



Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

Semester: Spring

Year: 2025

Course Prefix: PSY

Course and Section #: 3110-X01/X02/X03

Course Title: Statistics for the Behavioral Sciences

Credits: 4

Course Description

Introduces use of statistics for research purposes. Teaches descriptive and inferential statistics. Includes central tendency, variability, correlation and regression, probability (particularly probability distributions), and various inferential techniques such as t-test for independent and dependent samples, one-way and two-way analysis of variance, post-hoc tests, and non-parametric statistics.

Course Attributes

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: Barton Poulson

Student Learning Outcomes

Upon successful completion, students should be able to . . .

1. Interpret statistics found in newspapers, magazines, and academic research papers.
 2. Integrate statistical practice into behavioral science research.
 3. Conduct a statistical analysis in academic settings or other settings.
 4. Apply statistical theory to behavioral science research.
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Course Materials and Texts

Data Sense: An Introduction to Statistics for the Behavioral Sciences. Poulson. (2014) (e-book and videos hosted by publisher Kendall-Hunt).

Course Requirements

Course Assignments, Assessments, and Grading Policy

Homework (5%): Create personal goals for course, update Canvas profile, install and test Proctorio software, revisit personal goals after each exam.

Quizzes (10%): 4 short quizzes of 5 questions each for each of the 12 chapters in the textbook. Quizzes are multiple-choice, open-book, untimed, quizzes administered on Canvas, which can be taken multiple times at any point during the course. Videos explain each question and answer.

Posttests (10%): 10-question quizzes at the end of each chapter. Also multiple-choice, open-book, untimed, and administered on Canvas. Can be taken only once, and no explanatory videos are provided.

Exam 1 (20%): Exam on chapters 1-5 of textbook. 66 multiple-choice questions. No books or notes; administered on Canvas with Proctorio security software.

Exam 2 (25%): Cumulative exam on chapters 1-8 of textbook. 80 multiple-choice questions. No books or notes; administered on Canvas with Proctorio security software.

Final Exam (30%): Department-created cumulative final exam on all 12 chapters of textbook. 97 multiple-choice questions. No books or notes; administered on Canvas with Proctorio security software.

Extra Credit (2% maximum): Optional extra credit for completing the practice final exam, participating in study groups, and/or completing the university SRI.

Final grades are rounded to the nearest point and assigned the corresponding letter grade:

A = 93-100	B - = 80-82	D+ = 66-69
A - = 90-92	C+ = 76-79	D = 63-65
B+ = 86-89	C = 73-75	D - = 60-62
B = 83-85	C - = 70-72	E = 0-59

Required or Recommended Reading Assignments

All required readings use chapters from the course text that align with the lectures below.

General Description of the Subject Matter of Each Lecture or Discussion

Ch 01: Introduction

- A1. Identify a variable's level of measurement (nominal, ordinal, interval, or ratio).

Ch 02: Distributions

- A2. Create a frequency table and histogram from raw data.
- A3. Label a distribution or histogram according to its shape (symmetrical, unimodal, bimodal, negatively skewed, positively skewed, platykurtic, leptokurtic, mesokurtic, normal, uniform, U-shaped).
- B1. Identify common statistical graphics (simple bar charts, histograms, and scatterplots), when they are appropriate, and the factors that affect the readability of graphs.

Ch 03: Central Tendency

- C1. Calculate and interpret the most common measures of central tendency (mean, median, and mode).
- C3. Identify outliers and extreme values and explain their impact on measures of central tendency, variability, and correlation.

Ch 04: Variability

- C2. Calculate and interpret the most common measures of variability (range, standard deviation, and variance).
- C3. Identify outliers and extreme values and explain their impact on measures of central tendency, variability, and correlation.

Ch 05: z-Scores

- C4. Calculate and interpret z-scores from raw data.

Ch 06: Sampling Distributions

- D3. Explain the relationship between samples, sampling distributions, and populations as they relate to the Central Limit Theorem.

Ch 07: Estimation

- D1. Explain the difference between a statistic's point estimate and confidence interval.
- D2. Calculate a 95% confidence interval for a mean.

Ch 08: Hypothesis Testing

- D4. Conduct the following null hypothesis statistical significance tests by hand and interpret them (z-test, two-sample independent t-test, one-way ANOVA, correlation, bivariate regression, chi-squared goodness of fit test, chi-squared test for independence).
- D5. Define the correct null hypothesis.
- D6. Choose and justify a viable alternative hypothesis.
- D7. Use the proper probability distribution for the statistical test.
- D8. Justify the decision whether to reject or retain the null hypothesis.
- D9. Explain the dangers of Type I and Type II errors and identify which is possible in a given null hypothesis statistical significance test.
- D11. Calculate and interpret the following effect sizes (Cohen's d, r-squared, eta-squared).
- D12. Explain why effect sizes should always be calculated when investigating relationships between variables.

Ch 09: t-Tests

- The elements of D4-D9 and D11-D12 that focus on t-tests

Ch 10: ANOVA

- The elements of D4-D9 and D11-D12 that focus on ANOVA

Ch 11: Correlation and Regression

- D10. Use a regression equation to make predictions on a dependent variable, based on the independent variable.

Ch 12: Chi-Squared

- The elements of D4-D9 and D11-D12 that focus on chi-squared

Required Course Syllabus Statements

Generative AI

Faculty Senate and UVU Academic Administration expect faculty to include a Generative AI

statement within their course syllabi. Faculty are encouraged to write their own statement to fit their course and may use one of the example statements provided on the Office of Teaching and Learning's website: <https://www.uvu.edu/otl/ai.html>. For example: This course requires you to complete assignments that assess your understanding and application of the material. You are expected to do your own work, and the use of artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, is strictly prohibited for any part of your assignments. Using these tools will be considered academic dishonesty and will be handled according to the university's policy. If you have questions about acceptable use of AI tools, please consult the instructor before submitting your work.

Using Remote Testing Software

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and

writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.