Ontario	**Ontario Ministry of Education** www.edu.gov.on.ca /eng/	Toronto District School Board	**Toronto District School Board** *www.tdsb.on.ca*		**R.H. KING ACADEMY** http://schools.tdsb.on.ca/ *rhking/*

COURSE OF STUDY OUTLINE			
Department	*Mathematics*	**Course Type**	*Applied*
Teacher	*B. Leszcz*	**Grade**	*9*
Course Title	*Grade 9 Applied Mathematics*	**Credit Value**	*One*
Course Code		**Prerequisites**	*n/a*
Ministry Document	*The Ontario Curriculum. http://www.edu.gov.on.ca/eng/curriculum/secondary/math.html*		
Learning Resources	Classroom supplied handouts		

Foundations of Mathematics, Grade 9, Applied (MFM1P)
R.H. King Academy, TDSB

Curriculum Leader: B. Leszcz

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

Prerequisites: NA

Value: 1 Credit

Textbook: Mathematics 9, Addison-Wesley 1999, Ontario Edition; Teacher produced handouts

Overall Goals: This course enables students to develop an understanding of mathematical concepts related to introductory algebra, proportional reasoning, and measurement and geometry through investigation, the effective use of technology, and hands-on activities. Students will investigate real-life examples to develop various representations of linear relations, and will determine the connections between the representations. They will also explore certain relationships that emerge from the measurement of three-dimensional figures and two-dimensional shapes.Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

Curriculum:

Number Sense and Algebra

- solve problems involving proportional reasoning;
- simplify numerical and polynomial expressions in one variable, and solve simple first-degree equations.

Linear Relations

- Using data management to Investigate relationships

- Determining characteristics of linear relations
- demonstrate an understanding of constant rate of change and its connection to linear relations
- connect various representations of a linear relation, and solve problems using the representations.

Measurement and Geometry

- determine, through investigation, the optimal values of various measurements of rectangles
- solve problems involving the measurements of two-dimensional shapes and the volumes of three-dimensional figures
- determine, through investigation facilitated by dynamic geometry software, geometric properties and relationships involving two-dimensional shapes, and apply the results to solving problems.

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. Students will not use calculators for the first half of the course, to ensure mastery of basic numeracy skills. Technology will be interwoven in the latter half of the course.

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 assessments administered towards the end of the course. The final evaluations allows the student an opportunity to demonstrate comprehensive achievement of the overall expectations for the course. It will be comprised of an exam/ grade wide test created by the school, and the EQAO-the Government of Ontario sponsored mathematics exam for all students in the province.

Preparation for the EQAO will be done on an ongoing basis. Parts of the EQAO will be marked by the classroom teacher and contribute to the summative assessment weighting.

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

Foundations of Mathematics, Grade 9, Applied (MFM1P)

Term Work- 70%

- Quizzes, assignments, in class work 25%
- Tests 45%

Final Evaluation – 30%

- Mid Year Evaluation (January) - 15%
- EQAO – 15%

Course Work

Grade 9 Mathematics is a non semestered course at King. Students meet with their teacher every other day, from September to June.

Unit 1: Numeracy – Integers, Rationals	(24 hours- 8 weeks)
Unit 2: Ratio, Proportions, Percent	(10 hours-3 weeks)
Unit 3: Powers and Square Roots	(20 hours-3 weeks)
Unit 4: Algebraic Operations and Polynomials	(10 hours-3 weeks)
Unit 5: Solving Equations, Algebraic Modeling	(10 hours-3 weeks)
Unit 6: Linear Relations	(24 hours-8 weeks)
Unit 7: Measurement and Geometry	(10 hours-3 weeks)
Review and Preparation for Evaluations:	(6 hours-2 weeks)