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

Master Syllabus

MAT 1420 - Algebra & Data Analysis for Teachers

Division: Science, Mathematics and Engineering

Department: Mathematics

Credit Hour Total: 4.0 **Lecture Hrs:** 4.0

Prerequisite(s): MAT 0300AND MAT 1410

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

Date Revised: June 2017

Course Description:

Introduction to the concepts of using functions to model data, basic probability and basic statistics as appropriate for early- and middle-childhood teachers. An inquiry- and activity-based approach is used to explore linear and quadratic functions, linear inequalities, modeling data with functions, probability concepts, descriptive statistics and basic inferential statistics.

General Education Outcomes:

- Critical Thinking/Problem Solving Competency

Course Outcomes:

Data modeling
Model data using linear and quadratic functions.

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

Data graphing
Graph data using histograms, box-and-whisker diagrams, and stem-and-leaf diagrams.

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

Probability of events and statistical concepts
Evaluate the probability of simple, compound, and independent events; evaluate measures of central tendency and variation.

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

Statistical inferences and predictions
Apply statistical concepts to develop and evaluate inferences and predictions based on real world data.

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

Sample space of experiments and use of statistics
Explain how to develop a sample space of experiments and how to decide which measures of central tendency or variation are most appropriate in describing a data set.

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

Outline:

Linear and quadratic functionsLinear inequalitiesModeling data with functionsProbability conceptsStatistical graphsMeasures of central tendencyMeasures of variationBasic inferential statistics