SOUTH CARLETON HIGH SCHOOL
Ottawa-Carleton District School Board
STUDENT OUTLINE
MPM2D
PRINCIPLES OF MATHEMATICS
ACADEMIC 10

Credit Value: 1 credit	Hours: 110	Prerequisite: MPM1D

Expectations

This course enables students to broaden their understanding of relationships and extend their problems-solving and algebraic skills through investigations, 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.

Course Expectations

Strand	Overall Expectations
Quadratic Functions of the form $y = ax^2 + bx + c$	Determine the basic properties of quadratic relations; relate transformations of the graph $y = x^2$ to the algebraic representation $y = a(x-h)^2 + k$; solve quadratic equations and interpret the solutions with respect to the corresponding relations; solve problems involving quadratic relations
Analytic Geometry	Model and solve problems involving the intersections of 2 straight lines; solve problems using analytic geometry involving properties of lines and line segments; verify geometric properties of triangles and quadrilaterals, using analytic geometry
Trigonometry	Use knowledge of ratio and proportion to investigate similar triangles and solve problems related to similarity; solve problems involving right triangles, using the primary trigonometric ratios and the Pythagorean theorem; solve problems involving acute triangles, using sine law and cosine law

Accommodations for Exceptional Students

The Mathematics department makes every effort to accommodate the identified needs of exceptional (IPRC'd) students and will attempt to differentiate curriculum delivery methods, student modes of expression, and assessment methods as recommended by the student's individual education plan (IEP).

Career Planning

The Mathematics department makes every effort to ensure students are aware of career opportunities related to various fields of Mathematics. In particular, the teacher will help the student to be aware of "real world" applications of the topics presented in this course.

Technology and Textbooks

Students will have the opportunity to use available software in Mathematics appropriate to the course including software packages: Zap-a-Graph, MathTrek and Geometer's Sketchpad. Graphing calculators will also be available to the students.

Calculators   Each student requires a ***scientific calculator*** that will be used on a daily basis. Graphing calculators will be supplied when required.

Resources   ***Principles of Mathematics 10***, Nelson

Evaluation

Term report	**Final report**	
Students will be evaluated on the overall expectations listed above. Evaluations will cover a balance of Knowledge & Understanding, Application, Communication, Thinking, Inquiry and Problem Solving.	Term Summative task* Final Exam *	70% 10% 20% **100%**
Assessment tools include tests/quizzes, assignments, performance tasks and rich assessment tasks	** Board-wide*	

More information on South Carleton High School's policy on Assessment and Evaluation and on Academic Integrity can be accessed on our school website.

Please see **Student Planner** for policies on punctuality, absenteeism and examinations, and other student responsibilities.