STA 371G Spring 2022 Syllabus
Statistics and Modeling

Lecture Time

Tuesday & Thursday, 11:00 am - 12:30 pm, online

Instructor

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DO NOT EMAIL ME THROUGH MY UT MAIL, IT WILL NOT BE ANSWERED

Teaching Assistants

There are 12 TAs/Graders for this class. They will cover a variety of roles in the class. But the most important task for you is that they will hold 20-25 hours per week of office hours. There will be 4-5 hours per day of office hours, and days before tests there will be even more. Times of these office hours can be found on canvas.

Covid Flexibility

This class is listed as 'Online.' This means all lectures will be held online through canvas and recorded. Lecture recordings will eventually be posted on Canvas, and all assignments and tests will be submitted via Canvas. With that in mind you must follow along live with lectures and assignments. Inevitably, some of you will have issues and will not be able to attend some lectures, and that's ok, occasionally; recordings will be posted.

Course Objectives

- This course introduces some of the basic concepts in Business Analytics. We discuss methods that are used extensively in business organizations to solve structured problems. Such methods generate results that support decision-making at all levels of the organization over various time horizons.
- The primary topics we will cover in this class are statistical regression, forecasting, and simulation. This course carries the Quantitative Reasoning Flag. We will repeatedly use real-world datasets and examples to motivate our discussions and illustrate the relevance of what you learn. The concepts and methods you learn in this class should improve your own general problem-solving skills. By the end of the semester you will have learned concepts and tools that will help you analyze, infer and make decisions using quantitative data.

Prerequisites

Students are expected to be familiar with elementary statistics, e.g., Management Information Systems 301 or 310; Mathematics 408D, 408L, or 408M; Statistics 309 or 309H; and credit or registration for Business Administration 324 or 324 H.

Course Materials

Class Sessions

Class sessions will be streamed live from a recording studio on campus. You can access this stream on canvas by clicking the 'Video Stream' button on the left navigation pane. This means

you will not be able to unmute yourself to ask questions. There will, however, be a chat tool that will be live during class. There will be 2 TAs monitoring the chat that will be able to unmute themselves and periodically stop me to ask questions that show up in the chat. Since we won't use the standard zoom meeting format, the zoom tab on the left on canvas doesn't give you access to class, but it's where you'll join office hours.

Textbook

The recommended, but not required textbook, is *Business Statistics* by Sharpe, 4th edition. Class lectures will not rely on the book very much. However, the book will serve well as a companion reading material and give you more sample problems and exercises. You do not need the license to the homework server that comes with this book. Homework will be on canvas.

Website

This syllabus, lecture slides, datasets, homework, and other materials are posted on Canvas (https://canvas.utexas.edu). Information in Canvas is protected by your UTEID login.

GroupMe

Piazza used to be a great tool that integrated with canvas. UT does not subscribe to it anymore. UT created their own version, called Chatter. Chatter was used last semester in this class, but nobody really liked it. Therefore, there will be an 'official' GroupMe group for this class where you can ask questions. There will be TAs that monitor the group and respond to questions. Emails sent to the class email address regarding technical questions will be directed to the group. However, office hours are still the best place to get technical help! You can sign up for the GroupMe at: https://groupme.com/join_group/84433168/MsTR7Z9h

Software

We will use the R and RStudio software packages extensively in this course. Both of these software packages are free and can be installed on any operating system. They can be downloaded from cran.r-project.org and rstudio.com. RStudio is a software package that makes using R easier. You must download and install R before installing RStudio.

Assignments

Class participation

During every single class there will be a quiz on canvas. It will just check that you are paying attention; you will not have to actually do any statistics to answer the quiz questions. You will have until 5pm on the day of class to answer the questions on the quiz. Question topics may include the answers to example problems that are completed in class by the instructor, or general comprehension questions. At the end of the semester, approximately one third of your lowest grades on these quizzes (including zeros if you don't take some quizzes) will be dropped.

Attendance

Although class will be streamed through canvas, there will also be a concurrent zoom meeting two TAs will be present to ask questions that appear in the chat. Over the course of the semester, you will be required to log into this zoom meeting 4 times and have your **camera on** the whole time. Attendance will be checked in these zoom meetings, and this attendance will count towards your grade in the class. In no class session will more than 50 students be admitted

to the zoom meeting. This means if you wait until the end of the semester to attend your 4 meetings, you may be denied entry to the meeting if many other students want to attend.

Homework

Homework will be posted on canvas. There will be 6 homework assignments. The first homework assignment quizzes your comprehension of the syllabus! I encourage you to work with other students in the class on the homework, but copying answers is not allowed. Homework is due January 21, February 4, February 25, March 25, April 15, and April 29. I will drop your lowest homework assignment grade but will not accept late homework.

Exams

There will be 3 midterm exams plus an optional final exam. The exams will be open note, open book, open slides, open old R scripts, open whatever, except you CANNOT collaborate with other students. Midterms will take place on Fridays. You will have a 12-hour window to take the exams, but you will only have 1 hour after you begin the exam to complete it. The final exam will be comprehensive, and you will be given a 3-hour window, set by the university, to complete it. The final exam is optional and can replace the lowest grade on your midterms (including a 0 if you do not take one of the midterms). **There will not be any makeup exams for any reasons**. If you must miss a midterm exam for an officially accepted reason, it will be replaced by your average on the other midterms you take. If you must miss the final exam and you want it to replace a low midterm grade, you have the option of taking an incomplete in the class and making it up over the summer. Otherwise, you can stick with the midterm grades you have. The instructor and TAs are not in the position to determine if your reason for missing an exam is justified or not; UT's office of student emergency services works with students who have emergencies. If you miss a test for a justified reason, you MUST work with student emergency services. They must send a letter to the instructor for leniency on the exams to be given. If you miss 2+ midterms for excused reasons, you are REQUIRED to take the final.

