Year 12 A-Level Mathematics

GUNNERSBURY CATHOLIC SCHOOL

AD ALTIORA

(Statistics)

Data Collection

- ✓ Population & samples
- ✓ Sampling
- ✓ Non-random sampling
- ✓ Types of data
- ✓ The large data set

Measures of Location and Spread

- ✓ Measures of central tendency
- ✓ Other measures of location
- ✓ Measures of spread
- ✓ Variance and standard deviation
- ✓ Coding

Representations of Data

- ✓ Outliers
- ✓ Box plots
- ✓ Cumulative frequency
- ✓ Histograms
- ✓ Comparing data

Correlation

- ✓ Correlation
- ✓ Linear regression

Probability

- ✓ Calculating probabilities
- ✓ Venn diagrams
- ✓ Mutually exclusive and independent events
- ✓ Tree diagrams

Statistical Distributions

- ✓ Probability distributions
- ✓ The binomial distribution
- ✓ Cumulative probabilities

Hypothesis Testing

- ✓ Hypothesis testing
- ✓ Finding critical values
- ✓ One-tailed tests
- ✓ Two-tailed tests

Year 13

(Mechanics)

Modelling in Mechanics

- ✓ Constructing a model
- ✓ Modelling assumptions
- ✓ Quantities and units
- ✓ Working with vectors

Constant Acceleration

- ✓ Displacement-time graphs
- ✓ Velocity-time graphs
- ✓ Constant acceleration formulae 1
- ✓ Constant acceleration formulae 2
- ✓ Vertical motion under gravity

Forces and Motion

- ✓ Force diagrams
- ✓ Forces as vectors
- ✓ Forces and acceleration
- ✓ Motion in 2 dimension
- ✓ Connected particles
- ✓ Pulleys

Variable Acceleration

- ✓ Functions of time
- ✓ Using differentiation
- ✓ Maxima and minima problems
- ✓ Using integration
- ✓ Constant acceleration formulae

Year 13