Course Descriptions

Computer Studies

Grade	Course	Descriptor	Prerequisite	Course Description
11	ICS3CI	**Introduction to Computer Programming** College Preparation		This course introduces students to computer programming concepts and practices. Students will write and test computer programs, using various problem-solving strategies. They will learn the fundamentals of program design and apply a software development life-cycle model to a software development project. Students will also learn about computer environments and systems, and explore environmental issues related to computers, safe computing practices, emerging technologies, and post-secondary opportunities in computer-related fields
11	ICS3UI	**Introduction to Computer Science** University Preparation		This course introduces students to computer science. Students will design software independently and as part of a team, use industry standard programming tools and apply the software development lifecycle model. They will also write and use subprograms within computer programs. Students will develop creative solutions for various types of problems as their understanding of the computing environment grows. They will also explore environmental and ergonomic issues, emerging research in computer science, and global career trends in computer related fields
12	ICS4UI	**Computer Science** University Preparation	ICS3UI	This course enables students to further develop knowledge and skills in computer science. Students will use modular design principles to create complex and fully documented programs, according to industry standards. Student teams will manage a large software development project, from planning through to project review. Students will also analyse algorithms for effectiveness. They will investigate ethical issues in computing and further explore environmental issues, emerging technologies, areas of research in computer science and careers in the field.

Mathematics

Grade	Course	Descriptor	Prerequisite	Course Description
9	MFM1PI	**Mathematics** Applied		Students will gain a better understanding of number sense, proportional reasoning, and measurement of 2-D and 3-D objects in addition to exploring relationships.
9	MPM1DI	**Mathematics** Academic		This course lays the foundation for future success in an academic program. In this course students extend their algebraic & geometric skills, explore relationships and develop equations of straight lines. (A mark of 70% or higher in grade 8 is recommended.)
10	MFM2PI	**Mathematics** Applied	MFM1PI or MPM1DI	This course extends skills in number sense, algebra and geometry. New topics include systems of linear equations, trigonometry and quadratic functions.
10	MPM2DI	**Mathematics** Academic	MPM1DI	This course lays the foundation for success in Mathematics courses in grade 11 and 12. The course focuses on quadratic relationships, analytic geometry and trigonometry. (A minimum mark of 70% in MPM1DI is suggested to ensure success.)
11	MBF3CI	**Foundations for College Math** College	MFM2PI	This course includes a broad range of topics needed by students who plan to pursue one of a broad range of college programs. Topics include linear and quadratic relations, personal finance and data management. (A minimum mark of 70% in MFM2PI is suggested to ensure success.)
11	MCF3MI	**Functions and Applications** University/ College Preparation	MFM2PI or MPM2DI	This course is designed for students who plan to pursue technology related programs in college and for some university programs. The focus is on functions and revisits some of the important concepts developed in grade 10. (A minimum mark of 80% in MFM2PI is suggested to ensure success.)
11	MCR3UI	**Functions** University Preparation	MPM2DI	The pace and workload of this course is preparation for all university level courses at the grade 12 level. It is designed for students who plan to pursue any one of many university programs, including math, computer science, engineering, and physics. (A minimum mark of 70% in MPM2DI is suggested to ensure success.)
11	MEL3EI	**Math for Work and Everyday Life** Workplace	MFM1PI or MFM2PI	This course presents a blend of topics dealing with personal finance and with areas of mathematics that are useful in a variety of jobs.

Grade	Course	Descriptor	Prerequisite	Course Description
12	MAP4CI	**Foundations for College Mathematics** College Preparation	MBF3CI	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, human services, and for certain skilled trades.
12	MCT4CI	**Mathematics for College Technology** College Preparation	MCF3MI or MCR3UI	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.
12	MCV4UI	**Calculus and Vectors** University Preparation	MHF4UI	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. This course is intended for students who plan to study mathematics in university and who may choose to pursue careers in fields such as physics and engineering. (A minimum mark of 70% in MCR3UI is suggested to ensure success.)

Grade	Course	Descriptor	Prerequisite	Course Description
12	MDM4UI	**Mathematics of Data Management** University Preparation	MCR3UI (preferred) MCF3MI-(not recommended)	This course broadens students' understanding of mathematics as it relates to managing data. 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. A minimum mark of 75% in MCF3MI or 60% in MCR3UI is suggested to ensure success.
12	MEL4EI	**Mathematics for Work and Everyday Life** Workplace Preparations	MEL3EI	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 accommodations 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.
12	MHF4UI	**Advanced Functions** University Preparation	MCR3UI (preferred) MCT4CI (not recommended)	This course extends students' experience with functions. Students will investigate the properties of polynomial, rational, logarithmic, and trigonometric 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 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. (A minimum mark of 60% in MCR3UI is suggested to ensure success.)