



Cameron Heights Collegiate Institute

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

| Subject | Grade | Level | Code | Prerequisite |
|-------------|-------|----------|--------|--------------|
| Mathematics | 10 | Enhanced | MPM2DW | 9 Enhanced |

Course Description

This course enables students to broaden their understanding of relationships and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and abstract reasoning. Students will explore quadratic relations and their applications; verify properties of geometric figures using analytic geometry; investigate relationships involved in sequences and series and their applications; and investigate the trigonometry of right and acute triangles. Students will reason mathematically and communicate their thinking as they solve multi-step problems.

Ministry Document

<http://www.edu.gov.on.ca/eng/curriculum/secondary/math910curr.pdf>

<http://www.edu.gov.on.ca/eng/curriculum/secondary/math1112curr.pdf>

| | Unit of Study | Overall Expectations (essential understandings) | Assessment |
|-----|--|---|--|
| 70% | Analytic Geometry | <ul style="list-style-type: none"> Solve problems using analytic geometry involving properties of lines and line segments Verify geometric properties of triangles and quadrilaterals, using analytic geometry | <ul style="list-style-type: none"> Variety of formative assessments in the form of quizzes and assignments (1-2%) Summative unit test (8%) |
| | Polynomials | <ul style="list-style-type: none"> Demonstrate an understanding of equivalence as it relates to simplifying polynomial, radical and rational expressions | <ul style="list-style-type: none"> Variety of formative assessments in the form of quizzes and assignments (1-2%) Summative unit test (8%) |
| | Sequences and Series | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> Variety of formative assessments in the form of quizzes and assignments (1-2%) Summative unit test (8%) |
| | Financial Mathematics | <ul style="list-style-type: none"> Make connections between sequences, series, and financial applications, and solve problems involving compound interest and ordinary annuities | <ul style="list-style-type: none"> Variety of formative assessments in the form of quizzes and assignments (1-2%) Summative unit test (8%) |
| | Quadratic Functions and Equations | <ul style="list-style-type: none"> Determine the basic properties of quadratic relations Relate transformations of the graph of $y = x^2$ to algebraic representation $y = (x-h)^2 + k$ 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 Solve quadratic equations and interpret the solutions with respect to the corresponding relations | <ul style="list-style-type: none"> Variety of formative assessments in the form of quizzes and assignments (1-2%) Summative unit test for quadratic functions (8%) Summative unit test for quadratic equations (8%) |
| | Trigonometry | <ul style="list-style-type: none"> Use their 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 the sine law and the cosine law | <ul style="list-style-type: none"> Variety of formative assessments in the form of quizzes and assignments (1-2%) Summative unit test (8%) |
| 30% | Final Exam | <ul style="list-style-type: none"> Will include all of the overall expectations listed within the units of study | <ul style="list-style-type: none"> Summative Final Exam (30%) |