WAGIN DISTRICT HIGH SCHOOL
Semester 2, 2025 OUTLINE
Year 8 – Mathematics

COURSE OUTLINE

The proficiency strands understanding, fluency, problem-solving and reasoning are an integral part of mathematics content across the two content strands: measurement and geometry, and numbers and algebra. The proficiencies reinforce the significance of working mathematically within the content and describe how the content is explored or developed. They provide the language to build in the developmental aspects of the learning of mathematics. The achievement standards reflect the content and encompass the proficiencies.

COURSE OUTCOMES

Numbers and Algebra

Investigate terminating and recurring decimals (ACMNA184)
Solve problems involving the use of percentages, including percentage increases and decreases, with and without digital technologies (ACMNA187)
Solve a range of problems involving rates and ratios, with and without digital technologies (ACMNA188)
Solve problems involving profit and loss, with and without digital technologies (ACMNA189)
Extend and apply the distributive law to the expansion of algebraic expressions (ACMNA190)
Factorise algebraic expressions by identifying numerical factors (ACMNA191)
Simplify algebraic expressions involving the four operations (ACMNA192)
Plot linear relationships on the Cartesian plane with and without the use of digital technologies (ACMNA193)
Solve linear equations using algebraic and graphical techniques. Verify solutions by substitution (ACMNA194)

Measurement and Geometry

Connect decimal representations to the metric system (ACMMG135)
Convert between common metric units of length, mass and capacity (ACMMG136)
Investigate combinations of translations, reflections and rotations, with and without the use of digital technologies (ACMMG142)
Introduce the Cartesian coordinate system using all four quadrants
Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles (ACMMG141)

TASKS & ASSESSMENT

Students will generally undertake work in blocks of 5 weeks. During this time, they will be expected to complete all required class work and homework, and this will then be assessed in an end of unit test. Students may also be asked to complete quizzes, assignments and/or investigations to help develop their understanding of the concepts covered. *While the key content will be taught at school, it is essential that students revise at home on a regular basis to help practice new skills and solidify their understanding. Homework will count 10% towards student's overall grade.*
All work samples will then be used to determine the ability and grade of each student.

TIMELINE

	WEEK	KEY CONCEPTS	ASSESSMENTS
Term 3	**1 – 4**	***Numbers and Algebra*** • Use percentages to solve problems (including mark-ups, discounts, profit and loss and GST). • Profit and loss. • Rates and ratios (with and without technologies)	Assignment Investigation (10%) TEST (10%)
	6 – 10	***Numbers and Algebra*** • *Distributive law.* • *Factorise algebraic expressions.* • *Simplify algebraic expressions (four operations).*	Assignment (15%) TEST (10%)
Term 4	**1-5**	***Measurement and Geometry*** • Congruent figures (justifying reasoning and making generalisation.) • Conditions for congruence of triangles (SSS,SAS,ASA, RHS) and the conditions that do not prescribe congruence (ASS,AAA) • Construct Triangles • Solve Problems using properties of congruent triangles • Two-dimensional transformation (translating, rotating or reflecting). • Properties of Quadrilaterals (squares, rectangles, parallelograms, rhombuses, trapeziums and kites)	Assignment (10%) TEST (10%)
	6-10	***Numbers and Algebra*** • Solve linear equations using algebraic techniques • Solve linear equations using graphical techniques. • Plot linear relationships on the Cartesian plane. • Plot points for tables of values.	Assignment (15%) TEST (10%)

Timeline and assessment items may be subject to change.