

# HOLY TRINITY CATHOLIC SECONDARY SCHOOL

## COURSE OUTLINE



**Name of Course/Course Code: Advanced Functions, MHF 4U**

**Course Prerequisite: Functions, Grade 11, University Preparation, or Mathematics for College Technology, Grade 12, College Preparation**

### **Course Description:**

This course extends students' experience with functions. Students will investigate the properties of polynomial, rational, logarithmic, and trigonometric functions; develop techniques for combining functions; broaden their understanding of rates of change; and develop facility in applying these concepts and skills. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. This course is intended both for students taking the Calculus and Vectors course as a prerequisite for a university program and for those wishing to consolidate their understanding of mathematics before proceeding to any one of a variety of university programs.

### **Catholic Graduate Expectations:**

The mind and its capacity for rational analysis are seen as gifts from the Creator to be used and enjoyed. The training of the intellect ensures that all knowledge can be scrutinized and the divine and the human more deeply understood. In this sense, knowledge is illuminated with the light of faith. In Catholic education, the commitment to maturity of mind and academic excellence is always in reference to God's revealed wisdom as to life's purpose and meaning.

### **Units of Study**

Unit 1	<i>Exponential and Logarithmic Functions</i>
Unit 2	<i>Trigonometric Functions</i>
Unit 3	<i>Polynomial and Rational Functions</i>
Unit 4	<i>Characteristics of Functions</i>

## Evaluation

70%	30%
Knowledge/Understanding	Culminating Task
Thinking/Inquiry	10%
Communication	Exam
Application	20%

## Course Resources Required:

**Scientific Calculator**  
**Ruler**  
**Pencil**  
**Eraser**  
**Binder with paper**  
**Textbook (Provided)**

For a detailed course description of this course, please visit  
<https://www.edu.gov.on.ca/eng/curriculum/secondary>