Course Syllabus
Fall 2007

Course Number: BAN 232.07, T, Th 8:00 – 9:20 p.m., Rm SHB 139
Course Title: Business Analysis
Prerequisites: MTH 199
Instructor: Dr. Berg   **Office:** 237G – SHB
Office Hours: 9:00 – 11:00 p.m. M,W   **Phone:** (936)294 - 1243 (Office)
and by appointment   **E-Mail:** eco_mdb@shsu.edu

1   Required Materials

We will be using the textbooks entitled *Statistics, The Art and Science of Learning from Data* ISBN 0-13-008369-0, published by Pearson/Prentice Hall and *Calculus For Business, Economics, Life Sciences, and Social Sciences*, Tenth Edition, ISBN 0-13-143261-3, published by Pearson/Prentice Hall. Since we will only require certain chapters from the calculus book, the publisher has agreed to offer a custom edition of the book at a reduced price (ISBN 0-536-26506-2). Look for it at the local book stores. When purchased new the books include access to the textbook web site which is necessary for working homework problems.

There is also the option of going online (http://www.coursecompass.com) and buying access to the textbook web site alone. This allows you to work all of the homework problems online and utilize the online study aids. It also includes page by page access to the textbooks themselves (which could be printed out).

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Course ID: berg30902

EVERY STUDENT IS EXPECTED TO HAVE A CALCULATOR WHICH CAN HANDLE EXPONENTS, NATURAL LOGARITHMS AND FACTORIALS. CALCULATORS SHOULD BE BROUGHT TO EVERY CLASS MEETING. CALCULATORS CAN NOT BE SHARED DURING EXAMS. CALCULATORS BUILT INTO CELL PHONES AND PDA'S ARE UNACCEPTABLE.

2   Supplemental Texts

A fun book which is highly recommended is *The Cartoon Guide To Statistics* by Larry Gonick & Woollcott Smith. Another good book is, *Statistics for People Who (Think They) Hate Statistics*, 2nd edition, by Neil J. Salkind.

3   Student Conduct and Discipline

Each student is expected to be fully acquainted and comply with all published policies, rules, and regulations of SHSU, copies of which shall be available to each student for review online and/or at various locations on campus. Students are also expected to comply with all federal and state laws.

3.1   Academic Honesty

SHSU expects all students to engage in all academic pursuits in a manner that is above reproach and to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. SHSU may initiate

disciplinary proceedings against a student accused of any form of academic dishonesty, including but not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials.

3.2 Cell Phone Policy

Do not let your cell phone ring during class! Do not answer your cell phone during class! Do not use instant messaging during class! If this is unacceptable do not come to class.

3.3 Movements Into and Out of Class

Students should not come and go from the classroom during the lecture. This interrupts the flow of class material, distracting both the students and the professor. Please be courteous by arriving to class on time and refrain from leaving the room until the class is dismissed.

3.4 Food and Drink in the Classroom

The Dean has explicitly requested that we enforce the prohibition of food and drink in the classrooms. Please do not bring food or drink into class.

4 Course Description

The purpose of this course is to expose the student to the use of descriptive and inferential statistics, as well as basic derivative calculus and applied mathematics. Topics include: organizing and presenting data, descriptive measures, probability, discrete and continuous distributions, sampling, estimation and hypothesis testing. Linear, quadratic, polynomials, exponential and logarithmic functions will be used for modelling various problems encountered in business. The concepts of derivatives will also be introduced as a tool to determine rates of change and solve for optimal values.

5 Learning Objectives

The major objectives of this course are:

1. To learn how to apply math and statistics to improve thinking, problem solving, and decisions.

2. To develop the specific skills, competencies, and points of view needed by professionals in business.

3. To learn how to analyze and critically evaluate ideas, arguments, and points of view.

4. To learn the fundamental principles, generalizations, and theories of statistics.

5. To learn the terminology and methods of quantitative analysis.

6   Course Evaluation Process

Best three mid-term exam scores	300pts
(there will be 4 mid-term exams, each exam is potentially worth 100 points)	
Best four quiz scores	100pts
(there will be 5 quizzes, each quiz	
is potentially worth 25 points)	
Final Exam	100pts
Total available points ^{a}	500 pts

^{a}All exams are mandatory. However, I will drop the lowest mid-term exam score. **The final exam grade can not be dropped.**

Although the book homework assignments will not be collected, exam problems will strongly resemble the homework problems. It is in each student's best interest to completely understand the homework problems.

Quizzes are listed on the course outline (see Section 13). If you miss a quiz, a grade of zero will be given for that quiz. There will be NO MAKEUPS given on missed quizzes.

There will be 4 mid-term exams plus the final. Exams will consist of multiple choice questions and problems similar to the assigned homework. The exams will be closed book, however students will be allowed the use of a calculator. Students will be given the entire class period to complete the exam. Each student may drop the single lowest mid-term exam score. Since your lowest examination score will not be used in computing your course grade, **there will be no makeup exams** – a missed exam will be scored as a zero.

