TENTATIVE SYLLABUS - BA 302
Business and Economics Statistics
Business Administration and MIS Department
Summer II 2014
(Meets 7/7/2014 through 8/7/2014)

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REQUIRED TEXT: Statistics Classnotes by Business Administration and MIS Department (Available in the university bookstores).
PowerPoint: In order to gain more understanding in the class note book, all of you **must go through the PowerPoint of each chapter thoroughly.** See course home for more information.
Recommended but NOT REQUIRED Text:
Anderson, Sweeney &Williams, Statistics for Business and Economics. Seventh or higher edition, ISBN: 0-538-87593-3, South-Western College Publishing.

IMPORTANT NOTICE

***Net Profit from the sales of classnotes is used to fund the department's scholarships. Since 1994 we have given over 159 scholarships from that fund.

*** Note that this is a tentative syllabus meaning that I can change (a) certain dates for the exams and (b) certain topics to be covered.

*** I will focus on the classnotes in teaching the class. My classnote covers the most relevant material, so a student may refer to other texts. However, I believe that a student can make an "A" using only the classnote book.

*** Also, note that I do not return your graded paper, but upon request I will be able to tell you what you missed on a test via e-mail. (Request period is 3 days after receiving exam grade)

*** Although you have your classnote book as well as other books, available in the library, you are not permitted to copy from your textbook due to copyright protection for author and publisher.

Course Description: A course dealing with statistical concepts including measures of central tendency and dispersion, probability distributions, the Central Limit Theorem, sampling, estimation, hypothesis testing, correlation and regression analysis.

Course Prerequisite: Math 141, 175 or equivalent.

Rubric:

Criteria (Course Objectives)	1 (Unsatisfactory)	2 (Emerging)	3 (Proficient)	4(Exemplary)
1) Learn how to calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.	Student cannot and apply any measures of location and measures of dispersion for grouped and ungrouped data.	Student can and apply some measures of location and measures of dispersion for grouped and ungrouped data.	Student can and apply most measures of location and measures of dispersion for grouped and ungrouped data.	Student can and apply all measures of location and measures of dispersion for grouped and ungrouped data.
2) Learn how to apply discrete and continuous probability distributions to various business problems.	Student cannot apply discrete and continuous probability distributions to any business problems.	Student can apply discrete and continuous probability distributions to some business problems.	Student can apply discrete and continuous probability distributions to most of business problems.	Student can apply discrete and continuous probability distributions to all of business problems.
3)Understand the hypothesis testing: 3.1 Be able to perform Test of Hypothesis 3.2 calculate confidence interval for a population parameter for single sample and two sample cases. 3.3 Understand the concept of p-values .	3.1 Student cannot perform the test of hypothesis 3.2 Student cannot calculate confidence interval for a population parameter for single sample and two sample cases. 3.3 Student doesn't understand the concept of p-value.	3.1 Student can perform some test of hypothesis 3.2 Student can calculate some confidence interval for a population parameter for single sample and two sample cases. 3.3 Student understands some part of	3.1 Student can perform most test of Hypothesis 3.2 Student can calculate most confidence interval for a population parameter for single sample and two sample cases. 3.3 Student understands most part of	3.1 Student can perform all test of Hypothesis 3.2 Student can calculate all confidence interval for a population parameter for single sample and two sample cases. 3.3 Student understands the entire concept of p-values.

		the concept of p-value.	the concept of p-values.	
4) Understand regression analysis: 4.1 Be able to compute and interpret the results of Bivariate Regression	4.1 Student cannot compute and interpret the results of Bivariate Regression	4.1 Student can compute and interpret some of the results of Bivariate Regression	4.1 Student can compute and interpret most of the results of Bivariate Regression	4.1 Student can compute and interpret all of the results of Bivariate Regression

Course Objectives: The objective of this course is to provide an understanding for the undergraduate business student on statistical concepts to include measurements of location and dispersion, probability, probability distributions, sampling, estimation, hypothesis testing, regression, and correlation analysis, multiple regression and business/economic forecasting. By completing this course the student will learn to perform the following:

1. How to calculate and apply measures of location and measures of dispersion.
2. How to apply discrete and continuous probability distributions to various business problems.
3. To understand the meaning of a null and an alternative hypothesis as well as the meaning of type I and type II error. Further, to perform test of hypothesis as well as calculate confidence interval for a population parameter for a single mean, including use of the t and the z test.
4. Compute and interpret the results of Bivariate Regression and Correlation Analysis. Be able to interpret regression results generated by a computer software.

HomeWork: Homework problems will be recommended on a regular basis.

Attendance Policy: Listening to the Classslive and PowerPoint presentation are mandatory.

Class participation: Your contribution is important. Articulating your understanding is an important part of your learning process. Don't hesitate to ask questions in class. Usually another student has the same question. So by asking in class everyone can benefit from the question.

