

MGSC 291
STATISTICS FOR BADM AND ECON
PROFESSOR W. D. THURMAN – BRADLEY 216
SPRING 2012
MONDAY, WEDNESDAY, AND FRIDAY 10:00 – 10:50
BRADLEY ROOM 107
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 - 12:00
TUESDAY AND THURSDAY 2:00 - 3:00
FRIDAY 11:00 -12:00

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.

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: Wednesday, May 2, 2012 @ 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

Learning Outcomes:

Upon successful completion of MGSC 291 (Minimum grade of C is required.), students should be able to:

Populations and Processes

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

Data Collection

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

Descriptive Statistics

- Construct and execute the following graphs:
 - Bar graphs.
 - Frequency histograms.
 - Cumulative frequency histograms.
 - Stem and leaf displays.
 - Box plots.
 - Time series charts.
- Compute and execute 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.
- Process and practice 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

- Define and contrast randomness, random variables, and random variation.
- Contrast and illustrate the relationship between relative frequency distributions and probability distributions.

- Formulate the mean and variance of probability distributions.
- Construct binomial and Poisson distributions—computing probabilities and applications.
- Construct uniform and normal distributions—computing probabilities and applications.
- Illustrate and execute the concepts of sampling distributions.
- Use sampling distribution of the mean-CLT.
- Produce confidence intervals for the mean.
- Produce confidence intervals for the proportions.
- Produce confidence intervals for the difference between two means.

Hypothesis Testing

- Compose hypothesis testing for means, proportions, and the difference between two means.
- Compute probability values (p-values) and translate the results.

Sample Linear Regression

- Identify and differentiate the relationship between two variables.
- Prepare scatter diagrams.
- Construct least squares lines.
- Produce and translate the slope and intercept.
- Systematize the statistical significance of a linear relationship.
- Compose prediction and confidence intervals for y given a value for x .
- Produce 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.

USC LANCASTER

SPRING 2012 Academic Calendar

	Spring	Spring I	Spring II
Registration	January 4-5	January 4-5	Fed 29 & Mar 1
Classes Begin	January 9	January 9	March 12
Martin Luther King Jr. Service Day (no class)	January 16	January 16	
Last day to apply for degree (BLS, BOL & BAIS)	January 13	January 13	
Last day to register, change schedule, or drop a class without a grade of "W"	January 13	January 12	March 14
Last day to order diploma	January 30	January 30	
Last day to drop a course or withdraw without a grade of "WF"	February 27	February 2	April 4
Spring Break (no classes)	March 4-11		
Last day of class	April 23	February 27	April 26
Reading Day	April 24		
Final Exams	April 25-May 3	Feb 28 & 29	May 1-2
Grades due	May 7	March 5	May 7
Commencement	April 28	April 28	April 28

