Course:	Economics 317, 26093R Introduction to Statistics for Economists
Units:	4
Term—Day—Time:	Spring 2024, Mon, Wed 2:00-3:20 pm.
Location:	SOB-B4
Zoom Information:	Meeting ID:
Instructor:	Manochehr Rashidian, Personal Zoom ID # 594 296 5704
Office Hours:	11:30-12:45 Mon, Wed KAP-116B If my office hours are inconvenient, I am also available by appointment.
Contact Info:	rashidia@usc.edu

Teaching Assistant:
Office Hours:
Contact Info:

Course Description

This course is designed to provide students with basic knowledge of statistics. We will focus on many applications of descriptive and inferential statistics. The topics covered in this course are divided into four parts. The first part of this course focuses on data collection and data description. The second part deals with the theory of probability and its applications. This part will emphasize understanding the "sampling distribution" concept and its applications. Making inferences about population parameters is the focus of the third part of the course. Students will learn about confidence intervals and hypothesis testing for single and multiple population parameters in this part. This course's final part focuses on regression analysis, estimations, interpretation, and predictions.

Learning Objectives

This course aims to familiarize the students with the concepts mentioned above and provide them with the necessary background to use them as decision-making tools. After completion of this course, students will be able to perform the following tasks:

- Data collection
- Estimating the population's unknown parameters
- Making inferences about a single population's parameters
- Making inferences about several populations' parameters
- Modeling relationships that are usable in linear regression
- Estimating and testing linear models and interpreting the results

Prerequisite: MATH 118 or MATH 125

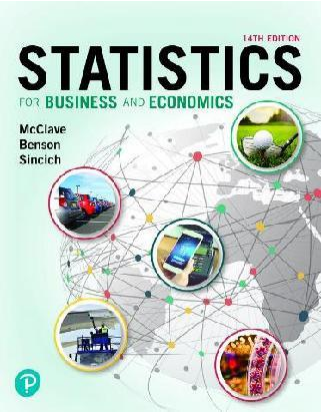
Course Notes

1- Students should come to class on time to prevent lecture disruptions.
2- Attending the lectures is crucial to your learning, and I strongly encourage students to attend the lectures and participate in class discussions. Missing lectures can impact your standing in the class.
3- Students are advised to take notes during lectures because exam questions are mainly on the subjects discussed in class. You should also know that your class notes are not substitutes for the textbook.
4- Lecture notes, whenever available, will be posted on the Blackboard.
5- I will post the solutions for all homework assignments and exams on the Blackboard.
6- You should check your grades on the Blackboard regularly, and if you see any discrepancies, inform the instructor or your TA immediately.
7- If deteriorating covid conditions force the University to move online, we will use Zoom for lectures and office hours and Blackboard for exams and homework assignments. If you need help with Zoom or Blackboard, use the following technology support links:

USC Technology Support Links
USC Computing Center Laptop Loaner Program
Zoom information for students
Blackboard help for students
Software available to USC Campus

Required Materials

Required Readings and Supplementary Materials
Statistics for Business and Economics by McClave, Benson, and Sinsich. 14th Edition. Pearson-Prentice Hall.
Textbook website:
https://www.pearson.com/en-us/subject-catalog/p/statistics-for-business-and-economics/P200000006288/9780137335428?tab=accessibility



Supplemental materials, such as the solution manual and software offered on the book's website, are not required for the course.

Software

EXCEL
Gretl Software (Optional):
Windows **https://sourceforge.net/projects/gretl/postdownload**
MAC **http://gretl.sourceforge.net/osx.html**

Description and Assessment of Assignments and Exams

The homework assignments from the chapters' exercises are in the course schedule (see below). Any changes will be announced in class and posted on the Blackboard. In addition to the textbook questions, I will assign more problems from the class lectures, which I will post on the Blackboard or present in class. You must submit the homework assignments on time and preferably typewritten. There will be no credit for any late homework submitted after I post the solutions on the Blackboard.

