




Foundations of Mathematics, Grade 10, Applied (MFM2P)
R.H. King Academy, TDSB

	Ontario Ministry of Education www.edu.gov.on.ca/eng/		Toronto District School Board www.tdsb.on.ca		R.H. KING ACADEMY http://schools.tdsb.on.ca/rhking/
COURSE OF STUDY OUTLINE					
Department	<i>Mathematics</i>	Course Type		<i>Applied</i>	
Teacher	<i>B. Leszcz</i>	Grade		<i>10</i>	
Course Title	<i>Grade 10 Applied Mathematics</i>	Credit Value		<i>One</i>	
Course Code	<i>MFM2P</i>	Prerequisites		<i>MPM1D or MFM1P</i>	
Ministry Document	<i>The Ontario Curriculum. http://www.edu.gov.on.ca/eng/curriculum/secondary/math.html</i>				
Learning Resources	<i>Mathematics :Applying the Concepts McGraw Hill Ryerson 2000</i>				

Curriculum Leader: B. Leszcz

Policy Document: *The Ontario Curriculum Grade 9 and 10 (2005 Revised)*

Prerequisites: Grade 9 Academic (MPM1D) *or* Grade 9 Applied (MFM1P)

Value: 1 Credit

Textbook: *Mathematics: Applying the Concepts McGraw Hill Ryerson 2000*

Overall Goals 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.

Curriculum:

Measurement and Trigonometry

- 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.

Modeling Linear Relations

- 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 $y = ax^2 + bx + c$

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

Learning Skills:

The learning skills (Responsibility, Organization, Independent Work, Collaboration, Initiative, and Self Regulation) are critical for the achievement of the curriculum expectations and student success. Students are expected to attend every class, complete all homework and insure that assignments are completed and handed in on time.

Strategies:

Students will have the opportunity to learn in a variety of ways –individually, cooperatively, independently, with teacher direction, through hands-on experience, and through examples followed by practice. The approaches and strategies used in the classroom to help students meet the expectations of this curriculum will vary according to the objectives of the learning and the needs of the students. It is important for students to take every opportunity to learn the material covered prior to the evaluation.

Evaluation:

Seventy per cent of the grade will be based on evaluation conducted throughout the course. Evaluations will be in the form of tests, quizzes, and assignments. Assignments for evaluation may include rich performance tasks, demonstrations (board work), and projects. This portion of the grade will reflect the student's most consistent level of achievement throughout the course.

Thirty per cent of the grade will be based on a final assessment administered towards the end of the course. The final exam allows the student an opportunity to demonstrate comprehensive achievement of the overall expectations for the course.

Students will be given numerous and varied opportunities to demonstrate the full extent of their achievement of the curriculum expectations (content standards) across all four categories of knowledge and skills.

Teachers will ensure that student learning is assessed and evaluated in a balanced manner with respect to these four categories:

1. **Knowledge and Understanding** Subject specific content acquired in each course, and the comprehension of its meaning and significance.
2. **Thinking** The use of critical and creative thinking skills and/or processes.
3. **Communication** The conveying of meaning through various forms.
4. **Application** The use of knowledge and skills to make connections within and between various contexts.

Term Grades for Provincial Reports Throughout the Year:

The midterm mark will be based on the evaluations that have been conducted to that point in the course and will be preliminary and tentative. This mark will be based on the most consistent level of achievement to that point in time, but some of the overall expectations, strands, and units will not have been addressed and the student's grades will most likely change when the student's entire work is evaluated by the end of the course.

Evaluation Plan

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Term Work- 70%

Final Evaluation – 30%

- Quizzes, assignments*, projects 25%
- Tests 45%
- Independent Study Assignments* 10%

*At RH King one of our unique features is a focus on ISUs, or Independent Study Units. In Grade 10 Applied Mathematics, an ISU is a small assignment that is given to students to complete, several times through the semester. In most cases students are given a week to complete the 1-1.5 hour worksheet. Support is provided during Clinic, after school, or even during class time, at the students' request. The intent is to facilitate learning the responsibility required to complete a task, on time, and learning to seek out help, should it be needed, to be able to complete the task. These skills promote the students' growth towards becoming independent learners.

Course Work**(Time frames are approximate)**

Unit 1: Numeracy (Review)	(1 week)
Unit 2: Surface Area;Volume	(1 weeks)
Unit 3: Algebra	(2 weeks)
Unit 4: Solving Equations;Problem Solving	(2 weeks)
Unit 5: Cartesian Coordinate System; Relations;	(2 weeks)
Unit 6: Analytic Geometry (Line)	(2 weeks)
Unit 7: Linear Systems;Applications	(2 weeks)
Unit 8: Quadratic Relations (Function)	(1.5 weeks)
Unit 9: Proportional Reasoning; Similar Triangles;Trigonometry	(1.5 weeks)
Review and Preparation for Evaluations:	(1 week)