OTTAWA CATHOLIC SCHOOL BOARD	**Grade 11 University/College Functions and Applications MCF3M**	Inspired education. Inspiring students.

Prerequisite Course: Principles of Mathematics, Grade 10, Academic, or Foundations of Mathematics, Grade 10, Applied

Description and Overall Expectations: This course introduces basic features of the function by extending students' experiences with quadratic relations. It focuses on quadratic, trigonometric, and exponential functions and their use in modelling real-world situations. Students will represent functions numerically, graphically, and algebraically; simplify expressions; solve equations; and solve problems relating to applications. Students will reason mathematically and communicate their thinking as they solve multi-step problems.

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

Quadratic Functions: expand and simplify quadratic expressions, solve quadratic equations, and relate the roots of a quadratic equation to the corresponding graph; demonstrate an understanding of functions, and make connections between the numeric, graphical, and algebraic representations of quadratic functions; solve problems involving quadratic functions, including problems arising from real-world applications.

Exponential Functions: simplify and evaluate numerical expressions involving exponents, and make connections between the numeric, graphical, and algebraic representations of exponential functions; identify and represent exponential functions, and solve problems involving exponential functions, including problems arising from real-world applications; demonstrate an understanding of compound interest and annuities, and solve related problems.

Trigonometric Functions: solve problems involving trigonometry in acute triangles using the sine law and the cosine law, including problems arising from real-world applications; demonstrate an understanding of periodic relationships and the sine function, and make connections between the numeric, graphical, and algebraic representations of sine functions; identify and represent sine functions, and solve problems involving sine functions, including problems arising from real-world applications.

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 21st 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 Functions and Applications 3M Math, the summative evaluation will consist of a rich summative assessment task (10%) and a final exam (20%).

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.

<u>Student and Parent/Guardian Acknowledgement</u>

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: _____