MTH 217  
Business Calculus  
(4)

I. **Bulletin Description:** This course is designed for students interested in transferring to a four-year institution and pursuing a bachelor's degree in Business Administration. Topics will include but are not limited to: differentiation and integration of algebraic, exponential, and logarithmic functions, applications of differentiation and integration, and partial derivatives.

II. **Prerequisite:** Grade of “C” or better in MTH 135 or equivalent. (Rationale: Necessary algebraic methods and exponential and logarithmic functions are introduced in MTH 135.)

III. **Rationale for Course Level:** Although it is an introductory calculus course, it involves some advanced calculus topics, as well as extensive use of sometimes complicated formulas and the interpretation of mathematical results for business applications. It is also designed to prepare students for the level of professionalism expected of a baccalaureate student.


V. **Other Requirements and/or Materials for the Course:** A graphing calculator is required (e.g. TI-83 or TI-84).

VI. **Student Learning Objectives:**  
**Institutional Outcomes:**
- Students will demonstrate competency in reading, writing, oral communication, and numerical literacy.
- Students will evaluate information.  
**Course Outcomes:**
Students will:
1. Explain the fundamental concepts of calculus (derivatives and integrals).
2. Calculate derivatives and integrals involving a variety of functions, both by hand and using technology.
3. Construct graphical representations of derivatives and integrals, both by hand and using technology.
4. Interpret derivatives and integrals in business-related contexts.
5. Justify important business decisions using derivatives and integrals.

VII. **Suggested Course Outline:**
- Review of basic concepts: 0.5 week
- Limits, Differentiation & applications of differentiation: 4-5 weeks
  Exam 1
• Exponential and logarithmic functions: 2 weeks
• Functions of several variables & partial derivatives: 2 weeks
  Exam 2
• Integration & applications of integration: 4-5 weeks
  Project due
  Exam 3

VIII. Suggested Course Evaluation:
Regular homework assignments, three (3) exams, and a course project. The project should give students experience applying the methods of calculus to make an informed business decision and presenting their results to the class. Quizzes may also be included.

Homework and quizzes: 25%
Exams: 60% (20% each)
Project: 15%

IX. Bibliography:

Syllabus Prepared By:

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Wesley Rich, Ph.D.

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Date