Students should understand this policy clearly. There are no make-up exams for whatever reason. If you miss the exam for a court date, illness, doctor's appointment, car accident, death in the family, or any other reason, that exam will be scored as a zero. I will drop the single lowest mid-term exam from the grade calculation.

If you know ahead of time that you will not be able to take a mid-term exam at the scheduled time, come to me and discuss the conflict. I may or may not be able to arrange a time for you to take the exam early. However, under no circumstances will I allow you to take an exam after the scheduled time.

Exam scores will be posted on BlackBoard, but your grade for the course will only be available on SamInfo.

The final exam will be comprehensive. **All students must take the final exam.** There are no make-up final exams. Students must take the final exam at the officially scheduled time.

Letter grades will be assigned as follows:

% of Total Available Points Earned by Student	Grade Assigned
90% +	A
80 – 89 %	B
70 – 79 %	C
60 – 69 %	D
0 – 59 %	F

Example Grade Calculation:
Let's assume that John Doe has the following quiz scores: $25, 20, 18, 17, 10$ and the following mid-term exam grades: $85, 80, 75, 50$, and a 90 on the final exam. To calculate John's grade we first drop the lowest quiz score (the 10) and the lowest exam score (the 50) and add the points together: $25+20+18+17+85+80+75+90 = 410$ John earned 410 points out of a potential of 500 points. The percentage of points earned is $\frac{410}{500} \times 100 = 82\%$ John would receive a **B** for the course grade.

6.1 Exam Dates

Exam #1 . . . . Tuesday, September 18
Exam #2 . . . . Thursday, October 11
Exam #3 . . . . Tuesday, November 6
Exam #4 . . . . Tuesday, December 4
Final Exam . . . . Thursday, December 13, 8:00 – 10:00

Bring your calculator to every class and especially to each exam:(1) a no. 2 pencil (2) your calculator. You will need at least 4 scantrons for the semester.

7 Important Dates

Sept. 3	Univ. Holiday – Labor Day
Nov. 21, 22, 23	Univ. Holiday – Thanksgiving
Dec. 13	Final exam, 8:00 – 10:00

8 Attendance

Attendance will be recorded for each class meeting. According to university policy "Regular and punctual class attendance is expected of each student at Sam Houston State University." (See your undergraduate catalog.) Starting with the second class meeting, attendance will be taken.

IMPORTANT: While the student is in class he/she is expected to be awake and paying attention. Students should not study for another class while in my class. Students not willing or not able to pay attention and participate in the class discussion should not be in class.

9 Student Absences on Religious Holy Days

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student who is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

"Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20, United States Tax Code.

10 Disabled Student Policy

It is the policy of Sam Houston State University that no otherwise qualified disabled individual shall, solely by reason of his/her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any academic or Student Life program or activity. Disabled students may request help with academically related problems stemming from individual disabilities from their instructors, school/department chair, or by contacting the Chair of the Committee for Continuing Assistance for Disabled Students and Director of the Counseling Center, Lee Drain Annex, or by calling (936) 294-1720.

If you have a disability that may adversely affect your work in this class, then I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: no accommodation can be made until you register with the Counseling Center.

11   Tips for Success

Over the years I have collected a list of study habits followed by the most successful students.

1. Read the assigned chapter before coming to class.

2. Pay attention to the lecture. Concentrate on staying tuned into the class discussion.

3. Ask questions when you don't understand.

4. Review lecture notes as soon as possible after the lecture.

5. **Work as many sample problems as possible.**

6. Review class notes and worked problems on a regular basis.

7. Create a study schedule and stick to it. Even when there is nothing new to study, stick to your schedule and review old material.

8. Read the chapter as many times as it takes for you to understand and remember it. (once lightly – once for understanding – once for review)

9. Discuss the material with other students. Try to help others who are having difficulty understanding.

10. Don't fall behind. Don't wait until the last minute. Do it now!

12   Tutoring

If you need additional help, tutoring is available in SHB 134 at the following times, Monday through Thursday 2:00-5:00, and Friday by appointment only (call 294-1265 for an appointment). Keep in mind that the day before the exam the tutor is very busy and may not be able to give you much attention. It is best to go well in advance of the exams.

13   Course Outline

Date	Lesson	Topic
Aug. 21	1	Proportions, Percentage Change
Aug. 23	2	Sigma Notation, Index Numbers
Aug. 28	3	Linear Functions
Aug. 30	4	Quadratic & Exponential Functions
Sept. 4	5	Exponential Functions & Logarithms, Quiz # 1
Sept. 6	6	Average Rates of Change
Sept. 11	7	Derivative of a Constant, Power Rule, Sums & Differences
Sept. 13	7	Derivative of a Constant, Power Rule, Sums & Differences
		Quiz # 2
Sept. 18		Exam #1
Sept. 20	8	Product Rule, Quotient Rule
Sept. 25	9	Chain Rule
Sept. 27	10	Marginal Analysis
Oct. 2	11	First & Second Derivatives
Oct. 4	12	Applied Problems with Calculus & Exponential Functions
Oct. 9	13	Derivatives of Logarithmic Functions, Quiz # 3
Oct. 11		Exam # 2
Oct. 16	14	Intro. to Statistics – Descriptive Statistics – Histograms
Oct. 18	15	Measures of Central Tendency - Mean, Median, Mode
Oct. 23	16	Measures of Variability - Range, Variance, Standard Deviation
Oct. 25	17	Percentiles
Oct. 30	18	Probability – Additive Rule
Nov. 1	19	Probability – Multiplicative Rule, Quiz # 4
Nov. 6		Exam # 3
Nov. 8	20	Discrete Probability Distributions
Nov. 13	21	Normal Probability Distribution
Nov. 25	22	Binomial Probability Distribution
Nov. 20	23	Sampling Distributions, Central Limit Theorem
Nov. 27	24	Basic Hypothesis Testing
Nov. 29	25	Inferences About a Population, Quiz # 5
Dec. 4		Exam # 4
Dec. 6		Last Day of Class – Review for Final Exam

