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