

Functions & Applications MCF3M1

<p>Course Description:</p> <p>This course introduces basic features of the function by extending students' experiences with quadratic relations. It focuses on quadratic, trigonometric, and exponential functions and their use in modelling real-world situations. Students will represent functions numerically, graphically, and algebraically; simplify expressions; solve equations; and solve problems relating to applications. 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;">Mixed (University/College)</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;">MPM2D1/3 or MFM2P1</td> </tr> <tr> <td style="padding: 2px 5px;">Department:</td> <td style="padding: 2px 5px;">Mathematics</td> </tr> <tr> <td style="padding: 2px 5px;">Course Fees:</td> <td style="padding: 2px 5px;">None</td> </tr> </table>	Level:	Mixed (University/College)	Credit Value:	1.0	Pre-requisite:	MPM2D1/3 or MFM2P1	Department:	Mathematics	Course Fees:	None
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- Textbooks & Resources:**
- Growing Success: Assessment, Evaluation and Reporting in Ontario Schools
 - The Ontario Curriculum Document, Grades 11 and 12: Mathematics, 2007 (revised)
 - Nelson Functions and Applications (Replacement Cost: \$92.00)

Course Evaluation: Student Evaluation consists of three components...

1) Learning Skills & Work Habits:

<p>Students are evaluated on 6 Learning Skills & Work Habits. They are:</p> <ul style="list-style-type: none"> <li style="width: 50%;">• Responsibility <li style="width: 50%;">• Collaboration <li style="width: 50%;">• Organization <li style="width: 50%;">• Initiative <li style="width: 50%;">• Independent Work <li style="width: 50%;">• 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>
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2) Term Mark (Assessment of Learning):

<p>Student performance standards for knowledge and skills are described in the curriculum Achievement Chart. The curriculum is assessed in four categories:</p> <ul style="list-style-type: none"> • 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>
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3) Final Evaluation (Assessment of Learning):

<p>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 10px;">Exam</td> <td style="text-align: right; padding: 2px 10px;">30 %</td> </tr> </table>	Exam	30 %
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Final Mark = 70% Term Mark + 30% Final Evaluation

For a detailed description on Course Evaluation, see "How Did I Get That Mark!" at www.satec.on.ca

Course Conduct Policies: See Student Agenda.

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
Intro to Quadratic Functions	Demonstrate an understanding of functions, and make connections between the numeric, graphical, and algebraic representations of quadratic functions.	2 weeks	assignments, tests, quizzes
Algebra of Quadratic Expressions	Factor quadratic expressions in one variable.	2 weeks	assignments, tests, quizzes
Quadratic Functions - Standard & Factored Form	Expand and simplify quadratic expressions, solve quadratic equations, and relate the roots of a quadratic equation to the corresponding graph.	2 weeks	assignments, tests, quizzes
Quadratic Functions - Standard & Vertex Form	Express the equation of a quadratic function in vertex form and solve problems involving quadratic functions, including problems arising from real-world applications.	3 weeks	assignments, tests, quizzes
Trigonometry and Acute Angles	Solve problems involving trigonometry in acute triangles using the sine law and the cosine law, including problems arising from real-world applications.	2 weeks	assignments, tests, quizzes
Sinusoidal Functions	Demonstrate an understanding of periodic relationships and the sine function, and make connections between the numeric, graphical, and algebraic representations of sine functions; 3. identify and represent sine functions, and solve problems involving sine functions, including problems arising from real-world applications.	2 weeks	assignments, tests, quizzes, project
Exponential Functions	Simplify and evaluate numerical expressions involving exponents, and make connections between the numeric, graphical, and algebraic representations of exponential functions; identify and represent exponential functions, and solve problems involving exponential functions, including problems arising from real-world applications.	2 weeks	assignments, tests, quizzes
Financial Problems Involving Exponential Functions	Demonstrate an understanding of compound interest and annuities, and solve related problems.	3 weeks	project

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

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 amth 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.

This course meets Environment and ICT SHSM program requirements.

