



# Cameron Heights Collegiate Institute

301 Charles Street E., Kitchener, Ontario N2G 2P8 (519)-578-8330 [www.chci.wrdsb.on.ca](http://www.chci.wrdsb.on.ca)

Subject	Grade	Level	Code	Prerequisite
Mathematics	12	Academic	MCT4CI	MCF3MI

## Course Description

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.

## Ministry Website

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

	Unit of Study	Overall Expectations (essential understandings)	Assessment
70%	Exponential Functions	<ul style="list-style-type: none"> <li>Solve problems involving exponential equations graphically, including problems arising from real-world applications</li> <li>Solve problems involving exponential equations algebraically using common bases and logarithms, including problems arising from real-world applications</li> </ul>	<ul style="list-style-type: none"> <li>Variety of formative assessments in the form of quizzes and assignments (1-2%)</li> <li>Summative unit test (10%)</li> </ul>
	Polynomial Functions	<ul style="list-style-type: none"> <li>Recognize and evaluate polynomials functions, describe key features of their graphs, and solve problems using graphs of polynomial functions</li> <li>Make connections between the numeric, graphical, and algebraic representations of polynomial functions</li> </ul>	<ul style="list-style-type: none"> <li>Variety of formative assessments in the form of quizzes and assignments (1-2%)</li> <li>Summative unit test (10%)</li> </ul>
	Solving Problems Involving Polynomial Equations	<ul style="list-style-type: none"> <li>Solve polynomial equations by factoring, make connections between functions and formulas, and solve problems involving polynomial expressions arising from a variety of applications</li> </ul>	<ul style="list-style-type: none"> <li>Variety of formative assessments in the form of quizzes and assignments (1-2%)</li> <li>Summative unit test (10%)</li> </ul>
	Trigonometric Functions	<ul style="list-style-type: none"> <li>Make connections between the numeric, graphical, and algebraic representations of sinusoidal functions</li> </ul>	<ul style="list-style-type: none"> <li>Variety of formative assessments in the form of quizzes and assignments (1-2%)</li> <li>Summative unit test (10%)</li> </ul>
	Trigonometry Equations and Modeling Using Vectors	<ul style="list-style-type: none"> <li>Demonstrate an understanding that sinusoidal functions can be used to model some periodic phenomena, and solve related problems, including those arising from real-world applications</li> <li>Represent vectors, add and subtract vectors, and solve problems using vector models, including those arising from real-world applications</li> </ul>	<ul style="list-style-type: none"> <li>Variety of formative assessments in the form of quizzes and assignments (1-2%)</li> <li>Summative unit test (10%)</li> </ul>
	Solving Problems Involving Geometry	<ul style="list-style-type: none"> <li>Solve problems involving two-dimensional shapes and three-dimensional figures and arising from real-world applications</li> <li>Determine circle properties and solve related problems, including those arising from real-world applications</li> </ul>	<ul style="list-style-type: none"> <li>Variety of formative assessments in the form of quizzes and assignments (1-2%)</li> <li>Summative unit test (10%)</li> </ul>
30%	Final Exam	<ul style="list-style-type: none"> <li>Will include all of the overall expectations listed within the units of study</li> </ul>	<ul style="list-style-type: none"> <li>Summative Final Exam (30%)</li> </ul>