

**Forest Hill Collegiate Institute**  
**Course of Study and Evaluation Statement**

**Foundation for College Mathematics, Grade 11: College Preparation**

**Note 1:** All Ontario Ministry of Education curriculum documents with full course content information can be located at <http://www.edu.gov.on.ca/eng/curriculum/secondary/subjects.html>

**Note 2:** Detailed information on Ministry of Education assessment, evaluation, and reporting policy is provided in *The Ontario Curriculum, Grades 9 to 12: Program Planning and Assessment, 2007*, located at <http://www.edu.gov.on.ca/eng/curriculum/secondary/progplan912curr.pdf>

### 1. Course Details

- Program Area: Mathematics
- Course title: Foundation for College Mathematics, Grade 11, College Preparation (MBF3C). Credit Value 1.0
- Prerequisite: Foundations of Mathematics, Grade 10, Applied (MFM2P) or Grade 10 Academic (MPM2D)
- Textbook(s) and resource materials that are essential to the course: Foundations for College Mathematics 11, McGraw-Hill Ryerson

### 2. Overall Goals

- Course Description:  
 This course enables students to broaden their understanding of mathematics as problem solving tool I -n the real world. Students will extend their understanding of quadratic relations; investigate situations involving exponential growth; solve problems involving compound interest; solve financial problems connected with vehicles ownership; and develop their ability to reason by collecting, analyzing, and evaluating data involving one and two variables; connect probability and statistic; and solve problems in geometry and trigonometry. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

- Specific Curriculum Expectations

Please refer to Ontario Ministry of Education curriculum document for details of Overall and Specific Expectations, found at <http://www.edu.gov.on.ca/eng/curriculum/secondary/math1112curr.pdf>

### 3. Program Planning Considerations

- *Individual Education Plan:* Accommodations to meet the needs of exceptional students as set out in their Individual Education Plan will be implemented within the classroom program. Additional assistance is available through the Special Education program.
- *The Role of Technology in the Curriculum.* Using information technology will assist students in the achievement of many of the expectations in the curriculum regarding research, written work, analysis of information, and visual presentations. The computer and the calculator are important problem-solving tools to be used for many purposes. Computers and calculators are tools of mathematicians, and students will be given opportunities to select and use the particular applications that may be helpful to them as they search for their own solutions to problems.
- *English As a Second Language (ESL):* Appropriate accommodations in teaching, learning, and evaluation strategies will be made to help ESL students gain proficiency in English, since students taking ESL at the secondary level have limited time in which to develop this proficiency. Teachers will ensure that reading levels are appropriate to students' abilities and will strive for clarity in the use of mathematical terminology.
- *Career Education:* Expectations in the English program include many opportunities for students to apply their language skills to work-related situations, to explore educational and career options, and to become self-directed learners. Regardless of their post secondary destination, all students need to realize that literacy skills are employability skills.
- *Cooperative Education and Other Workplace Experiences:* The knowledge and skills students acquire in this courses will assist them in their senior level cooperative-education and work-experience placements related to this course. General information about cooperative education courses can be found at <http://www.edu.gov.on.ca/eng/document/curricul/secondary/coop/cooped.pdf>

#### 4. Learning Skills

*Learning Skills* are skills and habits are essential to success in school and in the workplace. The Learning Skills evaluated are: Responsibility, Organization, Independent Work, Collaboration, Initiative and Self-regulation. Teachers report achievement on the six Learning Skills using letter symbols: E = Excellent, G = Good, S = Satisfactory, N = Needs Improvement.

Learning Skills clearly affect levels of achievement, but they are *not* part of the evaluation of achievement and are not included in the midterm mark or final course mark.

#### 5. Academic Honesty: Cheating and Plagiarism

Students are expected to submit only their own original work on evaluations done in class or out of class. Plagiarism the passing off the ideas or writings of another as one's own. Cases of academic dishonesty (cheating and/or plagiarism) will be dealt with on a case-by-case basis, but each case will involve an investigation, communication with the student and his/her parent/guardian, and a mark of zero for the plagiarized work. Whether the student has an opportunity to demonstrate his/her learning in another assignment will be at the discretion of the teacher and/or Principal.

#### 6. Teaching Strategies

Teachers use a variety of teaching strategies to maximize student learning. The following teaching strategies will be used in this course:

- *Direct Instruction* is highly teacher-directed. This strategy includes methods such as lecture, didactic questioning, explicit teaching, practice and drill, and demonstrations.
- *Indirect Instruction* is mainly student-centred. Indirect Instruction includes inquiry, induction, problem solving, decision making, and discovery.
- *Independent Study* refers to the range of instructional methods which are purposefully provided to foster the development of individual student initiative, self-reliance, and self-improvement. The focus is on planned independent study by students under the guidance or supervision of a classroom teacher.

