



NORTH TORONTO COLLEGIATE INSTITUTE

Mathematics Department

Telephone 416-393-9180, ext. 20080

Teacher:

Course Title	Course Code	Credit Value	Prerequisite
Grade 11 Functions and Applications, University/College	MCF3M1	1.0	MPM2D1

TEXTBOOK: Functions and Applications 11 - Nelson, 2012 (Replacement Cost: \$130)

REQUIRED MATERIALS: Graph paper, notebook, writing utensils, and a scientific calculator. The only approved calculator for tests, quizzes, and assignments is the SHARP EL-510 <https://www.staples.ca/products/437262-en-sharp-el510rtb-scientific-calculator-white>



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.

OVERALL EXPECTATIONS By the end of this course, students should be able to:

1. 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

2. 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

3. 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

ASSESSMENT AND EVALUATION BREAKDOWN

To promote student success, ongoing assessment and feedback will be given regularly to the students. A variety of assessment and evaluation strategies will be used in this course, **including quizzes, tests, assignments**. Expectations will be evaluated based on the provincial curriculum expectations and the achievement levels outlined in the ministry document. Expectations are organized into four categories of knowledge and skills. The course evaluation is broken down according to the strands and percentages listed below:

Term Evaluation 70 %	Final Evaluation 30 %										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Knowledge and Understanding</td> <td style="text-align: right;">20 %</td> </tr> <tr> <td>Thinking</td> <td style="text-align: right;">15 %</td> </tr> <tr> <td>Communication</td> <td style="text-align: right;">15 %</td> </tr> <tr> <td>Application</td> <td style="text-align: right;">20 %</td> </tr> </table>	Knowledge and Understanding	20 %	Thinking	15 %	Communication	15 %	Application	20 %	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Final Exam</td> <td style="text-align: right;">30%</td> </tr> </table>	Final Exam	30%
Knowledge and Understanding	20 %										
Thinking	15 %										
Communication	15 %										
Application	20 %										
Final Exam	30%										

Learning Skills

The evaluation of learning skills (responsibility, collaboration, independent work, organization, self regulation, and initiative) will be reported as needs improvement, satisfactory, good or excellent. Students will find that concentrating on these skills will result in a higher level of success in meeting the course expectations.

General Expectations:

Regular and punctual attendance, daily homework practice, active participation in class activities, and a positive attitude are the most effective ways to ensure success in the course. Please enter the classroom with the mindset of teamwork and respect. If you are late, you are to go to the office to obtain a late slip prior to coming to the class.

Due Dates & Test Dates:

Students are responsible to hand in work in accordance with the due date. In the case of a known absence (e.g., a field trip, a sports meet, or an unavoidable medical appointment) on the day an evaluation is scheduled, a student must speak to the teacher in advance and provide acceptable documentation to arrange an evaluation makeup opportunity during lunch or after school at the teacher's discretion. In the case of an unexpected absence, a student must communicate with the teacher on the day upon return to school to make alternate arrangements. Failure to do so may jeopardize any makeup opportunity. Once a marked evaluation is returned to the class, a student can no longer make up for the missed evaluation, and a mark of zero will be issued.

Student Accommodations:

Appropriate accommodations for exceptional and ELL students are provided by the teacher in accordance with the recommendations as outlined in each identified student's Individual Education Plan (IEP) and/or Annual Education Plan (AEP). Please speak to your teacher if you have an IEP or need any accommodations to support your success. Open communication between students and the teacher is key to math learning in the classroom.

If you have an IEP, please inform your teacher within the first days of class so accommodations can be implemented right away.

Absences:

You are responsible for any work missed while you are away. It is best to find out what was covered up in class. Class material will be provided on the digital platforms used in class (Brightspace, OneNote, Google Classroom)

Extra Help and Homework:

Extra help is available several days a week after school, and during lunch. Most classes will begin with homework help. Homework is assigned on most days. Homework is expected to be completed on a regular basis.

Respect and Behaviour:

Students and parents should make themselves aware of the contents of the North Toronto Code of Respect and Behaviour. This document contains the specifics regarding school expectations, and procedures for attendance and evaluations. This can be found on the [NTCI website](https://www.northtorontoci.ca/), at <https://www.northtorontoci.ca/>.

We look forward to supporting your mathematics learning journey!

Note: Information provided by this course outline is subject to change without further written notice.