

***RICHVIEW COLLEGIATE INSTITUTE***

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|----------------------------------|-----------------------------------------------|
| <b>PROGRAM AREA: Mathematics</b> | <b>COURSE NAME: Principles of Mathematics</b> |
| <b>COURSE CODE: MPM 1D1</b>      | <b>GRADE/LEVEL: 9</b>                         |
| <b>PREREQUISITE:</b>             | <b>CREDIT VALUE: 1.0</b>                      |

**Cost of Textbook/equipment replacement:** Text \$90 *(if lost or damaged)*

**Textbooks(s)/Resources:** Principles of Mathematics 9, McGraw-Hill Ryerson (Textbook)

**Teacher:**

**COURSE DESCRIPTION:**

This course enables students to develop an understanding of mathematical concepts related to algebra, analytic geometry and measurement and geometry through investigation, the effective use of technology and abstract reasoning. Students will learn about the equation of lines and determine connections between different representations of a linear relation. Students will reason mathematically and communicate their thinking as they solve multi-step problems. They will also explore measurement involving three-dimensional figures and two-dimensional shapes.

**CURRICULUM STRANDS (UNITS) and OVERALL EXPECTATIONS:**

- |                                 |                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Number Sense and Algebra</b> | <ul style="list-style-type: none"><li>• demonstrate an understanding of the exponent rules</li><li>• manipulate numerical and polynomial expressions</li><li>• solve first-degree equations</li></ul>                                                                                                                                                               |
| <b>Linear Relations</b>         | <ul style="list-style-type: none"><li>• apply data-management techniques to investigate relations between two variables</li><li>• demonstrate an understanding of the characteristics of a linear relation</li><li>• connect various representations of a linear relation</li></ul>                                                                                 |
| <b>Analytic Geometry</b>        | <ul style="list-style-type: none"><li>• determine the relationship between the form of an equation and the shape of its graph with respect to linearity and non-linearity</li><li>• determine the properties of slope and y-intercept</li><li>• solve problems involving linear relations</li></ul>                                                                 |
| <b>Measurement and Geometry</b> | <ul style="list-style-type: none"><li>• determine the optimal values of various measurements</li><li>• solve problems involving the measurements of two-dimensional shapes and surface area and volume of 3-D figures</li><li>• verify geometric properties and relationships involving two-dimensional shapes and apply the results to solving problems.</li></ul> |

## **CURRICULUM STRANDS (UNITS) and OVERALL EXPECTATIONS: (continued)**

Throughout this course, students will:

- **Problem Solve**
- **Reason and Prove**
- **Reflect**
- **Select Tools and Computational Strategies**
- **Connect (between mathematical concepts and procedures)**
- **Represent**
- **Communicate**

### **Assessment and Evaluation**

Assessment and Evaluation are based on the expectations and levels of achievement outlined in the provincial curriculum document for each subject. A wide range of assessment and evaluation opportunities allows students to demonstrate their learning in a variety of ways. This information provides the basis for reporting student grades on the Provincial Report Card. A final mark will be calculated using the following categories or strands.

**Formative Evaluation:** (70% of the final mark will be based on evaluations conducted throughout the course)  
All four achievement categories/strands do not need to be evaluated in each evaluation task.

| Communication<br>(15%)                                                                                              | Knowledge/Understanding<br>(35%)       | Thinking and Inquiry<br>(15%)                               | Application/Making<br>Connections (35%)                             |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|
| Tests/quizzes<br>Journal entries<br>Presentations/reports<br>Mathematical<br>terminology/conventions<br>Assignments | Test/quizzes<br>Assignments<br>reports | Tests<br>Mathematical conventions<br>Assignments<br>reports | Tests/quizzes<br>Mathematical conventions<br>Assignments<br>Reports |

**Summative Evaluation:** (30% of the final mark will be based on a final evaluation in the form of culminating activities).

**Components of Summative Evaluation:**

1. Examination (20%)
2. EQAO (10%)

**All four categories (knowledge, communication, applications and TIPS) will be represented on the exam.**

**\*\* A detailed explanation of the culminating activity/activities will be distributed to students in the class.**

**No student is exempt from the final evaluation.**

**Summer School is available to any student who achieves between 35 and 49 %**

**Learning Skills:** The report card provides a record of the learning skills, demonstrated by the student in every course in the following six categories: *Responsibility, Independent Work, Initiative, Organization, Collaboration, Self-Regulation*. The learning skills are evaluated using a four-point scale (E-Excellent, G-Good, S-Satisfactory, N -Needs Improvement).

**Please refer to the Student Agenda Planner for details regarding the Achievement Chart and Learning Skills.**

**We believe that homework completion is essential for student success.**