KS5 – Year 12 – AS Core Mathematics

Term	Topic Titles	Brief Overview
1	Data handling and types of data	Understanding different data types and how to organize, summarize, and interpret them.
	Sampling methods	Various techniques for selecting representative samples from a population to make inferences.
	Measures of location and spread	Calculation and interpretation of central tendency (mean, median, mode) and dispersion (range, variance, standard deviation).
	Representing and interpreting data	Using graphs, charts, and tables to present data and extract meaningful information.
	Percentages	Applying percentage calculations in various financial and real-world contexts.
	Introduction to personal finance	Basic financial literacy, including budgeting, saving, and financial planning.
	Taxes and National Insurance	Understanding the principles and calculations of income tax and National Insurance contributions.
	Controlling debt	Strategies for managing and reducing personal debt.
	APR and AER	Understanding and calculating the Annual Percentage Rate (APR) and Annual Equivalent Rate (AER) for loans and savings.
	Exchange rates	Converting between different currencies and understanding the impact of exchange rates on financial transactions.
	Inflation	Understanding the causes and effects of inflation on purchasing power and financial decisions.
	Using mathematical formulae	Applying algebraic and mathematical formulas to solve problems.
	Introduction to modelling	Using mathematical models to represent real-world situations and predict outcomes.
	Standard form	Expressing and manipulating very large or very small numbers in standard form.
	Rounding and estimation	Techniques for approximating numbers to a required degree of accuracy.

	Fermi estimation	Making rough, order-of-magnitude estimates for quantities based on logical assumptions.
	Evaluating models	Assessing the accuracy and validity of mathematical models.
2	Introduction to critical analysis	Developing skills to critically evaluate arguments, data, and statistical claims.
	Misleading graphs	Identifying and understanding how graphs can be used to mislead or misrepresent data.
	Properties of The Normal Distribution	Characteristics of the normal distribution curve, including mean, median, and standard deviation.
	Calculations using the Normal Distribution	Using the properties of the normal distribution to calculate probabilities and outcomes.
	The standard Normal Distribution	Understanding and using the standard normal distribution (z-scores) for statistical analysis.
	Using the preliminary materials	Applying provided preliminary data or materials to solve exam problems.
	Sample errors	Identifying and understanding errors that can occur when sampling from a population.
	Introduction to confidence intervals	Calculating and interpreting confidence intervals to estimate population parameters.
	Calculating confidence intervals	Determining the range within which a population parameter lies with a specified level of confidence.
	Scatter graphs and correlation	Using scatter graphs to identify relationships between variables and measuring the strength of correlation.
	Lines of regression	Fitting and interpreting regression lines to model the relationship between two variables.
	Using the PMCC	Calculating and interpreting the Pearson Product-Moment Correlation Coefficient to assess the linear correlation between variables.
3	Revision	Reviewing and consolidating knowledge across all topics covered in the course.