

## Master Syllabus

### **MAT 2160 - Calculus for Business & Economics**

**Division:** Science, Mathematics and Engineering

**Department:** Mathematics

**Credit Hour Total:** 5.0

**Lecture Hrs:** 5.0

**Prerequisite(s):** MAT 1460

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

**Date Revised:** November 2015

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### **Course Description:**

Functions and graphs, limits, continuity, derivatives, techniques of differentiation, applied problems in business and economics, exponential and logarithmic functions, techniques of integration, applications of integration, functions of two variables, partial derivatives and applications. Traditional testing (proctored or in Testing Center) is used in all online sections.

### **General Education Outcomes:**

- ▣ Critical Thinking/Problem Solving Competency

### **Course Outcomes:**

#### **Limits, Derivatives and Integrals**

Compute the value of a limit and a definite integral, find the derivative of functions, and find indefinite integrals.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

Pass locally developed exams with a score of 70% or better.

#### **Graphs of Functions**

Use calculus to graph a variety of functions such as linear, polynomial, exponential and logarithmic functions.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

Pass locally developed exams with a score of 70% or better.

#### **Applications of Calculus**

Solve application problems involving rates of change, optimization, related rates; exponential and logarithmic functions

**Assessment Method:** Locally developed exams

**Performance Criteria:**

Pass locally developed exams with a score of 70% or better.

### **Outline:**

Evaluate limits and assess continuity of a function  
Compute derivatives using a variety of methods  
Solve applications problems involving derivatives  
Graph functions using applications of the derivative  
Solve application problems involving exponential/logarithmic functions  
Determine the indefinite integral of a function  
Evaluate the definite integral of a function