

Linfield College Syllabus

Department: Continuing Education (DCE)

Course Number: MAT 152

Course Title: Finite Mathematics & Calculus

Credits: Three (3) Credits

Instructor: M. Malek Daaboul

Instructor Contact: Address: 17558 SW Kemmer View Ct.
Beaverton, Oregon 97007
Phone: (503) 591-1866
Email: daaboul@comcast.net

Term: Spring 2007

Dates/Times: Monday: 2/19 - 5/21, 6 - 9:30; Peterson 108

Department Approval: _____

I. Course Description:

This course consists of differential calculus (Chapters 9 - 11), and integral calculus (Chapters 12 - 13). Emphasis is given to the uses of calculus as a problem-solving tool. Special effort will be made to present the basic concepts in an intuitive fashion, and examples and problems have been chosen from a broad spectrum of management applications.

Chapter 9 introduces the derivative, covers the limit properties essential to understanding the definition of the derivative, develops the rules of differentiation (including the chain rule for power forms), and introduces applications of derivatives in business and economics. Chapter 10 focuses on graphing and optimization. Continuity and first derivative and second derivative graph properties are covered while emphasizing polynomial graphing. Also Rational function graphing is covered. Optimization is covered including examples and problems involving end-point solutions. Chapter 11 extends the derivative concepts discussed in chapters 9 & 10 to exponential and logarithmic functions (including the general form of the chain rule). Implicit differentiation is covered and applied to related rate problems. Chapter 12 introduces integration (anti-differentiation). Chapter 13 covers additional integration topics (area between two curves and related applications).

II. Prerequisites, Helpful Knowledge and Skills:

The student should have a sound knowledge of Intermediate Algebra. The only prerequisite is Intermediate Algebra for College Students. (MAT. 115), or equivalent.

III. Learning Objectives/Outcomes:

After completing this course the student should have the knowledge of the concepts and applications of differential, integral and multivariable calculus. The objectives are to present calculus to college students of business, management, economics, life science and social science to use in problem solving and decision making in their disciplines. So, emphasis is directed specifically toward applications in business, management, economics, life sciences and social sciences.

IV. Methodology:

The mode of delivery for learning are lectures, homework assignments, and two examinations. Class discussion of calculus concepts and interactive dialogue among students and the instructor is expected/encouraged to ensure clear understanding of calculus concepts and its applications to problem-solving and decision making.

V. Resources:

Text: College Mathematics For Business, Economics, Life Sciences, and Social Sciences.
 By: Raymond Barnett, Michael Ziegler, and Karl Byleen.
 ISBN: 0-13-143209-5, Prentice Hall.

VI. Evaluation & Grading:

The student’s learning is evaluated continuously through class interactions, assignments, and two Exams. The course grade is based on the student performance on the two exams. and class participation.

Exam I:	30%
Exam II:	30%
Exam III	30%
Class Participation:	10%

VII. Course Outline:

Week 01 - 06:

1. The Derivative Chapter 9

Exam I (two hours, 100 points), Chapter 9 30% of grade.

Week 07 - 9:

2. Graphing and Optimization Chapter 10

Exam II (two hours, 100 points), Chapter 1030% of grade

Week 10 - 13:

3. Additional Derivatives Topics Chapter 11

Exam III (two hours, 100 points), Chapter 1130% of grade

CLASS ATTENDANCE/PARTICIPATION 10% of grade