

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

School: St. Christopher Secondary School

Department: Mathematics

Course Title: Foundations of Mathematics (MFM 1P1)

Grade: 9

Course Type: Applied

Credit: One Full

Prerequisite: None

COURSE DESCRIPTION:

This course enables students to develop an understanding of mathematical concepts related to introductory algebra, proportional reasoning, and measurement and geometry through investigation, the effective use of technology, and hands-on activities. Students will investigate real-life examples to develop various representations of linear relations, and will determine the connections between the representations. They will also explore certain relationships that emerge from the measurement of three-dimensional figures and two-dimensional shapes. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

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)

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:

Number Sense & Algebra

- Solve problems involving proportional reasoning
- Simplify numerical and polynomial expressions in one variable, and solve simple first-degree equations

Strand 2:

Linear Relations

- Apply data-management techniques to investigate relationships between two variables
- Determine the characteristics of linear relations
- Demonstrate an understanding of constant rate of change and its connection to linear relations
- Connect various representations of a linear relation, and solve problems using the representations

Strand 3:

Measurement & Geometry

- Determine, through investigation, the optimal values of various measurements of rectangles
- Solve problems involving the measurements of two-dimensional shapes and the volumes of three-dimensional figures
- Determine, through investigation facilitated by dynamic geometry software, geometric properties and relationships involving two-dimensional shapes, and apply the results to solving problems

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	Relationships	checklists, assignments, tests	
Unit 2	Powers and Roots	checklists, assignments, tests	
Unit 3	Algebra	checklists, assignments, tests	
Unit 4	Slope	checklists, assignments, tests	

Unit 5	The Line	checklists, assignments, tests	
Unit 6	Polynomials	checklists, assignments, tests	
Unit 7	Line of Best Fit	checklists, assignments, tests	
Unit 8	Measurement	checklists, assignments, tests	
Unit 9	Geometry	checklists, assignments, tests	

5. Key Dates, Special Events and Additional Considerations:

- to be announced by the teacher
- EQAO testing during the last two weeks of the semester

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
- EQAO resource booklet

7. Assessment and Evaluation of Student Learning:

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

Categories of the Achievement Chart	Weight %	
	Term Evaluation	Final Evaluation Activity/Exam
Knowledge/Understanding	50	50
Thinking/Inquiry/Problem Solving	10	10
Application	30	30
Communication	10	10
Breakdown of Final Marks (%)	70	30

8. Learning Resources:

**Textbook: Applied Mathematics 9, Addison-Wesley
Mathematics 9 Exploring the Concepts, McGraw-Hill Ryerson**

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**