



Statistical Techniques

BQM 450 [all sections]

Southwestern College Professional Studies

COURSE SYLLABUS

I. Course Catalog Description

The course is a survey of descriptive and inferential statistics, probability theory, sampling theory, hypothesis testing, and study of variability, regression and correlation. Emphasis will be placed on statistical applications and how to apply statistics in reducing large amounts of data into a meaningful form for effective decision making.

II. Required and Supplementary Instructional Materials

Lind, D., Marchal, W., & Wathen, S. (2014). *Statistical techniques in business and economics* (16th ed.). New York, NY: McGraw-Hill.

III. Learning Outcomes

Learning outcomes describe the knowledge, skills, values, and attitudes that learners gain as the result of a particular learning experience. Southwestern College Professional Studies has learning outcomes specific to each program of study that are in line with the institutional outcomes of critical thinking, ethical reasoning, leadership, communication, and career preparation. Course outcomes support program outcomes and are listed below.

Upon successfully completing this course, the learner will be able to:

1. Explain topics, such as frequency distribution, elementary probability theory, estimation, hypothesis testing, and regression analysis
2. Evaluate and select the appropriate statistical techniques to solve practical problems in business and economics
3. Use statistical software such as MS Excel to solve business and economic problems
4. Read and interpret computer-generated statistical outputs

At the end of the course, learners may vary in their ability to achieve these outcomes. You are more likely to achieve these outcomes only if you attend class and/or online activities as required by the syllabus, complete the requirements for all assignments to the best of your ability, participate actively in class activities and group work as directed, and study diligently for exams.

IV. Course Policies

Students are expected to read and abide by the course policies found in the instructor-specific syllabus located in the Blackboard course.

V. Course Requirements:

Requirements	Number of Assignments	Points Possible	Percent of Grade
Discussions	6	150	15
Chapter Exercises	21	315	31.5
Midterm Exam	1	150	15
Final Exam	1	150	15
Research Project	1	235	23.5
Total Points		1000	100%

VI. Course at a Glance:

Unit	Reading & Preparation Activities	Graded Work Due
1	<ul style="list-style-type: none"> • Introductions discussion forum • Course Software document • <i>Lind, Marchal & Wathen</i>, Chapters 1-3 • Chapter 1-3 PowerPoints • Making Histograms, Frequency Polygons and Ogives using MS Excel document • Inferential & Descriptive video • Statistics: Standard Deviation video 	<ul style="list-style-type: none"> • Unit 1 Discussion • Unit 1 Chapter Exercises
2	<ul style="list-style-type: none"> • <i>Lind, Marchal & Wathen</i>, Chapters 4-5 • Chapter 4-5 PowerPoints • Research Project Assignment • Stem and Leaf Plot video • Box-and-Whisker Plots video • Probability explained video 	<ul style="list-style-type: none"> • Unit 2 Discussion • Unit 2 Chapter Exercises • Unit 2 Research Project Topic
3	<ul style="list-style-type: none"> • <i>Lind, Marchal & Wathen</i>, Chapters 6-7 • Chapter 6-7 PowerPoints • Review <i>Lind, Marchal & Wathen</i>, Chapters 1-5 • Confidence Intervals using Large & Small Samples document • Confidence Intervals using MiniTab document • Binomial distributions video 	<ul style="list-style-type: none"> • Unit 3 Discussion • Unit 3 Chapter Exercises • Midterm Exam
4	<ul style="list-style-type: none"> • <i>Lind, Marchal & Wathen</i>, Chapters 8-9 • Chapter 8-9 PowerPoints • Central Limit Theorem video 	<ul style="list-style-type: none"> • Unit 4 Discussion • Unit 4 Chapter Exercises
5	<ul style="list-style-type: none"> • <i>Lind, Marchal & Wathen</i>, Chapters 10-11 • Chapter 10-11 PowerPoints • Hypothesis Testing Examples document • One tailed and two tailed tests video 	<ul style="list-style-type: none"> • Unit 5 Discussion • Unit 5 Chapter Exercises
6	<ul style="list-style-type: none"> • <i>Lind, Marchal & Wathen</i>, Chapters 12-13 • Chapter 12-13 PowerPoint • Regression Examples A document • Review <i>Lind, Marchal & Wathen</i>, Ch. 7-11 • ANOVA Hypothesis test with F statistic video 	<ul style="list-style-type: none"> • Unit 6 Discussion • Unit 6 Research Project • Final Exam

VII. Other Policies and Requirements

Follow this link to the Southwestern College Professional Studies [Standard Syllabus](#) in Blackboard. You may be required to log in.