



GEORGE S. HENRY ACADEMY COURSE OUTLINE

Grade 11 College-Preparation Mathematics



COURSE CODE	MBF3C	GRADE	11
TEACHER(S)	B. Herbst	CREDIT VALUE	1.0
DEPARTMENT	Mathematics, Numeracy, & Computer Science	PREREQUISITE	Grade 10 Applied Mathematics

COURSE DESCRIPTION:	<p>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. Additional information can be found at: http://www.edu.gov.on.ca/eng/curriculum/secondary/subjects.html</p>
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COMMUNICATION
Please direct all questions or concerns regarding student progress or program of study to the course teacher. Please call the main office to leave a message at 416-395-3240.

CONCRETE LEARNING RESOURCES	DIGITAL LEARNING RESOURCES
Foundations for College Mathematics (McGraw-Hill Ryerson, Replacement Cost \$100)	i.e. My School Day App - An App that allows you to stay up-to-date with in-class tasks and receive reminders about upcoming evaluations.
Texas Instruments scientific graphing calculators	Google Classroom, where students can post assignments and projects, collaborate, inquire, and communicate with each other and with the teacher.
	Desmos online scientific graphing calculator

GEORGE S. HENRY ACADEMY'S COURSE WORK POLICY

For each evaluation, the teacher will inform students of the **due date** and the **ultimate deadline**. The ultimate deadline is the last opportunity for students to submit an assignment for evaluation. Teachers may also use a variety of other methods for dealing with late and missed assignments at their discretion.

Strategies to assist students in meeting deadlines include:

- Peer tutoring
- Using the school app
- Using a personal agenda
- Seeking extra help from teachers
- Requesting for assistance with time management and organizational skills

- Getting help from parents/guardians
- Getting help from a caring adult in the school

ASSESSMENT AND EVALUATION OF STUDENT ACHIEVEMENT

Each course follows an achievement chart which enables teachers to make judgements about student work that are based on clear performance standards and on a body of evidence collected over time. Additional information can be found on the Ministry of Education website noted within the course description.

ACHIEVEMENT CHART CATEGORIES

Knowledge and Understanding (K & U): Subject-specific content acquired in each course (knowledge), and the comprehension of its meaning and significance (understanding)

Thinking (T): The use of critical and creative thinking skills and/or processes

Communication (C): The conveying of meaning through various forms

Application (A): The use of knowledge and skills to make connections within and between various contexts

COURSE WORK (70% of your overall grade)

Categories	%	Possible Assessments of Learning
K & U	25%	Knowledge of content (facts, terms, procedural skills, use of tools) Understanding of content (Understanding of mathematical concepts)
T	10%	Use of planning skills – understanding the problem (e.g., formulating and interpreting the problem, making conjectures) – making a plan for solving the problem Use of processing skills – carrying out a plan (e.g., collecting data, questioning, testing, revising, modelling, solving, inferring, forming conclusions) – looking back at the solution (e.g., evaluating reasonableness, making convincing arguments, reasoning, justifying, proving, reflecting) Use of critical/creative thinking processes (e.g., problem solving, inquiry)
C	10%	Expression and organization of ideas and information (e.g., clarity of expression, logical organization), using oral, visual, and written forms (e.g., pictorial, graphic, dynamic, numeric, algebraic forms; concrete materials) Communication for different audiences and purposes (e.g., peers, teachers) and purposes (e.g., to present data, justify a solution, express a mathematical argument) in oral, visual, and written forms Use of conventions (e.g., terms, symbols) in oral, visual, and written forms
A	25%	Application of knowledge and skills in familiar contexts Transfer of knowledge and skills to new contexts Making connections within and between various contexts (e.g., connections between concepts, representations, and forms within mathematics; connections involving use of prior knowledge and experience; connections between mathematics, other disciplines, and the real world)

FINAL EVALUATION (30% of your overall grade)

Type	Description	%
Culminating Task(s)	A multiple entry project with stages reflecting the topics introduced in the course, carried out over the week of culminating activities	15%
Exam	Written exam during exam week	15%

