

Principles of Mathematics, Grade 9, Enriched MPM1D3

<p>Course Description:</p> <p>This course enables students to develop an understanding of mathematical concepts related to algebra, analytic geometry, and measurement and geometry through investigation, the effective use of technology, and abstract reasoning. Students will investigate relationships, which they will then generalize as equations of lines, and will determine the connections between different representations of a linear relation. They will also explore relationships that emerge from the measurement of three-dimensional figures and two-dimensional shapes. Students will reason mathematically and communicate their thinking as they solve multi-step problems.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">Level:</td> <td style="padding: 2px 5px;">Academic</td> </tr> <tr> <td style="padding: 2px 5px;">Credit Value:</td> <td style="padding: 2px 5px;">1.0</td> </tr> <tr> <td style="padding: 2px 5px;">Pre-requisite:</td> <td style="padding: 2px 5px;">None</td> </tr> <tr> <td style="padding: 2px 5px;">Department:</td> <td style="padding: 2px 5px;">Mathematics</td> </tr> <tr> <td colspan="2" style="border-top: 1px solid black; padding: 5px 5px 2px 5px;">Course Fees: None</td> </tr> </table>	Level:	Academic	Credit Value:	1.0	Pre-requisite:	None	Department:	Mathematics	Course Fees: None	
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<p>Textbooks & Resources:</p> <ul style="list-style-type: none"> • Growing Success: Assessment, Evaluation and Reporting in Ontario Schools • The Ontario Curriculum, Grades 9 and 10: Mathematics, 2005 (revised) • Principles of Mathematics 9, McGraw-Hill Ryerson, 2007 (Replacement Cost: \$95.00)

<p>Course Evaluation: Student Evaluation consists of three components...</p>									
<p>1) Learning Skills & Work Habits: Students are evaluated on 6 Learning Skills & Work Habits. They are:</p> <ul style="list-style-type: none"> • Responsibility • Organization • Independent Work • Collaboration • Initiative • Self-Regulation 	<p>These six attributes are evaluated on a scale of Excellent (E), Good (G), Satisfactory (S) & Needs Improvement (N) and reported on the report card. They are not included in the course mark, unless specified in the curriculum expectations.</p>								
<p>2) Term Mark (Assessment of Learning): Student performance standards for knowledge and skills are described in the curriculum Achievement Chart. The curriculum is assessed in four categories:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">• Knowledge and Understanding</td> <td style="text-align: right; padding: 2px 5px;">30%</td> </tr> <tr> <td style="padding: 2px 5px;">• Thinking and Inquiry</td> <td style="text-align: right; padding: 2px 5px;">20%</td> </tr> <tr> <td style="padding: 2px 5px;">• Communication</td> <td style="text-align: right; padding: 2px 5px;">15%</td> </tr> <tr> <td style="padding: 2px 5px;">• Application</td> <td style="text-align: right; padding: 2px 5px;">35%</td> </tr> </table>	• Knowledge and Understanding	30%	• Thinking and Inquiry	20%	• Communication	15%	• Application	35%	<p>Evaluation of these four categories generates the term mark. The term mark accounts for 70% of the final mark.</p> <p>It is the student's responsibility to submit evidence of learning.</p>
• Knowledge and Understanding	30%								
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• Application	35%								
<p>3) Final Evaluation (Assessment of Learning): The final evaluation, administered at or towards the end of the course is based on the evidence shown to the right. The final evaluation accounts for 30% of the final mark.</p>	<p>The final evaluation consists of:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">EQAO Test</td> <td style="text-align: right; padding: 2px 5px;">10 %</td> </tr> <tr> <td style="padding: 2px 5px;">Exam</td> <td style="text-align: right; padding: 2px 5px;">20 %</td> </tr> </table>	EQAO Test	10 %	Exam	20 %				
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<p>Final Mark = 70% Term Mark + 30% Final Evaluation</p>									
<p>For a detailed description on Course Evaluation, see "How Did I Get That Mark!" at www.satec.on.ca</p>									

<p>Course Conduct Policies: See Student Agenda.</p>
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Please retain this page in the front of your notebook for future reference.



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Course Outline:

Unit	Description	Approximate Length	Major Unit Evaluation
Relations	apply data-management techniques to investigate relationships between two variables;	2 weeks	assignments, quizzes, tests
Polynomials	demonstrate an understanding of the exponent rules of multiplication and division, and apply them to simplify expressions;	2 weeks	assignments, quizzes, tests
Equations	demonstrate an understanding of the characteristics of a linear relation; manipulate numerical and polynomial expressions, and solve first-degree equations.	2 weeks	assignments, quizzes, tests
Inequalities	manipulate and solve first degree inequalities	1 week	assignments, quizzes, tests
Modelling with Graphs	connect various representations of a linear relation; solve problems involving linear relations.	2 weeks	assignments, quizzes, tests
Analyse Linear Relations	determine the relationship between the form of an equation and the shape of its graph with respect to linearity and non-linearity; determine, through investigation, the properties of the slope and y-intercept of a linear relation.	2 weeks	assignments, quizzes, tests
Geometric Relationships	verify, through investigation facilitated by dynamic geometry software, geometric properties and relationships involving two-dimensional shapes, and apply the results to solving problems.	2 weeks	assignments, quizzes, tests
Measurement Relationships	solve problems involving the measurements of two-dimensional shapes and the surface areas and volumes of three-dimensional figures;	2 weeks	assignments, quizzes, tests
Optimizing Measurements	determine, through investigation, the optimal values of various measurements	2 weeks	assignments, quizzes, tests
Deductive Reasoning	develop an understanding of inductive and deductive reasoning; use formal methods to prove geometric properties	1 week	assignments, quizzes, tests

Note: The order of the units of study may change due to student needs and resources available during the course.

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General Information:

Mathematics continually builds on previous lessons. Hence, daily attendance is important. Students are responsible for catching up on missed lessons and work.

It is expected that all students will write tests as a class group. If a student is unable to write the evaluation with the class, then the student must inform the teacher at least two school days in advance of the test so that alternate arrangements can be made.

Students who are absent on the day of the test due to illness or a family emergency must have their parents phone the math office at 416 396-3365 x20245 on the day of the test explaining why they will be absent. (Doctor's notes will be required from students who miss more than one scheduled test.) Alternate arrangements will be made for these students to write the test.

Students missing their tests or assignment deadlines due to unexplained absences will receive a mark of zero.

For more information on the missed test/assignment policies, please see the agenda.