



**Bowral High Mathematics Faculty**

**Course Information, Assessment & Reporting Year 10**

**Summary of Year 10 Mathematics – Stage 5.3**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
<b>Term 1</b>	<p><b>Probability</b></p> <p><i>Determines relative frequencies and theoretical probabilities and solves probability problems involving multi-stage events.</i></p>			<p><b>Equations</b></p> <p><i>Solves linear, quadratic and simultaneous equations, solves and graphs inequalities, and rearranges literal equations.</i></p>			<p><b>Consumer Arithmetic</b></p> <p><i>Solves consumer arithmetic problems involving earning money, spending money, simple interest, compound interest, depreciation and successive discounts.</i></p>			
<b>Term 2</b>	<p><b>Congruency &amp; Similarity</b></p> <p><i>Develops and applies formal results for proving that triangles are congruent or similar.</i></p>			<p><b>Statistics</b></p> <p><i>Analyses and displays grouped data and uses the interquartile range and standard deviation to compare data sets.</i></p>			<p><b>Volume &amp; Surface Area</b></p> <p><i>Applies formulae to find the surface area and volume of cylinders, right pyramids, cones and spheres leading to calculations involving composite solids.</i></p>			
<b>Term 3</b>	<p><b>Volume &amp; Surface Area cont.</b></p>		<p><b>Linear &amp; Non-linear relationships</b></p> <p><i>Draws and interprets a variety of graphs including straight lines, regions, parabolas, cubics, hyperbolas, exponentials and circles and applies coordinate geometry techniques to solve problems.</i></p>				<p><b>Trigonometry</b></p> <p><i>Applies trigonometry to solve problems including those involving elevation &amp; depression, bearings, trigonometric relationships, sine rule, cosine rule and area rule.</i></p>			
<b>Term 4</b>	<p><b>Revision &amp; Assessment</b></p>			<p><b>Preparation for Post Stage 5</b></p> <p><i>Completes extension work from areas including Curve Sketching, Polynomials, Functions &amp; Logarithms, and Circle Geometry</i></p>						

**Note:**

- All classes will follow the program shown above but the depth and scope of study in each class may vary. Students' pre-existing levels of knowledge, skills and applications will be assessed and relevant outcomes addressed in order to recognize and extend their confidence and skills in mathematics.

**Assessment**

Each Semester student achievement will be measured within individual classes and across the whole of Year 10.

- **Within Classes:** student progress in achieving designated outcomes will be assessed, on an ongoing basis, using a variety of tools including teacher observation, homework tasks, assignments, class participation, completion of set tasks and topic tests.
- **Across the whole of Year 10 :** student performance relative to the whole of Year 10 will be assessed as follows:
  - Semester 1** - through their performance in the **Major Common Test for Year 10, held in week 6 Term 2.**
  - Semester 2** - through their performance in the **Trial School Certificate, held in week 11 Term 3 and the Major Common Test for Year 10, held in week 2 Term 4.**

**Reporting**

A student progress report will be provided at the end of each semester. The report for each student will show:-

1. A Grade (A–E), indicating the student's relative performance across the whole of Year 10.

**A – Outstanding Achievement:** The student has an extensive knowledge and understanding of the content and can readily apply this knowledge. In addition, the student has achieved a very high level of competence in the processes and skills and can apply these skills to new situations.

**B – High Achievement:** The student has a thorough knowledge and understanding of the content and a high level of competence in the processes and skills. In addition, the student is able to apply this knowledge and these skills to most situations.

**C – Sound Achievement:** The student has a sound knowledge and understanding of the main areas of content and has achieved an adequate level of competence in the processes and skills.

**D – Basic Achievement:** The student has a basic knowledge and understanding of the content and has achieved a limited level of competence in the processes and skills.

**E – Limited Achievement:** The student has an elementary knowledge and understanding in few areas of the content and has achieved very limited competence in some of the processes and skills.

**N - Fails to meet course requirements for the School Certificate**

2. Grades indicating the level of achievement in each area studied during the semester. These Grades will be based on the individual student's achievement in their class. The areas of assessment in Year 10, Stage 5.3 are:-

**Year 10, 5.3 – Semester 1**

- Solving probability problems involving compound events

- Solving linear, quadratic and simultaneous equations. Solving and graphing inequalities and rearranging literal equations
- Solving consumer arithmetic problems involving compound interest, depreciation and successive discounts
- Constructing geometrical arguments using congruency and similarity tests for triangles
- Using the interquartile range and standard deviation to analyse data

### Year 10 5.3 – Semester 2

- Using the interquartile range and standard deviation to analyse and interpret data
- Finding surface area and volume of prisms, pyramids, cylinders, cones and spheres
- Graphing and interpreting relationships on the number plane; using coordinate geometry techniques to solve problems
- Using trigonometry, sine rule, cosine rule and area rule in problem solving
- Using technology, particularly spreadsheets, in a variety of mathematical applications

**The grades will be: Outstanding, High, Sound, Basic, Limited, N** (fails to meet course requirements in the School Certificate), **n/a** (If the student was not at BHS for this work)

3. A personal profile for responsible learning, using the categories; Always, Usually, Sometimes, Rarely.

- Brings required equipment to class / is prepared
- Listens attentively and follows instructions
- Participates positively in class and discussions
- Interacts positively with teachers and students
- Works independently and is self motivated
- Meets homework/assignment deadlines

**School Certificate Grading** - will be determined by following the guidelines set down by the Board of Studies.

### Special Notes

- **Homework** will be given on a regular basis and its completion and follow-up is considered to play an important part in building student confidence and skills in Mathematics.
- **Calculators** and their effective use are an essential part of the Year 10 Mathematics Course and all students are required to have a scientific calculator with them in every mathematics lesson. The external School Certificate Examination contains a non-calculator section so students need to be able to complete calculations with and without a calculator. We strongly recommend you purchase a calculator through the Finance Office at Bowral High where

we sell an approved calculator **at cost price**. This calculator is suitable for use through to Year 12 and beyond. Calculators purchased elsewhere may not have the required features.

- **Calculators may be used in the relevant sections of the Year 10 across the form tests and the School Certificate Examination.**
- **Geometry Equipment:** All students are expected to have a set of geometrical instruments consisting of a pair of compasses, a protractor, a setsquare, a ruler and a pencil. At the moment a geometry set is offered free as a bonus item with the purchase of a calculator through the Finance Office (see above).
- **Work Books:** We recommend students purchase a 240 page, 5mm Grid Book for use in Mathematics. Loose-leaf folders are not permitted in junior Mathematics.
- If, at any time, you would like to discuss your child's progress in Mathematics you may contact their Mathematics Teacher or Mr Reynolds, on 48612255.

**M. Reynolds - Head Teacher Mathematics**