UNITS OF STUDY/COURSE ROAD MAP (subject to change)

Unit 1 – Mathematical Models

1.11 Modelling with Quadratic Relations	Week 1 (8 periods)
1.12 The Quadratic Relation $y = ax^2 + k$	
1.13 The Quadratic Relation $y = a(x - h)^2$	
1.14 The Quadratic Relation $y = a(x - h)^2 + k$	
1.15 Interpret Graphs of Quadratic Relations	
1.21 Expand Binomials	Week 3 (8 periods)
1.22 Change Quadratic Relations from Vertex Form to Standard Form	
1.23 Factor Trinomials of the form $x^2 + bx + c$	
1.24 Factor Trinomials of the form $ax^2 + bx + c$	
1.25 The x-intercepts of a Quadratic Relation	
1.26 Solve Problems Involving Quadratic Relations	
1.31 Exponent Rules	Week 5 (9 periods)
1.32 Zero and Negative Exponents	
1.33 Investigate Exponential Relationships	
1.34 Exponential Relations	
1.35 Modelling Exponential Growth and Decay	
1.36 Solve Problems Involving Exponential Growth and Decay	

Unit 2 – Personal Finance

2.41 Simple and Compound Interest	Week 7 (8 periods)
2.42 Compound Interest	
2.43 Present Value	
2.44 The TVM Solver	
2.45 Effects of Changing the Conditions on Investments and Loans	
2.51 Savings Alternatives	Week 9 (9 periods)
2.52 Investment Alternatives	
2.53 Manage Credit Cards	
2.54 Obtain a Vehicle	
2.55 Operate a Vehicle	

Unit 3 – Geometry and Trigonometry

3.61 Investigate Geometric Shapes and Figures	Week 11 (8 periods)
3.62 Perspective and Orthographic Drawings	
3.63 Create Nets, Plans and Patterns	
3.64 Scale Models	
3.65 Solve Problems with Given Constraints	
3.71 Revisit the Primary Trigonometric Ratios	Week 13 (9 periods)
3.72 Solve Problems Using Trigonometric Ratios	
3.73 The Sine Law	
3.74 The Cosine Law	

3.75 Make Decisions Using Trigonometry	
Unit 4 – Data Management	
4.81 Probability Experiments	Week 15 (5 periods)
4.82 Theoretical Probability	
4.83 Compare Experimental and Theoretical Probabilities	
4.84 Interpret Information Involving Probability	
4.91 Sampling Techniques	Week 16 (7 periods)
4.92 Collect and Analyze Data	
4.93 Display Data	
4.94 Measures of Central Tendency	
4.95 Measures of Spread	
4.96 Common Distributions	

GEORGE S. HENRY ACADEMY'S LATE & MISSED EVALUATION POLICY

It is the responsibility of the student to make arrangements with their teacher for any missed course material and/or assignments. Extenuating circumstances will be considered on a case-by-case basis.

GEORGE S. HENRY ACADEMY'S ACADEMIC DISHONESTY POLICY

Cheating and plagiarism will not be condoned. For more information, refer to the Academic Honesty Policy found in the Student Handbook. The Student Handbook can be found in the George S. Henry Academy app.

SPECIALIST HIGH SKILLS MAJOR (SHSM) REQUIREMENTS

GRADE 11 AND 12 CREDITS	ENVIRONMENT	HEALTH & WELLNESS	HOSPITALITY & TOURISM
Major Credits	4	4	4
English (<i>including a CLA*</i>)	2	1	1
Mathematics (<i>including a CLA</i>)	1	1	1
Science or Social Sciences and Humanities (<i>including a CLA</i>) (<i>May be substituted with 1 coop credit</i>)	-	1	-
Business Studies or Science (<i>including a CLA</i>) (<i>May be substituted with 1 coop credit</i>)			1
Cooperative Education	2	2	2
TOTAL	9	9	9

*Contextualized Learning Activity