INSTRUCTOR: Dr. Mark Eakin
PROFILE AT THE FOLLOWING HYPERLINK: https://www.uta.edu/ra/real/editprofile.php?pid=1018
OFFICE: 525 Business building PHONE: 817-272-3529
E-MAIL: eakin@uta.edu SECTION INFORMATION: BSTAT 5301 online
TIME AND PLACE OF MEETING: Online.

OFFICE HOURS: I will be available by appointment either by phone or face to face in my office. I will also respond to questions by email.

DESCRIPTION OF COURSE CONTENT: Introduction to statistics, designed to prepare graduate students to become competent consumers of statistical information that they will encounter in their professional and personal lives. Students should be able to perform basic statistical analyses and to think critically when interpreting statistical results. Topics include probability, random variables, sampling distributions, confidence intervals, tests of hypotheses, and simple regression. May not be counted as an MBA foundation course or elective.

Optional Textbook:
The exams for this class are solely based on Dr. Eakin's notes. If you wish an alternative or additional explanation of the material you may use the textbook: Introductory Statistics from OpenStax, ISBN 1938168208 – which is available for free online. For information on how to access (or acquire) the text, please see the following website: www.openstax.org/details/introductory-statistics

This book is available in web view and PDF for free. If you would also like (or prefer) a printed copy, you can purchase one on iBooks or via OpenStax on Amazon.com. If you buy on Amazon, make sure you use the link on your book page on openstax.org so you get the official OpenStax print version. (Simple printouts sold by third parties on Amazon are not verifiable and not as high-quality.)

Required Software: Excel spreadsheet (or compatible) software.

COURSE LEARNING OUTCOMES:
1. The student will be able to articulate in their own words the purpose of statistics and how to obtain valid samples.
2. The student will summarize data graphically and numerically.
3. The student will be able to articulate in their own words the intent and be able to apply basic laws of probability.
4. The student will be able to articulate in their own words and be able to employ common probability and sampling distributions.
5. The student will estimate parameters of discrete and continuous random variables.
6. The student will perform statistical inference regarding population parameters.
7. The student will use simple and multiple linear regression to perform predictive analytics.
8. The student will be able to use software to obtain the numbers and/or graphs used in objectives 1-7.

PREREQUISITES: Students should have taken MATH 1315 or equivalent; thereby students should be comfortable with business math concepts.

ELECTRONIC COMMUNICATION: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at the following hyperlink http://www.uta.edu/oit/cs/email/mavmail.php. I will return emails within one calendar day.

Students are expected to be courteous and professional in email communications with each other and with the professor of their class. Students can find examples of guidelines by searching for the phrase "professional email etiquette" in a web browser such as Google.
<table>
<thead>
<tr>
<th>Date and Module</th>
<th>Topic(s)</th>
<th>Activities</th>
<th>Suggested Completion Date*</th>
<th>Required Due Date (11:59 pm Central Time)</th>
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<tbody>
<tr>
<td>Module 1 Aug. 19 - 23</td>
<td>Welcome, Course Overview Building Blocks of the Course</td>
<td>Discussion board: Introduce Yourself, Review the Syllabus &amp; Complete the Survey Activity: Box Experiment Activity: Building Blocks of the Course Activity: Sampling Example Chapter 1: Types of Data and Sampling</td>
<td>Aug. 19</td>
<td>Aug. 25</td>
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<tr>
<td>Module 2 Aug. 24 - 30</td>
<td>Graphical &amp; Numerical Summaries</td>
<td>Chapter 2: Graphs and Tables Chapter 3: Mean, Variance and Correlation Exercise: Graphing Exercise Exercise: Numerical rule Exercise Group Discussion 1</td>
<td>Aug. 23</td>
<td>Sept. 1</td>
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<tr>
<td>Module 3 Aug. 31 - Sept. 6</td>
<td>Basic Probability Rules</td>
<td>Chapter 4: Probability Rules Exercise: Bayes Probability Rules Exercise: Bayes Exercise Group Discussion 2 Group Assignment 1 Exam 1</td>
<td>Aug. 31</td>
<td>Sept. 8</td>
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<tr>
<td>Module 4 Sept. 7 - 13</td>
<td>Probability &amp; Sampling Distribution</td>
<td>Chapter 5: Sampling Distribution Exercise: Probability of a Sample Average Exercise: Probability of a Normal Value Exercise: Probability of a Sample Proportion Group Discussion 3 Group Assignment 2</td>
<td>Sept. 7</td>
<td>Sept. 15</td>
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<tr>
<td>Module 7 Sept. 28 - Oct. 4</td>
<td>Regression</td>
<td>Chapter 8: Regression Exercise: Regression Group Discussion 6 Final Exam</td>
<td>Sept. 30 Oct. 5</td>
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**Canvas**: All assignments will be submitted through Canvas. Grades will be posted on that site also.
PURPOSE OF DIFFERENT GRADES: The purpose of Participation, Exercises and Assignments is to prepare you for exams. The grades on these are low enough to motivate you without damaging your grade if you miss some. If you are unable to do any of these correctly, please get help from me, my graduate teaching assistant or a peer.

