

# Psychological Statistics

PSYCH 501 | Section 001 | Fall Semester 2017 | 9:00 - 10:50 | MW | 103 SWKT

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## **Instructor**

Scott Baldwin

Department of Psychology

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## **Teacher's Assistant**

Hannah Lindsey

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## Office Hours

My office hours are Monday 1:00-2:30 PM or by appointment. My office location, phone, and email are listed above. Feel free to contact me with questions regarding the course material either in person, by phone, or via email. I will do my best to make myself available at times other than my office hours. Please feel free to set up an appointment to talk with me or just come by my office. If I am available, I'll talk with you. If not, we can find a time that will work.

## Description

This is a graduate course in applied statistics for psychology. We will focus on two major topics: Analysis of Variance and Ordinary Least Squares Regression. We will cover each topic in depth, which will allow us to address both basic and advanced methods.

Examples of specific topics include: factorial and repeated measures ANOVA, nested and crossed factors, fixed and random effects, analysis of covariance, multiple regression, dummy and effect coding, interpreting interactions, and moderation. You will also learn how to use the computer program Stata to estimate the models covered in class.

Sometimes statistics seems magical – mathematical hand-waving, if you will. When we read a statistic in a journal article or in a textbook we often hope that what is written isn't bogus. My overarching goal for this class is help you become comfortable enough with the logic and procedures of statistics that you can make an informed decision about whether the statistics you read about are bogus. I also hope in the process that you come to appreciate statistics and maybe come to like it, even a little.

## Learning Outcomes

1. **Recognize and understand notation, formulae, and concepts.** Students will recognize basic statistical notation, formulae, and concepts. *Measurement:* This will be measured by quizzes and exams.
2. **Select appropriate method and evaluate results.** Students will not only learn how to calculate the statistics we discuss, but also learn when such analyses would be appropriate and how to evaluate the results from statistical analyses. *Measurement:* This will be measured by students' performance on homework assignments, quizzes, exams, and the end of semester project.
3. **Skill in formulae and software.** Students will become skilled in using statistical formulae and statistical software—including interpreting the output from the formulae and software. *Measurement:* This will be measured by students' performance on homework assignments and the end of the semester project.
4. **Apply statistical ideas to novel situations.** Students will become skilled in applying statistical ideas and formulae to novel situations. *Measurement:* This will be measured by students' performance on the end of semester project.

# Texts & Materials

## PSYCH 501 Data Analysis in Psych Rsrch 1 Section 1

Endorse materials? ☒ Yes ☐ No

Baldwin, Scott ✓



### APPLIED STATISTICS 2E

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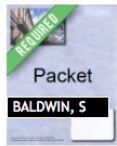
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## Assignment Descriptions

### Homework

There will be homework assignments approximately every other week (or so). The homework assignments are designed to assess the extent to which you understand and can use the statistical procedures discussed in class and your text, your ability to perform calculations and to use statistical analysis programs, and your ability to write about statistical concepts in a clear, concise manner. When needed you will be provided datasets to use as part of your homework. *You can collaborate on the completion of data analyses, although I expect that each of you run the analyses. Further, you must complete the write-up of the homework on your own.* I will make time during class to help you with problems that you are not able to solve on your own.

### Exam

There will be one exam at approximately mid-term. The exam will be open book and open note. This does not mean that you do not need to study. The exam will be challenging. You will not be required to perform any analyses in Stata on the exam. Any output you need will be provided. However, you may be asked to perform some hand calculations. Consequently, you will need a small hand calculator. There will be no test make-ups except under extreme conditions which require verification (e.g., doctor's note). Cheating of any kind will result in a lowered grade and in other University sanctions.

## **Quizzes**

There will be 4-6 short quizzes throughout the semester. The exact number depends upon how much material we get through. The quizzes will tend to focus on the fundamental ideas, concepts, and calculations. Consequently, they will be closed book. The approximate dates for each of the quizzes are located on [learningsuite.byu.edu](https://learningsuite.byu.edu)

## **Project**

There is a final project wherein you will be required to conduct statistical analyses and write-up the results. I will distribute a dataset and a series of questions to be answered. More details regarding this project will be forthcoming.

## **Stata Tutorials**

There are multiple Stata tutorials on my website: [www.psychstatistics.com](http://www.psychstatistics.com). Throughout the semester, you will need to review the tutorials and complete a simple assignment. These assignments are aimed at increasing your skills in using Stata and other statistical software as well as helping you become more independent in working with data. The assignments, as well as instructions and due dates for the assignments, will be distributed via Learning Suite. These assignments will be graded pass/fail. If you miss 1 or more questions, you will be required to complete the assignment again. The dates for each of the tutorials are located on [learningsuite.byu.edu](https://learningsuite.byu.edu)

## **Late Penalty**

If any of the assignments, exams, projects, etc. are turned in late, your grade for that assignment will be lowered one letter grade for each day late (e.g., if you would have received an A but the assignment was two days late, you would receive a B+).

## Grading

The approximate weights for each of the assignment areas are below.

Grade Breakdown	
Assignment	Weight
Homework	20%
Quizzes	15%
Exam	25%
Stata Tutorials	5%
Final Project	35%

Note: You must complete all assignments to receive a letter grade. If you do not complete all assignments, you will either receive an incomplete or a failing grade.

## Grading Scale

A	95-100	B-	80-83	D+	67-69
A-	90-94	C+	77-79	D	64-66
B+	87-89	C	74-76	D-	60-63
B	84-86	C-	70-73	E	59 and lower

## Course Policies

### BYU Honor Code

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

## **Preventing Sexual Misconduct**

As required by Title IX of the Education Amendments of 1972, the university prohibits sex discrimination against any participant in its education programs or activities. Title IX also prohibits sexual harassment—including sexual violence—committed by or against students, university employees, and visitors to campus. As outlined in university policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of “Sexual Misconduct” prohibited by the university.

University policy requires any university employee in a teaching, managerial, or supervisory role to report incidents of Sexual Misconduct that come to their attention through various forms including face-to-face conversation, a written class assignment or paper, class discussion, email, text, or social media post. If you encounter Sexual Misconduct, please contact the Title IX Coordinator at [t9coordinator@byu.edu](mailto:t9coordinator@byu.edu) or 801-422-2130 or Ethics Point at <https://titleix.byu.edu/report-concern> or 1-888-238-1062 (24-hours). Additional information about Title IX and resources available to you can be found at [titleix.byu.edu](https://titleix.byu.edu).

## **Students with Disabilities**

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the Services for Students with Disabilities Office (422-2767). Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. Services are coordinated with the student and instructor by the SSD Office. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

## **Plagiarism Policy**

Writing submitted for credit at BYU must consist of the student's own ideas presented in sentences and paragraphs of his or her own construction. The work of other writers or speakers may be included when appropriate (as in a research paper or book review), but such material must support the student's own work (not substitute for it) and must be clearly identified by appropriate introduction and punctuation and by footnoting or other standard referencing.

**Electronic Devices**

Please switch all cell phones to silent mode prior to class. Please refrain from emailing, texting, instant messaging, and surfing the web during class. Such activities are often distracting to other students and to me. Furthermore, statistics typically takes considerable effort and concentration to learn. If your concentration is elsewhere, you will likely have difficulty in the course.

## Course Schedule

The schedule and procedures in this course and syllabus are subject to change. Such changes will be announced in class if made. If you miss a class, check with your classmates to see if a change was announced in the class you missed.

Please see [learningsuite.byu.edu](https://learningsuite.byu.edu) for a complete schedule.