MATHEMATICS	**Grade 9**	**Principles of Mathematics, Grade 9, Academic (MPM1D)** This course enables students to develop an understanding of mathematical concepts related to algebra, analytic geometry, and measurement and geometry through investigation, the effective use of technology, and abstract reasoning. Students will investigate relationships, which they will then generalize as equations of lines, and will determine the connections between different representations of a linear relation. They will also explore relationships that emerge from the measurement of three-dimensional figures and two-dimensional shapes. Students will reason mathematically and communicate their thinking as they solve multi-step problems. *Prerequisite*: None
	Grade 9	**Foundations of Mathematics, Grade 9, Applied (MFM1P)** This course enables students to develop an understanding of mathematical concepts related to introductory algebra, proportional reasoning, and measurement and geometry through investigation, the effective use of technology, and hands-on activities. Students will investigate real-life examples to develop various representations of linear relations, and will determine the connections between the representations. They will also explore certain relationships that emerge from the measurement of three-dimensional figures and two-dimensional shapes. Students will consolidate their mathematical skills as they solve problems and communicate their thinking. *Prerequisite*: None
	Grade 10	**Principles of Mathematics, Grade 10, Academic (MPM2D)** 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 relations 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 and communicate their thinking as they solve multi-step problems. *Prerequisite*: Grade 9 Mathematics, Academic, or Grade 9 Mathematics Transfer, Applied to Academic
	Grade 10	**Foundations of Mathematics, Grade 10, Applied (MFM2P)** This course enables students to consolidate their understanding of linear relations 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 relations. Students will investigate similar triangles, the trigonometry of right

		triangles, and the measurement of three-dimensional figures. Students will consolidate their mathematical skills as they solve problems and communicate their thinking. *Prerequisit*e: Grade 9 Mathematics, Academic or Applied
	Grade 11	**Functions, Grade 11, University (MCR3U)** 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; investigate inverse functions; and develop facility in determining equivalent algebraic expressions. Students will reason mathematically and communicate their thinking as they solve multi-step problems. *Prerequisite*: Principles of Mathematics, Grade 10, Academic
	Grade 11	**Functions and Applications, Grade 11, University/College (MCF3M)** 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. *Prerequisite*: Principles of Mathematics, Grade 10, Academic, or Foundations of Mathematics, Grade 10, Applied
	Grade 11	**Foundations for College Mathematics, Grade 11, College (MBF3C)** 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; investigate situations involving exponential growth; solve problems involving compound interest; solve financial problems connected with vehicle ownership; develop their ability to reason by collecting, analysing, and evaluating data involving one variable; connect probability and statistics; and solve problems in geometry and trigonometry. Students will consolidate their mathematical skills as they solve problems and communicate their thinking. *Prerequisite*: Foundations of Mathematics, Grade 10, Applied
	Grade 11	**Mathematics for Work and Everyday Life, Grade 11, Workplace (MEL3E)** 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*: Principles of Mathematics, Grade 9, Academic, or Foundations of Mathematics, Grade 9, Applied, or a Grade 10 Mathematics LDCC (locally developed compulsory credit) course.
	Grade 12	**Advanced Functions, Grade 12, University (MHF4U)** 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. *Prerequisite*: Functions, Grade 11, University Preparation, or Mathematics for College Technology, Grade 12, College Preparation
	Grade 12	**Calculus and Vectors, Grade 12, University (MCV4U)** 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, sinusoidal, exponential, rational, and radical 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. This course is intended for students who choose to pursue careers in fields such as science, engineering, economics, and some areas of business, including those students who will be required to take a university-level calculus, linear algebra, or physics course. *Prerequisite*: Note: Advanced Functions, Grade 12, University Preparation, must be taken prior to or concurrently with Calculus and Vectors.
	Grade 12	**Mathematics of Data Management, Grade 12, University (MDM4U)** This course broadens students' understanding of mathematics as it relates to managing data. Students will apply methods for organizing and analysing large amounts of information; solve problems involving probability and statistics; and carry out a culminating investigation 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, Grade 11, University Preparation, or Functions and Applications, Grade 11, University/College Preparation
	Grade 12	**Mathematics for College Technology, Grade 12, College (MCT4C)** 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, or Functions, Grade 11, University Preparation
	Grade 12	**Foundations for College Mathematics, Grade 12, College (MAP4C)** This course enables students to broaden their understanding of real-world applications of mathematics. Students will analyse data using statistical methods; solve problems involving applications of geometry and trigonometry; solve financial problems connected with annuities, budgets, and renting or owning accommodation; 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, or Functions and Applications, Grade 11, University/College Preparation
	Grade 12	**Mathematics for Work and Everyday Life, Grade 12, Workplace (MEL4E)** 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, create household budgets, and prepare a personal income tax return; 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

