### 2018 – 2019

### Grade 12, College Preparation

### College and Apprenticeship Mathematics

##### MAP4C1

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**Evaluation Profile & Outline**

## Earl Haig

SecondarySchool

**Course Description/Rationale/Overview:**

This course enables students to broaden their understanding of real-world applications of mathematics. Students will analyse data using statistical methods; solve problems involving applications of geometry and trigonometry; solve financial problems connected with annuities, budgets, and renting or owning accommodation; simplify expressions, and solve equations. Students will reason mathematically and communicate their thinking as they solve multi-step problems. This course prepares students for college programs in areas such as business, health sciences, and human services, and for certain skilled trades.

**Class Requirements:**

Standard Scientific Calculator

Notebook

Note-taking materials

**Course Requirements/Department Policies**

Course Prerequisites: MBF 3C or MCF 3M or MCR 3U

Arrangements for missed tests for valid reasons must be made ahead of time if known in advance, or the teacher must be contacted on the day of the test by phone (395-3210 ext. 20080) in case of illness or other unexpected absence. The student should be prepared to write the test immediately upon return to school.

Late assignments must be accompanied with a note signed by a parent or guardian stating the reason for late submission. The note must list the due date of the assignment and the actual date of submission.

**Marks will be deducted for late assignments, up to and including the full value of the assignment.** [Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools, Ministry of Ontario, 2010, pg. 43.]

#### Assessment Strategies

Diagnostic Quizzes Homework Check Peer Assessments Observations

Diagnostic Tests Group Work Class Participation/Interaction

In-class Assignments Technology Based Tasks Conferences/Interviews

**Learning Skills:**

Responsibility; Initiative; Organization;

Independent Work;

Collaboration;

Self-regulation

**Curriculum strands:**

1. Mathematical Models
2. Personal Finance
3. Geometry and Trigonometry
4. Data Management

**Final Mark**

Year’s Work: 70%

Final Summative Evaluation 30%

(Summative – 10%)

(Final Exam – 20%)

Achievement Categories and Weighting

Knowledge & Understanding 25%

Application 20%

Thinking 10%

Communication 15%

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**Outline**

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1. **Mathematical Models**
   1. Evaluate powers with rational exponents, simplify algebraic expressions involving exponents, and solve problems involving exponential equations graphically and using common bases.
   2. Describe trends based on the interpretation of graphs, compare graphs using initial conditions and rates of change, and solve problems by modeling relationships graphically and algebraically.
   3. Make connections between formulas and linear, quadratic, and exponential relations, solve problems using formulas arising from real-world applications, and describe applications of mathematical modeling in various occupations.
2. **Personal Finance**
   1. Demonstrate an understanding of annuities, including mortgages, and solve related problems using technology.
   2. Gather, interpret, and compare information about owning or renting accommodation, and solve problems involving the associated costs.
   3. Design, justify, and adjust budgets for individuals and families described in case studies, and describe applications of the mathematics of personal finance.
3. **Geometry and Trigonometry**
   1. Solve problems involving measurement and geometry and arising from real-world applications.
   2. Explain the significance of optimal dimensions in real-world applications, and determine optimal dimensions of two-dimensional shapes and three-dimensional figures.
   3. Solve problems using primary trigonometric ratios of acute and obtuse angles, the sine law, and the cosine law, including problems arising form real-world applications, and describe applications of trigonometry in various occupations.
4. **Data Management**
   1. Collect, analyse, and summarize two-variable data using a variety of tools and strategies, and interpret and draw conclusions from the data.
   2. Demonstrate an understanding of the applications of data management used by the media and the advertising industry and in various occupations.