Miami Dade College

Course Description

QMB2100 | Basic Business Statistics | 3 credits

The application of basic statistical methods to business problems. Emphasis is on learning to select the appropriate statistical method of solving a given business problem, applying the chosen method, and interpreting the solution. Prerequisite: Acceptable score on the Algebra Placement test or equivalent; Fulfills Gordon Rule computational requirement.

Course Competencies:

Competency 1:

The student will demonstrate an understanding of the organization and application of business statistics by:

- Examining situations in which quantitative methods may be applied to business decision-making.
- Describing situations when quantitative methods can assist managers with decision-making.
- Describing situations of when to use a frequency distribution to present data.
- Creating frequency distributions.
- Contrasting the methods of data presentation.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective

Competency 2:

The student will demonstrate a knowledge of the measures of central tendency by:

- Applying the sample and population mean formulas.
- Solving for the median and mode.
- Illustrating applications of the geometric mean.
- Contrasting the measures of central tendency.
- Using spreadsheet software to analyze data

Learning Outcomes

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective

Competency 3:

The student will apply the measures of central tendency to group data by:

- Demonstrating the application of the mean in group data.
- Computing the median and other factual measures.
- Using the observation process to determine the mode.
- Contrasting the measures of central tendency.
- Comparing the arrangement of the measures of central tendency in skewed and unskewed data.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective

Competency 4:
The student will apply measures of dispersion to sample and population data by:

- Defining the measures of dispersion used for both grouped and ungrouped data.
- Contrasting the values of the standard deviation and the average deviation.
- Differentiating normal and abnormal distributions with regard to dispersion and skewness.
- Synthesizing the average deviation, standard deviation, and quartile deviation into a useful description of a set of data.
- Interpreting the meaning of the measures of dispersion.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective

Competency 5:
The student will compute basic probabilities by:

- Solving problems using the rules of addition and multiplication.
- Applying permutations.
- Applying combinations

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective

Competency 6:
The student will distinguish between discrete and continuous distributions by:

- Calculating probabilities applying a binomial probability distribution.
- Calculating probabilities applying a Poisson distribution.
- Calculating probabilities applying the normal probability distribution.
- Describing the differences between discrete and continuous probability distributions.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective

Competency 7:
The student will apply the Empirical rule to sets of data by:

- Describing the proportional distribution under the normal curve.
- Appraising a problem and developing an expected result.
- Solving problems applying z values.
- Comparing solutions with expectations.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking

- Cultural / Global Perspective

Competency 8:
The student will distinguish the various sampling methods and interpret applications of the Central Limit Theorem by:

- Describing sampling methods for statistical analysis.
- Applying the Central Limit Theorem.
- Demonstrating the procedures involved in the calculation of confidence intervals.
- Demonstrating the procedures used in establishing sample size.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective

Competency 9:
The student will interpret and analyze business problems using hypothesis testing by:

- Applying the techniques known as Null Hypotheses Testing.
- Analyzing the difference between two means.
- Differentiating between Type I and Type II errors.
- Analyzing the difference between two proportions.
- Applying hypothesis testing using both a known and unknown population standard deviation.
- Applying statistical decision theory to business decisions in the selection of alternative courses of action.

Learning Outcomes:

- Interpret hypotheses.
- Analyze differences.
- Apply decision theory

Competency 10:
The student will demonstrate knowledge of non-parametric statistical techniques by:

- Understanding when to use non-parametric statistics.
- Applying a chi-square test.
- Interpreting chi-square results.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective

Competency 11:
The student will use correlation and regression on business problems by:

- Knowing when to apply Correlation & Regression.
- Applying simple regression analysis.
- Applying and interpreting and applying the coefficient or correlation.
- Applying statistical decision theory to business decisions in the selection of alternative courses of action.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking

- Cultural / Global Perspective

Competency 12:

The student will apply statistical techniques to real-world problems by:

- Searching websites for research data.
- Extracting information from websites.
- Creating a research problem based upon the investigation.
- Applying a statistical model to analyze the problem or issue.
- Interpreting the results of the research problem.

Learning Outcomes:

- Communication
- Numbers / Data
- Critical thinking
- Cultural / Global Perspective