Print Date: 8/9/17

Course Objectives/Course Outline
Spokane Community College

Course Title: **Business Statistics**
Prefix and Course Number: **BUS 217**

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Explain the importance of statistics and its role in effective decision making
- Analyze and interpret numerical data
- Apply the tools of statistical analysis to real business issues and problems
- Identify political, ethical, and philosophical issues related to statistical problems and analysis
- Construct frequency tables and distributions, histograms, frequency polygons, and ogives
- Compute, interpret and analyze the mean, weighted mean, median, mode, geometric mean, range, mean deviation, variance and standard deviation
- Apply Chebyshev's theorem and the Empirical Rule
- Develop and interpret a dot plot, stem-and-leaf display, box plot, scatter diagram and contingency table.
- Calculate probabilities using the rules of addition and rules of multiplication, and apply a tree diagram or contingency table to organize and compute probabilities.
- Calculate a probably using Bayes' theorem.
- Apply the principles of counting: permutation, combination, and multiplication formula.
- Distinguish between discrete and continuous probability distributions for purposes of calculating a mean and standard deviation.
- Recognize the role of probability and its role in forecasting and decision making.
- Compute probabilities using the binomial, hypergeometric and Poisson probability distributions.
- Compute probabilities using a normal probability distribution for continuous data and use the normal distribution to approximate the binomial probability distribution.
- Assess the role of sampling in statistical analysis.
- Explain and use sampling methods.
- Determine the required sample size for either an attribute or a variable.
- Define and construct a sampling distribution of the sample mean.
- Use the central limit theorem, and use the central limit theorem to find probabilities of selecting possible samples means from a specified population.
- Construct confidence intervals for a population mean and population proportion.
- Use the five-step hypothesis testing procedure for one-tailed and two-tailed hypothesis tests of population mean or population proportion for one-sample tests of hypothesis.
- Define Type I and Type II errors.
- Conduct a test of a hypothesis about the difference between two population means or proportions.

Course Outline:

I. Business Statistics
   A. Overview
   B. Application and interpretation of statistics
   C. Descriptive and inferential statistical methods
   D. Marketing and business research studies