We will have two midterm exams and a final exam. Midterm exams consist of questions, problems, and possibly some multiple-choice questions. Although the midterm exams are non-cumulative, most chapters build on previous ones; students should carefully review the earlier chapters to do well. The final exam is the same format as the midterm exam and will cover most chapters.

Grading Breakdown

Weights for homework and exams are

Activity	Possible points of grade
Homework assignments	20
Exam 1	20
Exam 2	25
Final exam	35
Total	100

Grading Scale

The course will be graded on a regular scale of 100% in the following table unless the class average falls short of a B. In that case, I will use a curve based on the average grade of students who complete the course.

Letter grade	Corresponding numerical point range
A	95-100
A-	90-94
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

Assignment Submission Policy

The due dates for homework assignments will be announced in class or posted on the Blackboard. Students must turn in their homework as instructed by their TA. If you need any special accommodations for submitting your assignment or taking the exam, let me know in advance.

Attendance

I expect my students to attend the lectures regularly, and I take attendance often. Although no portion of students' grades is awarded for class attendance, students who attend the lecture regularly will be rewarded at the end of the semester. Student-athletes and students who observe religious holidays should inform me in advance about the days they will miss class.

Course Schedule: A Weekly Breakdown (all dates except the final exam are tentative and subject to change)

	Topics/Daily Activities	**Readings and Homework Assignments (points)**
Week 1	(chapter 1) Fundamental elements of statistics, Types of data, Basic definitions	Chapter 1, # 20, 38 (0.6)
	(chapter 2, 2.1-2.8) Describing qualitative and quantitative data, Measures of central tendency, variability, and relative standing	Chapter 2, # 6, 16, 30, 70, 74, 104, Class problem set (1.6)
Week 2	Interpreting mean and standard deviation, Chebyshev's rule, and Empirical rule (chapter 3, 3.1-3.6) Probability theory, Unions and intersections	Chapter 3, # 6, 18, 38, 62, 122, Class problem (1.7)
Week 3	Probability Theory, Independent events, Conditional probability, Random sampling (chapter 4) Probability distributions for discrete and continuous random variables, Measures of central tendency and variability for random variables Binomial distribution and more	Chapter 4, # 12, 22, 36, 56, 66*, 68*, 94, 120, 136*, Class problem set 9 (2.0)
Week 4	Uniform distribution, Normal distribution, and its properties, The standard normal distribution, Normal approximation to the Binomial distribution	
Week 5	(chapter 5) Sampling distribution of the sample mean and sample, proportion, Central limit theorem,	Chapter 5, # 4, 24, 50, 72, Class problem set (1.5)
Week 6	(chapter 6) Large and small sample confidence intervals for a population mean, population proportion, and population variance **EXAM 1**	Chapter 6, # 18, 28, 44, 56, 70, 96, Class problem set (2.0)
Week 7	(chapter 7, skip 7.8) Introduction to Hypothesis Testing, Large sample hypothesis testing for a population mean, p-value, and interpretation of the p-value	Chapter 7, # 40, 54, 60, 70, 94, Class problem set (1.8)

Week 8	Small sample hypothesis testing for a population mean Hypothesis testing for population proportion and population variance	
	(Chapter 8) Comparing two population means, Confidence intervals for differences in the two population means, Determining the desired Hypothesis testing for equality of means with the independent and paired Sampling	Chapter 8, # 14, 40, 52, 66, 82, Class problem set (1.8)
Week 9	Comparing and hypothesis testing for equality of population variances, Comparing two population proportions, determining the desired sample size, Hypothesis testing for equality of two population proportions	
Week 10	(Chapter 9, 9.2 only) Analysis of variance, Comparing multiple populations' mean	Chapter 9, # 26, 32, Class problem set (1.0)
	(Chapter 10) Multinomial experiments and contingency tables, Testing category probabilities, one-way and two-way tables	Chapter 10, # 8, 18, 28, 38, Class problem set (1.6)
Week 11	(chapter 11) Simple linear regression, Basic assumptions Simple linear regression, Fitting the model	Chapter 11, #14, 22, 36, 56, 96, Class problem set (2.2)
Week 12	Estimating the unknown parameters using the method of OLS Confidence intervals and hypothesis testing for intercept and slope **EXAM 2**	
Week 13	Correlation and regression, R^2, and its interpretation, Predictions and prediction intervals	
	(chapter 12, 12.1-12.9) Multiple regression, Basic assumptions of multiple regression,	Chapter 12, # 14, 34, 44, 60, 74, 84, 106, Class problem set (2.2)
Week 14	Estimation and interpretation of the parameters, Prediction using Multiple regression	
Week 15	Evaluating overall model utility, Interaction models, Quadratic models, Qualitative (Dummy) variable models, Models with both quantitative and qualitative variables, Comparing nested models. (Review)	
Final Exam	**Monday, May 6, 2-4 p.m.**	