BUSINESS	**Grade 10**	**Introduction to Business, Grade 10, Open (BBI2O)** This course introduces students to the world of business. Students will develop an understanding of the functions of business, including accounting, marketing, information and communication technology, human resources, and production, and of the importance of ethics and social responsibility. This course builds a foundation for further studies in business and helps students develop the business knowledge and skills they will need in their everyday lives. *Prerequisite*: None
	Grade 11	**Entrepreneurship: The Enterprising Person, Grade 11, Open (BDP3O)** This course examines the importance of enterprising employees in today's changing business environment. Students will learn about the skills and attributes of enterprising employees, the distinguishing features of their work environments, and the challenges and rewards of becoming an enterprising person. Students will also have an opportunity to demonstrate and develop enterprising skills by planning and organizing a school or community event. *Prerequisite*: None
	Grade 11	**Entrepreneurship: The Venture, Grade 11, College (BDI3C)** This course focuses on ways in which entrepreneurs recognize opportunities, generate ideas, and organize resources to plan successful ventures that enable them to achieve their goals. Students will create a venture plan for a school-based or student-run business. Through hands-on experiences, students will have opportunities to develop the values, traits, and skills most often associated with successful entrepreneurs. *Prerequisite*: None
ENGLISH	**Grade 10**	**English, Grade 10, Applied (ENG2P)** This course is designed to extend the range of oral communication, reading, writing, and media literacy skills that students need for success in secondary school and daily life. Students will study and create a variety of informational, literary, and graphic texts. An important focus will be on the consolidation of strategies and processes that help students interpret texts and communicate clearly and effectively. This course is intended to prepare students for the compulsory Grade 11 college or workplace preparation course. *Prerequisite*: Grade 9 English, Academic or Applied
	Grade 11	**English, Grade 11, University (ENG3U)** This course emphasizes the development of literacy, communication, and critical and creative thinking skills necessary for success in academic and daily life. Students will analyse challenging literary texts from various periods,

		countries, and cultures, as well as a range of informational and graphic texts, and create oral, written, and media texts in a variety of forms. An important focus will be on using language with precision and clarity and incorporating stylistic devices appropriately and effectively. The course is intended to prepare students for the compulsory Grade 12 university or college preparation course. *Prerequisite*: Grade 10 English, Academic
	Grade 11	**English, Grade 11, College (ENG3C)** This course emphasizes the development of literacy, communication, and critical and creative thinking skills necessary for success in academic and daily life. Students will study the content, form, and style of a variety of informational and graphic texts, as well as literary texts from Canada and other countries, and create oral, written, and media texts in a variety of forms for practical and academic purposes. An important focus will be on using language with precision and clarity. The course is intended to prepare students for the compulsory Grade 12 college preparation course. *Prerequisite*: Grade 10 English, Applied
	Grade 11	**English, Grade 11, Workplace (ENG3E)** This course emphasizes the development of literacy, communication, and critical and creative thinking skills necessary for success in the workplace and in daily life. Students will study the content, form, and style of a variety of contemporary informational, graphic, and literary texts; and create oral, written, and media texts in a variety of forms for practical purposes. An important focus will be on using language clearly and accurately in a variety of formal and informal contexts. The course is intended to prepare students for the compulsory Grade 12 workplace preparation course. *Prerequisite*: Grade 10 English, Applied
	Grade 12	**English, Grade 12, University (ENG4U)** This course emphasizes the consolidation of the literacy, communication, and critical and creative thinking skills necessary for success in academic and daily life. Students will analyse a range of challenging literary texts from various periods, countries, and cultures; interpret and evaluate informational and graphic texts; and create oral, written, and media texts in a variety of forms. An important focus will be on using academic language coherently and confidently, selecting the reading strategies best suited to particular texts and particular purposes for reading, and developing greater control in writing. The course is intended to prepare students for university, college, or the workplace. *Prerequisite*: Grade 11 English, University Preparation
	Grade 12	**English, Grade 12, College (ENG4C) ON LINE ONLY**

