Sir Wilfrid Laurier Secondary School
Foundations for College Mathematics, Grade 12 College Preparation – MAP4C
Course Outline 2015 – 2016

Course Description

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.

Prerequisite: Foundations for College Mathematics, Grade 11, College Preparation (MBF3C), or Functions and Applications, Grade 11, University/College Preparation (MCF3M).

Strands and Subgroups

Mathematical Models

- evaluate powers with rational exponents, simplify algebraic expression involving exponents, and solve problems involving exponential equation graphically and using common bases;
- describe trends based on the interpretation of graphs, compare graphs using initial conditions and rates of change, and solve problems by modelling relationships graphically and algebraically;
- 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.

Personal Finance

- demonstrate an understanding of annuities, including mortgages, and solve related problems using technology;
- gather, interpret, and compare information about owning or renting accommodation, and solve problems involving the associated costs;
- design, justify, and adjust budgets for individuals and families described in case studies, and describe applications of the mathematics of personal finance.

Geometry and Trigonometry

- solve problems involving measurement and geometry and arising from real-world applications;
- explain the significance of optimal dimensions in real-world applications, and determine optimal dimensions of two-dimensional shapes and three-dimensional figures;
- solve problems using primary trigonometric ratios of acute and obtuse angles, the sine law, and the cosine law, including problems arising from real-world applications, and describe applications of trigonometry in various occupations.

Data Management

- collect, analyse, and summarize two-variable data using a variety of tools and strategies, and interpret and draw conclusions from the data;
- demonstrate an understanding of the applications of data management used by the media and the advertising industry and in various occupations.

Evaluation

The final report card mark will be determined according to the **student's overall achievement of all of the course expectations** as set out in The Ontario Curriculum Mathematics documents. Students will be given **multiple and varied opportunities to demonstrate their achievement of the expectations within each strand** throughout the term as well as in the summative activity and final exam.

The term mark will contribute 70% to the overall grade; summative evaluations will contribute 30%. A final mark will be determined by achievement in *all* areas with knowledge and skills described by:

a **high degree** of effectiveness	**Level 4** (80-100)	Achievement surpasses the provincial standard.
considerable effectiveness	**Level 3** (70-79)	Achievement represents the **provincial standard.**
some effectiveness	**Level 2** (60-69)	Achievement is approaching provincial standard.
limited effectiveness	**Level 1** (50-59)	Achievement falls much below the provincial standard.
	Below Level 1 (49 and below)	*Student does not achieve at least *limited effectiveness* in all overall expectations.

Guidelines for Missed Evaluations and Academic Fraud

1. Upon missing a test or presentation, students will be required at the teacher's discretion, either to:
   a) Make arrangements with the teacher for a make-up; or
   b) Write the missed test Friday morning at 7:30 a.m. of that week with the administration.
   Failure to complete the missed test/presentation according to the negotiated schedule will result in a mark of zero.

   Note: Certain forms of formal summative evaluations (exams, summative project presentations or tasks, etc.) are time sensitive. This means they must be completed at and within a specific time. Students must be present and prepared for these summative evaluations. Any absence will result in a mark of **zero**, unless validated by an official certificate (eg. Medical Certificate).

2. If an assignment is late or incomplete, a student will be provided with a second opportunity. Students who are provided with a second opportunity **shall complete the required assignment within five school days**. If no evidence is forthcoming after five days, a mark of zero will be assigned.

3. Copied, borrowed or stolen work provides no evidence of learning. Teacher will document and archive the work in question. Students may be allowed to resubmit the assignment. The teacher and administrator will define the parameters for the completion of this task.

General Course Information
Students must bring the following materials to each class:
- textbook (when applicable)
- separate Math binder (to hold notes, tests, quizzes, handouts)
- pencil case (to hold pencils, erasers, ruler)
- scientific calculator
- lined and graph papers

The textbook that will be issued is *Foundations for College Mathematics 12*, Pearson ($85.50 + 5% GST). The student is responsible for the cost of replacement or repairs if the text is lost or damaged.

Course Website
Lesson notes and assignments are available at https://sites.google.com/a/ocdsb.ca/mrbrichta/home/map4c which will be updated regularly throughout the semester.

Graphing Calculators
Calculators with graphing technology will be used in the lessons, and are of great assistance for homework. Students without a handheld model can access online versions at home or install graphing apps onto their smart phones. The course website has a list of free and low-cost resources that are available.

Teacher Contact Information
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