Policy on Missed Exams

Students must take the exams as scheduled. There will be no makeup exams unless the student has a valid medical excuse and can provide documentation for such a reason or if a student cannot take the exam because of extenuating circumstances and prior arrangements are made with the instructor. Students will receive zero credit for unexcused missed exams. The student will receive an F for the course if the final exam is missed for an unexcused absence, regardless of the student's performance during the semester. If a student has a valid reason for missing the final exam and can document it, they will receive an incomplete grade.

Academic Integrity

The University of Southern California is foremost a learning community committed to fostering successful scholars and researchers dedicated to the pursuit of knowledge and the transmission of ideas. Academic misconduct is in contrast to the University's mission to educate students through a broad array of first-rank academic, professional, and extracurricular programs and includes any act of dishonesty in the submission of academic work (either in draft or final form).

This course will follow the expectations for academic integrity as stated in the USC Student Handbook. All students are expected to submit assignments that are original work and prepared specifically for the course/section in this academic term. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s). Students suspected of engaging in academic misconduct will be reported to the Office of Academic Integrity.

Other violations of academic misconduct include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the University and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the University.

For more information about academic integrity see the student handbook or the Office of Academic Integrity's website, and university policies on Research and Scholarship Misconduct.

Policy for the use of AI Generators in the course

Since creating, analytical, and critical thinking skills are part of the learning outcomes of this course, all assignments should be prepared by the student working individually or in groups. Students may not have another person or entity complete any substantive portion of the assignment. Developing strong competencies in these areas will prepare you for a competitive workplace. Therefore, using AI-generated tools is prohibited in this course, will be identified as plagiarism, and will be reported to the Office of Academic Integrity.

Course Content Distribution and Synchronous Session Recordings Policies
USC has policies that prohibit recording and distribution of any synchronous and asynchronous course content outside of the learning environment.

Recording a university class without the express permission of the instructor and announcement to the class, or unless conducted pursuant to an Office of Student Accessibility Services (OSAS) accommodation. Recording can inhibit free discussion in the future, and thus infringe on the academic freedom of other students as well as the instructor. (Living our Unifying Values: The USC Student Handbook, page 13).

Distribution or use of notes, recordings, exams, or other intellectual property, based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study. This includes but is not limited to providing materials for distribution by services publishing course materials. 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. (Living our Unifying Values: The USC Student Handbook, page 13).

Statement on Academic Conduct and Support Systems

Academic Integrity:
The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, compromises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the University's mission to research, educate, and contribute productively to our community and the world.

All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s).

Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the University. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the University.

For more information about academic integrity see the student handbook or the Office of Academic Integrity's website, and university policies on Research and Scholarship Misconduct.

Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.

Students and Disability Accommodations:
USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:
Counseling and Mental Health - (213) 740-9355 – 24/7 on call
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

988 Suicide and Crisis Lifeline - 988 for both calls and text messages – 24/7 on call
The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL) – 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services (OSAS) - (213) 740-0776
OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

USC Campus Support and Intervention - *(213) 740-0411*
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion - *(213) 740-2101*
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - *UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call*
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - *UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call*
Non-emergency assistance or information.

Office of the Ombuds - *(213) 821-9556 (UPC) / (323-442-0382 (HSC)*
A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - *(323) 442-2850 or* otfp@med.usc.edu
Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.