STA 309 Elementary Business Statistics MWF 11:00 AM – 12:00 PM UTC 3.104

THE UNIVERSITY OF TEXAS AT AUSTIN



Professor

Daniel Mitchell Office: GSB 5.155 Office Hours: Monday, Wednesday 3:00 – 4:30 PM, or by appointment E-mail: <u>dan.mitchell@utexas.edu</u>

Course Objective

Regardless of the setting, whether it is a restaurant owner ordering food or a financial analyst making market predictions, business decisions are always made under uncertainty. This course introduces a framework for thinking about problems involving uncertainty and concentrates on the practice of statistics as a tool for dealing with uncertainty. Upon completion of the course you should be able to think critically about data, use graphical and numerical summaries, apply standard statistical inference procedures, and draw conclusions from such analyses.

Prerequisite

Mathematics 408C or 408K, and Mathematics 408D or 408L. Or AP credit for calculus.

Text

Business Statistics, Second Edition, by Sharpe, De Veaux, and Velleman, Addison Wesley, 2011. ISBN-10: 0321716094, ISBN-13: 978-0321716095

Grading

Homework	20%
Projects	20%
Midterm 1	20%
Midterm 2	20%
Final Exam	20%

Course Webpage - via Blackboars http://courses.utexas.edu

This course will use a password-protected class web site. Syllabi, notes, assignments, and other resources will be available within this site. Site activities will include submission of homework assignments and posting of grades. Login to the course website using your UT EID. If you have difficulty, you may be able to get help from the ACITS Help Desk (475-9400). Alternatively, you may need to work in the Millennium Lab, CBA 5.322.

Homework

There will be 10 homework assignments this semester, the due dates can be found on the course schedule at the end of this syllabus.

Statistics is a cumulative subject that requires frequent practice. *If one topic is confusing, the next is likely to be more so*. To address this, it is necessary for you to practice statistics on a frequent basis. The homework assignments are designed to keep you current in the course. The assignments are available online on the course web page. It is OK to work in groups, to help understand concepts, as long as each student independently solves each problem and submits their own answers.

You may open an assignment (and even print it out) several times before submitting your answers.

Click on the Submit button (at the bottom) when you are done.

Assignments must be completed by midnight (23:59 hrs) on their due dates. Please do not wait until the last minute to complete assignments. This will allow for any unexpected difficulties (with the material, website, etc.).

Several homework problems will be short answer questions. When you submit a homework assignment BlackBoard will automatically give you a grade for the assignment but each short answer question will be marked WRONG. This is because BlackBoard is not able to grade short answer questions. I will go back through each short answer question and give you points back for correct answers. After I finish grading each assignment I will send an email to the entire class letting you know that your grades have been corrected. After I send this email you have exactly 7 days to examine your grade. If you are curious about why you lost points or believe that you deserve more points than you got then you must come to my office hours to talk to me about it. I will not discuss homework grades via email. After 7 days has passed you can no longer receive points back for homework assignments.

Working the assigned problems may not be sufficient to guarantee an A in the course but they are a necessary requirement. Your proficiency with statistics will improve with active practice; i.e., working problems and explaining your results. The textbook has additional problems for practice.

Class Participation

I expect every student to come to every class. In each class I will ask a sequence of questions during the lecture. I will ask you to write down the answers on a piece of paper and submit your answers at the end of class. Your answers to these questions will be part of your final homework grade.

Laptops

You may find it helpful to have a laptop in class to use Excel for data analysis and/or follow along on class notes. However, please be courteous to your classmates by restraining from multitasking. If I notice you are distracting other students I may ask you to leave the classroom.

Teaching Methods

This course will be taught in an interactive lecture format. Each topic will first be introduced using lecture slides and then I will work examples using Excel on the projector. I encourage you to work the Excel examples with me during class, on your own or with a neighbor.

Exams

There will be two tests and a final exam. Tests will be given in the MOD Lab during regular class time. You may bring one 8.5" by 11" page (both sides) of notes to the first two tests and two pages to the final exam. You may also bring a (non-graphing) calculator to the exams. You must bring a picture ID to each test and exam. The dates of the two tests and the final are found on the course schedule. The final exam will be in the last week of classes in the usual class time. *The final exam will be cumulative*.

