

Term: Spring 2021

Day/Time: Tuesday and Thursday 5pm – 6:20pm

Location: Online via Zoom

Professor: Ji Zhou

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Office Hours: Thursday 6:30pm – 7pm online via Zoom,
other times by appointment

Web: Blackboard, Cengage/WebAssign, Zoom

Course Description

We are exposed daily to information from surveys and scientific studies concerning our health, behavior, attitudes, and beliefs, or revealing scientific and technological breakthroughs. This course is designed to help you understand this information and filter the useful and the accurate from the useless and the misleading. You will learn to rely on your own interpretation of results emerging from surveys and studies. You will read them with a critical eye so that you can make your own judgments as well as make better decisions when faced with uncertainty.

This course is also designed to demystify statistical methods for you. Traditional statistics courses often place emphasis on how to compute rather than on how to understand. This course develops statistical literacy and critical thinking through real-world applications, with an emphasis on ideas and understanding, not calculations. You will learn the key concepts that you need to know to consume statistical results produced by others. These concepts are introduced in interesting applied and real contexts, without using an abundance of technicalities or calculations that only serve to confuse students.

Learning Outcomes

By the end of the course, you will be able to:

- Determine whether the results of a study should be taken seriously.
- Detect false conclusions and biased results.
- Critically assess relationships between such factors as aspirin consumption and heart attack rates or meditation and test scores.
- Detect misleading graphs and figures and to interpret trends over time.
- Learn how to turn numbers into useful information.
- Understand uncertainty in life.

Prerequisites

This class is designed for students who are going to consume statistics and not produce it, so I expect basic algebra skills (high school algebra).

Required Material

Please get a digital version of WebAssign access for *Seeing Through Statistics, 4th Edition* by Jessica Utts (2015). Hard copy is not required. To find and enroll in this class on WebAssign, go to <https://www.webassign.net/wa-auth/class-key/enroll>. WebAssign enrollment instruction with class key is posted on Blackboard.

We will use Blackboard for all course materials, assignments, and announcements. Please check Blackboard and your email daily. If you would like hard copies of any course materials, it will be your responsibility to print them. For more information about Blackboard, go to [Blackboard help for students](#).

Structure

Each topic in the course is motivated by one or more cases. Some of the cases we will use are:

- Does Aspirin Prevent Heart Attacks?
- Using Probability to Detect Cheating
- Who Suffers from Hangovers?
- Can Meditation Improve Test Scores?
- Baldness and Heart Attacks
- Can Eating Cereal Reduce Obesity?
- Coffee and Longevity
- Quitting Smoking with Nicotine Patches
- Smoking and Reduced Fertility
- Smoking During Pregnancy and the Child's IQ
- Assessing Discrimination in Hiring and Firing
- Birthdays and Death Days, Is there a Connection?
- Calibrating Weather Forecasters and Physicians
- Streak Shooting in Basketball, Reality or Illusion?
- Did Your Mother's Breakfast Determine Your Sex?
- Do Americans Really Vote When They Say They Do?
- Testing the Existence of Extrasensory Perception
- Public Opinions about President Bill Clinton
- A Weighty Issue: Woman Want Less, Men Want More
- Are Attitudes about Love and Romance Hereditary?

Assessment*Class Participation*

Attendance and class participation are critical to having an engaged, meaningful discussion with your peers in this seminar. Attendance is mandatory. If you must miss a class, please inform me beforehand. Your participation will be evaluated on the quality of your contribution during in-class discussions and the pre-class reading assignments.

Homework

There are five homework assignments. For each assignment, you will need to revise the week's work, as well synthesize some new information from the help pages or the web. All assignments will be submitted via WebAssign.

Quizzes

There are five quizzes, open-book and open-notes. However, you are not allowed to share your book or notes with others; nor are you allowed to talk to others at any time during the quiz. All quizzes are timed. No makes-up quizzes are offered. Quizzes cannot be re-taken.

Final Project and Presentation

The final project will be the “capstone” of the semester. You will select a topic of interest and find multiple journal articles/research reports/news stories that are rich in statistical analysis and graphics. You will critically assess the information, determine whether the results apply to you, and provide recommendations to others. You will summarize your findings and conclusions in a final paper and also present them to your peers. To ensure you are on track to completing the final project, you will submit a project proposal around mid-term (see the detailed date below). Guidelines for the proposal, the final paper, and the presentation will be posted on Blackboard.

Assessment	% of Grade
Attendance	10%
Participation	10%
Homework	25%
Quizzes	25%
Final Project Proposal	5%
Final Project Presentation (evaluated by peers)	10%
Final Project Paper	15%
Total	100%

Assignment Submission Policy

All homework assignments must be turned in via WebAssign and all final project assignments must be turned in via Blackboard by the due date. Any assignment turned in late, even if by only a few seconds, will result in a zero. Please plan ahead as the internet might break down unexpectedly if you wait until the last minute.

