***Principles of Mathematics, Grade 9, Academic***

***MPM1D1 Course Overview***

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| **Academic Year** | 2016-2017 | **Teacher Names** | Mrs. D. Fox, Mr. W. Mahon |
| **Department** | Mathematics | **Curriculum Chair** | Mrs. C. Morgulis |

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| ***Curriculum Policy Document:*** Mathematics 2005 - The Ontario Curriculum Grades 9 and 10 |
| **Course Title** | Principles of Mathematics | **Course Code** | MPM1D1 |
| **Prerequisite** | None | **Grade and Course Type** | 9 Academic |
| **Program Developer** | Ministry of Education | **Credit Value** | 1.0 |
| **Course Outline Developed** | August 2013 | **Course Outline Revised** |  |

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| **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 investigate relationships, which they will then generalize as equations of lines, and will determine the connections between different representations of a linear relation. They will also explore relationships that emerge from the measurement of three-dimensional figures and two-dimensional shapes. Students will reason mathematically and communicate their thinking as they solve multi-step problems. |

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| **Course Content and Overall Expectations** |
| **Unit 1 – Number Sense and Algebra*** Demonstrate an understanding of the exponent rules of multiplication and division, and apply them to simplify expressions;
* Manipulate numerical and polynomial expressions, and solve first-degree equations.

**Unit 2 – Linear Relations*** Apply data-management techniques to investigate relationships between two variables;
* Demonstrate an understanding of the characteristics of a linear relation;
* Connect various representations of a linear relation.

**Unit 3 – Analytic Geometry*** Determine the relationship between the form of an equation and the shape of its graph with respect to linearity and non-linearity;
* Determine, through investigation, the properties of the slope and *y*-intercept of a linear relation;
* Solve problems involving linear relations.

**Unit 4 – Measurement and Geometry*** Determine, through investigation, the optimal values of various measurements;
* Solve problems involving the measurements of two-dimensional shapes and the surface areas and volumes of three-dimensional figures;
* Verify, through investigation facilitated by dynamic geometry software, geometric properties and relationships involving two-dimensional shapes, and apply the results to solving problems.
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**Durham Catholic District School Board**

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**Principal: Mr. M. Lacy**

**Vice Principals: Mr. M. Travis, Ms. S. Wylie**



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| **Class Guidelines and Program Considerations** |
| **Student Expectations:**Each student shall:1. Be present for all lessons and tests (on time).
2. Be prepared with all necessary materials each class. (These include: pencils, coloured pencils, ruler, 3-ring binder, lined paper, graph paper and scientific and/or graphing calculator).
3. Complete all homework and assignments to the best of his/her ability.
4. Contribute to classroom discussions.

**Classroom Expectations:**Each student must:1. Behave appropriately in class and work on task, giving full attention to the topic being studied.
2. Work cooperatively with other students and the teacher.
3. Maintain a positive attitude and display common courtesy to others in the classroom.
4. Treat computers, calculators and other classroom work tools with respect and closely follow teacher directives concerning such items.

**Course Evaluation:**1. Homework will be assigned each class. Homework difficulties will be discussed in class. It is the student’s responsibility to seek extra help when needed.
2. Students need to be on time for class. If a student is persistently and consistently late, a detention will be assigned by the teacher. If a student is legitimately late then they must present their teacher with a note explaining the lateness.
3. Student absence has a significant impact on student achievement. It is the student’s responsibility to make up missed class work from illness, participation in school extracurricular activities or any other reason, so find a buddy! If a student must be absent, then it is the students’ responsibility to complete the work missed and have the work completed upon the student’s return. Please advise the teacher in advance if you know that you are going to be away.
4. Students must understand that there will be consequences for not completing assignments for evaluation or for submitting those assignments late. If a student submits an assignment late, 5% per day will be deducted up to a maximum of five days at which point the assignment will no longer be accepted. Late marks may be deducted in accordance with the Growing Success document. Failure to submit indicates that curriculum expectations are not being met; a zero may be recorded.
5. Each unit/chapter will conclude with a Unit/Chapter Test. Students who are absent for a test have the responsibility of discussing their absence with the teacher. An undocumented absence for a test will result in an automatic mark of zero assigned. If, for a valid medical reason, a student is unable to write a Unit Test, the student must contact the teacher *prior* to the test. A note or phone call from a parent/guardian must confirm the reason for the student’s absence.
6. If a student misses an evaluation, an “Incomplete Rich Evaluation Task Form” must be completed by the parent/guardian in order to confirm the reason for the student’s absence.

**Learning Strategies:**1. Assessment is an ongoing process that reflects how well a student is achieving the expectations. Based on the School Effectiveness Framework, assessment *as* and *for* learning involves goal setting for students and allows the teacher to gather evidence to determine where students are in their learning.
2. Strategies may include, but are not limited to: oral discussions, co-operative learning activities, differentiated instruction, homework checks, and individual consultations. These strategies are in place to help students clearly understand learning goals and success criteria.
3. Assessment *of* student learning involves assigning a value to judge the quality of student learning, for communication to parents and students. This may take place in the form of, but is not limited to: rich performance tasks, demonstrations, projects, essays, lab reports, problem solving tasks, written assignments, quizzes, tests, and presentations.
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| **Student Evaluation Criteria** |
| **Term Work (70% of final total)** |
| Category | **Knowledge** | **Thinking** | **Communication** | **Application** |
| Weighting | **30%** | **10%** | **10%** | **20%** |
| **Final Culminating Activities (30% of final total)** |
| **EQAO (10%)** | **Final Examination (20%)** |

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| **Mark Reporting Periods** |
|  | **Semester 1** | **Semester 2** |
| **Early Warning Letters** | Week of October 3 to October 7 | Week of March 6 to March 10 |
| **Parent-Teacher Interviews** | October 20 | March 30 |
| **Midterm Report Cards** | November 11 | April 21 |
| **Credit Endangerment Letters** | Week of December 5 to December 9 | Week of May 8 to May 12 |

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| **Resource** |
| **Textbook: Principles of Mathematics 9 by McGraw-Hill Ryerson** | ReplacementCost: $105.00 | DamagedCost: $25.00 |