		This course emphasizes the consolidation of literacy, communication, and critical and creative thinking skills necessary for success in academic and daily life. Students will analyse a variety of informational and graphic texts, as well as literary texts from various countries and cultures, and create oral, written, and media texts in a variety of forms for practical and academic purposes. An important focus will be on using language with precision and clarity and developing greater control in writing. The course is intended to prepare students for college or the workplace. *Prerequisite*: Grade 11 English, College Preparation
	Grade 12	**English, Grade 12, Workplace (ENG4E)** This course emphasizes the consolidation of literacy, communication, and critical and creative thinking skills necessary for success in the workplace and in daily life. Students will analyse informational, graphic, and literary texts and create oral, written, and media texts in a variety of forms for workplace-related and practical purposes. An important focus will be on using language accurately and organizing ideas and information coherently. The course is intended to prepare students for the workplace and active citizenship. *Prerequisite*: Grade 11 English, Workplace Preparation
	Grade 12	**The Writer's Craft, Grade 12, University (EWC4U) ON LINE ONLY** This course emphasizes knowledge and skills related to the craft of writing. Students will analyse models of effective writing; use a workshop approach to produce a range of works; identify and use techniques required for specialized forms of writing; and identify effective ways to improve the quality of their writing. They will also complete a major paper as part of a creative or analytical independent study project, and investigate opportunities for publication and for writing careers. *Prerequisite*: Grade 11 English, University Preparation
GUIDANCE	**Grade 9**	**Learning Strategies 1: Skills for Success in Secondary School,** **Grade 9, Open (GLS1O)** This course focuses on learning strategies to help students become better, more independent learners. Students will learn how to develop and apply literacy and numeracy skills, personal management skills, and interpersonal and teamwork skills to improve their learning and achievement in school, the workplace, and the community. The course helps students build confidence and motivation to pursue opportunities for success in secondary school and beyond. *Prerequisite*: None

	Grade 11	**Designing Your Future, Grade 11, Open (GWL3O)** This course prepares students to make successful transitions to postsecondary destinations as they investigate specific postsecondary options based on their skills, interests, and personal characteristics. Students will explore the realities and opportunities of the workplace and examine factors that affect success, while refining their job-search and employability skills. Students will develop their portfolios with a focus on their targeted destination and develop an action plan for future success. *Prerequisite*: None
SCIENCE	**Grade 10**	**Science, Grade 10, Academic (SNC2D)** This course enables students to enhance their understanding of concepts in biology, chemistry, earth and space science, and physics, and of the interrelationships between science, technology, society, and the environment. Students are also given opportunities to further develop their scientific investigation skills. Students will plan and conduct investigations and develop their understanding of scientific theories related to the connections between cells and systems in animals and plants; chemical reactions, with a particular focus on acid–base reactions; forces that affect climate and climate change; and the interaction of light and matter. *Prerequisite*: Grade 9 Science, Academic or Applied
	Grade 10	**Science, Grade 10, Applied (SNC2P)** This course enables students to develop a deeper understanding of concepts in biology, chemistry, earth and space science, and physics, and to apply their knowledge of science in real-world situations. Students are given opportunities to develop further practical skills in scientific investigation. Students will plan and conduct investigations into everyday problems and issues related to human cells and body systems; chemical reactions; factors affecting climate change; and the interaction of light and matter. *Prerequisite*: Grade 9 Science, Academic or Applied
BIOLOGY	**Grade 11**	**Biology, Grade 11, University (SBI3U)** This course furthers students' understanding of the processes that occur in biological systems. Students will study theory and conduct investigations in the areas of biodiversity; evolution; genetic processes; the structure and function of animals; and the anatomy, growth, and function of plants. The course focuses on the theoretical aspects of the topics under study, and helps students refine skills related to scientific investigation. *Prerequisite*: Grade 10 Science, Academic

	Grade 11	**Biology, Grade 11, College (SBI3C)** This course focuses on the processes that occur in biological systems. Students will learn concepts and theories as they conduct investigations in the areas of cellular biology, microbiology, genetics, the anatomy of mammals, and the structure of plants and their role in the natural environment. Emphasis will be placed on the practical application of concepts, and on the skills needed for further study in various branches of the life sciences and related fields. *Prerequisite*: Grade 10 Science, Academic or Applied
	Grade 12	**Biology, Grade 12, University (SBI4U)** This course provides students with the opportunity for in-depth study of the concepts and processes that occur in biological systems. Students will study theory and conduct investigations in the areas of biochemistry, metabolic processes, molecular genetics, homeostasis, and population dynamics. Emphasis will be placed on the achievement of detailed knowledge and the refinement of skills needed for further study in various branches of the life sciences and related fields. *Prerequisite*: Grade 11 Biology, University Preparation
CHEMISTRY	**Grade 11**	**Chemistry, Grade 11, University (SCH3U)** This course enables students to deepen their understanding of chemistry through the study of the properties of chemicals and chemical bonds; chemical reactions and quantitative relationships in those reactions; solutions and solubility; and atmospheric chemistry and the behaviour of gases. Students will further develop their analytical skills and investigate the qualitative and quantitative properties of matter, as well as the impact of some common chemical reactions on society and the environment. *Prerequisite*: Grade 10 Science, Academic
	Grade 12	**Chemistry, Grade 12, University (SCH4U)** This course enables students to deepen their understanding of chemistry through the study of organic chemistry, the structure and properties of matter, energy changes and rates of reaction, equilibrium in chemical systems, and electrochemistry. Students will further develop their problem-solving and investigation skills as they investigate chemical processes, and will refine their ability to communicate scientific information. Emphasis will be placed on the importance of chemistry in everyday life and on evaluating the impact of chemical technology on the environment. *Prerequisite*: Grade 11 Chemistry, University Preparation

