

COGS 14B

Introduction to Statistical Analysis

Course Website (TritonED)
<https://triton.ed.ucsd.edu/>

Overview

Statistics is a powerful tool that helps researchers filter out real phenomena from differences that may just be due to chance. This course provides the foundation for both descriptive and inferential statistics, with a focus on statistical tests that are often used in Cognitive Science research. An emphasis will be put on *conceptual understanding* of the material. Although mathematical calculations will be involved, you will only need basic math skills (e.g., high school algebra) in order to succeed in this class.

Learning Goals

By the end of this course, you should be able to:

1. Understand the underlying theory behind the different statistical tests introduced in the course.
2. Create and interpret graphs and tables generated from research data.
3. Differentiate between correlation and causation.
4. Perform the appropriate statistical test given the data and evaluate the outcomes of that test.
5. Think critically about research claims put forth by other researchers and the media.

Course Components

Lectures

Attendance at lectures is critical for understanding the material presented in this course. Lectures will focus on conceptual and theoretical material that may be difficult to understand by reading the textbook alone. Participation will be measured using iClickers (see below).

Sections

Sections are one of the few places where you can actively practice, with guidance from the teaching assistants, the calculations involved in problems that will be seen on the midterms and the final exam. While not required, they are highly recommended.

Teaching Team

Instructor: Esther Walker

Email: e1walker@ucsd.edu
Office Hours: Mondays, 9-10AM,
Mandeville Coffee Cart (or by
appointment)

**Teaching Assistant: Joey
Relaford-Doyle**

Email: jrelafo@ucsd.edu
Office Hours: Mondays, 3-4PM,
CSB 235

**Teaching Assistant: Sai
Gullapally**

Email: scgullap@eng.ucsd.edu
Office Hours: Wednesdays, 3-
4PM, Mandeville Coffee Cart

Class Times

Lectures: M/W/F 2-2:50PM,
CENTR 212

Sections: Wednesdays in WLH
2207

A01: 9-9:50AM (Joey)
A02: 10-10:50AM (Joey)
A03: 11-11:50AM (Sai)
A04: 12-12:50PM (Sai)

Participation

Participation in lecture will be recorded through the use of iClickers. This makes up 5% of your grade. For each class you attend (starting from the second lecture), you will receive credit toward your participation score. There are a total of 26 lectures for this course (excluding the first day of class, midterms, and holidays). You may miss up to 3 lectures without it affecting your participation grade. For each class you attend, you must answer at least 75% of the clicker questions to get credit for that class. Questions will not be graded for accuracy, but merely as checks for understanding.

If you wish to opt-out of your participation score, you may redistribute your 5% among the midterms and final (1.5%, 1.5%, 2%), but you must tell the instructor by the end of week 2 (**10/7/16**).

Please note that clicking in for anyone other than yourself (or having someone clicking in for you) is a violation of academic integrity and will be treated as such.

Quizzes

Throughout the quarter, there will be a total of 7 brief weekly quizzes (given in TritonED). Your scores for 6 out of the 7 quizzes will be included in your final grade (with your lowest quiz score being dropped). Quizzes will typically be multiple-choice, but it is recommended that you show all of your work on a separate piece of paper while taking the quizzes in order to prepare for the midterm and final (which will **NOT** be multiple choice). Quizzes will be posted on TritonED by Friday evening of *most* weeks, and will be due the following Monday no later than 11:59PM. Make sure to look at the course schedule to see when quizzes will be posted. You must complete these quizzes **on your own**.

Exams

In this course, there will be two midterms and a final exam. For each midterm, you may have a single sheet (8.5 x 11 inches, **one side**) of **handwritten** notes. For the final exam, you may have both sides of a single sheet of paper of handwritten notes. While each of the midterms is not cumulative, the final exam will be cumulative. The exams will be short-answer format, and you can expect to see problems similar to those discussed in lecture and in sections on the exam. Exams will include both conceptual and computational problems.

Evaluation

Grade Breakdown

Weekly online quizzes (7 total, lowest quiz dropped)	12%
Midterms (2 Midterms, 25% each)	50%
Participation (iClickers)	5%
Final Exam	33%
Extra credit: SONA participation (or article summaries)	up to 2%

Grading Scale

A 90-100% **B** 80-89% **C** 70-79% **D** 60-69% **F** Below 60%

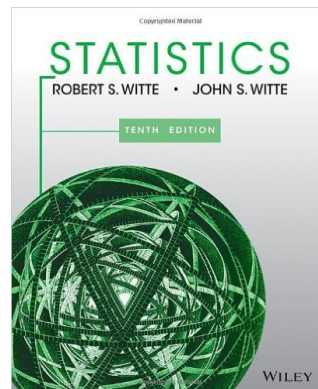
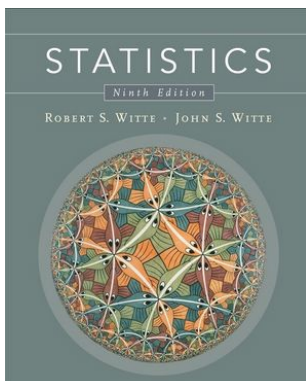
Course Materials

Textbook

Statistics (9th/10th Edition)

by Robert S. Witte & John S. Witte.

Wiley, 2009, 2015.



Visit the student companion site for additional study resources:

<http://bcs.wiley.com/he-bcs/Books?action=index&itemId=1118450531&bcsId=8500>

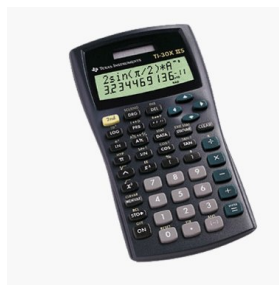
iClicker2 (or iClicker)

Register your iClicker in TritonED from the 'i>clicker Student Registration' link and enter your remote ID code. You must register your clicker **by the end of week 1**.



Calculator

You will be permitted to use a **non-graphing calculator** on the midterms and on the final exam. Calculators on phones, iPads, etc will NOT be permitted. It is your responsibility to ensure your calculator is eligible for use during exams and it is your responsibility to remember to bring a calculator on exam days.



Course Policies

Academic Integrity: You are responsible for familiarizing yourself with UCSD's Academic Integrity policy. Cheating is considered a serious offense and I take it very seriously. **Seriously, don't do it.** Again, clicking in for anyone other than yourself (or having someone clicking in for you) is a case of cheating and will be treated as such. Educate yourself by taking a look at UCSD's Academic Integrity website and sign the pledge:

<http://academicintegrity.ucsd.edu/forms/form-pledge.html>

Extra credit: You may receive up to 2% of extra credit by participating in SONA Experiments. You will receive one point of extra credit per hour of participation. Students who do not wish to participate in these experiments may choose to write brief summaries (~2 pages) of articles that I have selected. Please let me know if you chose to complete this option and I will send you the articles. All extra credit (including articles) must be completed by **November 30th, 2016 at 4pm**.

Special Accommodations: If you are in need of special accommodations, please let me know as soon as possible.