

GESM 161: Statistics and Quantitative Literacy

Term: Fall 2019

Day—Time: MW 2:00pm -3:20pm

Location: LVL 3Y

Professor: Inga Maslova

Office: BRI-303C

Office Hours: MW: 10:00 am – 11:30 am in BRI 303C other times are available by appointment either in person or virtually

Web: Blackboard, Cengage/WebAssign

E-mail: imaslova@marshall.usc.edu

I. Course Description and Objectives

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
- Allow you to rely on your own interpretation of results emerging from surveys and studies, and help you read them with a critical eye so that you can make your own judgment
- Demystify statistical methods for you. Traditional statistics courses often place emphasis on how to compute rather than on how to understand
- Help you make better decisions when faced with uncertainty

This course develops statistical literacy and critical thinking through real-world applications, with an emphasis on ideas, not calculations. It focuses on the key concepts that educated citizens need to know about statistics. These ideas are introduced in interesting applied and real contexts, without using an abundance of technicalities and calculations that only serve to confuse students.

By the end of the course you will:

- Have the tools to determine whether or not the results of a study should be taken seriously
- Be able to detect false conclusions and biased results
- Learn how to turn numbers into useful information
- Quantify relationships between such factors as aspirin consumption and heart attack rates or meditation and test scores
- Learn how to detect misleading graphs and figures and to interpret trends over time
- Understand uncertainty in life

II. Prerequisites

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

III. Required Material

Main Text (Required): Please get a digital version of WebAssign access for Seeing Through Statistics, 4th Edition by Jessica Utts (2015). Hard copy of the textbook is not required.

Here are the class keys that you will need to enroll:

Instructor	Section	Class Key
Inga Maslova	GESM 161g, section 001	usc 0815 3495

IV. Course Notes

We will use Blackboard for all assignments, course materials, and announcements. Please check the Blackboard site and your email daily. If you would like hard copies of any course materials, it will be your responsibility to print them.

I will be using slides and handouts which will be posted on BB before each class.

During this course, we will use the Blackboard a lot. *The students are required to bring their laptops to each class.*

Discussing homework assignments, cases with a partner or study-group is permitted and highly encouraged. Your peers are now and will always be your best resource to learn. **However, each student is required to prepare, write-up, and submit his or her own solutions independently.** Collaboration of any sort on quizzes and exams is prohibited **and will result in a zero on that quiz/exam and the appropriate University-level authorities to be notified.**

V. Structure

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

- Case 1: Does Aspirin Prevent Heart Attacks?
- Case 2: Using Probability to Detect Cheating
- Case 3: Who suffers from Hangovers?
- Case 5: How is the President Supposed to Know What the People Think?
- Case 7: Quitting Smoking with Nicotine Patches
- Case 8: Police Shift and Quality of Life
- Case 10: Can Meditation Improve Test Scores?
- Case 11: Can Eating Cereal Reduce Obesity?
- Case 12: Smoking During Pregnancy and the Child's IQ
- Case 13: Coffee and Longevity
- Case 14: Are Attitudes about Love and Romance Hereditary?
- Case 15: A Weighty Issue: Woman Want Less, Men Want More
- Case 16: Assessing Discrimination in Hiring and Firing
- Case 23: Do Americans Really Vote When They Say They Do?
- Case 26: Smoking and Reduced Fertility
- Case 28: Sex, Alcohol, and the First Date

VI. Assessment

- *Homework*

There will be five (5) homework assignments. For each homework 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 system online. The detailed instructions are available on BB.

- *Class Participation*

One of the key learning outcomes of this course is to develop the ability to effectively discuss and exchange the ideas with your peers. Consequently, attendance and class participation are critical. **Your participation will be evaluated on the quality of your contribution during in-class discussions and the pre-class reading assignments.**

- *Quizzes, Midterm and Final Exam*

There are three (3) quizzes; the lowest quiz score will be dropped. There will be one midterm and a final exam. The quizzes, midterm, and the final exam are all closed-notes and closed-book. However, you are allowed one crib sheet per quiz and two for the midterm, and three for the final. These "cheat-sheets" should be handwritten and cannot be shared. Final exam will be cumulative.

You need to bring your laptop to the quizzes and the exams. You will not be allowed to take the quizzes at a different time. Only USC sponsored events, jury duty, military duty, serious illness or death in the family are acceptable excuses for rescheduling and must be supported in writing.

<u>Assignments</u>	<u>% of Grade</u>
FINAL EXAM	25%
MIDTERM	25%
QUIZZES	25%
CLASS PARTICIPATION	10%
HOMEWORK ASSIGNMENTS	<u>15%</u>
TOTAL	100%

- **Final Exam Date and Location**

- Date: Monday, December 13, 2019
- Location: TBA
- Time: 2:00 pm – 4:00 pm

VII. Assignment Submission Policy

All assignments must be turned in via Blackboard prior to the due date. Any assignment turned in late, even if by only a few minutes, will be penalized. Please plan ahead as the internet might break down unexpectedly if you wait until the last minute.

VIII. 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.

IX. Computer and Smartphone Policy

In order to make learning practical this class involves some computer usage. Despite the temptations posed by computers in a classroom, I expect students to be engaged and to act like responsible adults. This means focusing on class, not doing other work or surfing the internet. In particular, when the class convenes after computer exercises to discuss results, you should cease working on the computer and join the discussion. Fiddling with the computers during discussion is disrespectful to your peers who are sharing, and generally unprofessional.

Smartphone use during class is not permitted under any circumstances. Do not take it out. Do not check it. Definitely silence it.

X. 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.

XI. Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *SCampus*, the Student Guidebook, (www.usc.edu/scampus or <http://scampus.usc.edu>) contains the University Student Conduct Code (see University Governance, Section 11.00), while the recommended sanctions are located in Appendix A.

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/>. Failure to adhere to the academic conduct standards set forth by these guidelines and our programs will not be tolerated by the USC Marshall community and can lead to dismissal.

XII. Emergency Preparedness/Course Continuity

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies.

Please activate your course in Blackboard with access to the course syllabus. Whether or not you use Blackboard regularly, these preparations will be crucial in an emergency. USC's Blackboard learning management system and support information is available at blackboard.usc.edu

XIII. Important Dates:

Below is the list of the important due dates.

Date	Assignment	What's covered? Where to find it?
Sep 11	Homework 1	Week 1-2 material via WebAssign
Sep 16	Quiz 1	
Sep 25	Homework 2	Week 3-4 material via WebAssign
Sep 30	Quiz 2	
Oct 09	Homework 3	Week 5-6 material via WebAssign
Oct 16	Midterm Exam	Week 1-7 material. In-class
Nov 6	Homework 4	Week 9 – 10 material via WebAssign
Nov 11	Quiz 3	
Nov 18	Homework 5	Week 11 – 12 material via WebAssign
Nov 25	BB assessment	Based in the material posted on BB
Dec 13, 2:00 pm – 4:00 pm	Final Exam	Cumulative. In-class.

Final Exam Date and Location

- Date: Monday, December 13, 2019
- Location: usual classroom, unless told otherwise
- Time: 2 – 4 pm

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