

## Master Syllabus

### **MAT 2180 - Business Statistics II**

**Division:** Science, Mathematics and Engineering

**Department:** Mathematics

**Credit Hour Total:** 3.0

**Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

**Prerequisite(s):** MAT 2170

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

**Date Revised:** March 2015

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### **Course Description:**

Statistical inferences, including estimation, confidence intervals, and tests of hypotheses for means, standard deviations and proportions; analysis of variance; regression analysis; chi-square; business applications. Students will develop a basic competency using a computer spreadsheet to perform statistical calculations. Two 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 Competency
- ▣ Computer Literacy Competency
- ▣ Information Literacy Competency

### **Course Outcomes:**

#### **Statistical Inferences**

Infer appropriate conclusions to tests of hypotheses for means, proportions, the independence of qualitative variables, and parameters of regression equations.

**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

#### **Operations**

Compute Type II error rates; correlation coefficients and coefficients of determination; linear regression equations; test statistics for z-tests, t-tests, F-tests, and Chi-Square tests; and utilize computerized statistical software.

**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

#### **Tests of hypotheses and graph construction**

Construct appropriate tests of hypotheses based on the number and type of parameters; construct appropriate graphs and/or tables; 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:**

Statistical inference about means and proportions and variances with two populations  
Tests of Goodness of Fit and Independence  
Experimental Design and Analysis of Variance including Completely Randomized Design, Factorial Experiment, and Multiple Comparison  
Simple Linear Regression  
Multiple Regression