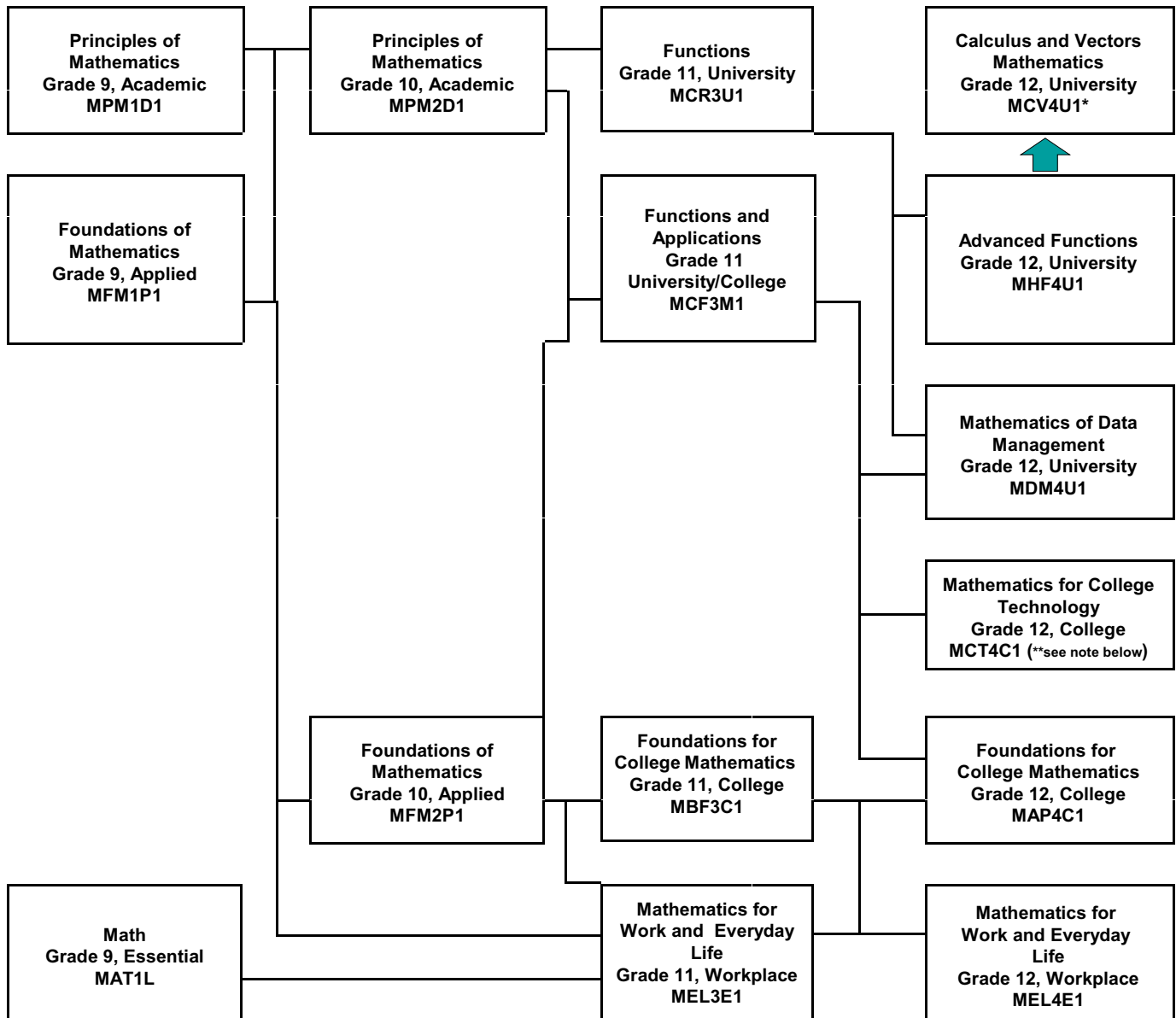


PREREQUISITE CHART FOR MATHEMATICS



*Students who choose Calculus and Vectors (MCV4U1), must also choose Advanced Functions (MHF4U1).

**Successful completion of MCT4C1 (Math for College Tech) can lead to MHF4U1.

Can Probabilities be misleading? If so, how?

Good problem solvers develop a plan and as they work to execute it, make necessary adjustments.

MATHEMATICS

GRADE 10

Principles of Mathematics - Academic

MPM2D1

This course enables students to broaden their understanding of relationships and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and abstract reasoning. Students will explore quadratic relationships and their applications; solve and apply linear systems; verify properties of geometric figures using analytic geometry; and investigate the trigonometry of right and acute triangles. Students will reason mathematically as they solve multistep problems and communicate their thinking.

Prerequisite: MPM1D1

Foundations of Mathematics - Applied

MFM2P1

This course enables students to consolidate their understanding of relationships and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and hands-on activities. Students will develop and graph equations in analytic geometry; solve and apply linear systems, using real-life examples; and explore and interpret graphs of quadratic relationships. Students will investigate similar triangles, the trigonometry of right-angled triangles, and the measurement of three dimensional objects. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

Prerequisite: MFM1P1 or MPM1D1

Essential Math

MAT2L

This course emphasizes the extension of mathematical knowledge and skills needed to prepare students for success in their everyday lives, in the workplace, and in the Grade 11 Mathematics Workplace Preparation Course. The course is organized in three strands related to money sense, measurement, and proportional reasoning. In all strands the focus is on strengthening and extending key foundational mathematical concepts and skills by solving authentic everyday problems. Students have opportunities to extend their mathematical literacy and problem-solving skills and to continue developing their skills in reading, writing, and oral language through relevant and practical math activities.

