

Camosun College Department of Mathematics

Course Outline Math 115 Fall 2002

Text: Precalculus, 5th Edition Larson, Hostetler
Introduction to Differential Calculus, Math Department

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<u>Topic</u>	<u>Sections</u>	<u>Approx. Hrs.</u>
1. Algebra Review	P.1 – P.8	5
2. Functions & Their Graphs	1.1 – 1.7	8
3. Polynomial & Rational Fns.	2.1 – 2.3, 2.5, 2.6	7
4. Conic Sections	10.2 – 10.4, 7.1	6
5. Exponential & Log Functions	3.1 – 3.5	8
6. Trigonometry	4.1 – 4.7, 5.1 – 5.5	17
7. Introduction to Calculus	Booklet	8

Evaluation:

1 Final 3-hours Examination	50%
5 Term Tests (Sept 23, Oct 11, Oct 30, Nov 15, Nov 29)	40%
5 Assignments (Sept 16, Oct 4, Oct 25, Nov 8, Nov 22)	10%

Grading:

A+	95 to 100	B+	80 to 84	C+	65 to 69
A	90 to 94	B	75 to 79	C	60 to 64
A-	85 to 89	B-	70 to 74	D	50 to 59

Students whose final exam mark is higher than their term mark will be awarded the final exam mark as their final grade in the course.

Note: Tests must be written at the scheduled time and assignments must be handed in at the scheduled time.

Algebra Review

- P.1 Real Numbers
- P.2 Exponents and Radicals
- P.3 Polynomials and Factoring
- P.4 Rational Expressions
- P.5 Solving Equations
- P.6 Solving Inequalities
- P.7 Errors and the Algebra of Calculus
- P.8 Graphical Representation of Data

Chapter 1 Functions and their Graphs

- 1.1 Graphs of Equations
- 1.2 Linear Equations in Two Variables
- 1.3 Functions
- 1.4 Analyzing Graphs of Functions
- 1.5 Shifting, Reflecting and Stretching Graphs
- 1.6 Combinations of Functions
- 1.7 Inverse Functions

Chapter 2 Polynomial Functions

- 2.1 Quadratic Functions
- 2.2 Polynomial Functions of Higher Degree
- 2.3 Polynomial and Synthetic Division
- 2.5 Zeros of the Polynomial Functions
- 2.6 Rational Functions

Chapter 10 Conics

- Notes Circles
- 10.2 Parabolas
- 10.3 Ellipses
- 10.4 Hyperbolas
- Notes Solving Systems of Equations (homework from 7.1)

Chapter 3 Exponential and Log Functions

- 3.1 Exponential Functions and their Graphs
- 3.2 Logarithmic Functions and their Graphs

- 3.4 Exponential and Logarithmic Equations
- 3.5 Exponential and Logarithmic Models

Chapter 4 Trigonometry

- 4.1 Radian and Degree Measure
- 4.3 Right Triangle Trigonometry
- 4.2,4.4 Trigonometric Functions: The Unit Circle
- 4.5 Graphs of Sine and Cosine Functions
- 4.6 Graphs of Other Trigonometric Functions
- 4.7 Inverse Trigonometric Functions

Chapter 5 Analytic Trigonometry

- 5.1 Using Fundamental Identities
- 5.2 Verifying Trigonometric Identities
- 5.3 Solving Trigonometric Equations
- 5.4 Sum and Difference Formulas
- 5.5 Double and Half Angle Formulas

Introduction to Calculus (Booklet)

- 1.1 Introduction
- 1.2 Secant and Tangent Lines
- 1.3 Limits
- 1.4 The Derivative
 - Definition of Derivative
 - Rules for Calculating Derivatives of Polynomial Functions
- 1.5 Applications of Derivatives
 - Rates of Change
 - Tangent Lines
 - Graphing Polynomial Functions
 - Optimization