



# Evaluation Profile & Outline

Earl Haig  
Secondary  
School

2010 – 2011  
Grade 10, Academic  
Principles of Mathematics  
MPM 2D

## Course Description/Rationale/Overview:

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.

### Class Requirements:

Materials/textbooks/equipment

Text: (supplied)  
Principles of Mathematics 10  
Nelson

Replacement textbook cost: \$80.00

Calculator

Notebook

Materials for note-taking

### Course Requirements/Department Policies

#### Late Assignments

Late assignments must be accompanied with a note signed by a parent or guardian stating the reason for late submission. The note must list the due date of the assignment and the actual date of submission.

**Marks will be deducted for late assignments, up to and including the full value of the assignment.** [Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools, Ministry of Ontario, 2010, pg. 43.]

#### Missed Tests

It is the student's responsibility to make arrangements, ahead of time, for any tests/quizzes that are missed. If a student misses a test/quiz for an unforeseen reason such as illness, the student must notify the teacher by telephone at 395-3210 Ext. 20080, bring a note signed by a parent or guardian and be prepared to write the test/quiz immediately upon return to school.

### Assessment Strategies

Quizzes

Tests

Assignments (such as homework)

Group Work

Technology Based Tasks

Examinations

### Extra Help Availability

Monday to Friday:        8:00 – 8:30 am (except late start Wednesdays)  
   3:30 – 4:00 pm

Students may also sign up for a peer tutor from the Mathematics Society. Application forms are located on the bulletin board outside the Math office, room 292. Students may also make appointments with their teachers. All extra help sessions are held in room 293.

### Achievement Categories and Weighting

Knowledge & Understanding	15% - 30%
Application	15% - 30%
Thinking	15% - 30%
Communication	15% - 30%

### Curriculum strands:

Quadratic Relations of the  
Form  $y = ax^2 + bx + c$   
Analytic Geometry  
Trigonometry

### Learning Skills:

- Works Independently
- Team work
- Organization
- Work Habits
- Initiative

### Evaluation

Quizzes/Assignments	20%
Tests	50%
June Examination	30%

### FINAL MARK

Year's Work:	70%
Final Summative Evaluation	30%



1. **Linear Systems** (9 periods)  
Solving systems algebraically by substitution/elimination  
Applications of linear systems
2. **Analytic Geometry** (15 periods)  
*Part A:*  
Simplifying radicals – omit operations (worksheets)  
Pythagorean theorem  
Length and midpoint of a line segment  
Equation of a circle with centre at (0,0)  
Equation of a line  
*Part B:*  
Distance from a point to a line  
Properties of geometric figures  
Applications and investigations with Geometers Sketchpad (optional)
3. **Polynomials and exponents** (13 periods)  
Exponent laws (worksheets)  
Multiplication of polynomials  
Special products of polynomials  
Common factor  
Factoring  $x^2 + bx + c$  and  $ax^2 + bx + c$   
Factoring special quadratics
4. **Quadratic Functions** (12 periods)  
Concept of a function, Domain, Range  
Graphing quadratic functions  
Writing the equation of a quadratic function  
Graphing by completing the square (5 point method)  
Optimization problems
5. **Quadratic Equations** (13 periods)  
Solving quadratic equations by factoring  
Graphing quadratic equations by factoring  
The quadratic formula  
Solving word problems
6. **Trigonometry** (13 periods)  
Similar triangles  
Trigonometric ratios – Sine, Cosine, Tangent  
Solving right triangles  
Problems involving two right triangles  
The Sine Law  
The Cosine Law