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*Principles of Mathematics, Grade 10, Academic
MPM2D1 Course Overview*

Academic Year	2016-17	Teacher Name	Mrs. N. Kowalewski
Department	Mathematics	Curriculum Chair	Mr. D. Lamontagne

Curriculum Policy Document: Mathematics 2005 - The Ontario Curriculum Grades 9 and 10

Course Title	Principles of Mathematics	Course Code	MPM2D1
Prerequisite	MPM1D1	Grade and Course Type	10 Academic
Program Developer	Ministry of Education	Credit Value	1.0
Course Outline Developed	August 2013	Course Outline Revised	2017

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.

Course Content and Overall Expectations

Quadratic Relations

- 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

- 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

- 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.

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. (pencils, eraser, ruler, binder, lined + graph paper and scientific 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 is generally assigned each class. Homework difficulties will sometimes be discussed in class but it is the student's responsibility to seek extra help when necessary. Peer tutoring (Mon and Wed after school, room 1321), the Ontario Homework Help Online website, and extra help from the teacher are all resources available to help support students. Contact your teacher for more information.
2. Students need to be on time for class. If a student is persistently late, appropriate consequences will be determined 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. 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. Most units/chapters 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 day of/after the test.
6. Plagiarism is the act of passing off someone else's work as your own. Misuse of technological devices is considered cheating. Plagiarism or cheating will result in the student receiving a mark of zero on the assigned work.

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. All assessment of learning will count towards the student's grade and **no replacement** of these marks will be made.

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)

Culminating Task (10%)	Final Examination (20%)
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Mark Reporting Periods

	Semester 1	Semester 2
Parent-Teacher Interviews	October 19, 2017	March 21, 2018
Midterm Report Cards	November 10, 2017	April 20, 2018

Resources

Textbook: Principles of Mathematics 10 by McGraw-Hill Ryerson	Replacement Cost: \$100.00
Mrs.K's math website	http://www.mrsk.ca
Desmos Graphing Calculator Online	https://www.desmos.com/calculator
Ontario Homework Help	https://homeworkhelp.ilc.org/
Video solutions to selected textbook questions	https://prepanywhere.com
MOODLE	http://www.notredamecss.ca/moodle/