**MATHEMATICS APPLIED ‐ MA30SA**

Course Summary and Expectations:

This is one of two math programs available for students planning to pursue post-secondary studies in mathematics and science. It is intended for students whose post-secondary studies do not require the study of theoretical calculus. The math studied promotes the learning of problem-solving skills, number skills and geometry skills as they relate to the world around us. The primary goals of Applied Mathematics are to develop critical-thinking skills in students through problem solving and modelling of real-world situations to develop skills in making predictions. Technology plays a large part in the course.  Graphing calculators, spreadsheets, websites, or other computer software will be used by students for mathematical explorations, modeling, and problem solving.

Due dates for the entire semester are pre-scheduled, to help students stay on track with timing and the material of the course. Students are expected to work through the Content material on their own time (roughly one hour per school day on average), and to email their teacher if they are feeling stuck or have questions. Roughly, each Module is scheduled to take 2.5 weeks to complete.

In this course, there are 6 Modules, listed below. Each Module contains definitions, example problems, practice questions, and more to help the students learn the material and prepare for graded work.

* Quadratic Functions: Intercepts, Domain/Range, Max/Min, Applications to real-life situations
* Proofs: Inductive and Deductive Reasoning, Creating Conjectures, Counterexamples
* Statistics: Mean and Standard Deviation for list and grouped data, Normal Distribution, Z-scores and Probability, Applications to real-life situations
* Linear Programming: Graphing Linear Inequalities, Systems of Linear Inequalities, Optimization Problems, Applications to real-life situations
* Angles and Triangles: Non-Right Triangle Trigonometry (Sine Law and Cosine Law), Properties of Angles and Triangles including Angle Relationships
* Scale: Rates, Scale Diagrams and Determining Scale, Scale Factors for Areas and Volumes