

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

Course Prefix and Number: MTH 240

Credits: 3

Course Title: Statistics

Course Description (including lecture hours, lab hours, total contacts)

Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, and correlation and regression. Lecture 3 hours per week.

General Course Purpose

Prepares students to create and interpret statistics.

Course Prerequisites/Corequisites (*Entry-level competencies **required** for enrollment*)

MTH 163 or MTH 166 or equivalent. (Credit will not be awarded for both MTH 240 and MTH 241.)

Course Objectives (Each item should complete the following sentence.)

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
- 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 (Month, Date Year): September 2007