BCIT®

A POLYTECHNIC INSTITUTION

School of Business
Program: ASTB
Option: Full-time

Start Date: Sep 2, 2003			**End Date:** Dec 12, 2003	

Total Hours: 56 **Total Weeks:** 14 **Term/Level:** 5 **Course Credits:** 4
Hours/Week: **Lecture:** 2 **Lab:** 2

Instructor: **Kevin Wainwright**

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Course Description

This course introduces calculus to business students. Topics reviewed are: single and multivariable differentiation, matrix algebra, constrained and unconstrained optimization, and applications of calculus to business problems. The students apply calculus through problem sets to gain skills in the various techniques.

Prerequisite: OPMT 5700 or equivalent pre-calculus, or Math 12 or higher with a C minimum grade. (4 Credits)

Textbook

Required:

Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences 10/e
by Ernest F. Haeussler, Jr., and Richard S.Paul, Prentice-Hall, Inc.

Evaluation

Assignments and Quizzes	20	%	Comments:
Mid Term(s)	40	%	
Final Exam	40	%	
TOTAL	**100**	%	

Course Home Page (Website)
Students are required to check the course web page for additional information, assignment details, and updates.

URL: http://www.sob.bcit.ca/kevinw/index.htm

Topics and Readings

Review of Chapters 3, 4, 5
      1. Functions of a Real Variable
      2. Graphs of Functions
      3. Review of straight lines and exponential logarithmic functions
      4. Applications

Chapter 6   Matrix Algebra

1. Matrix operations
2. Systems of Equations
3. Determinants
4. Cramer's Rule
5. Matrix inversion

Chapter 11   Limits and Continuity

11.1 Limits
11.2 Limits (continued)
11.3 Interest Compounded Continuously
11.4 Continuity
11.5 Continuity Applied to Inequalities

Chapter 12   Differentiation

12.1 The Derivative.
12.2 Rules for Differentiation
12.3 The Derivative as a Rate of Change
12.4 Differentiability and Continuity
12.5 Product and Quotient Rules
12.6 The Chain Rule and Power Rule

Chapter 13   Additional Differentiation Topics

13.1 Derivatives of Logarithmic Functions
13.2 Derivatives of Exponential Functions
13.3 Implicit differentiation
13.4 Logarithmic Differentiation
13.5 Higher-Order Derivatives

Chapter 14   Curve Sketching

14.1 Relative Extrema
14.2 Absolute Extrema on a Closed Interval
14.3 Concavity
14.4 The Second-Derivative Test

Chapter 15   Applications of Differentiation

15.1 Applied Maxima and Minima
15.2 Differentials
15.3 Elasticity of Demand

Chapter 19   Multivariable Calculus

19.1 Functions of Several Variables
19.2 Partial Derivatives
19.3 Applications of Partial Derivatives
19.4 Implicit Partial Differentiation
19.5 Higher-Order Partial Derivatives
19.6 Chain Rule
19.7 Maxima and Minima for Functions of Two Variables
19.8 Lagrange Multipliers

Verification

I verify that the content of this course outline is current.

_____   _____
Authoring Instructor   Date

I verify that this course outline has been reviewed.

_____   _____
Program Head/Chief Instructor   Date

I verify that this course outline complies with BCIT policy.

_____   _____
Dean/Associate Dean   Date

Note: Should changes be required to the content of this course outline, students will be given reasonable notice.