



# Evans High School

## Mathematics advanced

### What is this course about?

The course is intended to give students who have demonstrated competence in the skills of Mathematics Stage 5.2 or 5.3 and competence in some further aspects of mathematics, which are applicable to the real world. It has general educational merit and is also useful for concurrent studies in science and commerce.

The course is a sufficient basis for further studies in mathematics as a minor discipline at tertiary level in support of courses such as the sciences or commerce. Students who require substantial mathematics at tertiary level supporting the physical sciences, computer science or engineering should also consider undertaking Extension 1 and/or Extension 2 Mathematics courses.

*Note: There is a \$20.00 contribution fee for students choosing this course, which includes registration to Maths Online.*

### What will be studied?

#### Preliminary Course

- Topic: Functions
- Working with Functions
- Topic: Trigonometric Functions
- Trigonometry and Measure of Angles
- Trigonometric Functions and Identities
- Topic: Calculus
- Introduction to Differentiation
- Topic: Exponential and Logarithmic Functions
- Logarithms and Exponentials
- Topic: Statistical Analysis
- Probability and Discrete Probability Distributions

#### HSC Course

- Topic: Functions
- Graphing Techniques
- Topic: Trigonometric Functions
- Trigonometric Functions and Graphs
- Topic: Calculus
- Differential Calculus
- The Second Derivative

- Integral Calculus
- Topic: Financial Mathematics
- Modelling Financial Situations
- Topic: Statistical Analysis
- Descriptive Statistics and Bivariate Data Analysis
- Random Variables

### **What do students need to do to get the Higher School Certificate in this course?**

Students must satisfactorily complete all course and assessment requirements. Students must sit for a three hour written examination at the Higher School Certificate. Board-approved calculators, geometrical instruments and approved geometrical templates may be used.

### **Do students need to have studied any particular course for the school certificate to do these courses?**

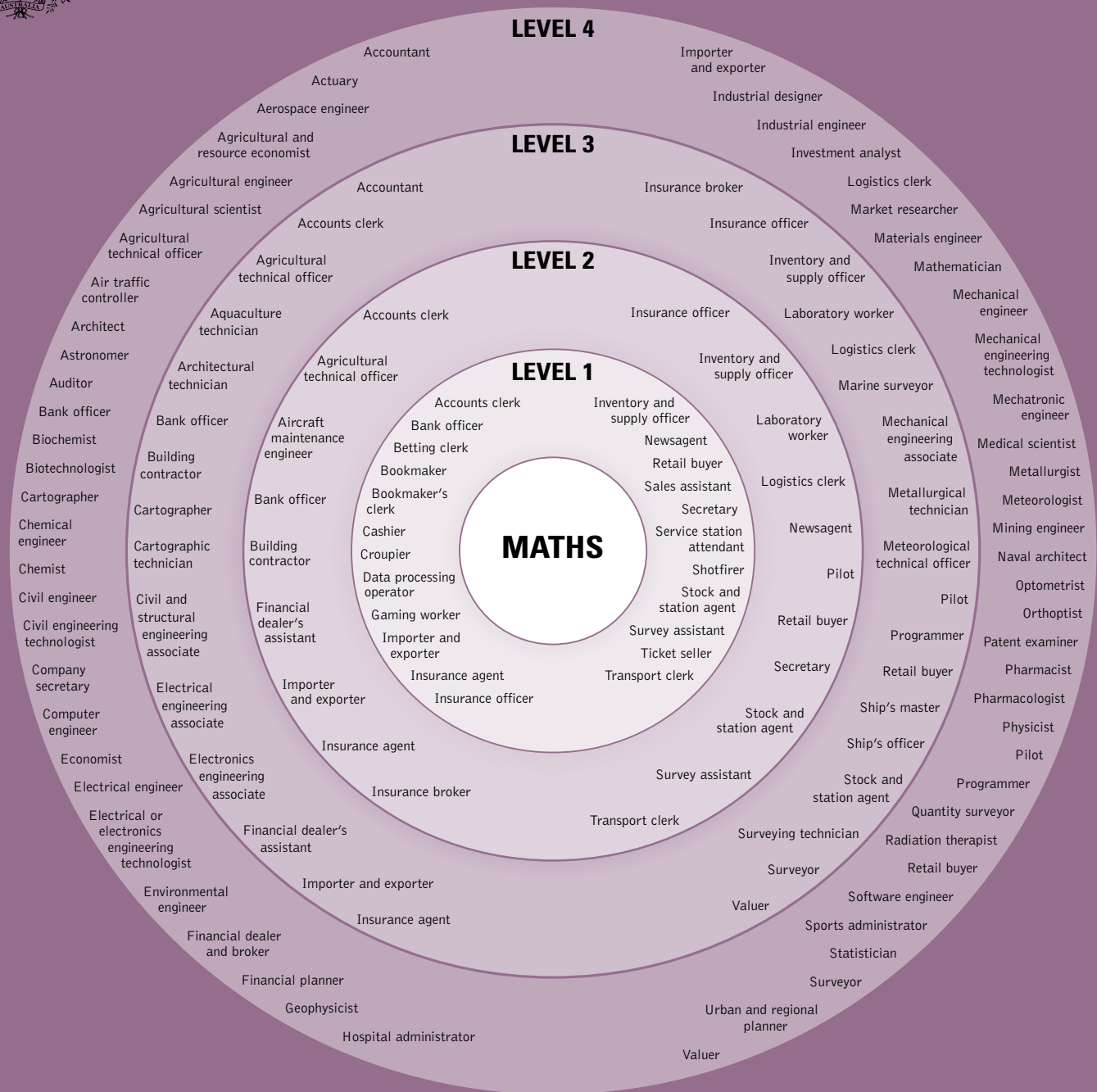
Students selecting Mathematics Advanced are recommended to have studied the 5.3 Mathematics course in Year 10.

### **Are there any restrictions on students if they select this course?**

Students cannot select any other 2 unit mathematics course for study.

### **Who should choose to study this course?**

The mathematics advanced course has been constructed on the assumption that students have demonstrated competence in mathematics up to and including at least the content and outcomes of Stage 5. Where possible, it is recommended that students also complete specific units from Stage 5.3, if not all of the content.



# Do you enjoy or are you good at MATHS?

## Have you considered the occupations above?

### Usual training requirements

- LEVEL 1** Usually has a skill level equal to the completion of Year 10, the Senior Secondary Certificate of Education, Certificate I or Certificate II qualification. Australian Apprenticeships may be offered at this level.
- LEVEL 2** Usually has a skill level equal to a Certificate III or IV or at least three years relevant experience. Australian Apprenticeships may be offered at this level.
- LEVEL 3** Usually requires a level of skill equal to a Diploma or Advanced Diploma. Study is often undertaken through TAFEs or Registered Training Organisations. Some universities offer studies at this level.

**LEVEL 4** Usually requires the completion of a Bachelor Degree or higher qualification. Study is often undertaken at university.

This chart shows a selection of jobs that have some relation to the subject of **MATHS**.

The four education and training levels are to be used as a guide only. These levels indicate the most common education and/or entry requirements for these jobs.

For further information visit [www.jobguide.education.gov.au](http://www.jobguide.education.gov.au) and [www.myfuture.edu.au](http://www.myfuture.edu.au)

