Cameron Heights Collegiate Institute

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Subject	Grade	Level	Code	Prerequisite
Mathematics	11	University	MCR3UI	10 Academic

Course Description:

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.

Ministry Website:

http://www.edu.gov.on.ca/eng/curriculum/secondary/math1112currb.pdf

	Unit of Study	Overall Expectations (essential understandings)	Assessment
70%	**Rational Expressions**	• demonstrate an understanding of equivalence as it relates to simplifying polynomials, and rational expressions.	• Variety of formative assessments in the form of quizzes and assignments (~1%) • Summative unit test (~9%)
	Quadratic Functions	• determine the zeros and the maximum or minimum of a quadratic function, and solve problems involving quadratic functions, including problems arising from real-world applications	• Variety of formative assessments in the form of quizzes and assignments (~1%) • Summative unit test (~9%)
	Transformations of Functions	• demonstrate an understanding of functions, their representations, and their inverses, and make connections between the algebraic and graphical representations of functions using transformations;	• Variety of formative assessments in the form of quizzes and assignments (~1%) • Summative unit test (~9%)
	Exponential Functions	• evaluate powers with rational exponents, simplify expressions containing exponents, and describe properties of exponential functions represented in a variety of ways; • make connections between the numeric, graphical, and algebraic representations of exponential functions; • identify and represent exponential functions, and solve problems involving exponential functions, including problems arising from real-world applications.	• Variety of formative assessments in the form of quizzes and assignments (~1%) • Summative unit test (~9%)
	Trigonometry	• determine the values of the trigonometric ratios for angles less than 360º; prove simple trigonometric identities; and solve problems using the primary trigonometric ratios, the sine law, and the cosine law;	• Variety of formative assessments in the form of quizzes and assignments (~1%) • Summative unit test (~9%)
	Trigonometric Functions	• demonstrate an understanding of periodic relationships and sinusoidal functions, and make connections between the numeric, graphical, and algebraic representations of sinusoidal functions; • identify and represent sinusoidal functions, and solve problems involving sinusoidal functions, including problems arising from real-world applications	• Variety of formative assessments in the form of quizzes and assignments (~1%) • Summative unit test (~9%)
	Sequences and Series **Financial Mathematics**	• demonstrate an understanding of recursive sequences, represent recursive sequences in a variety of ways, and make connections to Pascal's triangle; • demonstrate an understanding of the relationships involved in arithmetic and geometric sequences and series, and solve related problems; • make connections between sequences, series, and financial applications, and solve problems involving compound interest and ordinary annuities	• Variety of formative assessments in the form of quizzes and assignments (~1%) • Summative unit test (~9%)
30%	**Final Exam**	• Will include all of the overall expectations listed within the units of study	Summative Final Exam (30%)