14   Assignments

Lesson	Book & Chapter.Section	Lesson Topic	Problems
1	Handouts	Proportions/Percentage Change/Exponents	Handout
2	Handouts	Sigma Notation/Index Numbers	Handout
3	Calc[a] 1.1	Functions	(p. 17) odd 1-11, odd 19-67, 79, 81
3	Calc 1.2	Elementary Functions	(p. 32) 1, 3, 5, 7, 9, 11, 13, 15, 17, 21, 61, 63
3	Calc 1.3	Linear Functions	(p. 49) 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 59, 61, 62, 63
4	Calc 1.4	Quadratic Functions	(p. 64) 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 23, 25, 27, 53, 55, 57, 59
5	Calc 2.2	Exponential Functions	(p. 106) 1, 3, 5, 7, 9, 11, 15, 17, 19, 61, 63, 65, 67, 69, 71
5	Calc 2.3	Logarithms	(p. 119) 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 31, 33, 35, 37, 39, 93, 95, 97
6	Calc 2.3	Average Rates of Change	(p. 173) 1, 3, 5, 7, 11, 13, 17, 59
7	Calc 3.4	Instantaneous Rate of Change: The Derivative	(p. 183) odd number problems 1-55, 81, 83
8	Calc 3.5	Product Rule & Quotient Rule	(p. 192) odd numbered problems 1-59, 65, 67
9	Calc 3.6	Chain Rule	(p. 200) odd numbered problems 1-79

Exam # 1

Lesson	Book & Chapter.Section	Lesson Topic	Problems
10	Calc 3.7	Marginal Analysis	(p. 210) 1, 3, 5, 7, 9, 11, 13, 15
11	Calc 4.1	Graphs and First Derivatives	(p. 238) odd problems 1-31
11	Calc 4.2	Second Derivatives and Graphs	(p. 254) odd problems 1-23
12	Calc 4.5	Optimization Problems	(p. 293) odd problems 1-31
12	Calc 5.1, 5.2	Derivative of Exponential Functions	(p. 311) 1, 3, 5, 7, 9, 17, 19, 21, 23, 25 ; (p. 322) odd problems 1-33, 57, 59, 61
13	Calc 5.3	Derivative of Logarithmic Functions	(p. 333) odd problems 1-37, 69, 71

Exam # 2

Lesson	Book & Chapter.Section	Lesson Topic	Problems
14	Stat[b] 1.1, 1.2, 1.3	Introduction to Statistics	
14	Stat 2.1	Types of Data	(p. 29) odd numbered problems 2.1-2.7
14	Stat 2.2	Descriptive Statistics, Histograms	(p. 44) 2.11, 2.13, 2.15, 2.17, 2.19, 2.25
15	Stat 2.3	Measures of Central Tendency	(p. 55) 2.29, 2.31, 2.33, 2.35
16	Stat 2.4	Measures of Variability	(p. 63) 2.43, 2.45, 2.47, 2.49
17	Stat 2.5	Percentiles, etc.	(p. 72) 2.57, 2.59, 2.63, 2.65, 2.71
18	Stat 5.1	Probability	(p. 200) 5.1, 5.3
18	Stat 5.2	Probability	(p. 212) 5.13, 5.15, 5.17, 5.23
19	Stat 5.3	Probability	(p. 223) 5.27, 5.29, 5.31, 5.35

Exam # 3

Lesson	Book & Chapter.Section	Lesson Topic	Problems
20	Stat 6.1	Discrete Probability Distributions	(p. 255) 6.1, 6.3, 6.5, 6.7, 6.9
21	Stat 6.2	Normal Distribution	(p. 267) 6.13, 6.15, 6.17, 6.19, 6.23
22	Stat 6.3	Binomial Distribution	(p. 276) 6.29, 6.33, 6.35, 6.37
23	Stat 6.4	Sampling Distributions, Hypothesis Testing	(p. 286) 6.43, 6.45, 6.47, 6.49, 6.51
24	Stat 6.5	Sample Means and Population Means	(p. 296) 6.53, 6.55, 6.57, 6.59
25	Stat 6.6	Inferences About a Population	(p. 303) 6.61, 6.63, 6.65

Exam # 4

[a] *Calculus*, by Barnett, Ziegler, Byleen
[b] *Statistics*, by Agresti & Franklin

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