To maintain the appropriate number of in- and out-of-class hours, on the day before exams class will only cover new content for 45 minutes. The remaining 45 minutes will be an optional review session where you can ask questions to the instructor on any topic that will be covered on the exam.

For each exam you will be required to submit the R code that you used to solve the problems to canvas. Failure to submit your R code will result in a 0 on the exam. Midterms will be open from 7am – 8pm on Fridays. You have until 8:30 pm to submit your R code on Fridays. Each student will be given one opportunity to submit their R code up to 24 hours late. At 8:30pm on Friday, if you have not yet submitted your R code, you will receive an email reminding you of this. If you are late more than once, on your second time you will be given a zero on the exam! But you can always make this up with the final exam!

Additionally, on the days of exams there will not be office hours, nor will any emails be answered. This is to make sure that the people who take the exam late in the day do not have an advantage over people who take the exam early in the day.

The days of the exams are

- Exam 1: February 18
- Exam 2: April 1
- Exam 3: May 6
- Final Exam: (comprehensive) May 12: 9 – noon: This is scheduled by UT.

Grading

- Class participation: 5%
- Attendance: 5%
- Homework: 20%
- Exams: 70% (average of highest 3 test grades from the 4 above)

Grades will be assigned to comply with the *Guidelines* for Grading in McCombs Undergraduate Classes:

> "Recommended average GPA in undergraduate courses is: 3.0-3.2 in core courses taken by all McCombs students and in Business Foundations Program courses."

Please note that there is no way I can guess at what your final grade will be until the final assignment has been graded.

If your total average is 90.0 or above (NOT 89.99) then you are guaranteed to get an A or A- in the class. If you get 80.0 or above (NOT 79.99) then you are guaranteed to get a B-, B or B+ in the class; and so on for C's and D's. The cutoff between A and A- is not strictly set by the university. The guideline is 93.5, but this is up to the discretion of the instructor; it may be 1 or 2 points different than this. If these cutoffs lead to a low class GPA then the cutoffs will be relaxed.

Schedule

This is a rough schedule of topics covered in the course. It is subject to change based on how fast or slow we're going.

Week 1: January 18 – 21	Intro and review of STA309
Week 2: January 24 – 28	Review of R and regression
Week 3: February 1 – 4	Review of regression
Week 4: February 7 – 11	Multiple regression
Week 5: February 14 – 18	Multiple regression
Week 6: February 21 – 25	Adding regressors
Week 7: March 1 – 4	Adding regressors
Week 8: March 7 – 11	Selecting regressors
Week 9: March 21 – 25	Model evaluation
Week 10: March 28 – April 1	Model evaluation
Week 11: April 4 – 8	Logistic Regression
Week 12: April 11 – 15	Logistic Regression
Week 13: April 18 – 22	Simulation
Week 14: April 25 – 29	Simulation
Week 15: May 2 – 6	Advanced topics in regression

Students with Disabilities

Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259, http://diversity.utexas.edu/disability.

If you need to reserve a space for the exams, please contact me at least 2 weeks before the scheduled exams date, so that I can submit a request to Testing Cubicles at McCombs.

Diversity and Inclusion

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed and that the diversity that students bring to this class can be comfortably expressed and be viewed as a resource, strength and benefit to all students. Please come to me at any time with any concerns.

Class Recording Privacy

Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.

Sharing of Course Materials is Prohibited

No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class without explicit, written permission of the instructor. Unauthorized sharing of materials promotes cheating. It is a violation of the University's Student Honor Code and an act of academic dishonesty. The University is well aware of the sites used for sharing materials, and any materials found on such sites that are associated with a specific student, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure of the course.

Religious Holy Days

By UT Austin policy, you must notify me of your pending absence at least fourteen 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.

Campus Safety

Please note the following key recommendations regarding emergency evacuation, provided by the Office of Campus Safety and Security. More info at https://preparedness.utexas.edu/.

- Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings and assemble outside when a fire alarm is activated.

- Familiarize yourself with all exit doors of each classroom and building you may occupy.
- If you need evacuation assistance, inform the instructor in writing a.s.a.p.
- In the event of an evacuation, follow the instruction of faculty or class instructors.
- Do not re-enter a building unless given instructions by Austin or UT police or fire authorities.

Behavior Concerns Advice Line (BCAL): 512-232-5050 or on-line. In case of emergency, further information will be available at http://www.utexas.edu/emergency.

Policy on 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://my.mccombs.utexas.edu/BBA/Code-of-Ethics. By teaching this course, I have agreed to observe all faculty responsibilities described there. By enrolling in this class, you have agreed to observe all student responsibilities described there. 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.

Harassment Reporting Requirements

Senate Bill 212 (SB 212), which went into effect on January 1, 2020, is a Texas State Law that requires all employees (both faculty and staff) at a public or private post-secondary institution to promptly report any knowledge of any incidents of sexual assault, sexual harassment, dating violence, or stalking "committed by or against a person who was a student enrolled at or an employee of the institution at the time of the incident". Please note that both the instructor and the TA for this class are mandatory reporters and MUST share with the Title IX office any information about sexual harassment/assault shared with us by a student whether in-person or as part of a journal or other class assignment. Note that a report to the Title IX office does not obligate a victim to take any action, but this type of information CANNOT be kept strictly confidential except when shared with designated confidential employees. A confidential employee is someone a student can go to and talk about a Title IX matter without triggering that employee to have to report the situation to have it automatically investigated. A list of confidential employees is available on the Title IX website.