

**Riverdale Collegiate Institute – Toronto District School Board
EVALUATION POLICY and COURSE OUTLINE 2012**

**Riverdale Collegiate Institute
Course of Study**

Grade 10, Principles of Mathematics, Academic (MPM2D1)

Note 1: All Ontario Ministry of Education curriculum documents with full course content information can be located at <http://www.edu.gov.on.ca/eng/curriculum/secondary/math.html>

Note 2: Detailed information on Ministry of Education assessment, evaluation, and reporting policy is provided in Ontario Schools, Kindergarten to Grade 12, Policy and Program Requirements (OS), 2011, located at <http://www.edu.gov.on.ca/eng/document/policy/os/index.html>

1. Course Details

- Program Area: Mathematics
- Curriculum Leader: Mary Card
- Course title: Grade 10, Principles of Mathematics, Academic. Credit Value: One
- Prerequisites(s) and co-requisite(s):
Grade 9, Principles of Mathematics, MPM1D1, or Grade 9, Foundations of Mathematics, MFM1P1 (transfer course)

- Textbook(s) and resource materials that are essential to the course:

TEXTBOOK(S):	Replacement Cost (if lost or damaged):
McGraw-Hill Ryerson, <u>Principles of Mathematics 10</u> , Textbook	\$77.92
McGraw-Hill Ryerson, <u>Principles of Mathematics 10</u> , Workbook	\$8.85

MATERIALS:	Replacement Cost (if lost or damaged):
Graphing Calculator: T183 Plus (Texas Instruments)	\$125.00

SUPPLEMENTARY RESOURCES:

Software: The Geometer's Sketchpad (Key Curriculum Press)
Spreadsheets, Fathom

MINISTRY OF EDUCATION CURRICULUM POLICY DOCUMENT:

The Ontario Curriculum, Grades 9 and 10: Mathematics, 2005 (revised)

2. Overall Goals

- Course Description:

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. Graphing calculators will be used to support learning. All students must have a scientific calculator.

Overall Expectations

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

By the end of the course, students will:

- determine the basic properties of quadratic relations;
- relate transformations of the graph of $y = x^2$ to the algebraic representation $y = a(x - h)^2 + k$
- solve quadratic equations and interpret the solutions with respect to the corresponding relations;
- solve problems involving quadratic relations.

Analytic Geometry

By the end of the course, students will:

- model and solve problems involving the intersection of two straight lines;
- solve problems using analytic geometry involving properties of lines and line segments;
- verify geometric properties of triangles and quadrilaterals, using analytic geometry.

Trigonometry

By the end of the course, students will:

- 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 acute triangles, using the sine law and the cosine law.

Units/Topics	Timing
Scientific Investigation Skills and Career Exploration	Throughout Course
Unit 1: LINEAR SYSTEMS	10 classes
Unit 2: ANALYTIC GEOMETRY	8 classes
Unit 3: GEOMETRIC PROPERTIES	10 classes
Unit 4: QUADRATIC RELATIONS	12 classes
Unit 5: QUADRATIC EXPRESSIONS	12 classes
Unit 6: QUADRATIC EQUATIONS	10 classes
Unit 7: TRIGONOMETRY OF RIGHT TRIANGLES	10 classes
Unit 8: TRIGONOMETRY OF ACUTE TRIANGLES	8 classes
Final Exam Preparation	4 classes

EVALUATION PLAN

As required by the Ministry of Education and Training, each student is evaluated according to the four achievement categories: **Knowledge & Understanding, Thinking, Communication and Application**

	Knowledge & Understanding	Thinking	Communication	Application
TERM (70%)	25%	25%	25%	25%
FINAL EVALUATION (30%)	This evaluation is cumulative, containing material from all units and will evaluate all 4 achievement categories.			

70% Term Work

Students must demonstrate achievement of all the overall expectations of the course.

Unit	Task	Achievement Category Focus	Date Due (tentative)
Unit 1: LINEAR SYSTEMS	Quiz	K, T, C, A	September
	Test	K, T, C, A	October
Unit 2: ANALYTIC GEOMETRY	Quiz	K, T, C, A	November
	Test	K, T, C, A	November
Unit 3: GEOMETRIC PROPERTIES	Quiz	K, T, C, A	December
	Test	K, T, C, A	December
Unit 4: QUADRATIC RELATIONS	Quiz	K, T, C, A	January
	Test	K, T, C, A	January
Unit 5: QUADRATIC EXPRESSIONS	Quiz	K, T, C, A	February
	Test	K, T, C, A	February
Unit 6: QUADRATIC EQUATIONS	Quiz	K, T, C, A	March
	Test	K, T, C, A	March
Unit 7: TRIGONOMETRY OF RIGHT TRIANGLES	Quiz	K, T, C, A	April
	Test	K, T, C, A	April
Unit 8: TRIGONOMETRY OF ACUTE TRIANGLES	Quiz	K, T, C, A	May
	Test	K, T, C, A	May

In addition to the evaluations listed above, individual teachers may include other evaluations.

REPORTING

Four Reports Cards will be issued during the year. All reports will give a numeric grade to each student calculated as indicated above. All reports are cumulative. The November, February and April report cards are snapshots of all course work until that point in time. They will be based on the most consistent level of achievement to that point in time.

LEARNING SKILLS

Learning skills are critical for achievement of the curriculum expectations. On each report card there are 6 learning skills: Responsibility, Organization, Independent Work, Collaboration, Initiative and Self-regulation. Teachers report on the six Learning Skills using the following: E = Excellent, G = Good, S = Satisfactory, N = Needs Improvement.

Learning skills are not used to determine a student's grade in the course.

TEACHING /ASSESSMENT AND EVALUATION STRATEGIES

A range of teaching, assessment and evaluation strategies will be used to address the needs of students' learning styles and allow students a variety of methods to demonstrate their achievement of the expectations.

Teaching Strategies

To facilitate the learning of the various concepts, a variety of teaching strategies will be used and might include:

Activity Based Strategies

examples: practical laboratory work, oral presentations, field trip, simulations, activity centres)

Cooperative Learning Strategies

examples: Think-Pair-Share, Teams-Games-Tournament, Group Investigation

Arts Based Strategies examples: drawing and origami

Direct Instruction Strategies

examples: Socratic dialogue, lecture, demonstration, conferencing, review, tutorial, textbook

Independent Learning Strategies

examples: homework, independent reading/study, memorization, note making, reports

Inquiry/Research Models

examples: inquiry process, research process, scientific process, writing process

Technology Applications

examples: database application, internet websites and research, media presentation

Thinking Skills Strategies

examples: brainstorming, classifying, concept mapping, concept attainment, concept formation, experimenting, expressing another point of view, graphing, issue-based analysis, lateral thinking, oral explanation, problem solving

Assessment

The primary purpose of assessment is to improve student learning. Assessment is ongoing, varied in nature and allows students to assess their own progress and determine next steps.

The following assessment strategies may be used at different times throughout the course:

quizzes, practice tests, conferencing, practical skill checks, written assignments, self-assessment/peer-assessment, reflective summary

Evaluation

Evaluation is varied and is used to determine a student's achievement grade.

The following evaluation strategies may be used at different times throughout the course:

quizzes, tests, written lab reports, practical skill checks, written assignments, presentations, written exams

SUBJECT OR COURSE SPECIFIC INFORMATION:

Students are required to bring a scientific calculator to class every period.