Requesting Work Be Re-graded

Not I, nor the graders, nor the software are infallible. We all make mistakes. If you think we have made an error in grading one of your assignments, please email me to request me to take a second look. It is possible, however, that the second look results in a lower grade.

Zoom Policies and Etiquette

Zoom is the platform used for all sessions and office hours. A link and instructions to join the Zoom sessions will be posted on Blackboard. When logging in to Zoom, you should use your full name so that I can track your attendance. While logged in, your camera should be turned on. If there is a reason that prevents you from having your camera turned on, please let me know ahead of time. Your microphone should be turned off whenever you are not participating in class discussion. You should not share the class Zoom link and/or password with anyone to avoid Zoom bombing. During Zoom sessions, the following netiquette is expected, as if you were in a physical classroom.

Please do:

- Log into class early or promptly.
- Arrange to attend class where there is a reliable internet connection and without distractions.
- Dress respectfully.
- If you use a virtual background, please keep it respectfully professional.
- Display both your first and last name during Zoom session.
- Respectfully minimize distractions by muting and or turning off video if necessary and when appropriate.
- Engage in appropriate tone and language with instructor and classmates.

Please try not to:

- Engage in a simultaneous activity not related to the class.
- Interact with persons who are not part of the class during the class session.
- Leave frequently or not be on camera for extended periods of time.
- Have other persons or pets in view of the camera.

All Zoom sessions will be recorded and posted on Blackboard. For more information about Zoom, go to [Zoom information for students](#).

Sharing Course Materials Outside of the Learning Environment

USC has a strict policy that prohibits sharing of any synchronous and asynchronous course content outside of the learning environment: SCampus Section 11.12(B) Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).

USC Technology Rental Program

Attending classes online and completing coursework remotely requires access to technology that not all students may possess. If you need resources to successfully participate in classes, such as a laptop or internet hotspot, you may be eligible for USC's equipment rental program. To apply, please [submit an application](#). The Student Basic Needs team will contact all applicants and distribute equipment to eligible applicants prior to the start of the semester.

Important Dates

Detailed weekly schedule and topics are posted in the full syllabus on Blackboard.

Date	Assignment	What's covered? Where to find it?
Feb 4	Homework 1	Chapter 1, 2, 3, 4, 5, 9 via WebAssign
Feb 9	Quiz 1	
Feb 23	Homework 2	Chapter 7, 8, 10, 11, 12 via WebAssign
Feb 25	Quiz 2	
Mar 4	Homework 3	Chapter 19, 20, 21 via WebAssign
Mar 9	Quiz 3	
Mar 23	No Class, Wellness Day	
Mar 25	Homework 4	Chapter 13, 22, 23, 24 via WebAssign
Mar 30	Quiz 4	
Apr 1	Final Project Proposal	
Apr 15	Homework 5	Chapter 14, 16, 17, 18 via WebAssign
Apr 20	Quiz 5	
Apr 22	No Class, Wellness Day	
Apr 27	Final Project Presentation	
May 4	Final Project Peer Evaluation	
May 6	Final Project Paper	

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and is open 8:30 am - 5:00 pm, Monday through Friday. The phone number for DSP is 213 740-0776.

USC Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, “Behavior Violating University Standards” <https://policy.usc.edu/scampus-part-b/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

Support Systems

Student Counseling Services (SCS), (213) 740-7711, 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

<https://engemannshc.usc.edu/counseling/>

National Suicide Prevention Lifeline, 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

Relationship & Sexual Violence Prevention Services (RSVP), (213) 740-4900, 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://engemannshc.usc.edu/rsvp/>

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

Office of Equity and Diversity (OED)/Title IX compliance, (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class.

<https://equity.usc.edu/>

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <https://studentaffairs.usc.edu/bias-assessment-response-support/>

The Office of Disability Services and Programs

Provides certification for students with disabilities and helps arrange relevant accommodations. <https://dsp.usc.edu/>

USC Support & Advocacy, (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

Diversity at USC

Tabs for Events, Programs and Training, Task Force (including representatives for each school), Chronology, Participate, Resources for Students. <https://diversity.usc.edu/>

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. <https://emergency.usc.edu/>

USC Department of Public Safety, UPC: (213) 740-4321, HSC: (323) 442-1000, 24-hour emergency or to report a crime.

Provides overall safety to USC community. <https://dps.usc.edu/>

Disclaimer: The instructor reserves the right to alter this course (she most likely won't).