

SYLLABUS

DIVISION: Business and Engineering Technology

REVISED: Spring 2014

CURRICULA IN WHICH COURSE IS TAUGHT: Business Administration

COURSE NUMBER AND TITLE: BUS 221, Business Statistics I

CREDIT HOURS: 3 HOURS/WK **LEC:** 3 HOURS/WK **LAB:** NA

- I. CATALOG DESCRIPTION:** Focuses on statistical methodology in the collection, organization, presentation, and analysis of data; concentrates on measures of central tendency, dispersion, probability concepts and distribution, sampling, statistical estimation, normal and T-distribution, and hypothesis testing for means and proportions.
- II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES:** As a required course for all students enrolled in Business Administration, BUS 221 will broadly address the following DCC Business Administration program objectives.
- Calculate, compile, and analyze business data for problem solving.
 - Demonstrate an awareness of appropriate current and emerging technologies to support business functions.
 - Use verbal, non-verbal, and written communication skills effectively.
 - Use critical thinking skills in problem analysis.

Students completing BUS 221 will demonstrate the ability to understand how statistical analysis applies to business practices and be familiar with the vocabulary and concepts associated with the content items listed in sections IV and VI.

- III. REQUIRED BACKGROUND/PREREQUISITIES:**
MTH 163, Precalculus I or Divisional Approval. If students have developmental studies requirements, MTE 1 through MTE 9 must be completed prior to enrollment.

- IV. COURSE CONTENT:**
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| • Introduction to Statistics | • Central Limit Theorem |
| • Graphical Representations | • Hypothesis Testing |
| • Descriptive Data | • Chi-square Analysis |
| • Effective Sampling | • Analysis of Variance |
| • Probability | • Correlation |
| • Random Variables and Probability Distributions | • Simple and Multiple Regression |
| • Continuous Probability Distributions | • Time Series Analysis |

- V. THE FOLLOWING GENERAL EDUCATION OBJECTIVES WILL BE ADDRESSED IN THIS COURSE**
(Place X by all that apply)

<u>X</u>	Communication
<u>X</u>	Critical Thinking
—	Cultural and Social Understanding
—	Information Literacy
—	Personal Development
<u>X</u>	Quantitative Reasoning
—	Scientific Reasoning

VI. LEARNER OUTCOMES**VII. EVALUATION**

<ul style="list-style-type: none">• Define statistics• Differentiate between a population and a sample• Differentiate between a parameter and a statistic• Construct a graphical representation of data	Written test Homework questions Research project
<ul style="list-style-type: none">• Calculate and interpret descriptive measures of central location• Calculate and interpret descriptive measures of central variability	Written test Homework questions
<ul style="list-style-type: none">• Discuss various sampling techniques• Recognize the importance of collecting an unbiased sample• Determine a feasible sampling strategy given a scenario	Written test Homework questions Research project
<ul style="list-style-type: none">• Calculate and apply basic probabilities• Understand how intersections and unions affect probabilities• Determine if two events display independence• Discuss Binomial and Poisson Distributions	Written test Homework questions Class experiment
<ul style="list-style-type: none">• Recognize the role of the sample size in the Central Limit Theorem• Understand how the Empirical Rule applies to the normal distribution• Calculate probabilities based on the normal distribution• Construct confidence intervals	Written test Homework questions
<ul style="list-style-type: none">• Test hypotheses about population parameters• Understand the importance of the level of significance when testing hypotheses• Perform and interpret a Chi-square test• Perform and interpret the analysis of variance procedure	Written test Homework questions Group project Class experiment
<ul style="list-style-type: none">• Determine if variables correlate with one another• Interpret the coefficients of a regression model• Identify independent variables for a regression model and test their significance• Predict a value for the dependent variable when given a regression model	Written test Homework questions Class experiment
<ul style="list-style-type: none">• Understand the importance of time series analysis for business	Written test Homework questions