Course Objectives

Mathematical Models

- Evaluate powers with rational exponents, simplify algebraic expressions involving exponents, and solve problems involving exponential equations graphically and using common bases.
- Descibe 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 modelling in various occupations.

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, 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.