

(—; 3-0-0)

## Introduction to Calculus

MATH-006\*

This course is equivalent to the OAC calculus course and prepares students for MATH-121 or MATH-126. It is intended for students who have never taken a calculus course or for those who have been away from mathematics for some time. The class meets once each week for three hours on Wednesday evenings.

**Textbook:** *PreCalculus: Mathematics for Calculus*, 4th Edition  
by Stewart, Redlin and Watson (Brooks/Cole)

**Supplementary Notes:** Handouts on specific aspects of differentiation and integration will be provided during the course.

**Prerequisite:** Ontario Grade 12 Mathematics *or* equivalent *and* permission of the Department.

**Instructor:** A. Ableson

<b>Evaluation:</b> Quizzes (5% per quiz, best 10 marks out of 11 quizzes)	50%
Final examination	50%

### Outline:

The course covers the following areas and aspects of calculus:

- Introduction to functions
- Average rate of change
- Derivatives
- Sketching polynomials
- Sketching rational functions
- Min/Max Problems
- Word Problems
- Derivative Rules
- Inverse Functions
- Logarithms, Exponentials
- Logarithmic and exponential equations
- Logarithmic and exponential derivatives
- Introduction to Trigonometry
- Graphs of Trigonometric Functions
- Trigonometric Identities
- Trigonometric Derivatives
- Introduction to Sequences
- Geometric Sequences
- Area, Integration