fSTA 371G
Statistics and Modeling
Unique Number 71595/71598

PROFESSOR

Betsy Greenberg
Hours: M - Th 1:30-2:30 pm, Saturday 1-3 pm or by appointment
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TEACHING ASSISTANTS

Holden Archer
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Hours: M-Th and Sunday 7-9 pm

Michelle Chahda
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Hours: M-Th 3-5 pm and Friday 10-noon

OFFICE HOURS are on Zoom

TEXTBOOK

REQUIRDED: MyStatLab for *B*usiness *Statistics*, 4th Edition, by Sharpe, De Veaux, and Velleman. You can use the book and access code or just MSL and the e-book. **If you've already used MSL for STA 309, you should not have to pay to register.**

GRADING

Tests	50%
Project	25%
Homework	15%
Participation	5%
Reading quizzes	5%

COURSE DESCRIPTION

Business decisions are made under uncertainty. This course provides tools for dealing with uncertainty. Upon completion of the course you should be able to apply decision analysis techniques, use regression analysis, and simulation modeling. This course is designed to present applications for these techniques and to deal with topics that prove most helpful to those involved in business.

This course carries the Quantitative Reasoning flag. Quantitative Reasoning courses are designed to equip you with skills that are necessary for understanding the types of quantitative arguments you will regularly encounter in your adult and professional life.

PREREQUISITES

The following prerequisites are enforced for this class: Management Information Systems 301 or 310; Mathematics 408D, 408L, or 408M; Statistics

309 or 309H; and credit or registration for Business Administration 324 or 324H. I am not able to make exceptions to prerequisites. Students are expected to be familiar with elementary statistics.

COMPUTING

As this course is online, you will need a reliable internet connection and a computer with a camera, speakers, and microphone. Headphones can be used (and you may prefer them anyway) if you don't have working speakers or microphone.

The practice of statistics requires extensive numerical calculations. We will use R, a powerful, state of-the-art statistical software platform, for statistical computing in this course. R is frequently used by practitioners and being able to use R to do statistical analysis is a valuable (and marketable) skill. No prior knowledge of R is needed; we will teach you all you need to know.

CLASS PARTICIPATION

We will be using the Learning Catalytics (included with MyStatLab) system for class participation. You may answer Learning Catalytics questions using any device with a web browser including your computer or phone. Your class participation grade will be determined from the responses that you provide whether you are watching live or recorded lectures. Learrning Catalytics questions in a self-test format will be available until the next live class starts. During lectures you may also use the "Ask a Question" button or the class chat.

HOMEWORK

Homework assignments will be posted on MyStatLab. All are **due on the due date by 11:59 pm.** The homework assignments are designed to give you practice with the course material. It is recommended that students work on assignments independently.

You may open an assignment (and even print it out) several times before submitting your answers. Assignments must be completed by midnight on their due dates. It is recommended that you do not wait until the last minute to complete assignments. This will allow for any unexpected difficulties (with the material, website, software etc.).

READING

This course will be taught in a "flipped" model, which means that we will not cover all of the material during lecture. Instead, you'll do the relevant reading before class and complete a short pre-class assignment. This way, we can spend more time in class on what you find challenging and less time on the easy stuff. An average score of 75% will be counted as full credit for Reading Quizzes. Reading quizzes are **due by 7 pm** the evening before the start of a new chapter.

WEB PAGE http://canvas.utexas.edu

This course will use a password-protected class web site. Syllabi, slides, assignments, and other resources will be available within this site. Site activities will include submission of assignments and posting of grades. Registration and access to MyStatLab is through Canvas.

TESTS

Tests for this class will be given on June 22 and July 6. Each test is worth 25% of your grade. You will access the tests through Canvas with Proctorio and have R available for computation. You may take the test during the 10 am class time (when I am available to answer questions) or at your convenience as long as the test is submitted by 11:59 on the test day.

PROJECT

The course project will offer focused hands-on activities in the statistics-based research process using regression modeling with real world data. You will develop skills in 1) generating testable hypotheses; 2) conducting a literature review and understanding the statistical tests used in previous research; 3) understanding large data sets; 4) formatting and managing data in order to perform statistical analyses; 5) conducting descriptive and inferential analyses; and 6) reporting and interpreting results.

