



ST. THOMAS AQUINAS SECONDARY SCHOOL

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We believe that each one, created in the image and likeness of God, is called by name into the Dufferin-Peel community to realize the Ontario Catholic School Graduate Expectations to the fullest extent as we all journey from the early years to vocation.

COURSE OUTLINE

Department Name:	Mathematics
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Course Name:	Grade 12 Calculus and Vectors
Course Code and Section:	MCV4U1

Course Description:

This course builds on students' previous experience with functions and their developing understanding of rates of change. Students will solve problems involving geometric and algebraic representations of vectors, and representations of lines and planes in three-dimensional space; broaden their understanding of rates of change to include the derivatives of polynomial, rational, exponential, and sinusoidal functions; and apply these concepts and skills to the modelling of real-world relationships. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. This course is intended for students who plan to study mathematics in university and who may pursue careers in fields such as physics and engineering.

Prerequisite: MCR3U1 (11 University Preparation) with a minimum 75% strongly recommended, and MHF4U1 (12 University Preparation) with a minimum 70% strongly recommended

Strand / Units	Catholic Graduate Expectations
1 Introduction to Calculus 2 Derivatives 3 Derivatives & Applications 4 Curve Sketching 5 Derivatives of Exponential and Trigonometric Functions 6 Introduction to Vectors 7 Applications of Vectors 8 Equations Lines & Planes 9 Lines and Planes	The course will help students address the Ontario Catholic School Graduate Expectations that they adopt a holistic approach to life by integrating learning from various subject areas and experience, including ... 1) A reflective and creative thinker who evaluates situations & solves problems. 2) A self-directed, responsible learner who sets appropriate goals and priorities in school, work and personal life, and applies effective communication, decision-making, problem-solving, and time management skills. 3) A collaborative contributor who achieves excellence, originality, and integrity in one's own work and supports these qualities in the work of others. 4) A responsible citizen who accepts accountability for one's own actions.

Assessment and Evaluation:

Category Weightings	Weight
Knowledge/Understanding	30
Thinking	20
Application	30
Communication	20

Final Summative Assessments	Grade Distribution
Term Work	70
Exam	30

