Sinclair Community College
444 E. Third St.
Dayton, OH 45402

Master Syllabus

MAT 2170 - Business Statistics I

Division: Science, Mathematics and Engineering

Department: Mathematics

Credit Hour Total: 4.0 **Lecture Hrs:** 3.0 **Lab Hrs:** 2.0

Prerequisite(s): MAT 1460 OR MAT 1470

Other Prerequisite(s): AND Other with a grade of C or better or satisfactory score on math placement test

Date Revised: March 2015

Course Description:

Statistical techniques and methodology. Graphical and tabular presentation of data, probability, parameters, statistical distributions, sampling, confidence intervals and tests of hypotheses. Three classroom, two lab hours per week. Traditional testing (proctored or in Testing Center) is used in all online sections.

General Education Outcomes:

- Critical Thinking/Problem Solving
- Computer Literacy
- Information Literacy

Course Outcomes:

Descriptive Statistics
Compute descriptive statistics such as the mean, median, percentiles, z-scores, and standard deviation in both a classroom and laboratory setting.

Assessment Method: Locally developed exams
Performance Criteria: Passing grade with a score of 70% or better on exams

Assessment Method: Performance appraisals
Performance Criteria: Passing grade with a score of 70% or better on lab reports

Probablility
Evaluate basic probabilities using formulas and definitions; evaluate binomial, uniform, and normal probabilities from formulas and tables.

Assessment Method: Locally developed exams
Performance Criteria: Passing grade with a score of 70% or better on exams

Confidence intervals and hypothesis testing
Infer values of population parameters from confidence intervals; infer whether or not a hypothesis should be rejected; infer appropriate relationships between variables from scatter diagrams and correlation coefficients.

Assessment Method: Locally developed exams
Performance Criteria: Passing grade with a score of 70% or better on exams

Assessment Method: Performance appraisals
Performance Criteria: Passing grade with a score of 70% or better on lab reports

Frequency distributions and statistical graphs
Construct frequency distributions, statistical graphs, and spreadsheets.

Assessment Method: Locally developed exams
Performance Criteria: Passing grade with a score of 70% or better on exams

Assessment Method: Performance appraisals
Performance Criteria: Passing grade with a score of 70% or better on lab reports

Outline:

Data collection including randomization, sampling design, and comparison.Organization and summarization of data by using descriptive statistics and appropriate statistical graphics.Probability and fundamental probability rules.Fundamental discrete and continuous random variables and their distributions.Sampling distributions and computing and interpreting the mean, standard error of the sample mean, and sample proportion.Estimating population parameters using point estimates and confidence intervals.Performing hypothesis tests and using the results of the tests to draw appropriate business conclusions.