



MHF4U1 Advanced Functions Grade 12, University

General Course Information

Prerequisite:	MCR3U
Teacher:	416-396-6793 Ext 20458
Department:	Mathematics
Extra Help:	After In-Class time or an Online Tutorial planned with your teacher
Textbook and Replacement Cost:	n/a
Required Materials:	binder, paper, scientific calculator, ruler, pencil, eraser, graph paper

Course Description

This course extends students' experience with functions. Students will investigate the properties of polynomials, 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 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.

Assessment and Evaluation

To promote student success, ongoing assessment and feedback will be given regularly to the students. A variety of assessment and evaluation strategies will be used in this course, including tests, quizzes, group work, and presentations. Expectations will be evaluated based on the provincial curriculum expectations and the achievement levels outlined in the ministry document.

Expectations are organized into four categories. The categories and their corresponding weighting is as follows:

Knowledge and Understanding	25%	Thinking	10%
Application	25%	Communication	10%

Each student's final mark will be in the form of a percentage grade based on their achievement in the 4 categories on the achievement chart. The breakdown of the final mark is as followed:

Term Evaluation	70%	Final Culminating Activity	30%
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The final Evaluation will be completed during the final 6 weeks of the course and may include a variety of summative activities including an exam, a presentation, a seminar, or an essay or another writing assignment.

In addition to students' performance in the achievement categories, students will also be assessed on their performance in the following learning skills:

Responsibility	Organization	Independent Work
Collaboration	Initiative	Self-Regulation

For specific policies on assessment and evaluation, and academic honesty, please refer to *Code of Conduct*.

The course is organized into the following strands:

<p>POLYNOMIAL AND RATIONAL FUNCTIONS</p> <ul style="list-style-type: none"> Make connections between the numeric, graphical, and algebraic representations of polynomial functions Solve problems involving polynomial and simple rational equations graphically and algebraically; 	<p>EXPONENTIAL AND LOGARITHMIC FUNCTIONS</p> <ul style="list-style-type: none"> Demonstrate an understanding of the relationship between exponential expressions and logarithmic expressions Identify and describe some key features of the graphs of logarithmic functions Solve exponential and simple logarithmic equation
<p>TRIGONOMETRIC FUNCTIONS</p> <ul style="list-style-type: none"> Demonstrate an understanding of the meaning and application of radian measure Solve problems involving trigonometric equations and prove trigonometric identities. 	<p>CHARACTERISTICS OF FUNCTIONS</p> <ul style="list-style-type: none"> Demonstrate an understanding of average and instantaneous rate of change Determine functions that result from the addition, subtraction, multiplication, and division of two functions and from the composition of two functions