MATH 2435A – Introduction to Statistical and Quantitative Analysis
W 3:10 – 4:50 Strake 206

INSTRUCTOR: Jack Follis
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EMAIL: follisj@stthom.edu
OFFICE: MATH 113
OFFICE HOURS: MW 11-2:30 pm
TTh 10-11 am

COURSE CATALOG DESCRIPTION: An introduction to quantitative and statistical analyses focusing on applications of algebraic and statistical methods. Topics to be covered include functions and graphs, break-even analysis, descriptive statistics, probability distributions, estimation, simple linear regression and basic hypothesis testing will be covered. This course may not be used as part of the mathematics courses required of mathematics majors.

COURSE OBJECTIVES: The course will focus on the application of concepts and techniques for summarizing and analyzing data.

Upon completion of this course, students should be able to:

- Evaluate and graph functions
- Calculate and interpret descriptive statistics
- Use the normal distribution to find probabilities and quantile scores
- Construct and interpret confidence intervals
- Estimate and interpret linear regression models
- Interpret the results of a hypothesis test

Instructional methods:

This is blended learning course. Blended/hybrid courses are courses which “… combine the flexibility of online instruction with the benefit of face-to-face instruction in the classroom.” Additionally, “These courses effectively combine classroom-based instruction with online instruction thereby reducing the amount of time spent in the physical classroom.” These courses maintain the same academic standards and rigor of traditional courses.

Lectures for the course will be available for you to download/view on Blackboard, with the class meetings to discuss the concepts covered in the online lectures and/or work through problems and applications of the material. Having the lectures online not only allows you to move through the lectures at your own pace, but it allows you a chance to review the lectures. There will be online and in-class quizzes over the material covered. Since 50% of this course (lectures) will be online, the in-class component of the course will only meet once each week.
Course Outline:
The outline below for this course is tentative; it may change based on the progress we make in class and in the event of circumstances beyond the instructor's control.

1. Functions and Graphs
   a. Linear, Quadratic, Exponential
   b. Applications
      i. Break-Even Analysis
      ii. Supply and Demand
      iii. Linear and Quadratic Models
   c. Systems of Equations
   d. Derivatives
2. Descriptive Statistics
   a. Tables and Graphs
   b. Summary Statistics
3. Probability
4. Probability Distributions
   a. Discrete Distributions
   b. Continuous Distributions – Normal Distributions
5. Estimation
   a. Proportions
   b. Means
6. Regression
   a. Correlation
   b. Simple Regression
7. Introduction to Hypothesis Testing

GRADE IN COURSE:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Quizzes*</td>
<td>30%</td>
</tr>
<tr>
<td>Assignments**</td>
<td>10%</td>
</tr>
<tr>
<td>Online Quizzes</td>
<td>10%</td>
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<tr>
<td>Midterm</td>
<td>20%</td>
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<tr>
<td>Final</td>
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*Quizzes will be given at the beginning and end of each class. There are no make-ups for missed quizzes.

**Late assignments and/or electronic submissions will only be accepted with the instructor’s consent.
GRADING SCALE: In this class the final course grades will be determined using the following grade scale:

| Grade | 93.0-100 | 90-92.9 | A- | 87.0-89.9 | B+ | 83-86.9 | B | 80-82.9 | B- | 77.0-79.9 | C+ | 73-76.9 | C | 70-72.9 | C- | 67.0-69.9 | D+ | 60-66.9 | D | < 60 | F |

Policy on Academic Integrity

Policy/Procedure
Every offense against academic honesty seriously undermines the teaching-learning process for which the University exists, and such offenses will be dealt with expeditiously according to the following criteria.

Definition
Academic dishonesty includes but is not limited to:
1. Cheating on an examination or test; for example, by copying from another’s work or using unauthorized materials before or during the test, including the use of electronic devices;
2. Plagiarism, which represents as one’s own the work of another, whether published or not, without acknowledging the precise source;
3. Participation in the academic dishonesty of another student, even though one’s own work is not directly affected;
4. Any conduct which would be recognized as dishonest in an academic setting.

Penalty
The penalty for an incident of academic dishonesty is, at the discretion of the faculty member, either a mark of zero for the work in question or a grade of F for the course.

Disabilities
Any student with a disability requiring accommodations in this course is encouraged to contact me after class or during office hours. Additionally, students will need to contact Counseling and Disability Services in Crooker Center. This office can be reached at (713) 525-2169 or 6953.

DROPPING THE COURSE: If you decide you do not wish to continue the course, it is your responsibility to go through the proper channels and officially drop the course.

Tutorial Services
Students needing extra assistance with course concepts may also visit the Tutorial Services Center and/or ust.askonline.net.