



OTTAWA  
CATHOLIC  
SCHOOL BOARD

## Grade 10 Applied Math MFM2P

Inspired education.  
Inspiring students.

**Prerequisite Course:** Grade 9 Math, Academic or Applied

**Description and Overall Expectations:** This course enables students to consolidate their understanding of linear relations and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and hands-on activities. Students will develop and graph equations in analytic geometry; solve and apply linear systems, using real-life examples; and explore and interpret graphs of quadratic relations. Students will investigate similar triangles, the trigonometry of right triangles, and the measurement of three-dimensional figures. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

Math Processes: problem-solving, reasoning and proving, reflecting, selecting tools and computational strategies, connecting, representing, and communicating.

Measurement and Trigonometry: 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 the surface areas and volumes of three-dimensional figures, and use the imperial and metric systems of measurement.

Modelling Linear Relations: manipulate and solve algebraic equations, as needed to solve problems; graph a line and write the equation of a line from given information; solve systems of two linear equations, and solve related problems that arise from realistic situations.

Quadratic Relations of the Form  $y = ax^2 + bx + c$ : manipulate algebraic expressions, as needed to understand quadratic relations; identify characteristics of quadratic relations; solve problems by interpreting graphs of quadratic relations.

**Course Resources:** See teacher and school for the list of key resources, digital tools, sites, passwords, including replacement cost for resources if lost or damaged.

**Catholic Graduate Expectations:** Our goal for all students is to experience an education based on our Catholic Graduate Expectations.

We work in community to develop graduates that are:

- Discerning Believers Formed in the Catholic Faith Community
- Effective Communicators
- Reflective and Creative Thinkers
- Self-Directed, Responsible, Life-Long Learners
- Collaborative Contributors
- Caring Family Members
- Responsible Citizens

<http://www.iceont.ca>

**Assessment, Evaluation and Reporting:** The primary purpose of assessment and evaluation is to improve student learning. Students will understand what is expected of them, using learning goals, and success criteria, based on the overall expectations. Feedback (self, peer, teacher) supports learning, and plays a critical role in academic achievement and success.

The development of learning skills and work habits is a key indicator of future success. The following learning skills and work habits will be developed, assessed, and reported during this course:

1. Responsibility fulfills responsibilities and commitments (*e.g. accepts and acts on feedback*)
2. Organization manages time to complete tasks and achieve goals (*e.g. meets goals, on time*)
3. Independent work uses class time appropriately to complete tasks (*e.g. monitors own learning*)
4. Collaboration works with others, promotes critical thinking (*e.g. provides feedback to peers*)
5. Initiative demonstrates curiosity and an interest in learning (*e.g. sets high goals*)
6. Self-Regulation sets goals, monitors progress towards achieving goals (*e.g. sets, reflects goals*)

Group work supports collaboration, an important 21<sup>st</sup> century skill. This will be assessed only as a learning skill. Homework may also be assessed as a learning skill. Evaluation completed in class will be based only on individual student work. Regular attendance is important to support group work, various forms of feedback, and to allow students to demonstrate evidence of their learning. Students are responsible for providing evidence of their own learning (with references where required), in class, within given timelines. Next steps in response to academic integrity issues, such as lack of work completion, plagiarism, or other forms of cheating, range from providing alternate opportunities, to a deduction of marks.

The achievement chart identifies four levels, based on achievement of the overall expectations:

- |         |   |           |
|---------|---|-----------|
| Level 1 | achievement falls below the provincial standard | (50-59%)  |
| Level 2 | achievement approaches the provincial standard  | (60-69%)  |
| Level 3 | achievement is at the provincial standard       | (70-79%)  |
| Level 4 | achievement surpasses the provincial standard   | (80-100%) |

The report card grade will be based on evidence of student performance, including observations, conversations and student products. Consideration will be given to more recent evidence (skill development) and the most consistent level of achievement.

### **Mark Breakdown:**

Term Work (70%) will include a variety of rich assessment tasks designed to demonstrate students' development in their knowledge and understanding, thinking and inquiry, communication and application, of all overall expectations.

Summative evaluation (30%) takes place towards the end of the semester, is completed in class, and provides the final opportunity for students to demonstrate what they know, and the skills they have learned, based on the overall expectations. In math 2P, the summative evaluation will consist of a rich summative assessment task (20%) and a final exam (10%).

**Awarding of Course Credit:** Students who demonstrate evidence of achievement of overall expectations, **and** earn a mark of 50% or greater, will earn one credit for the course with the following exception:

Students who do not complete their summative evaluation (exam and/or end of year performance task) will not earn their credit regardless of their mark.

### **Student and Parent/Guardian Acknowledgement**

We have read the above course outline and are aware of the student responsibilities to attend class on a regular basis and to provide evidence of learning within the established timelines.

Student's Name (print): \_\_\_\_\_ Student's Signature: \_\_\_\_\_

Parent/Guardian Name (print): \_\_\_\_\_ Parent/Guardian Signature: \_\_\_\_\_