

**J. Sergeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: MTH 240

Credits: 3

Course Title: Statistics

Course Description: Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, and correlation and regression. Prerequisite: A placement recommendation for MTH 240 and either MTH 163, MTH 166, or MTH 170, or equivalent. (Credit will not be awarded for both MTH 240 and MTH 241.) Lecture 3 hours per week.

General Course Purpose: Prepares students to create and interpret statistics.

Course Prerequisites and Co-requisites:

Prerequisite: A placement recommendation for MTH 240 and either MTH 163, MTH 166, or MTH 170, or equivalent. (Credit will not be awarded for both MTH 240 and MTH 241.)

Course Objectives:

Upon completing the course, the student will be able to

- a. Organize given data into usable form;
- b. Use numerical methods to analyze data;
- c. Understand the basic concepts of probability as related to statistics;
- d. Associate probability with statistical inference by means of sampling distribution;
- e. Use statistical tables;
- f. Construct confidence intervals for means and proportions;
- g. Test statistical hypotheses concerning means and proportions; and
- h. Understand the basic concepts of linear correlation and regression.

Major Topics to Be Included:

- a. The nature of statistics
- b. Description of sample data
- c. Numerical methods for analyzing data
- d. Probability and its statistical applications
- e. The normal distribution
- f. Sampling distributions
- g. Estimation
- h. Hypothesis testing
- i. Linear regression and correlation

Effective Date of Course Content Summary: October 16, 2014