

**ST. CLAIR CATHOLIC DISTRICT SCHOOL BOARD**  
**STUDENT INFORMATION SHEET/OUTLINE OF COURSE OF STUDY**

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School: St. Christopher Secondary School

Department: Mathematics

Course Title: Foundations of Mathematics (MFM 2P1)

Grade: 10

Course Type: Applied

Credit: One Full

Prerequisite: MPM 1D1 or MFM 1P1

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**COURSE DESCRIPTION:**

This course enables students to consolidate their understanding of linear relations and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and hands-on activities. Students will develop and graph equations in analytic geometry; solve and apply linear systems, using real-life examples; and explore and interpret graphs of quadratic relations. Students will investigate similar triangles, the trigonometry of right triangles, and the measurement of three-dimensional figures. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

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**HOW COURSE SUPPORTS THE ONTARIO CATHOLIC GRADUATE EXPECTATION:**

Through the use of the Catholic course profile as well as additional resources (I.C.E. documents) the Ontario Catholic Graduate expectations will be addressed.

**HOW THIS COURSE SUPPORTS THE COMPETENCIES OF CHOICES INTO ACTION:**

Career Exploration Activities through classroom experience (page 19, Choices into Action)

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**1. Overall Expectation For Student Learning:**

Through this course, the student will be expected to demonstrate knowledge, skills and values related to the following Strands:

**Strand 1:**

**Measurement and Trigonometry**

- 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 the surface areas and volumes of three-dimensional figures, and use the imperial and metric systems of measurement

**Strand 2:**

**Modeling Linear Relations**

- manipulate and solve algebraic equations, as needed to solve problems
- graph a line and write the equation of a line from given information
- solve systems of two linear equations, and solve related problems that arise from realistic situations

### Strand 3:

#### **Quadratic Relations in Standard Form**

- manipulate algebraic expressions, as needed to understand quadratic relations
- identify characteristics of quadratic relations
- solve problems by interpreting graphs of quadratic relations

#### **2. Expectations Regarding Learning Skills:**

It is expected that students will demonstrate the following learning skills (this is not intended to be an exhaustive list). Learning skills will be assessed according to criteria which have been clearly communicated to students and will be reported separately from student achievement of the curriculum expectations. The student's demonstrated learning skills in each course will be evaluated using the four-point scale

(E - Excellent, G - Good, S - Satisfactory, N - Needs Improvement)

- Strong work habits during class time
- Completed homework and assignments
- Organizational skills on a daily basis
- Initiative in all areas of the course
- Independent learning ability
- Team work ability
- Frequent review of concepts and skills

#### **3. Support For Higher Learning:**

Whenever accommodations are made to address student learning needs, or alternative or modified expectations are identified for a student, these accommodations, modifications, or alternative expectations will be outlined in an IEP and will be communicated to parents.

#### **4. Course Breakdown:**

Unit Title/Description		Assessment & Evaluation Strategies	Unit Planning Notes
Unit 1	Introduction to Relations	checklists, assignments, tests	
Unit 2	Linear Relations	checklists, assignments, tests	
Unit 3	Solving Linear Systems	checklists, assignments, tests	
Unit 4	Similar Triangles & Trigonometry	checklists, assignments, tests	
Unit 5	Measurement	checklists, assignments, tests	
Unit 6	Quadratic Relations	checklists, assignments, tests	

Unit 7	Algebra of Quadratic Equations	checklists, assignments, tests	
Unit 8	Analyzing Quadratic Relations	checklists, assignments, tests	

**5. Key Dates, Special Events and Additional Considerations:**

- to be announced by the teacher

**6. Teaching/Learning Strategies:**

Instruction in this course will include but not be limited to the following:

- use of technology tools: graphing calculators, computers
- presentation of homework solutions to class
- whole class activities
- pairs activities
- group work/ data collection

**7. Assessment and Evaluation of Student Learning:**

Student achievement of the learning expectations will be evaluated according to the following breakdowns:

Categories of Knowledge, Skills, and Values	Weight %	
	Term Evaluation	Final Evaluation Activity/Exam
Knowledge/Understanding	50	50
Thinking	10	10
Application	30	30
Communication	10	10
Final Mark	70	30

**8. Learning Resources:**

**Textbook: Foundations of Mathematics 10, Addison-Wesley Publishing**

**9. School, Department & Classroom Policies:**

The following policies apply to this course:

- use of student handbook: for reference and for time management
- be prepared for class: paper, pencil, graph paper, calculator
- keep work complete and up to date
- correct all tests and assignments