#### 7. Assessment and Evaluation Strategies

Assessment and Evaluation of Student Achievement

The primary purpose of assessment and evaluation is to improve student learning. Assessment is the process of gathering information from assignments, demonstrations, projects, performances, and tests that accurately reflects how well a student is achieving the curriculum expectations in a course. As part of assessment, teachers provide students with feedback that guides their efforts towards improvement.

Evaluation refers to the process of judging the quality of student work on the basis of established criteria, and assigning a value to represent that quality. In Ontario secondary schools, the value assigned will be in the form of a percentage grade.

- In this course, the following evaluation strategies will be used: Homework, tests, quizzes, assignments, in-class activities, final examination.

#### 8. Achievement Chart

The achievement chart provides a standard, province-wide method for teachers to use in assessing and evaluating their students' achievement. Students are evaluated according to the major categories or strands in each course. Ministry curriculum documents provide detailed description of student achievement levels.

In this course, students are evaluated in four strands, according to the weightings shown:

Knowledge/Understanding	Thinking/Inquiry	Communications	Application
30%	20%	20%	30%

#### 9. 70% Mark on Course Work

- Students need to demonstrate achievement of all the overall expectations of the course. 70% of the final mark in the course will be based on work done prior to the culminating activities. Evaluations that are late, missing, and/or incomplete will affect a student's 70% grade. See FHCI Evaluation Policy as printed in the Student Agenda Book for information about late, missed, and/or incomplete assignments.
- *See outline on next page for information regarding timing of evaluation.*

**10. 30% Grade Based on Course Culminating Activities**

- All students must take part in the culminating activities for each course at every grade and level of study. The steps to follow when a student is absent from one or more culminating activities is included in the FHCI evaluation policy as printed in the Student Agenda Book.
- Culminating activities that occur in class are held within the last three weeks of classes. Culminating activities that are formal examinations occur within the last nine days of the semester as a *final examination*

**11. Determining Marks for the Midterm Provincial Reports in November and April**

This grade will be based on the evaluations that have been conducted to the midterm point in the course. Some of the Overall Expectations, categories/strands, and units will not have been addressed by the midterm, and the students' grades will most likely change when the students' entire work is evaluated by the end of the course.

**12. Determining the Mark for the Final Report Card**

The mark for the final will report card will be the sum of the 70% mark and the 30% mark.

**Missed tests/quizzes policy**

If a student is legitimately absent for a test or quiz, upon return to school, they must have a doctor's note or a note from their parent or guardian stating the reason for their absence. At that time, and at the convenience of the teacher, the student will write a makeup test. If a student does not have a valid reason for his/her absence, **a mark of zero will be given.** *Every effort will be made by the subject teacher to notify students well in advance of scheduled test dates.*

**Definition of Legitimate Absence**

- Illness with a doctor's note, Death in the family, Medical appointment (Advance notice required)
- Religious reasons (Advance notice required), School authorized field trip (Advance notice required)
- Court appearances (Advance notice required)

**14. Teacher Contact:** 416-393-1860 Ext. 20080

## Chapter 1 – Trigonometry

1.1 Revisit the Primary Trigonometric Ratios (SIDES)	1 Period	pp. 13-15 #1a, 2-3, 4 a,b 6-8
1.1 Revisit the Primary Trigonometric Ratios (ANGLES)	1 Period	pp. 13-15 # 4c, 5, 9, 10, 12
Review – Pre-requisite, Carousel Activity	1 Period	pp. 4-5 # 1-10
1.2 Solving Problems Using Trigonometric Ratios	1 Period	pp. 21-23 # 1-4,6,8,13
Quiz		
1.3 The Sine Law	1 Period	pp. 31-33 #1-4
1.4 The Cosine Law	1 Period	pp. 39-41 # 1-4, 7
1.5 Make Decisions Using Trigonometry (Part 1)	1 Period	Finish Handout “BLM2.6.3”
1.5 Make Decisions Using Trigonometry (Part 2)	1 Period	pp. 48-50 # 3, 4, 7, 9
Ch. 1 Review	1 Period	pp. 52-53 #1, 4, 5, 7, 13, 15
Ch. 1 Practice Test	1 Period	pp. 54-55 #1-10 As needed

## Chapter 2 – Probability

Prerequisite Skills	1 Period	pp. 58-59 # 1-10
2.1 Probability Experiments	1 Period	pp. 66-67 #1-4, 6, 7
2.2 Theoretical Probability	1 Period	pp. 73-75 # 1-9, 12
2.3 Compare Experimental and Theoretical Probability	1 Period	pp. 82-83 # 1, 3-6, 8a, 12
2.4 Interpret Information Involving Probability	1 Period	pp. 90-91 # 1-7
Ch. 2 Review	1 Period	pp. 94-95 #1-11
Ch. 2 Practice Test	1 Period	pp. 96-97 # 1-8