1. Participation/Discussions: Participation grades motivate you to get involved in the class. There are two participation activities and seven group discussion activities (described below). Each activity grade (did you participate in the activity or not) will either be zero or 100. Group discussion will be graded within one calendar day.

2. Exercises: Exercise grades are used to strengthen your ability to work through a problem. Completely worked out examples of the exercises are available in my notes. Once you feel comfortable working the examples, attempt the exercise. You may work the exercise as many times as you wish in order to get all questions in the exercise correct. The grade will be the percent of questions that you get correct. Grades can be determined by the student by counting the number of answers algorithmically graded as "Correct" out of the total number of answers.

3. Assignments: Assignment grades are used to strengthen your understanding of concepts and procedures by discussions with peers. If you cannot articulate your points, you may have problems with understanding and will need to fix these deficiencies before the exams. Grades on assignments will be returned within two calendar days.

GROUP DISCUSSIONS: help you determine if you understand the material. In the notes after each numbered section, you will need to write a three or four sentence summary of what you heard. The class will be divided into groups. Either synchronously using online meetings or asynchronously using emails, each student will take turns sharing their summary with the other members of their group. Other group members can then correct or comment on the summary. The group will submit one of the following each week: an email discussion chain, a list of typed chat-window contents, or a recording of the discussion if by phone or voice-over-internet. If your group submits a recording, then in order to get credit each person must identify themselves before saying their summary. The professor or GTA will review the group discussion and send corrections to groups if necessary. Remember even if your summary is wrong, as long as you try to put summaries in your own words, you will receive full credit. Summaries that directly reading or coping sentences from the notes will only receive 40% credit.

RESPONDUS AND EXAMS: There will be two online exams and the final. For each, you will be required to have a webcam to facilitate Canvas’s Respondus proctoring service.

Each exam will be multiple choice. In the exams, after the questions, you will find a copy of the class notes and required tables that you can use as a reference. Exams have been calibrated so that the typical student can finish and review their answers in the time allotted. However if you attempt to find an answer to each question by searching or rereading all the notes, you will be unable to complete the exam in the time allowed. Moral of the story: become familiar with the notes before the exam.

FEEDBACK TIMETABLE: All quizzes and exams will be graded automatically. You should receive grades no later than two days after they’re submitted. I will generally respond to emails (or questions that are posted in the Canvas discussion forums) within 24 hours.

INTELLECTUAL PROPERTY: All course materials (syllabus, notes, exams, etc.) are the intellectual property of the instructor. No user (student or otherwise) of these materials may sell, upload or otherwise convey these materials (or images or representations thereof) to any person, firm or other entity without my express written permission.