GRADE 11

Functions and Applications- University/College Preparation

MCF3M1

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 financial and trigonometric applications. Students will reason mathematically and communicate their thinking as they solve multi-step problems.

Prerequisite - MPM2D1, Grade 10, Academic or MFM2P1, Grade 10, Applied

Functions - University Preparation

MCR3U1

This course introduces the mathematical concept of the function by extending students' experiences with linear and quadratic relations. Students will investigate properties of discrete and continuous functions, including trigonometric and exponential functions; represent functions numerically, algebraically, and graphically; solve problems involving applications of functions; and develop facility in simplifying polynomial and rational expressions. Students will reason mathematically and communicate their thinking as they solve multi-step problems.

Prerequisite - MPM2D1, Grade 10, Academic

Foundations for College Mathematics - College Preparation

MBF3C1

This course enables students to broaden their understanding of mathematics as a problem-solving tool in the real world. Students will extend their understanding of quadratic relations, as well as of measurement and geometry; investigate situations involving exponential growth; solve problems involving compound interest; solve financial problems connected with vehicle ownership; and develop their ability to reason by collecting, analyzing, and evaluating data involving one and two variables. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

Prerequisite - a grade 10 Math (Academic or Applied)

Mathematics for Work and Everyday Life - Workplace Preparation

MEL3E1

This course enables students to broaden their understanding of mathematics as it is applied in the workplace and daily life. Students will solve problems associated with earning money, paying taxes, and making purchases; apply calculations of simple and compound interest in saving, investing, and borrowing; and calculate the costs of transportation and travel in a variety of situations. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

Prerequisite - a grade 9 or grade 10 Math

GRADE 12

Advanced Functions - University Preparation

MHF4U1

This course extends students' experience with functions. Students will investigate the properties of polynomial, rational, logarithmic, and trigonometric functions; broaden their understanding 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 who plan to study mathematics in university and for those wishing to consolidate their understanding of mathematics before proceeding to any one of a variety of university programs.

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

Calculus and Vectors - University Preparation

MCV4U1

This course builds on students' previous experience with functions and their developing understanding of rates of change. Students will solve problems involving geometric and algebraic representations of vectors, and representations of lines and planes in three-dimensional space; broaden their understanding of rates of change to include the derivatives of polynomial, rational, exponential, and sinusoidal functions; and apply these concepts and skills to the modelling of real-world relationships. Students will also refine their use of the mathematical processes necessary for success in senior mathematics in university and who may choose to pursue careers in fields such as physics and engineering.

Prerequisite: Students must also choose MHF4U1, Grade 12 Advanced Functions

**Can statistics in the media be trusted? How much?
How can they mislead?**

**What Math course should I take to best prepare for
College, University, Apprenticeship or Work?**

Mathematics of Data Management - University Preparation

MDM4U1

This course broadens students' understanding of mathematics as it relates to managing information. Students will apply methods for organizing large amounts of information; solve problems involving probability and statistics; and carry out a culminating project that integrates statistical concepts and skills. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. Students planning to enter university programs in business, the social sciences, and the humanities will find this course of particular interest.

Prerequisite: Functions and Applications, Grade 11, University/College Preparation, or Functions, Grade 11, University Preparation

Foundations for College Mathematics - College Preparation

MAP4C1

This course enables students to broaden their understanding of real-world applications of mathematics. Students will analyze data using statistical methods; solve problems involving applications of geometry and trigonometry; simplify expressions; and solve equations. Students will reason mathematically and communicate their thinking as they solve multi-step problems. This course prepares students for college programs in areas such as business, health sciences, and human services, and for certain skilled trades.

Prerequisite: Foundations for College Mathematics, Grade 11, College Preparation

Mathematics for College Technology - College Preparation

MCT4C1

This course enables students to extend their knowledge of functions. Students will investigate and apply properties of polynomial, exponential, and trigonometric functions; continue to represent functions numerically, graphically, and algebraically; develop facility in simplifying expressions and solving equations; and solve problems that address applications of algebra, trigonometry, vectors and geometry. Students will reason mathematically and communicate their thinking as they solve multi-step problems. This course prepares students for a variety of college technology programs.

Prerequisite: Functions and Applications, Grade 11, University/College Preparation

Mathematics for Work and Everyday Life - Workplace Preparation

MEL4E1

This course enables students to broaden their understanding of mathematics as it is applied in the workplace and daily life. Students will investigate questions involving the use of statistics; apply the concept of probability to solve problems involving familiar situations; investigate accommodation costs and create household budgets; use proportional reasoning; estimate and measure; and apply geometric concepts to create designs. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

Prerequisite: Mathematics for Work and Everyday Life, Grade 11, Workplace Preparation

What can patterns of numbers tell us?

How do you know when you know something?