

MGSC 291
STATISTICS FOR BADM AND ECON
PROFESSOR W. D. THURMAN – BRADLEY 216
FALL 2008
Monday, Wednesday and Friday 10:00 – 10:50
Bradley Building Room 113
803-313-7056

MGSC 291 – STATISTICS FOR BUSINESS AND ECONOMICS (3 CREDIT HOURS) – Descriptive statistics, topics in probability, statistical inference and modeling. Emphasis on the collection, summarization, analysis, and reporting of numerical findings relevant to business decisions and economic analysis.

OFFICE HOURS: MONDAY AND WEDNESDAY 11:00 - 11:50
TUESDAY AND THURSDAY 02:00 - 03:00

TEXT: *Statistics for Management and Economics*

GRADING SCALE:

A.....	90 - 100
B+.....	88 - 89
B.....	80 - 87
C+.....	78 - 79
C.....	70 - 77
D+.....	68 - 69
D.....	60 - 67
F.....	BELOW 60

GRADE COMPUTATION:

All tests count equally. All assignments are averaged together and count as one test grade. The final exam counts as one test grade. Any missed tests will be made up on the final exam date.

TEAM CONCEPT:

Students may work in pairs or groups during class to complete class assignments and homework assignments. Students who do poorly on exams will be assigned a student monitor to help the student prepare for the next exam. One point will be added to each student's grade for each student that makes a 95 or above and one point will be subtracted for each student that makes less than 60 on each exam.

FINAL EXAM DATE: Friday, December 12, 2008 at 10:00 AM

MGSG 291
STATISTICS FOR BADM AND ECON
TOPIC OUTLINE

<u>CLASS</u>	<u>TOPIC</u>
1	Class Policies and Procedures
2	What is Statistics?
3	Review of Mathematical Notation
4	Review of Mathematical Notation
5	Tabular and Graphic Presentation
6	Descriptive Measures
7	Mathematical Representation of a Statistical Population
8	Basic Probability
9	Basic Probability
10	Basic Probability
11	Random Variables
12	Random Variables
13	Discrete Probability Models
14	Continuous Probability Models
15	Exam One
16	Return and Discussion of Quiz
17	Normal Distribution
18	Statistical Estimation
19	Sampling Distribution of an Estimator
20	Interval Estimate of the Mean
21	Estimating the Difference Between Two Means
22	Exam Two
23	Return and Discussion of Quiz
24	Binomial Distribution
25	Normal Approximation to the Binomial
26	Linear Regression
27	Linear Regression
28	Linear Regression
29	Linear Regression
30	Linear Regression

Statistics for Business and Economics (MGSC 291)

COURSE OBJECTIVES

Populations and Processes

- Understanding the difference between *enumerative* studies (i.e., those involving populations) and *analytical* studies (i.e., those involving processes).

Data Collection

- Data as an input for statistical analyses used to aid decision-making.
- Understanding the importance of obtaining “good” data.
- Different types of data (categorical, numerical).
- Types of measurement scales (nominal, ordinal, interval, ratio).
- Sources of data (published sources, obtaining data through experiments, surveys, and simulation studies).

Descriptive Statistics

- Construction and application of the following graphs:
 - Bar graphs.
 - Frequency histograms.
 - Cumulative frequency histograms.
 - Stem and leaf displays.
 - Box plots.
 - Time series charts.
- Computation and application of summary statistics:
 - Measures of central tendency---mean, median, mode.
 - Measure of location---percentiles.
 - Standardized random variables.
 - Measures of variability—range, variance, standard deviation, coefficient of variation.
 - Application of Mean and Standard Deviation—Tchebysheff’s Theorem and the Empirical Rule.
- Probability
 - Basic axioms of probability.
 - Types of probability (classical, relative frequency, subjective).
 - Marginal, joint, and conditional probabilities.
 - Statistical independence.
 - Computation of probabilities from two-way classification tables.

Probability Distributions

- Definition of randomness, random variables, and random variation.
- Relationship between relative frequency distributions and probability distributions.
- Mean and variance of probability distributions.
- Binomial and Poisson distributions-computing probabilities and applications.

- Uniform and normal distributions—computing probabilities and applications. Statistical Inference from Sample Information.
- Simple random sampling.
- Concepts of Sampling Distributions.
- Sampling distribution of the mean-CLT.
- Confidence intervals for the mean.
- Confidence intervals for the proportions.
- Confidence intervals for the difference between two means.

Hypothesis Testing

- For means, proportions, and the difference between two means.
- Probability values (p-values)—computation and interpretation.

Sample Linear Regression

- Describing and analyzing the relationship between two variables.
- Scatter diagrams.
- Least squares lines.
- Interpretation of the slope and intercept.
- Testing for the statistical significance of linear relationship.
- Prediction and confidence intervals for y given a value for x .
- Correlation analysis.

UNIVERSITY OF SOUTH CAROLINA at LANCASTER

General Education Goals

General education is the set of fundamental skills (reading, writing, reasoning, and oral communication), the knowledge, and the capacity for thought needed to pursue further learning, to succeed in chosen career fields, and to assume the responsibilities of informed and enlightened citizenship.

Communication Skills

USC Lancaster helps its students read effectively and attain a basic familiarity with the basic texts of Western and other cultures. In the area of writing skills, USC Lancaster students work to develop the ability to write effectively for both academic and professional audiences. In addition, USC Lancaster helps its students learn to listen critically and speak effectively before a group.

Critical Thinking

USC Lancaster helps its students acquire analytical reasoning abilities and exercise informed value judgments. USC Lancaster students also work to develop mathematical and / or computational skill.

Cultural Literacy

USC Lancaster strives to give its students an understanding of the history and culture of Western civilization as well as provide some exposure to other cultures. USC Lancaster also recognizes the centrality of science and technology to modern culture; therefore, the USC Lancaster student also is offered opportunities to increase his/her understanding and familiarity in these crucial subject areas.

Student Development

USC Lancaster supports the intellectual, personal, physical, and social development of students, in recognition of the critical interdependency of all these areas. By providing opportunities for productive interaction with students, faculty, and staff, USC Lancaster helps students develop a spirit of curiosity, integrity, and confidence in planning and pursuing academic, career, and personal goals.

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FALL 2008 Academic Calendar

	Fall	Fall I	Fall II
Registration	August 18 & 19	August 18 & 19	October 14 & 15
Classes Begin	August 21	August 21	October 21
Last day to apply for December graduation BAIS or BLS	August 22		
Last day to register, change schedule, or drop a class without a grade of "W"	August 27	August 25	October 22
Labor Day Holiday (no classes)	September 1	September 1	NA
Last day to apply for December graduation – not BAIS or BLS	September 11	September 11	NA
Last day to drop a course or withdraw without a grade of "WF"	October 3	September 12	November 11
Fall Break (no classes)	October 9 & 10	October 9 & 10	NA
Election day (no classes)	November 4		November 4
Thanksgiving Holiday (no classes)	November 26 – 28	NA	November 26 – 28
Last day of classes	December 5	October 13	December 11
Reading Day	December 6	NA	December 12
Final Exams	December 8 – 16	October 14 & 15	December 15 & 16
Grades Due	December 19	October 20	December 19