## Chapter 3 – One-Variable Statistics

Prerequisite Skills	1 Period	pp. 100-101 #1-7
3.1 Sampling Techniques	1 Period	pp. 106-108 #1-7, 9
3.2 Collect and Analyze Data	1 Period	pp. 114-116 #1-4, 7-10
3.3 Display Data	1 Period	pp. 125-127 #1-6
3.4 Measures of Central Tendency	1 Period	p. 136 #1-4
3.5 Measures of Spread	1 Period	pp. 145-146 #1-7
3.6 Common Distributions	1 Period	pp. 153-154 #1-6
Ch. 3 Review	1 Period	pp. 156-157 # 7-12
Ch. 3 Practice Test	1 Period	pp. 158-159 #1, 7, 8, 9

## Chapter 4 – Quadratic Relations I

4.1 Modeling With Quadratic Relations	1 Period	pp. 174-176 # 1-6
4.2 The Quadratic Relation $y = ax^2$	1 Period	pp. 190-193 # 1-10
4.3 The Quadratic Relation $y = a(x-h)^2$	1 Period	pp. 200-201 # 1-5
4.4 The Quadratic Relation $y = a(x-h)^2 + k$	1 Period	pp. 212-213 # 1-3
4.4 The Quadratic Relation $y = a(x-h)^2 + k$	1 Period	pp. 213-214 # 4-6, # 7 (together)
4.5 Interpret Graphs of Quadratic Relations	1 Period	pp. 222-225 # 1-4, 7
Ch. 4 Review and Practice Test	1 Period	pp. 226-227 # 1-12
Ch. 4 Test	1 Period	

## Chapter 5 – Quadratic Relations II

Prerequisite Skills	1 Period	pp. 232-233 # 1-3, 5-7, 9-14
5.1 Expand Binomials	1 Period	pp. 239 # 3-7 (a, c, e), 9
5.2 Change Quadratic Relations from Vertex Form to Standard Form	1 Period	pp. 245 #1-4 (a, c, e), 6, 7
5.3 Factoring $x^2 + bx + c$	1 Period	pp. 253-255 # 1-3, 6-8
5.4 $ax^2 + bx + c$	2 Periods	pp. 259-263 # 1-7
5.5 X-Intercepts of Quadratic Relations	2 Periods	pp. 271-275 # 1-7
5.6 Solve Problems Involving Quadratic Relations	1 Period	pp. 281-285 # 1-6
Ch. 5 Review	1 Period	pp. 286-287 # 1-3, 6, 8, 10-13
Ch. 5 Practice Test	1 Period	pp. 288-289 # 1-12

## Chapter 6 – Geometry in Design

Prerequisite Skills	1 Period	pp. 294-295 # 1-12
6.1 Investigate Geometric Shapes and Figures	1 Period	pp. 302-303 # 1, 2, 8
6.2 Perspective and Orthographic Drawings	1 Period	pp. 314-315 # 1-5, 9a, 10
6.3 Create Nets, Plans and Patterns	1 Period	pp. 322-323 # 1-7
6.4 Scale Models	1 Period	pp. 331-333 # 1-5, 9, 13
6.5 Solve Problems With Given Constraints	1 Period	pp. 340-341 # 2, 3, 5, 6, 9
Ch. 6 Review	1 Period	pp.346-347 # 1-11
Ch. 6 Practice Test	1 Period	pp. 348-349 # 1-8

## Chapter 7 – Exponents

7.1 Exponent Rules	1 Period	pp. 360-361 # 1-6
7.2 Zero and Negative Exponents	1 Period	pp. 367-368 # 1-5
7.3 Investigating Exponential Relations	1 Period	pp. 377 # 1-3
7.4 Exponential Relations	1 Period	pp. 390-391 # 1-4, 6
7.5 Modeling Exponential Growth and Decay	1 Period	pp. 401-402 # 1-4
7.6 Solving Problems Involving Exponential Growth and Decay	1 Period	pp. 410-411 # 1-4
Ch. 7 Review	1 Period	pp. 414-415 # 1-11
Ch. 7 Practice Test	1 Period	pp. 416-417 # 1-7 As Needed

## Chapter 8 – Compound Interest

Getting Ready	1 Period	p. 420 # 1-7
8.1 Simple and Compound Interest	1 Period	pp. 428 # 1-5
8.2 Compound Interest	1 Period	pp. 432-433 # 1-6
8.3 Present Value	1 Period	pp. 439-440 # 1-7
8.4 The TVM Solver	1 Period	p. 444 # 1-4
8.5 Effects of Changing the Conditions on Investment and Loans	1 Period	p. 450 # 1-5
Ch. 9 Review	1 Period	pp. 454-455 # 1-14
Ch. 8 Practice Test	1 Period	pp. 456-457 # 1-12 As Needed

## Chapter 9 – Personal Finance

Getting Ready	1 Period	
9.1 Savings Alternatives	1 Period	
9.2 Investment Alternatives	1 Period	
9.3 Manage Credit Cards	1 Period	
9.4	1 Period	
9.5	1 Period	
Ch. 9 Review	1 Period	
Ch. 9 Practice Test	1 Period	