<table>
<thead>
<tr>
<th>TEST*/ASSIGNMENT</th>
<th>POINT VALUE</th>
<th>FORMAT</th>
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<tbody>
<tr>
<td>Assignment 1</td>
<td>5%</td>
<td>Typed answer</td>
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<tr>
<td>Exam 1</td>
<td>25%</td>
<td>Multiple Choice</td>
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<tr>
<td>Assignment 2</td>
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<tr>
<td>Assignment 3</td>
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<tr>
<td>Exam 2</td>
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<td>Multiple Choice</td>
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<tr>
<td>Group Discussions</td>
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<tr>
<td>Exercises</td>
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<td>Short Answer</td>
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<tr>
<td>Comprehensive Final</td>
<td>25%</td>
<td>Multiple Choice</td>
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* Grades for homework, assignments and participation will be recorded in Canvas after the grades are multiplied by their 5% weight. A homework average and a participation average will be posted on Canvas at the end of the semester. (Exam grades will be posted in Canvas before multiplying by their weight)

**GRADES:** A = 90% and above, B = 80% - 89.9999%, C = 70% - 79.9999%, D = 60% - 69.9999%, F = 0% - 59.9999%. Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels; see “Student Support Services,” below.

At the end of the semester, I will calculate the course grade by first adding the three assignment grades, the homework average and the participation average. To this I will add the exam grades after multiplying by their 25% weights and finally adding in the final exam grade after multiplying by its 30% weight.

**Tentative Course Schedule:** see Canvas's Modules for detailed Course Schedule

**MAKE-UP EXAMS:** Your grade on the final will be used to replace any one grade for those who have missed an exam due to illness, required travel associated with your job, or death in the immediate family. Any requests for this missed-grade replacement must be accompanied by written documentation: doctor's excuse, letter by your superior on company letterhead, etc. Lack of time to prepare for an exam or too many exams on one day will not be considered as sufficient reasons for a make-up. The final can serve as a make-up for only one exam.

**GROUPS:** The class will be divided into groups of size 4 or 5. I will place students in groups by using the results of a survey taken the first day of class.

**EXPECTATIONS FOR OUT-OF-CLASS STUDY:** Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

**ASSIGNMENTS:** Three group assignments will need to be done using a computer spreadsheet package such as Excel.

Assignment 1 will ask you to choose the correct procedures to use for either graphing or numerically describing a set of data using the procedures of Module 2. This will be a multiple choice assignment automatically graded by Canvas.

Assignment 2 will ask each group to use the procedures in a software package to produce the graphs and numbers in assignment 1. The results of the graphs and numbers will be pasted into a Word document and posted to Canvas. The grade will depend on how well you create the graphs and numbers.

Assignment 3 will ask each group to create a short technical report with a sentence or two summarizing each graph or number created in Assignment 2. In addition a concluding paragraph must be created describing what you learned about the data (not the procedures you used but the data). The Word (not PDF) will be submitted to Canvas and will be automatically checked for plagiarism and collusion using Canvas’s SafeAssign protocol.

**GRADE GRIEVANCES:** Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current graduate catalog. For undergraduate courses, see (click on the following hyperlink) [http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx#19](http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx#19); for graduate courses, see (click on the following hyperlink) [http://grad.pci.uta.edu/about/catalog/current/general/regulations/#gradegrievances](http://grad.pci.uta.edu/about/catalog/current/general/regulations/#gradegrievances)

**NON-DISCRIMINATION POLICY:** The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit(click on the following hyperlink) [uta.edu/eos](http://uta.edu/eos)

**TITLE IX:** The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education
Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. For information regarding Title IX, visit (click on the following hyperlink) [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or (click on the following hyperlink) [jmhood@uta.edu](mailto:jmhood@uta.edu).

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Dr. Mark Eakin

**THE INSTRUCTOR RESERVES THE RIGHT TO MAKE CHANGES TO THE SYLLABUS AS NECESSARY AND WILL NOTIFY THE CLASS USING MYMAV OF THESE CHANGES; IT IS THE STUDENT’S RESPONSIBILITY TO BE AWARE OF THESE CHANGES.**

| Emergency Phone Numbers | In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. |