There will be no make-up tests. Your final exam grade can replace one lower test grade. If you miss a test, for any reason, you will receive a zero on that test and your grade on the final exam will replace the zero.

PROJECTS

There will be three projects to be completed for this class. The projects are examples of real problems from the field of Finance. The projects are designed to give you practical experience analyzing real-world data and modeling complicated decisions. You will apply statistical concepts that you learn in this class. Each project will be completed individually. They will be submitted via BlackBoard and the due dates can be found on the course schedule.

COMPUTING

The practice of statistics requires a fair amount of numerical calculations. We will use Microsoft Excel 2007 or newer and StatTools for statistical computations. StatTools is an add-on for Microsoft Excel and is offered for free to all McCombs students. This

software however only works on computers running Microsoft Windows. If you are one of the many students using an Apple computer then you either need to install Windows on your Mac using something like Bootcamp or do your homework in one of the computer labs in McCombs. Instructions on downloading StatTools can be found at http://ford.its.utexas.edu/wiki/index.php/Additional_software

The McCombs School of Business has 2 computer labs with Dell computers: CBA 5.304/5.325(MOD Lab) and CBA 5.322(Millennium Lab). Lab hours are extensive both in the CBA labs and the SMF. You must have an ITS account to use the labs.

GETTING HELP

Your professor is eager to help you during office hours or by appointment. As we cover the topics, if you do not have a clear understanding of one topic, please seek help immediately. The next topic will build on the previous one. If you prefer a private tutor, the UT Learning Center (phone 471-3614) in Jester A332A can arrange one for you for a reasonable charge.

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 Policy Statement on Scholastic Dishonesty for the McCombs School of Business:

By teaching this course, I have agreed to observe all of the faculty responsibilities described in that document.

By enrolling in this class, you have agreed to observe all of the student responsibilities described in that document. If the application of that Policy Statement to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification. Policy on Scholastic Dishonesty: 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, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. You should refer to the Student Judicial Services website at http://deanofstudents.utexas.edu/sjs/ or the General Information Catalog to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.

STUDENTS WITH DISABILITIES

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. This includes students with ADHD and learning disabilities. For more information, contact the Division of Diversity and Community Engagement, Services for Students with Disabilities: <u>http://www.utexas.edu/diversity/ddce/ssd/</u> or at 471-6259, 471-4641 TTY.

Religious Holidays

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 recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, http://www.utexas.edu/safety/

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.

Students requiring assistance in evacuation should inform their instructor in writing during the first week of class.

In the event of an evacuation, follow the instruction of faculty or class instructors.

Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.

Behavior Concerns Advice Line (BCAL): 512-232-5050

Further information regarding emergency evacuation routes and emergency procedures can be found at: <u>www.utexas.edu/emergency</u>.

Торіс	Approximate Start Date	Textbook Reading	Exam and Assignment Due Date
Introduction	1/14	Chapter 1	Survey – Jan 15
Data	1/16	Chapter 2	
Samples and Surveys	1/18	Chapter 3	HW #1 – Jan 24
Categorical Data	1/23	Chapter 4	
Quantitative Data	1/25	Chapter 5	HW #2 – Jan 29
Correlation and Regression	1/28	Chapter 6	HW #3 – Feb 4
Review	2/4		Test 1 – Feb 6
Applied Finance Assignment 1			Feb 11
Randomness and Probability	2/8	Chapter 7	
Random Variables	2/18	Chapter 8	HW #4 – Feb 19
The Normal Distribution	2/25	Chapter 9	HW #5 – Feb 26
Sampling Distributions	3/4	Chapter 10	HW #6 – March 5
Review	3/20		Test 2 – March 22
Applied Finance Assignment 2a			March 26
Confidence Intervals	3/25	Chapters 11-12	HW #7 – April 2
Testing Hypotheses	4/1	Chapter 13	HW #8 – April 7
Comparing Two Groups	4/8	Chapter 14	
Inference for Counts	4/20	Chapter 15	HW #9 – April 21
Regression Part 2	4/22		HW #10 - May 1
Applied Finance Assignment 2b			April 24
Review	5/1		Final Exam – May 3