Webster University

COURSE SYLLABUS

BUSN 6060/58
Course Number and Section

Dr. Evan Barrington
Instructor

Applied Business Statistics
Course Title

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Spring 1, 2003
Term

Jeffersonville
Campus

Saturday 8:00 am –12:00 pm
January 6, - March 8, 2003
Dates

Required Textbooks

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Lind, Mason, and Marchal, Statistical Techniques In Business and Economics, Eleventh Edition, Irwin McGraw-Hill, 2002

Texts can be obtained by calling MBS Direct at 1-800-325-3252, or at
Virtual Bookstore at www.mbsdirect.net
Credit Cards and Checks are accepted.

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Course Description

This course provides an overview of the uses of statistical method used in business. It will focus on the application of these techniques rather than their theoretical derivations. Students will be required to understand the appropriate application of statistical procedures and to demonstrate an ability to perform the proper calculations.

Expected Incoming Student Competency

No mathematical background beyond basic algebra is required for this course.
Previous exposure to statistics is not essential, but will be to the advantage of the student.

Statement of Course Objectives

Upon successful completion of this course, students will:

- Identify and understand the uses and applications of commonly used statistical measures and procedures.
- Recognize appropriate uses and applications of statistical tests and measures.
- Develop competency in calculating and applying statistical measures and tests.

Course Outcome Competencies

Upon successful completion of this course, students **WILL BE ABLE TO:**

- Implement the basic techniques of statistical analysis, including the ability to perform appropriate calculations.
- Identify appropriate applications of statistical analysis to business problems and operations.
- Understand the basics of probability theory, hypothesis testing and regression analysis.

Class Preparation

Pre-Assignment: Briefly review text chapters 1, 2, 3 and 4

Note: Details of the problem assignments will be distributed during Week 1

COURSE SCHEDULE

Week 1 **Jan 11** **SUBJECT: Introduction to Statistics**

Topics:

- Introduction to Statistical analysis
- Using statistics to describe data
- Measures of central tendency and dispersion

Assignments for Week 2:

- Problems: Chapter 3
- Chapter 4
- Preview text, chapter 5

Week 2 **Jan 18** **SUBJECT: Basic Probability**

Topics:

- Survey basics of probability theory, including:
  - Rules of probability
  - Counting techniques
  - Bayes theorem.

Assignments for Week 3:

- Problems: Chapter 5
- Preview text, chapters 6 and 7

Week 3 **Jan 25** **SUBJECT: Probability Distributions**

Topics:

- The basic theory of probability distributions
- The binomial distribution
- The normal distribution

Assignments for Week 4:

- Problems: Chapter 6
- Chapter 7
- Additional problems to be handed out in class

- Preview text, chapter 8

Week 4 **Feb 1** **SUBJECT: Sampling distributions**

Topics:

- The theory of sampling distributions
- Review for mid-term exam
- **MID-TERM EXAM TO BE DISTRIBUTED – take home exam to be turned in Sept 14**

Assignments for Week 5:

- Problems Chapter 8:
- Complete mid-term exam
- Preview text, chapter 9

Week 5 **Feb 8** **SUBJECT: Confidence intervals**

Topics:

- The theory and applications of confidence intervals
- The t-distribution
- Determining appropriate sample sizes
- Mid-term exam to be turned in

Assignments for Week 6:

- Problems: Chapter 9
- Preview text, chapters 10 and 11

Week 6 **Feb 15** **SUBJECT: Hypothesis testing**

Topics:

- Review of mid-term exam
- The theory of hypothesis testing

Assignments for Week 7:

- Problems: Chapter 10
- Chapter 11
- Preview text, chapters 12 and 15

Week 7 **Feb 22** **SUBJECT: Chi-square tests and Analysis of Variance**

Topics:

- The theory and application of chi-square tests
- Analysis of variance.

Assignments for Week 8:

- Problems: Chapter 12
- Chapter 15
- Preview text, chapters 13 and 14

Week 8 **Mar 1** **SUBJECT: Regression Analysis**

Topics:

- The basics of regression analysis
- Applications of regression analysis
- Review for final exam
- **FINAL EXAM TO BE DISTRIBUTED – take home exam to be turned in Oct 12**

Assignments for Week 9:

- Complete final exam.

Week 9 **Mar 8** **SUBJECT: Course conclusion**

Topics:

- Course review and summary
- Turn in final exam.

Supplemental Readings:

- None.

Course Requirements:

	% of grade
A) Term Paper	None
B) Exams: Mid-term 30%, Final 30% (These are take-home exams)	60%
C) Class Participation	10%
D) Class Presentation	None
E) Other - Assigned problems	30%
	100%

Scoring Criteria:

Scoring Criteria: Exams:

Exams will consist of a set of problems and short answer questions similar to those assigned as homework problems. Each exam will have 100 points possible.

Scoring Criteria: Homework assignments:
Completing the homework is essential to developing the skills necessary to understand the material and to do well on the exams. Homework will be turned in and graded weekly.

Scoring Criteria: Class Participation:
Students should make every effort to attend each class meeting. Students are expected to be attentive in class, and to ask questions and participate in the class environment as necessary.

Grading:

- Each exam will include 100 points. Upon completion of grading the exams for all students, the instructor will exam the distribution of scores to determine the appropriate breakpoint between A's, B's and (if necessary) C's. It is expected that all students who properly apply themselves should be able to attain at least a B.
- Homework problems for the previous week will be reviewed at the first of each class session (prior to the student turning them in.) The instructor will examine them after class; the homework will be returned to the student the following week.
- The final grade will be determined looking at the total of the 2 exam scores (using the numerical score rather the letter grade described above. A distribution of the combined scores will be utilized in determining the appropriate breakpoints between the various grades.

CONDUCT

Students enrolling in a graduate program at Webster University assume the obligation of conducting themselves in a manner compatible with the University's function as an educational institution. Misconduct for which students are subject to discipline may be divided into the following categories:

All forms of dishonesty, cheating, plagiarism, or knowingly furnishing false information to the University.
Obstruction or disruption of teaching, research, administration, disciplinary procedures, or other University activities or of other authorized activities on University premises.
Theft of or damage to property of the University.

Students who cheat or plagiarize may receive a failing grade for the course in which the cheating or plagiarism took place. Students who engage in any of the above misconducts may be subject to dismissal from the University on careful consideration by the executive vice president of the University or his designee. To the extent that penalties for any of these misconducts (e.g., theft or destruction of property) are prescribed by law, the University will consider appropriate action under such laws.

ATTENDANCE POLICY

Students are expected to attend all class sessions of every course. In the case of unavoidable absence, the student must contact the instructor. The student is subject to appropriate academic penalty for incomplete or unacceptable makeup work, or for excessive or unexcused absences. Generally, a student who misses more than one four-hour course period (per course) without a documented military or medical excuse and advanced permission of the instructor should withdraw from the class. The University reserves the right to involuntarily drop enrolled students from classes, which they do not attend. Students who do not attend the first class session, who have not made prior arrangements with the instructor for being absent, will be subject to being dropped from their courses.

MAKE-UP WORK REQUIREMENTS

For each class missed, makeup work will be assigned and must be submitted at the next class. The instructor will assign the topic and amount of work. This makeup work will be incorporated into the class participation grade. If the make-up work is not submitted on time, the student's final grade will be subject to a reduction of one (1) letter grade.

Students are responsible for any class material presented during their absence, and any assignments due should be submitted prior to the absence, if possible.

DISCLAIMER

This syllabus is intended to provide a basic structure to this course. It MAY be modified for class size, student competencies, etc. Adherence to this syllabus is subject to change at the sole discretion of the instructor.