



## DEPARTMENT TITLE

**DEPARTMENT HEAD** Mr. J. Hargot

**COURSE TEACHER** Mr. A. Cabilan

**TEXTBOOK** Foundations of Mathematic  
10 (McGraw-Hill Ryerson)

## COURSE INFORMATION

**CREDIT VALUE** 1.0

**PREREQUISITE** Mathematics, Grade 9, Academic or Applied, (MPM 1D or MFM 1P)

**MINISTRY DOCUMENT** The Ontario Curriculum, Grades 9 and 10, Mathematics, 2005 (Revised)

## 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.

## ONTARIO CATHOLIC GRADUATE EXPECTATIONS

This course enables students to develop effective communication skills, and become reflective and creative thinkers. Self-directed learning will be promoted with the intent of producing responsible, life-long learners. Students will learn to collaborate for the contribution of good of others, in service to the classroom, school and community.

## COURSE CONTENT

- UNIT 1** Linear Relations
- UNIT 2** Linear Equations
- UNIT 3** Linear Systems
- UNIT 4** Quadratic Relations
- UNIT 5** Quadratic Expressions and Equations
- UNIT 6** Similar Triangles and Right Angle Trigonometry
- UNIT 7** Measurement Systems
- UNIT 8** Volume and Surface Area

## TEACHING STRATEGIES

To promote student engagement and success, a variety of instructional approaches and management strategies will be used in the delivery of this course. These methods may include, but are not limited to:

- using assessment practices that inform instruction
- establishing learning goals and success criteria
- providing descriptive feedback
- implementing direct instruction of course material
- using effective questioning techniques
- incorporating literacy and numeracy strategies across all subject areas
- employing differentiated instruction to respond to students' needs
- providing opportunities for student practice and scaffolded instruction
- using a variety of learning materials and technology that meet the needs of the learner

## BOARD AND MINISTRY INITIATIVES

There are many opportunities to integrate a variety of board and ministry initiatives in the classroom. In the spirit of Each Belongs, teachers create a safe and supportive environment where all students feel included and respected. Teachers plan rich tasks, select diverse texts, and engage students in experiences that allow them to explore a variety of topics such as Environmental Education, First Nations, Metis, and Inuit Studies, Healthy Relationships, Equity and Inclusive Practices, Financial Literacy, and Career and Life Planning.

## OVERALL CURRICULUM EXPECTATIONS

### MEASUREMENT AND TRIGONOMETRY

By the end of this course, students will:

- 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.

### MODELLING LINEAR RELATIONS

By the end of this course, students will:

- 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.

### QUADRATIC RELATIONS OF THE FORM $y = ax^2 + bx + c$

By the end of this course, students will:

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

## ASSESSMENT AND EVALUATION

The development of learning skills and work habits are an integral part of student learning and influence student achievement. They will be included as a formal part of the assessment and evaluation process under the following categories: responsibility; organization; independent work; collaboration; initiative; self-regulation. Learning skills and work habits will be assessed through a variety of teacher strategies and will be formally reported on the Provincial Report Card according to the following scale: **E**-Excellent; **G**-Good; **S**-Satisfactory; **N**-Needs Improvement.

CATEGORY	WEIGHTING
Knowledge and Understanding	25 %
Application	25 %
Thinking	10 %
Communication	10 %
Final Exam/Culminating Assessment	30 %

## ACADEMIC DISHONESTY

### CHEATING AND PLAGIARISM

Learning tasks that students complete (student work-tests, quizzes, assignments, etc.) and submit for assessment and evaluation must be their own work. Cheating and plagiarism is a serious offence that will not be condoned and will result in academic consequences as outlined in the HWCDSB *Cheating and Plagiarism Policy* in the [School Agenda Book](#) and on the [School Website](#).

### LATE AND MISSED ASSIGNMENTS

Students are expected to submit all work within the time frame specified by the teacher. There will be consequences for not completing assignments for evaluation, and/or for submitting assignments late, and/or for being absent on the day of tests and quizzes without proper documentation as outlined in HWCDSB *Late and Missed Assignment Policy* in the [School Agenda Book](#) and on the [School Website](#).