

SAM HOUSTON STATE UNIVERSITY
COLLEGE OF BUSINESS ADMINISTRATION
Department of Economics and International Business
Course Syllabus - Spring, 2008

COURSE NUMBER: BAN 232

COURSE TITLE: Business Analysis

PREREQUISITE MTH 199

INSTRUCTOR: John M. Miller, Ph.D., J.D.

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OFFICE HOURS: Monday/Wednesday - 9:00 - 12:30
Tuesday/Thursday - 9:00 - 11: 00

REQUIRED TEXTS: Agresti & Franklin *Statistics: The Art and Science of Learning from Data*
Barnett, Ziegler & Byleen *Calculus for Business, Economics, Life Sciences, and Social Sciences*, 10th Edition

Calculator - make and model optional, but more than addition and subtraction.

DESCRIPTION OF COURSE

This course is designed to introduce to students the use of quantitative business techniques. Topics include: organizing and presenting data, descriptive statistics, probability, discrete and continuous distributions, systems of equations, modeling, organization procedures, and statistical inference.

LEARNING OBJECTIVES

The major objectives of this course are for the student to learn how to:

1. Apply the concepts and fundamentals of mathematical techniques to the analysis of common business situations. This will encompass both the use of linear and important non-linear models as well as differential Calculus.
2. Use statistics as a business tool in the face of incomplete knowledge. Emphasis will be placed on how information from a sample may be used to describe a population or to make inferences about a population.
3. draw samples of the various types of data that may be collected and how to organize a data set into a concise and usable form.

4. Construct common graphical displays that may be used to describe a data set. Emphasis will be placed on the proper presentation of graphs. The student will learn the most common pitfalls in the creation and interpretation of graphs.
5. Employ the most frequently used numerical descriptive statistics. The student will be presented with the strengths and weaknesses of these descriptive statistics: how to determine when they are appropriate, how to calculate them, and how to interpret them.
6. Utilize probabilities as a bridge between descriptive and inferential statistics. The student will learn how to recognize and work with the discrete and continuous distributions that are commonly used in the business sector.
7. Estimate and to draw inferences about means. The concepts will be introduced using the traditional one-sample techniques.

COURSE EVALUATION PROCESS

Homework/Quizzes

Homework will be assigned on a regular basis, but will not be handed in. The student is encouraged to work through all the examples in the text and other exercises as well. It is the nature of this beast that practice is the best way to gain understanding. Eight quizzes will be given over the course of the semester. They will be announced. The highest five quiz grades will be counted. Quizzes will be given during the first ten minutes of classes. No make-up quizzes will be given. Bring your calculator to all quizzes and exams.

Exams

There will be three major exams given during the course. The exams will be closed book and you will need your calculator. You will be allowed to bring one page of handwritten notes, front and back of a single sheet of paper - no printed material and no photo-reduction - all in your own handwriting.

Final

The final will be comprehensive.

Evaluations

Homework/Quizzes	20%
Exam I	20%
Exam II	20%
Exam III	20%
Final	20%

The course grade will be based on the following grading scale:

A	90 - 100%
B	80 - 89%
C	70 - 79%
D	60-69%
F	below 60%

CLASS ATTENDANCE

Class attendance is required. Roll will be taken during each class period. Students are responsible for materials covered during class periods that may not be in the text. Students missing classes may also miss important announcements, homework assignments, quizzes and handouts. While the only penalty for missing class is the added difficulty of performing well on the next exam or quiz, there will be incentive points added to students grades that otherwise might be borderline.

Student Syllabus Guidelines: You may find online a more detailed description of the following policies. These guidelines will also provide you with a link to the specific university policy or procedure:

<http://www.shsu.edu/syllabus/>

Academic Dishonesty: Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. *See Student Syllabus Guidelines.*

Classroom Rules of Conduct: Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students are to treat faculty and students with respect. Students are to turn off all cell phones while in the classroom. Under no circumstances are cell phones or any electronic devices to be used or seen during times of examination. Students may tape record lectures provided they do not disturb other students in the process.

Student Absences on Religious Holy Days: Students are allowed to miss class and other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Students remain responsible for all work. *See Student Syllabus Guidelines.*

Students with Disabilities Policy: It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should visit with the Office of Services for Students with Disabilities located in the Counseling Center. *See Student Syllabus Guidelines.*

Visitors in the Classroom: Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

TENTATIVE OUTLINE

1. Number Sense: Applications in Business

Types of data
Percentages
Indices

2. A library of Elementary Functions

Linear
Quadratic
Polynomials
Exponential
Logarithmic

3. Quantitative Tools

Derivatives

Definition/Examples
Product Rule/Quotient Rule
Chain Rule
Interpretation

4. Descriptive Statistics

Measures of *Central Tendency*
Measures of *Variability*
Shape - Frequency Distributions

5. Probability

General Rules - Laws and Bayes' Theorem
Discrete Random Variables
Expected Values
Variance/Standard Deviations
Binomial
Poisson
Continuous Random Variables
Normal
Exponential

6. Statistical Inference

Central Limit Theorem
Estimation of one mean

IMPORTANT DATES

Last day to change class schedule	Thursday, January 24
Last day to drop without an "F"	Thursday, May 8
Last day for resignations	Thursday, May 8
Final exam	Tuesday, May 13

COURSE STRUCTURE

The lectures will emphasize concepts, motivation, interpretation, and present vocabulary. Statistical formulas will be given and the student will be expected to “learn” them. By this is meant that the student will begin to use the math just as current business leaders do - to gain an understanding of the nature of their firm, their market, and their environment, the better to make profits from. Mathematical derivations of the formulas will not be presented. Homework problems will be assigned, but not collected. The student is strongly urged to use the exercises in the text as practice problems. You have no doubt heard of the “two hours for every class hour” study rule. This is an average; but, for nearly all students it is courses like BAN that bring up that average. Fail to study in this class at your own peril.

Statistics is not an easy subject, but neither is it a black-magic art. You must commit to stay on top of the course, do the readings in advance, come to class loaded for bear - with questions - and don’t let your instructor off the hook until you understand.

Most of the course is cumulative. There is no way around it, that is just the way the material is. In statistics you must thoroughly understand each topic because the next topic will build on the previous ones. You must resolve to start the semester strong, do whatever it takes to be in class, and keep up with the outside work. We will work together in class to make sure you can understand statistics. I can’t promise that statistics will become “fun” to each of you, but I can promise you that as you become more and more knowledgeable about it, you will begin to become aware of just how important it is to all of us in all areas of our lives - but especially how critical it is in the world of business. With knowledge and awareness you may even find the subject interesting.