



MCF3M
Functions and Applications
Grade 11, Mixed University/College

General Course Information

Prerequisite:	MPM 2D or MFM 2P
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 introduces basic features of the function by extending students' experiences with quadratic relations. It focuses on quadratic, trigonometric, and exponential functions and their use in modelling real-world situations. Students will represent functions numerically, graphically, and algebraically; simplify expressions; solve equations; and solve problems relating to applications. Students will reason mathematically and communicate their thinking as they solve multi-step problems.

<http://www.edu.gov.on.ca/eng/curriculum/secondary/math1112curr.pdf>

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	35%	Thinking	5%
Application	20%	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:

Quadratic Functions

Expand and simplify quadratic expressions, solve quadratic equations, and relate the roots of a quadratic equation to the corresponding graph; demonstrate an understanding of functions, and the numeric, graphical, and algebraic representations of quadratic functions; solve problems involving quadratic functions, including problems real-world applications;

Exponential Functions

Simplify and evaluate numerical expressions involving exponents, and the numeric, graphical, and algebraic representations of their functions; identify and represent exponential functions, and solve problems involving exponential functions, including real-world applications; demonstrate an understanding of compound interest and annuities, and solve related problems.

Trigonometric Functions

Solve problems involving trigonometry in acute triangles using the sine law and the cosine law, including from real-world applications; demonstrate an understanding of periodic relationships and the sine function, and it's the numeric, graphical, and algebraic representations; identify and represent sine functions, and solve problems involving sine functions, including problems arising from real-world applications.