.edu/owl/research_and_citation/apa_style/index.html

Assignments

Assignments will be described in more detail on Canvas.

Individual Data Analysis Paper: On your own, you will choose a dataset from provided resources and test a hypothesis using an appropriate analysis type. The project includes a write-up of Results and Discussion in APA style. The project is planned in stages on which you will receive feedback before proceeding to the next step. This project as a whole will account for 30% of your final course grade. Each stage will be assessed on a letter grade basis. Stages 1-5 will count 1 point each. The final **Data Paper** will count for 25 points.

- Paper Stage 1: **Dataset Selection** (Week 1)
- Paper Stage 2: **Variable Selection and Research Question** (Week 2)
- Paper Stage 3: **Data Analysis** (Week 3)
- Paper Stage 4: **Literature Search** (Week 4)
- Paper Stage 5: **Discussion Outline** (Week 4)
- Final Paper Stage: **Data Paper** (Week 5)

Reflection Videos: You will record yourself using Canvas Studio to report and reflect on your progress on the **Data Project.** Your reflection videos will count for 40% of your final grade. The

Introduction Video will be worth 10 points. Each Progress Report video will be worth 1 point. The **Paper Reflection Video** will be worth 27 points.

- Introduction Video (Week 1)
- Progress Report 1 (Week 2)
- Progress Report 2 (Week 3)
- Progress Report 3 (Week 4)
- Paper Reflection Video (Week 5)

Exam: You will screen- and face-record yourself using Canvas Studio to demonstrate your academic integrity while taking embedded Canvas "Quiz" exams. This assignment category will be worth 30% of your final grade.

- **Pretest** for a participation grade only (Week 1) worth 15 points (all or nothing grade).
- **Posttest** for an accuracy grade (Week 5) worth 15 points.

Grading Policy

No assignments in this course can be skipped over. Each activity builds upon previous knowledge. In order to be "qualified" to begin a new module's content and assignments, you must have mastered the previous module's assignments at a grade of a B or higher (they are assigned as letter grades). For formative assessments (practice assignments that build up to the summative assessments—the final **Pretest** and **Data** Paper), you can reattempt assignments as many times as needed (within reason, considering time needed for feedback and the abbreviated nature of a summer course term) to reach this mastery. A is considered as fully meeting expectations. B indicates that the assignment is complete but needs revisions. C indicates that the assignment is incomplete (half completed or more, but still less than all elements are included). D indicates that the assignment is "barely there" (less than half completed). F is only assigned as a "placeholder" grade until a real submission is turned in. This "placeholder" F is also applied if an assignment has strong evidence of inappropriate AI use (see AI policy below). **All formative assessments (including resubmissions) must be completed by the Tuesday of Week 5**. Furthermore, you will not be allowed to turn in multiple late formative assessments at once. You must wait for feedback on one before attempting the next one. Thus, it is in your best interest to treat your first submission as the only one and the suggested deadline as a firm one.

Makeups, Late Work, Re-attempts, and Attendance

There is no such thing as a grade of "zero" for any completed assessment in this course, whether it is on time or late. You can request assignment extensions for any reason at any time before the due date. I do not request documentation for excuses or extension requests. When you ask for an extension, it is good professional practice to propose your own modified due date in your first request email. If you do not request an extension ahead of the due date, but the work is still missing, I will reach out to you to create a plan for late submission and request a short reflection narrative about the consequences of late work and failing to notify the instructor. Your number of re-attempts in this course or on a given assignment is unlimited: I want you to be successful, even if it takes multiple tries. **Due such generous assessment policies, I do not offer extra credit or round grades up.**

Attendance Policy

Please note that for financial aid purposes, I am required to report to the Registrar whether you attended class at all within the first 2 weeks of class: this is a binary measurement (has attended or has not attended). If you have not attended at all within the first 2 weeks of the course, your financial aid may be adjusted accordingly. **For these purposes, in this course, "attendance" will mean having completed any assignments or activities at all (graded or ungraded)**.

