



CARDINAL LEGER CATHOLIC SECONDARY SCHOOL

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We believe that each one, created in the image and likeness of God, is called by name into the Dufferin-Peel community to realize the Ontario Catholic School Graduate Expectations to the fullest extent possible as we all journey from the early years to vocation.

COURSE OUTLINE

Department:	Mathematics
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Course:	Principles of Mathematics 10
Course Code:	MPM2D1

Common Course Calendar	Course Description:
	<p>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; solve and apply linear systems; verify properties of geometric figures using analytic geometry; and investigate the trigonometry of right and acute triangles. Students will reason mathematically and communicate their thinking as they solve multi-step problems.</p> <p>This course will help students address the Ontario Catholic School Graduate Expectation that they adopt a holistic approach to life by integrating learning from various subject areas and experience.</p>

Ministry/ICE Curriculum Documents	Strand/Unit Title	Corresponding Catholic Graduate Expectation Indicators for each Strand/Unit
	<p>Quadratic Relations of the Form $y = ax^2 + bx + c$ By the end of this course, students will:</p> <ul style="list-style-type: none"> determine the basic properties of quadratic relations; relate transformations of the graph of $y = x^2$ to the algebraic representation $y = a(x - h)^2 + k$; solve quadratic equations and interpret the solutions with respect to the corresponding relations; solve problems involving quadratic relations. 	<p>- applies effective decision-making, problem-solving, time and resource management skills</p>

	<p>Analytic Geometry By the end of this course, students will:</p> <ul style="list-style-type: none"> • model and solve problems involving the intersection of two straight lines; • solve problems using analytic geometry involving properties of lines and line segments; • verify geometric properties of triangles and quadrilaterals, using analytic geometry. <p>Trigonometry By the end of this course, students will:</p> <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. 	<p>- integrates learning from various subject areas and experiences</p> <p>- thinks reflectively and creatively to evaluate situations and solve problems</p>
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Assessment and Evaluation:

Category Weightings	Weight %
Knowledge/Understanding	30
Thinking	20
Application	30
Communication	20

Final Summative Assessments	Overall Weighting
Term Work	70%
Course Culminating	10%
Exam	20%

Learning Skills and Work Habits

E= Excellent G=Good S=Satisfactory N= Needs Improvement

Responsibility	<ul style="list-style-type: none"> • Fulfills responsibility and commitments. • Takes responsibility for and manages own behavior.
Organization	<ul style="list-style-type: none"> • Devises and follows a plan and process for completing tasks. • Establishes priorities and manages time
Independent Work	<ul style="list-style-type: none"> • Independently monitors, assesses, and revises plans to complete tasks and meet goals. • Uses class time to complete tasks.
Collaboration	<ul style="list-style-type: none"> • Accepts various roles and an equitable share of work in a group. • Builds healthy peer-to-peer relationships.
Initiative	<ul style="list-style-type: none"> • Looks for and acts on new ideas and opportunities. • Approaches new tasks with a positive attitude.
Self-Regulation	<ul style="list-style-type: none"> • Sets own goals and monitors progress towards achieving them. • Seeks clarification or assistance when needed.