

CATHOLIC DISTRICT SCHOOL BOARD OF EASTERN ONTARIO ST. MICHAEL CATHOLIC HIGH SCHOOL

COURSE TITLE:	Functions and Applications
COURSE CODE:	MCF3M
LEVEL OF DIFFICULTY:	University/College Preparation
SUGGESTED PREREQUISITE:	MPM2D or MFM2P
FACILITATOR/WRITER	Mr. N. White
DATE OF PREPARATION:	August 2023
MINISTRY GUIDELINES:	The Ontario Curriculum Grade 11 Revised, 2006
TEXTS:	Functions and Applications 11 (Nelson)

COURSE DESCRIPTION:

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 modeling 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.

UNITS OF STUDY/STRANDS (not necessarily covered in this order)

- Quadratic Functions
- Exponential Functions
- Trigonometric Functions

COURSE EXPECTATIONS:

- 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 those arising from real-world applications.
- 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 those arising from real-world applications;
- demonstrate an understanding of compound interest and annuities, and solve related problems.
- 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 those arising from real-world applications.

How This Course Supports the Ontario Catholic School Graduate Expectations

This course encourages the Catholic learner to develop his/her God-given gifts and abilities to promote growth toward personal responsibility in preparation for a chosen career path. Throughout this course, emphasis should be placed on moral, ethical, and realistic decision-making in an effort to build responsible citizenship. The classroom environment should instill a spirit of cooperation, rather than competition amongst students, and foster a collaborative sense of community. This course provides many opportunities for students to work effectively as interdependent team members and to acknowledge and respect others for their opinions.

COURSE EVALUATION:

Course Assessment

Student Achievement will be based on the achievement chart categories outlined below and in individual demonstration for specific expectations. Achievement chart categories will be posted in the classroom for greater awareness and understanding of assessment. All major assignments will be evaluated using levels. Grades will be determined using the students' most consistent and most recent level of achievements. For the purposes of reporting, the percentages grade range will correspond to the following levels as defined by the Catholic District School Board of Eastern Ontario:

Level	Mark Code	Level	Mark Code	Level	Mark Code	Level	Mark Code
4+	95-100	3+	77-79	2+	67-69	1+	57-59
4	87-94	3	73-76	2	63-66	1	53-56
4-	80-86	3-	70-72	2-	60-62	1-	50-52

The achievement chart identifies four categories of knowledge and skills in Mathematics: Knowledge, Thinking and Inquiry, Communication and Application. The achievement chart provides a standard province-wide method for teachers to use in assessing and evaluating their students' achievement. Each achievement chart has descriptions of the levels of achievement for each of the four categories of knowledge and skills. Level three is the provincial standard; level four indicated a level of aptitude beyond the standard; level two indicates the student is slightly below provincial standard; and level one indicates a limited understanding of material. The achievement chart helps determine, towards the end of the course, the student's most consistent level of achievement of the curriculum expectations as reflected in his or her course work.

POLICIES

Academic Dishonesty

If a student cheats on a test or plagiarizes a summative assignment, they will have to re-do the work in a supervised setting at their teacher's convenience. The parent will be notified and the vice-principal will create a file to track the incident. Should a second incident occur in any class, the student will receive a suspension and a grade of zero for that assignment.

Culminating Activity

A Culminating Activity provides an opportunity for students to synthesize and demonstrate the full breadth of their understanding of overall expectations. The task is completed over more than one class period, involves all four categories of the achievement chart, and is authentic and related to the "real world". Student work to be assessed must demonstrate individual achievement.

70% SUMMATIVE EVALUATION

Summative Evaluation:

Term Assessment Weighting

All categories will be weighted equally

30% CULMINATION

70% Final Assessment Weighting

Culminating Activity

Final Examination

30%

15

15

General Expectations:

Be Here

- Attendance needs to be a priority. YOU are responsible for missed work, visit the website to get missed notes or ask a friend.
- You will have at least three days notice for a test, you must be present on test days. If there is an extenuating circumstance you must notify the teacher immediately.
- Please use the washroom before or after class, if you leave during class you are missing information!

Be Punctual

- The first three lates are excused, after that detention will be assigned.

Be Organized

- Keep your notebook neat and organized. You will need all of your work and tests when it comes time to prepare for the exam and culminating.

Be Proactive

- You are responsible for your own achievement in this class. Homework completion is essential for success. Take advantage of extra help offered – see me to make arrangements!

Be Respectful

- Show respect to your peers, to your teacher, and to yourself. Remember where you are, and what you are trying to achieve – you are in a university bound course and so are your classmates! Appropriate language, clothing and participation are expected from you in this class every day of the semester.

Homework

- *Homework completion is essential for success.*
- You can expect 30 - 60 mins of homework a night. It is essential this is done to keep up with course content. (Depending on your comfort level in math and the speed you typically complete homework.)

Technology

- Class notes will be posted on the class website nowyoudothemath.weebly.com. Click on the MCF3M tab.
- If you wish to use a laptop/tablet (not mandatory) you may bring in your own, the school does not provide laptops for students. You must be using the laptop for class related work or you will be asked to leave it at home.

Cell Phones

- Although not a fan of cell-phones in class, they can have their uses. Downloading, becoming familiar with and using the DESMOS app will make your life easier throughout the course. Use them appropriately and don't let them become a distraction!

Take care of your resources.

- You are responsible for your textbook that you borrow over the course of the semester. If you misplace it or damage it you will be required to replace it!
- If you damage a graphing calculator, you will have to pay to replace it (\$150)!!!

Dear Parent/Guardian

Please review this course outline as well as the course website, sign below indicating you have done so, and have your son/daughter return this sheet. It is my hope that you involve yourself in your child's learning.

It is very important that your son/daughter understands these expectations to motivate him/herself to complete his/her daily work in the classroom and at home. Please feel free to contact me at the school if you have any questions about the course, your son/daughter's progress or any other concerns.

Thank you for your support,

Nick White
613-258-7232
nick.white@cdsbeo.on.ca

Website: www.nowyoudothemath.weebly.com (click on the MCF3M tab).

I have read over the course outline and course website and agree to the expectations of proper behaviour and conduct set out above and the consequences thereof.

Student's Name _____

Student's Signature _____

Parent/Guardian Signature _____

Contact Information: *(Please complete)*

Parent/Guardian contact:

Name: _____

Phone: _____ (H) _____ (W)

Email: _____