Course Calendar

Week 1 – Due Jun 7 at 11:59pm

- Textbook Chapter 1
- Pretest
- Introduction Video
- Dataset Selection

Week 2 – due Jun 14 at 11:59pm

- Textbook Chapter 2
- Textbook Chapter 3
- Textbook Chapter 7
- Progress Report Video 1
- Variables and Research Question

Week 3 – Due Jun 21 at 11:59pm

- Reminder of Hypothesis Testing
  - Textbook Chapter 7
- Mean Differences
  - Textbook Chapter 8
  - Textbook Chapter 9
  - Textbook Chapter 10
  - Textbook Chapter 11
  - Textbook Chapter 12
  - Textbook Chapter 13
- Relationships
  - Textbook Chapter 14
  - Textbook Chapter 15
  - Textbook Chapter 16
- Progress Report Video 2
- Data Analysis

Week 4 – Due Jun 28 at 11:59 pm

- Textbook Chapter 6
- Literature Search
- Discussion Outline

Week 5 – Due Jul 3 at 11:59pm

- Paper Reflection Video
- Data Project Paper
- Posttest

AI Policies

UT Tyler's AI Policy

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

Dr. Kirby's AI Policy

Generative artificial intelligence (GenAI) tools—software that creates new text, images, computer code, audio, video, and other content—have become widely available. Well-known examples include ChatGPT for text, DALL•E for images, and Sora for video. The learning opportunities in this course are useful only when you complete original work rather than using generative AI tools for any portions of any assignments. I encourage you to take advantage of the learning opportunities and submit only your own work, unless otherwise indicated. I have carefully designed all assignments and class activities to support your learning. Doing your own work, without human or artificial intelligence assistance, is best for your efforts in mastering course learning objectives. If you choose to use generative AI tools, please remember that they are typically trained on limited datasets that may be out of date. Additionally, generative AI datasets are trained on pre-existing material, including copyrighted material; therefore, relying on a generative AI tool may result in plagiarism or copyright violations. Further, LLMs (e.g., ChatGPT) do not know, remember, or reason: they are "fancy predictive text." They predict which words tend to be near other words. GenAI is also circular: its training data are being corrupted by AI products themselves. Further, GenAI usage has a large environmental impact (stressing power grids and polluting neighborhoods), it involves hidden human costs (including exploiting low-wage labor), and GenAI image generation software has been trained on disturbing criminal material, including child sex abuse material. Finally, keep in mind that the goal of generative AI tools is to produce content that seems to have been produced by a human, not to produce accurate or reliable content; therefore, relying on a generative AI tool may result in your submission of inaccurate content. I invite you to take responsibility—instead of leaving it up to the tool—to assure the quality, integrity, and accuracy of work you submit in any college course. I am committing to the same expectations, as I am also refraining from using available AI tools in designing this course and evaluating your work. Deviations from these guidelines will be considered a violation of UT Tyler's Honor Code and academic honesty values. This policy was drafted using the
UT Tyler Artificial Language for Syllabi document and Chris Heard's Generative AI Syllabus Statement Tool (which itself not an AI tool). You may find UT Tyler's general AI syllabus policy and other resources here: https://www.uttyler.edu/offices/digital-learning/ai/

Please note that Grammarly (and especially Grammarly Plus) is considered generative AI for the purposes of this course, and is not allowed. Online paraphrasing or translating tools are also considered off-limits for this course. Please use only the grammar check already embedded into Microsoft Word Online. In order to verify the originality of your work, you will be asked to use only specific technology in this course that allows for verifiable version history tracking. If such evidence is not found for your work (e.g., you used a different software), you will be asked to reattempt the assignment (unless it is the final project, in which case there would be no time to do so, so it would earn a zero). If your work has other signs of AI use (e.g., fake "hallucinated" references), further consequences may be applied. Other possible consequences of inappropriate (i.e., ANY) generative AI use on assignments may include documentation with the Student Conduct office, or other consequences, such as being required to complete reattempted assignments under live supervision instead of as a "take-home" assignment.