You will also be required to do peer grading (using Peergrade.io) of projects submitted by your classmates and submit a feedback survey after the project is complete.

SCHOLASTIC DISHONESTY

The McCombs School of Business has no tolerance for acts of scholastic dishonesty. The responsibilities of both students and faculty with regard to scholastic dishonesty are described in detail in the BBA Program's Statement on Scholastic Dishonesty at http://www.mccombs.utexas.edu/BBA/Code-of-Ethics.aspx. By teaching this course, I have agreed to observe all faculty responsibilities described in that document. By enrolling in this class, you have agreed to observe all student responsibilities described in that document. If the application of the Statement on Scholastic Dishonesty to this class or its assignments is unclear in any way, it is your responsibility to ask me for clarification. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since dishonesty harms the individual, all students, the integrity of the University, and the value of our academic brand, policies on scholastic dishonesty will be strictly enforced. You should refer to the Student Conduct and Academic Integrity website at http://deanofstudents.utexas.edu/conduct/ to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.

Examples of scholastic dishonesty in this course include: copying or collaborating during an exam, discussing or divulging the contents of an exam with another student who will take the test, the use of assignment solutions from another student or semester or violations of scientific integrity such as data fabrication, selective reporting, omission, suppression or distortion.

NON-ACADMEIC RESOURCES

Students with Disabilities, The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities (including learning disabilities). For more information, contact Services for Students with Disabilities at 471-6259. Please provide proper documentation from the SSD Office at the beginning of the term.

Behavior Concerns Advice Line (BCAL), Counseling, and the Mental Health Center Crisis (MHCC) line: College can be pretty stressful and sometimes we need a little help. Luckily, we have a wealth of resources and dedicated people ready to assist you.

- If you are experiencing a mental health crisis (depression, anxiety, e.g.) call the MHCC line at 512-471-CALL (2255). Call even if you aren't sure you're in a full-blown crisis, but sincerely need help. Staff are there to help you.

- If you have a behavioral concern about someone else and need some advice on what to do, you may call BCAL at 512-232-5050 to talk with someone about it. The call is confidential, and you decide how much information you'd like to share.

- Of course, if you feel the behavior requires immediate attention, (e.g. person is of harm to self or you feel threatened), call 911 directly.

Personal or Family Emergencies: If you experience a personal or family emergency (death in the family, protracted sickness, serious mental health issues) that prevents you from attending an exam or forces you to miss multiple days of class, you should contact Student Emergency Services in the Office of the Dean of Students. They will work with you to communicate with your professors and let them know of your situation.

Religious Observances: By UT Austin policy, you must notify me of your pending absence at least fourteen (14) days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

TENTATIVE COURSE SCHEDULE

Date	Topic	Reading	Assignment Due Dates
June 4 June 8*	Introduction Probability Review	Chapters 5-7	HW 1 June 9
June 9*	Making Decisions	Sections 24.1-24.4	HW 2 June 11
June 10* June 11	Value of Information	Sections 24.5-24.6	HW 3 June 15
June 15*	Review of Inference	Chapter 11, 12	
June 16*	Linear Regression	Chapter 4	HW 4 June 18
		Project: Proposal	June 19
June 17* June 18	Inference for Regression	Chapter 16	HW 5 June 21
June 22	Test 1		
June 23* June 24	Checking Assumptions	Sections 17.1-17.4, 17.6-17.7	HW 6 June 25
		Project: Literature Review	June 26
June 25* June 29	Multiple Regression	Sections 18.1-18.5	HW 7 June 30
June 30*	Building Regression Models	Chapter 19	
July 1*	Logistic Regression	Section 18.6 plus online reading	HW 8 July 2
		Project: Exploratory Data Analysis	July 3
July 2*	Time Series	Section 17.5, Chapter 20	HW 9 July 5
July 6	Test 2		
July 7*	Problems with P-values	Reading posted online	
July 8*	Testing and Training	Reading posted online	HW 10 July 9
July 9*	Simulation	Reading posted online	
		Project: Final presentation	July 10