Westside Secondary School

Orangeville, Ontario, Canada

519-938-9355 **Course Outline** *www.ugdsb.on.ca/westside*

Course: MAP 4C **Teacher: Mr. K. Steele** **Program Leader: R. Marchildon**

Email: keith.steele@ugdsb.on.ca **Course Website: Google Classroom**

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.

Big Ideas (overall learning outcomes for the course):

- Modelling situations in real life with functions helps us make educated predictions.
- Looking for patterns in math helps us better understand the world around us.
- Knowledge is power.

Overall Curriculum Expectations:
By the end of this course, students will:

- evaluate powers with rational exponents, simplify algebraic expressions involving exponents, and solve problems involving exponential equations graphically and using common bases;
- describe trend 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 modelling in various occupations;
- 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 associated costs;
- design, justify, and adjust budgets for individuals and families described in case studies, and describe applications of the mathematics of personal finance;
- solve problems involving measurement and geometry and arising from real-work applications;
- explain the significance of optimal dimensions in real-workd applications, and determine optimal dimensions of two-dimensional shapes and three dimensions 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;
- collect, analyze, 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;

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Instructional Strategies:
Westside teaching staff will use a variety of instructional strategies to help students develop and improve skills in the following areas: character, citizenship, communication, critical thinking and problem solving, collaboration and teamwork, and creativity and imagination.

Achievement Categories: Student learning is assessed and evaluated with respect to the following four categories of knowledge and skills.	**Knowledge and Understanding:** 25% **Thinking:** 25% **Communication:** 25% **Application:** 25%

Assessment and Evaluation:
Formative assessments are used to improve student learning by providing varied opportunities to demonstrate an understanding of course expectations in preparation for summative evaluations. Students will have the opportunity to complete mastery quizzes throughout each unit which may lead to a reduced summative assessment. Summative evaluations test groups of key expectations. Failure to complete a summative evaluation may result in the expectations of the course not being met and the credit not being granted.

The following soft skills will be assessed:

Responsibility, Organization, Independent Work, Collaboration, Initiative, Self-Regulation

More details about Westside's Assessment and Evaluation Policy is available at:
http://www.ugdsb.ca/westside/wp-content/uploads/sites/74/2016/12/Westside-Assessment.pdf

Late Policy:
Students are expected to complete all assigned work and submit it by the teacher's established due date. Every attempt will be made to encourage students to complete all assigned work on time so their grade represents their actual achievement. For late and missed summative assessments, please see the *Westside Students' Contract for Missing Evidence of Learning*.

	Term Work (70%)
Unit of Study	**Summative Evaluations**
Personal Finance	Test, Assessment Task
Exponential Functions	Test
Graphical and Algebraic Models	Assessment Task
Measurement	Test, Assessment Task
Trigonometry	Test
Statistics	Assessment Task/Test
	Final Summative (30%)
Final Exam	at end of semester during exam period (20%)
Summative Project	last two weeks of class (10%)

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Course Materials and Replacement Cost

Textbook: Foundations for College Mathematics 12 (McGraw-Hill Ryerson) Cost: $90
Textbook: Online On Google Classroom Cost: Free

Student Expectations

Every student enrolled in Mathematics at Westside is expected to:

- be prepared for class each and every day. This means you bring a writing utensil, calculator and paper with you to class
- actively participate in class discussions
- be on time to class
- complete homework assigned
- learn to problem solve using the techniques you will learn in class

Final Assessments/Examinations

Culminating activities for each unit must be completed by the student in order to achieve the credit. Failure to complete any one of them may result in loss of credit.

There are no extensions or exemptions for final assessments without the approval from an administrator.

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I have read and understand the Course Outline: (all three pages)

Student Name (please print): ____________________________ Signature: ________________________________

Parent/Guardian Name (please print): _____________________Signature: ________________________________

Parent/Guardian email (pleaseprint): ____