Services for Students with Disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Disability Resources and Services
Texas A&M University-Commerce
Halladay Student Services Building
Room 303 A/D

Telephone: (903) 886-5150 or   (903) 886-5835
FAX: (903) 468-8148

Grade Component	Points
a. Exam 1	100
b. Comprehensive final exam	100

Grading Policy:

Grade Component	
Exam 1	40%
Final	60%

Average Range	Grade
90%-100%	A
80%-89%	B
70%-79%	C
60%-69%	D
Below 60%	F

Academic Integrity: Academic integrity is the pursuit of scholarly free from fraud and deception and is an educational objective of this institution. Academic dishonesty included, but is not limited to, cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students involved in academic dishonesty will fail the course.

NOTE THE FOLLOWING

1. This syllabus is tentative for the semester. It is meant to be a guide. Certain topics may be stressed more or less than indicated in the class note books and, depending on class progress, certain topics may be omitted.

2. Homework problems will be recommended on a regular basis.

3. Missed examination: A missed examination will be considered as 'F'

Exams	Exams Uploaded on	Due Date	Chapters Covered
Exam 1	July 18, 2014	July 21, 2014	2, 3, 4, 5
Final Exam	August 1, 2014	August 4,2014	Comprehensive

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Text Assignment	Suggested Problems	Objectives
Chapter 1 **First Look at Statistics**		✓ Define descriptive and inferential statistics. ✓ Differentiate between a quantitative and a qualitative variable. ✓ Differentiate between a discrete and a continuous variable. ✓ Know the four levels of measurement – nominal, ordinal, interval, and ratio.
Chapter 2 **Ungrouped Data**	2-7(2), 2-8(3), 2-9 (4), 2-11(8), 2-16(2), 2-20(3), 2-24(3), 2-25(4)	✓ Construct a frequency distribution and define mean, mode and median. ✓ Define and calculate percentile and percentile Rank. ✓ Measure variability for ungrouped data.
Chapter 3 **Grouped Data**	3-6(3) 3-7(1) 3-17(1) 3-21(5) 3-25(2) 3-40(1) 3-42(3) 3-54(2) 3-55(3)	✓ Construct a frequency distribution. ✓ Determine and compute relative frequencies, and distribution cumulative frequencies of a frequency. ✓ Differentiate between GAP in class and Non-GAP in class of a frequency distribution. ✓ Measure central tendency. ✓ Measure variability for grouped data. ✓ Define and calculate percentile and percentile Rank. ✓ Understand and calculate Chebychef theorem.
Chapter 4 **The Statistical Sampling Study**	4-9(4, 5)	✓ Understand why we use sample instead of population ✓ Understand, interpret and calculate regression

(Simple Regression)		analysis.
Chapter 5 **Probability**	5-12(6) 5-14(14) 5-16(23,27) 5-19(36)	✓ Define probability. ✓ Define marginal, conditional, and joint probabilities. ✓ Use the special and general rules of multiplication and addition in probability computation. ✓ Calculate marginal, conditional, and joint probabilities.
Chapter 6 **Discrete Probability Distribution**	6-14(1) 6-16(4) 6-27(1)	✓ Describe the characteristics and compute probabilities using the binomial probability distribution both use of binomial Formula and use of tables. ✓ ☐Define probability distribution and random variable. ✓ Calculate the mean, variance, and standard deviation of a discrete distribution. ✓ Define and compute Hypergeometric Distribution
Chapter 7 **The Normal Distribution**	7-21(6,7) 7-22(11) 7-23(23) 7-24(31) 7-44(1) 7-45(7) 7-45A(2) 7-45B(8) 7-45C(14) 7-45D(17) 7-45E(26) 7-62(2) 7-63(7)	✓ Describe the characteristics and compute standard normal distribution by using formula and normal curve table. ✓ Describe the characteristics and compute normal approximation to the Binomial distribution. ✓ Differentiate between standard normal distribution and normal approximations to the Binomial distribution. ✓ Describe various sampling techniques. ✓ Explain the Central Limit Theorem. ✓ Describe interval estimate and the confidence level. ✓ Define and compute interval estimates of mean.

		✓ Define and compute estimates of the population proportion ✓ □Identify Type I and Type II errors. ✓ Conduct a test of hypothesis about a population mean and a population proportion. ✓ □Conduct the test of hypothesis using one and two tail tests. ✓ □Conduct the test of hypothesis regarding one population mean with a small sample. ✓ □Define and compute hypothesis testing for comparing two means.
Chapter 8 **Statistical Estimation**	8-10(11)	✓ Describe interval estimate and the confidence level. ✓ Define and compute interval estimates of mean. ✓ □Define and compute estimates of the population proportion
Chapter 9 **Hypothesis Testing**	9-19(3) 9-20(8) 9-21(14)	✓ Identify Type I and Type II errors. ✓ Conduct a test of hypothesis about a population mean and a population proportion. ✓ Conduct the test of hypothesis using one and two tail tests. ✓ Conduct the test of hypothesis regarding one population mean with a small sample. ✓ Define and compute hypothesis testing for comparing two means.
Chapter 10 **Simple Regression**	10-18(1) 10-19(3)	✓ Understand the differences between various experiment designs and when to use them. ✓ Compute and interpret the results of ANOVA. ✓ Compute the growth rate. ✓ Define whether the regression equation makes sense.