	Grade 12	**Chemistry, Grade 12, College (SCH4C)** This course enables students to develop an understanding of chemistry through the study of matter and qualitative analysis, organic chemistry, electrochemistry, chemical calculations, and chemistry as it relates to the quality of the environment. Students will use a variety of laboratory techniques, develop skills in data collection and scientific analysis, and communicate scientific information using appropriate terminology. Emphasis will be placed on the role of chemistry in daily life and the effects of technological applications and processes on society and the environment. *Prerequisite*: Grade 10 Science, Academic or Applied
PHYSICS	**Grade 11**	**Physics, Grade 11, University (SPH3U)** This course develops students' understanding of the basic concepts of physics. Students will explore kinematics, with an emphasis on linear motion; different kinds of forces; energy transformations; the properties of mechanical waves and sound; and electricity and magnetism. They will enhance their scientific investigation skills as they test laws of physics. In addition, they will analyse the interrelationships between physics and technology, and consider the impact of technological applications of physics on society and the environment. *Prerequisite*: Grade 10 Science, Academic
	Grade 12	**Physics, Grade 12, University (SPH4U)** This course enables students to deepen their understanding of physics concepts and theories. Students will continue their exploration of energy transformations and the forces that affect motion, and will investigate electrical, gravitational, and magnetic fields and electromagnetic radiation. Students will also explore the wave nature of light, quantum mechanics, and special relativity. They will further develop their scientific investigation skills, learning, for example, how to analyse, qualitatively and quantitatively, data related to a variety of physics concepts and principles. Students will also consider the impact of technological applications of physics on society and the environment. *Prerequisite*: Grade 11 Physics, University Preparation
	Grade 12	**Physics, Grade 12, College (SPH4C)** This course develops students' understanding of the basic concepts of physics. Students will explore these concepts with respect to motion; mechanical, electrical, electromagnetic, energy transformation, hydraulic, and pneumatic systems; and the operation of commonly used tools and machines. They will develop their scientific investigation skills as they test laws of physics and solve

		both assigned problems and those emerging from their investigations. Students will also consider the impact of technological applications of physics on society and the environment. *Prerequisite*: Grade 10 Science, Academic or Applied
SOCIAL SCIENCES AND HUMANITIES	**Grade 11**	**World History to the Sixteenth Century, Grade 11, University/College (CHW3M)** This course investigates the history of humanity from earliest times to the sixteenth century. Students will analyse diverse societies from around the world, with an emphasis on the political, cultural, and economic structures and historical forces that have shaped the modern world. They will apply historical inquiry, critical-thinking, and communication skills to evaluate the influence of selected individuals, groups, and innovations and to present their own conclusions. *Prerequisite*: Grade 10 Canadian History Since World War I, Academic or Applied
	Grade 11	**Housing and Home Design, Grade 11 Open (HLS3O)** This course introduces students to a range of issues related to housing and home design. Students will learn about the needs that housing fulfils; housing options; home maintenance and safety; and environmental, economic, legal, and social considerations related to housing. They will use the elements and principles of design to analyse design and decorating decisions. Students will develop research skills as they investigate issues related to housing and home design. *Prerequisite*: None
	Grade 11	**Understanding Canadian Law, Grade 11, University/College (CLU3M)** This course explores Canadian law with a focus on legal issues that are relevant to people's everyday lives. Students will investigate fundamental legal concepts and processes to gain a practical understanding of Canada's legal system, including the criminal justice system. Students will use critical-thinking, inquiry, and communication skills to develop informed opinions on legal issues and apply this knowledge in a variety of ways and settings, including case analysis, legal research projects, mock trials, and debates. *Prerequisite*: Grade 10 Canadian History Since World War I, Academic or Applied
	Grade 12	**World History: The West and the World, Grade 12, University (CHY4U)** This course investigates the major trends in Western civilization and world history from the sixteenth century to the present. Students will learn about the

		interaction between the emerging West and other regions of the world and about the development of modern social, political, and economic systems. They will use critical-thinking and communication skills to investigate the historical roots of contemporary issues and present their conclusions. *Prerequisite*: Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities.