

Course outline for MHF4U: Advanced Function, Grade 12**Oct 2024****Course Summary**

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.

Course Strands

Unit	Title	Covered Chapter
1	Introduction of Functions and Transformations	Chapter 1
2	Polynomial Functions, Equations, and Inequalities	Chapter 3 & 4
3	Rational Functions, Equations, and Inequalities	Chapter 5
4	Trigonometric Functions, Equations, and Inequalities	Chapter 6 & 7
5	Exponential and Logarithmic Functions	Chapter 8
6	Combinations of Functions	Chapter 9
7	Rate of Change	Chapter 2

Course Evaluations

Student performance standards for knowledge and skills are described in the curriculum Achievement Chart. The curriculum is assessed in four categories:

Knowledge and Understanding (**25%**): Concepts and procedures

Thinking and Inquiry (**25%**): Making inferences, drawing conclusions as they relate to the overall expectations listed to the right

Communication (**25%**): use of math terminology and reasoning skills to explain approach

Application (**25%**): selection of tools, connections to context to the problem

70% of the grade will be based upon evaluations conducted throughout the course. This portion of the grade will reflect the student's most consistent level of achievement throughout the course, although special consideration will be given to more recent evidence of achievement.

30% of the grade will be based upon final evaluation. At least 20% of this evaluation will be a formal examination. The other 10% may be any one of a variety of assessment tools that suit the students learning style.