SOUTH CARLETON HIGH SCHOOL
Ottawa-Carleton District School Board
STUDENT OUTLINE
MCR3U
FUNCTIONS
UNIVERSITY 11

Credit Value: 1 credit Hours: 110 Prerequisite: MPM2D

Expectations

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.

Overall Expectations

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Characteristics of Functions	Functions, their representations, inverses; connect algebraic and graphical representations using transformations; determine zeros, minimum/maximums of quadratic functions, solve problems using real-world applications; equivalence wrt polynomials, radicals and rationals.
Exponential Functions	Evaluate powers with rational exponents; simplify expressions; properties described in variety of ways; connect numerical, graphical and algebraic representations; identify, represent and solve problems in real-world applications
Discrete Functions	Recursive sequences; Pascal's triangle; arithmetic and geometric sequences/series; solve related problems; financial applications; compound interest and annuities
Trigonometric Functions	Trigonometric ratios for angles less than 360 degrees; simple trig identities; problems with primary trig ratios; sine and cosine law; periodic and sinusoidal functions; connect numerical, graphical and algebraic representations; sinusoidal functions and solve problems in real-world applications

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, Teaching Strategies, and Textbooks

Students will have the opportunity to use available software in Mathematics appropriate to the course including 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 ***Functions****, Nelson* and worksheets

Evaluation

Term reports	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	** in-class task towards the end of term* *** will evaluate whole term's work*	

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.