Hamilton-Wentworth Catholic District School Board

Foundations for College Mathematics, Grade 11, College Preparation MBF 3C

St. Jean De Brebéuf Catholic Secondary School

DEPARTMENT TITLE

DEPARTMENT HEAD	Mr. J. Hargot
COURSE TEACHER	Mr. A. Cabilan
TEXTBOOK	Foundations for College Mathematics 11 (McGraw-Hill Ryerson)

COURSE INFORMATION

CREDIT VALUE	1.0
PREREQUISITE	Foundations of Mathematics, Grade 10, Applied, (MFM 2P)
MINISTRY DOCUMENT	The Ontario Curriculum, Grades 11 and 12, Mathematics, 2007 (Revised)

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, analysing, 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.

ONTARIO CATHOLIC GRADUATE EXPECTATIONS

This course enables students to develop effective communication skills, and become reflective and creative thinkers. Self-directed learning will be promoted with the intent of producing responsible, life-long learners. Students will learn to collaborate for the contribution of good of others, in service to the classroom, school and community.

COURSE CONTENT

TEACHING STRATEGIES

UNIT 1 Trigonometry

UNIT 2 Probability

UNIT 3 One-Variable Statistics

UNIT 4 Quadratic Relations (Part 1)

UNIT 5 Quadratic Relations (Part 2)

UNIT 6 Exponents

UNIT 7 Compound Interest

UNIT 8 Personal Finance

UNIT 9 Geometry in Design

To promote student engagement and success, a variety of instructional approaches and management strategies will be used in the delivery of this course. These methods may include, but are not limited to:

- using assessment practices that inform instruction
- establishing learning goals and success criteria
- providing descriptive feedback
- implementing direct instruction of course material
- using effective questioning techniques
- incorporating literacy and numeracy strategies across all subject areas
- employing differentiated instruction to respond to students' needs
- providing opportunities for student practice and scaffolded instruction
- using a variety of learning materials and technology that meet the needs of the learner

BOARD AND MINISTRY INITIATIVES

There are many opportunities to integrate a variety of board and ministry initiatives in the classroom. In the spirit of Each Belongs, teachers create a safe and supportive environment where all students feel included and respected. Teachers plan rich tasks, select diverse texts, and engage students in experiences that allow them to explore a variety of topics such as Environmental Education, First Nations, Metis, and Inuit Studies, Healthy Relationships, Equity and Inclusive Practices, Financial Literacy, and Career and Life Planning.

OVERALL CURRICULUM EXPECTATIONS

MATHEMATICAL MODELS

By the end of this course students will:

- 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.

PERSONAL FINANCE

By the end of this course students will:

- 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.

GEOMETRY AND TRIGONOMETRY

DATA MANAGEMENT

By the end of this course students will:

- 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.

By the end of this course students will:

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

ASSESSMENT AND EVALUATION

The development of learning skills and work habits are an integral part of student learning and influence student achievement. They will be included as a formal part of the assessment and evaluation process under the following categories: responsibility; organization; independent work; collaboration; initiative; self-regulation. Learning skills and work habits will be assessed through a variety of teacher strategies and will be formally reported on the Provincial Report Card according to the following scale: **E**-Excellent; **G**-Good; **S**-Satisfactory; **N**-Needs Improvement.

CATEGORY	WEIGHTING
Knowledge and Understanding	25 %
Application	25 %
Thinking	10 %
Communication	10 %
Final Exam	30 %

ACADEMIC DISHONESTY

CHEATING AND PLAGIARISM

Learning tasks that students complete (student work-tests, quizzes, assignments, etc.) and submit for assessment and evaluation must be their own work. Cheating and plagiarism is a serious offence that will not be condoned and will result in academic consequences as outlined in the HWCDSB *Cheating and Plagiarism Policy* in the School Agenda Book and on the School Website.

LATE AND MISSED ASSIGNMENTS

Students are expected to submit all work within the time frame specified by the teacher. There will be consequences for not completing assignments for evaluation, and/or for submitting assignments late, and/or for being absent on the day of tests and quizzes without proper documentation as outlined in HWCDSB *Late and Missed Assignment Policy Policy* in the School Agenda Book and on the School Website.