GROSSMONT COLLEGE

Official Course Outline

ECONOMICS 215 – STATISTICS FOR BUSINESS AND ECONOMICS

1. Course Number Course Title Semester Units Semester Hours

ECON 215 Statistics for Business 3 3 hours lecture: 48-56 hours

and Economics 96-108 outside-of-class hours

144-162 total hours

2. Course Prerequisites

A “C” grade or higher or “Pass” in Math 103 or 110 or equivalent.

Corequisite

None

Recommended Preparation

None

3. Catalog Description

Introduction to descriptive and inferential statistics including regression and correlation analysis. Application of statistical techniques to conduct research and analysis in various business and economic environments.

4. Course Objectives

The student will:

1. Summarize various economic and business data and identify corresponding measures of central tendency and ANOVA.
2. Solve various problems in the business and economic world through application of probability theory.
3. Use and interpret a variety of distributions common to business and economic data.
4. Use Excel to evaluate and organize various business and economic data into informative spreadsheets.
5. Generate hypothesis tests to answer fundamental questions relevant to business and economics.
6. Use regression analysis to make economic predictions and determine the strength of such predictions.
7. Evaluate various sampling techniques in the construction of a business experiment.
8. Review major sources of economic and business data, how it is compiled, and the credibility of such data.

5. Instructional Facilities

1. Standard classroom with adequate writing space.
2. SmartCart technology, including document camera with projection.

6. Special Materials Required of Student

TI-83 or TI-84 graphing calculator.

7. Course Content

1. Descriptive statistics used to summarize business and economics data including mean, median, mode, standard deviation, percentiles, histograms, & z-scores.
2. Probability theory as used in business decision-making including simple, compound, and complementary events along with general probability distributions.

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7. Course Content

1. Distribution analysis common to business and economic data including the binomial and normal distributions and evaluation of the central limit theorem.
2. Sampling methodologies and the use of inference to evaluate population parameters.
3. Interval estimation for population mean, variance, and proportion.
4. Hypotheses tests involving the normal, student's t, chi-square, and F distributions.
5. Linear regression and the use of corresponding coefficients in the business decision-making process.
6. Use of Excel to generate statistical metrics and assemble raw data into an organized framework for use in a business environment.

8. Method of Instruction

1. Lecture.
2. Discussion.
3. Graphing calculator & Excel presentations.
4. In class or at home projects illustrating procedures, formulae, and techniques discussed in lecture.

9. Methods of Evaluating Student Performance

1. Written homework
2. Group or individual projects.
3. Class participation/problem presentations.
4. Quizzes.
5. Possible take-home tests or assessments
6. In-class exams.
7. Comprehensive in-class final exam.

10. Outside Class Assignments

1. Textbook readings.
2. Take-home examinations.
3. Problem sets and/or case studies.

11. Texts

a. Required Text(s):

Anderson, Sweeney, & Williams. *Essentials of Statistics for Business & Economics*. 6th ed. Mason, OH: Cengage, 2011.

b. Supplementary texts and workbooks:

None

Addendum: Student Learning Outcomes

Upon completion of this course, our students will be able to do the following:

1. Categorize data set and use appropriate methods to find, summarize, and visually display statistics about the data set.
2. Interpret visual display of statistical data
3. Take sample statistics and use appropriate procedures, methods, and tests to make inferences about the population.
4. Categorize probability problems and use appropriate theorems and formulas to solve them.
5. Use the appropriate technology to analyze statistical problems.
6. Interpret, communicate, and assess the validity of statistical processes and conclusions.

Date approved by the Governing Board: May 20, 2014