Earl of March Secondary School
Mathematics, Grade 9 (MTH1W)
Revised: September 2021

Course Description
This course enables students to consolidate, and continue to develop, an understanding of mathematical concepts related to number sense and operations, algebra, measurement, geometry, data, probability, and financial literacy. Students will use mathematical processes, mathematical modelling, and coding to make sense of the mathematics they are learning and to apply their understanding to culturally responsive and relevant real-world situations. Students will continue to enhance their mathematical reasoning skills, including proportional reasoning, spatial reasoning, and algebraic reasoning, as they solve problems and communicate their thinking.

Prerequisite: None

Curriculum: The seven major strands for MTH1W and the overall ministry expectations are summarized below. A more complete description is located at the following link.
By the end of the course students will. . .

AA. **Social-Emotional Learning (SEL) Skills in Mathematics**
- develop and explore a variety of social-emotional learning skills in a context that supports and reflects this learning in connection with the expectations across all other strands

A. **Mathematical Thinking and Making Connections**
- apply the mathematical processes to develop a conceptual understanding of, and procedural fluency with, the mathematics they are learning;
- make connections between mathematics and various knowledge systems, their lived experiences, and various real-life applications of mathematics, including careers.

B. **Number**
- demonstrate an understanding of the development and use of numbers, and make connections between sets of numbers;
- represent numbers in various ways, evaluate powers, and simplify expressions by using the relationships between powers and their exponents;
- apply an understanding of rational numbers, ratios, rates, percentages, and proportions, in various mathematical contexts, and to solve problems.

C. **Algebra**
- demonstrate an understanding of the development and use of algebraic concepts and of their connection to numbers, using various tools and representations;
- apply coding skills to represent mathematical concepts and relationships dynamically, and to solve problems, in algebra and across the other strands;
- represent and compare linear and non-linear relations that model real-life situations, and use these representations to make predictions;
- demonstrate an understanding of the characteristics of various representations of linear and non-linear relations, using tools, including coding when appropriate

D. **Data**
- describe the collection and use of data, and represent and analyse data involving one and two variables;
- apply the process of mathematical modelling, using data and mathematical concepts from other strands, to represent, analyse, make predictions, and provide insight into real-life situations.

E. **Geometry and Measurement**
- demonstrate an understanding of the development and use of geometric and measurement relationships, and apply these relationships to solve problems, including problems involving real-life situations.

F. **Financial Literacy**
- demonstrate the knowledge and skills needed to make informed financial decisions.

Assessment Strategies
A variety of teaching/assessment strategies to address students' needs will be used during this course. Formative assessments will be ongoing throughout the academic year and students will receive descriptive feedback intended to help them improve their learning. The chart below outlines levels with their descriptors. Levels will be used when assigning marks in this course.

Level	Descriptors
R: not a passable level of achievement	Insufficient demonstration of understanding
1: much below the provincial standard	Limited understanding, weak, lacking purpose
2: approaching the provincial standard	Some understanding, simplistic, somewhat purposeful
3: the provincial standard	Considerable understanding, solid, standard, purposeful, effective
4: surpassing the provincial standard	Consistent, thorough understanding, in depth, insightful to a purpose, efficient

Evidence of Student Achievement
Students may demonstrate their understanding of the course materials in a wide variety of ways. Evidence of student achievement may come from observations, conversations, and students products. Student products may include assignments, tests, projects, performance tasks, and examinations. A balanced combination of a student's Knowledge and Understanding, Thinking and Inquiry, Communication, and Application will be assessed. These 4 categories will not be separately evaluated. Instead, t*hey will be "considered as interrelated, reflecting the wholeness and interconnectedness of learning." – from the Ontario Ministry of Education curriculum documents.*

Source of Evidence		Description
	Observations	The teacher may record evidence of student achievement observed as students work on investigations in class.
	Conversation	The teacher may record evidence of student achievement elicited during a conversation with a student
Products	**Tests**	There will be major cycle tests.
	Assignments	Students may complete in-class assignments.
	Tasks	Students may have a chance to demonstrate their creativity, knowledge and understanding of the material through in-class performance tasks.
	Portfolio	Students will have a chance to demonstrate their understanding by performing a task in class that will summarize many strands of the course.
	Final Examination	Students will write the provincial EQAO examination at the end of the semester, but will not be included as part of their final grade.

Earl of March Homework Policy - Helping Learning "Stick"
Learning requires a sincere commitment to work and study. Choosing to do homework is an essential part of a student's educational development. Homework helps students improve their academic and study skills, and is critical in the reinforcement of ideas and concepts presented in class. Also, homework helps students develop responsibility, independence, perseverance, time management skills and curiosity. The Ontario Curriculum emphasizes that there is a direct relationship between effort and student achievement. Homework will be assigned to students based upon reasonable expectations, and with the understanding that many students are involved in a variety of worthwhile activities outside of the school setting.

Textbook: There is no textbook for this course

How can parents help?
Support can be given to students in numerous ways at home. You can certainly guide and help your child without showing them how to do math questions. Having a positive attitude towards learning in general, and mathematics in particular can go a long way. Consider as well that teenagers are often unaware that the pathway to "success" is rarely a straight line; sharing your own personal experiences of frustration and struggle, perseverance and accomplishment may help your child to see his or her own experiences in a new way. Below is a collection of links that cover a tiny percentage of the available resources on the internet to help you support your child's mathematics education.

1. Free online 1:1 tutoring for students in Grades 6-10. Register through TVO Mathify.
2. EQAO has practice evaluations to help students prepare for the provincial assessment of Mathematics.
3. This Ontario Ministry of Education Student Success page provides links for parents, students, teachers and employers.
4. This PowerPoint presentation is designed for parents of students of all ages. Many ideas, questions and links are provided although not all are focussed on secondary education.
5. Clips and e-practice are research-based tools to support student learning along specific mathematical pathways. New material will continue to be added over time.
6. Students may wish to challenge themselves further by writing math contests offered through the University of Waterloo CEMC.

If you have any questions, please feel free to contact your child's teacher.