Sir Wilfrid Laurier Secondary School
Grade 11 Functions and Applications (MCF 3M)
Course Outline

Course Description

This course introduces basic features of the function by extending students' experiences with quadratic relations. It focuses on quadratic, trigonometric, and exponential functions and their use in modeling real-world situations. Students will represent functions numerically, graphically and algebraically; simplify expressions; solve equations; and solve problems relating to applications. Students will reason mathematically and communicate their thinking as they solve multi-step problems.

Strands and Overall Expectations

Quadratic Functions
- Expand and simplify quadratic expressions, solve quadratic equations, and relate the roots of a quadratic equation to the corresponding graph;
- Demonstrate an understanding of functions, and make connections between the numeric, graphical, and algebraic representations of quadratic functions;
- Solve problems involving quadratic functions, including problems arising from real-world applications;

Exponential Functions
- Simplify and evaluate numerical expressions involving exponents, and make connections between the numeric, graphical, and algebraic representations of exponential functions;
- Identify and represent exponential functions, and solve problems involving exponential functions, including problems arising from real-world applications;
- Demonstrate an understanding of compound interest and annuities, and solve related problems;

Trigonometric Functions
- Solve problems involving trigonometry in acute triangles using the sine law and the cosine law, including problems arising from real-world applications;
- Demonstrate an understanding of periodic relationships and the sine function, and make connections between the numeric, graphical, and algebraic representations of sine functions;
- Identify and represent sine functions, and solve problems involving sine functions, including problems arising from real-world applications;

Evaluation

The final report card mark will be determined according to the **student's overall achievement in all of the above course expectations,** as set out in The Ontario Curriculum Mathematics documents. The final report card mark will be determined as follows:

Term Mark	70% of final grade
Summative & Final Exam	30% of final grade

The term mark will consist of various assessments evaluated on levels, where a Level 3 (70-79%) is considered provincial standard.

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. (ex. 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 text for the course is **Functions & Applications 11**, *Nelson ($83.95+ HST). The student will be issued a text, and will be responsible for the cost of replacement, or repair, if the text is lost or damaged.*

Graphing Calculators

Calculators with graphing technology may 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. Alternatively, the website https://www.desmos.com/calculator provides a free online graphing calculator.

Course Website

Lesson notes will be available at *http://sites.google.com/site/sirwildata*
Check the sidebar for our course code.