



SAMPLE COURSE OUTLINE

MATHEMATICS ESSENTIAL GENERAL YEAR 11

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Sample course outline

Mathematics Essential – General Year 11

Unit 1 and Unit 2

Semester 1

Week	Key teaching points
1–2 (6 hours)	Skills review—Calculations with whole numbers, order of operations, rounding to suit the context, converting metric units, decimal, fraction and percentage amounts of quantities, amount expressed as a percentage of another, percentage increases and decreases. 1.1–1.15
2–4 (10 hours)	Nutrition and health Practical applications involving linear measurement, mass, capacity, rates, practical formulas and interpreting information presented in tables and graphs. Using the mathematical thinking process to solve problems. 1.1.1–1.1.18, 1.2.1–1.2.2, 1.3.1–1.3.3, 1.3.9–1.3.18, 1.4.1–1.4.3
5–7 (12 hours)	Practical applications of area and volume/capacity Area, volume and capacity, units of measurement 1.1.16–1.1.17, 1.3.5–1.3.8
8–10 (12 hours)	Earning money 1 Rates of pay—weekly/fortnightly, annual income, quotes, career research/incomes 1.1.1–1.1.18, 1.3.1–1.3.8, 1.3.11, 1.3.14, 1.2.1–1.2.2, 1.4.1–1.4.3
11–12 (6 hours)	Earning money 2 Commission, superannuation, income tax 1.1.1–1.1.15, 1.4.1–1.4.6
12 (2 hours)	Managing money Bank accounts, percentages, using formulas 1.1.1–1.1.15, 1.2.1–1.2.2
13–14 (8 hours)	Spending money Discounts, best buys, budgets, using data to make decisions 1.1.1–1.1.18, 1.2.1–1.2.2, 1.3.9–1.3.14, 1.4.1–1.4.6 Project
15–16 (8 hours)	Revision and assessment

Semester 2

Week	Key teaching points
1–2 (5 hours)	Statistical Investigation Process Part 1: Questions that can be answered with secondary data; selecting and applying appropriate graphical techniques to analyse the data, interpret the results of this analysis and relate the interpretation to the original question. Types of data, frequency distributions which represent data—column/bar graphs, dot plots, stem and leaf plots, histograms, suitability of data presentation in real world contexts 2.1.1–2.1.6, 2.2.1–2.2.2
2 (3 hours)	Statistical Investigation Process Part 2: Selecting and applying appropriate numerical techniques to analyse the data; interpret the results of this analysis and relate the interpretation to the original question. Summarising and interpreting data using mean, mode and median as measures of central tendency, range, interquartile range, standard deviation as measures of spread. 2.1.7–2.1.13
3 (3 hours)	Comparing data sets Using back to back stem plots, box and whisker plots, and histograms to compare data distributions. Interpreting symmetry, skewness and bimodality of data sets. Constructing box and whisker plots from a five number summary. 2.1.14–2.1.17
3–4 (5 hours)	Modelling the Statistical investigation process to real world situations which involve secondary data. Communicate findings in a systematic and concise manner. Statistical investigation assessment: Are male better drivers?
5–7 (10 hours)	Ratio and rates Using ratios to compare quantities of the same kind in practical situations, relationship between fractions, percentages and ratio. Using rates to compare quantities of a different kind in practical situations; pay rates, costs per day, birth rates, interest rates and simple interest, exchange rates. 2.2.1–2.2.4, 2.3.1–2.3.6, 2.3.8–2.3.12
7–9 (8 hours)	Time Units of time, conversions between units, fractional, digital and decimal representations of time, timetables 2.4.1–2.4.6 Response Assessment
9–11 (8 hours)	Speed and distance Speed expressed as a rate, average speed, fuel consumption, reaction times, stopping time and braking distance, interpreting distance versus time graphs, calculating speed, distance and time from a distance vs time graph. 2.1.7–2.1.8, 2.3.8–2.3.11, 2.4.10–2.4.11, 2.4.13–2.4.14
11–13 (10 hours)	Maps and travel Using ratio to interpret and use scales on maps, planning journeys, shortest path on routes, average speed. 2.4.4–2.4.5 2.4.7–2.4.9, 2.4.12 Travel project using the mathematical thinking process
14–15 (8 hours)	Revision and assessment