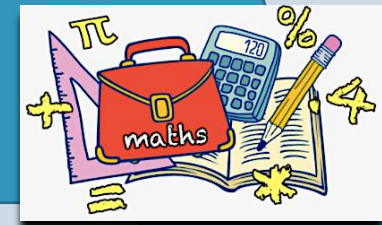


Advanced Functions (MHF4U1)



This course extends students' experience with functions. Students will investigate the properties of polynomials, rational, logarithmic, and trigonometric functions; develop techniques for combining functions; and develop facility in applying these concepts and skills. The course relies heavily on concepts taught in Grade 11 functions; hence students will 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.

Polynomial and Rational Functions

- Connect graphs and equations of polynomial and rational functions
- Solve problems involving polynomial and rational equations
- Solve polynomial and simple rational inequalities

Exponential and Logarithmic Functions

- Connect graphs and equations of exponential and logarithmic functions
- Evaluate logarithmic expressions
- Solve exponential and logarithmic equations

Trigonometric Functions

- Connect graphs and equations of trigonometric functions
- Understand and apply radian measure
- Solve trigonometric equations and prove trigonometric identities

Characteristics of Functions

- Understand average and instantaneous rate of change
- Combine functions through the basic mathematical operations and the composition of functions
- Use function models to solve problems