



# St. Joseph Catholic Secondary School

## Department of Mathematics

**Course Name:** Foundations of College Mathematics  
**Course Code:** MBF 3C1  
**Level:** Grade 11 College Preparation  
**Teacher:** Mrs. Perrone

### **Course Description:**

This course enables students to broaden their understanding of mathematics as a problem-solving tool in 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 vehicle ownership; develop their ability to reason by collecting, analyzing, and evaluating data involving one variable; connect probability and statistics; and solve problems in geometry and trigonometry. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

### **Strands/Expectations of Study**

**\*Prerequisite:** Grade 10 Applied or Academic Mathematics

**By the end of this course students will:**

#### **1. Mathematical Models**

- make connections between the numeric, graphical and algebraic representations of quadratic relations and use the connections to solve problems; demonstrate an understanding of exponents and make connections between the numeric, graphical and algebraic representations of exponential relations; describe and represent exponential relations and solve problems involving exponential relations arising from real-world applications.

#### **2. Personal Finance**

- compare simple and compound interest, relate compound interest to exponential growth and solve problems involving compound interest; compare services available from financial institutions and solve problems involving the cost of making purchases on credit; interpret information about owning and operating a vehicle and solve problems involving the associated costs.

#### **3. Geometry and Trigonometry**

- represent in a variety of ways two-dimensional shapes and three-dimensional figures arising from real-world applications and solve design problems; solve problems involving trigonometry in acute triangles using the sine law and the cosine law including problems arising from real-world applications.

#### **4. Data Management**

- solve problems involving one-variable data by collecting, organizing, analysing and evaluating data; determine and represent probability and identify and interpret its applications.

### **Ontario Catholic School Graduate Expectations**

#### **(Vision of the Learner)**

The graduate is expected to be:

1. A discerning believer.
2. An effective communicator.
3. A reflective, creative and holistic thinker.
4. A self-directed, responsible lifelong learner.
5. A collaborative contributor.
6. A caring family member.
7. A responsible citizen.



**Units of Study**

- Unit 1:** Quadratic Relations I
- Unit 2:** Quadratic Relations II
- Unit 3:** Exponents
- Unit 4:** Compound Interest
- Unit 5:** Personal Finance
- Unit 6:** Trigonometry
- Unit 7:** Probability and Statistics

**Resources:**

The text and all other resources assigned to each student are the responsibility of the student.

**Primary Textbook**

Foundations for College Preparation, McGraw-Hill Ryerson

**Any damage incurred will result in payment for replacement.**

Replacement cost: \$100

**Assessment and Evaluation**

Assessment and evaluation are based on the provincial curriculum expectations and the *Achievement Chart for Mathematics*, which identifies four categories. Throughout the course, students will be provided with various opportunities (e.g., quizzes, tests, tasks) to demonstrate their achievement of the curriculum expectations across all categories and receive feedback. It is policy that 70% of the final mark be based on assessments that occur throughout the term and 30% will be based on the final summative assessments that occur at the end of the course. The components of the final mark are shown in the table below.

<b>Term Evaluation (70%):</b>	
<b>Knowledge</b> The acquiring of Mathematics-specific content, and the comprehension of its meaning and significance (i.e., knowledge of facts, procedures, use of tools).	<b>30%</b>
<b>Application</b> The use of knowledge and skills to make connections within and between various contexts.	<b>30%</b>
<b>Thinking</b> The use of critical and creative thinking skills and/or processes (i.e., understanding the problem, making and carrying out a plan, reasoning, proving).	<b>20%</b>
<b>Communication</b> The conveying of meaning through various forms (i.e., clarity and organization of expression, use of models/representations, use of terms and symbols).	<b>20%</b>
<b>Summative Evaluation (30%):</b>	
<b>Culminating Task</b>	<b>10%</b>
<b>Final Examination</b>	<b>20%</b>

Feedback will also be provided for student learning skills: Responsibility, Organization, Independent Work, Collaboration, Initiative and Self-Regulation are assessed apart from student achievement in the four categories outlined above and will conform to the coding:

E – Excellent                      G – Good                      S – Satisfactory                      N - Needs Improvement

Achievement Levels:

Level 1: 50 – 59%	Level 2: 60 – 69%	Level 3: 70 – 79%	Level 4: 80 – 100%
Limited knowledge and/or success	Some knowledge and/or success	Considerable knowledge and/or success	Thorough understanding & mastery of skills

Please sign and return the form below. Thank-you.

Dear Parent/Guardian,

Please review this program outline, as well as the policies with respect to evaluation, attendance, uniform and student conduct as outlined in your son/daughter's school agenda. Please sign in the space below as affirmation that you have read these policies and are in agreement with them.

Student: (print name): \_\_\_\_\_ Signature: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_