

AUTUMN 1

Core – Algebraic Expressions -Index Laws -Expanding and Factorising -Surd	Core- Quadratics -Solving Quadratics -Completing the Square -Functions -Quadratic Graphs -The Discriminant	Core – Trigonometric ratios, Identities & Equations -Sine Rule, Cosine Rule & Area of a triangle -Graphs of sine, cosine and tangent -Transformations Graphs -Angles in all four quadrants -Exact Values -Trigonometric Identities and Equations	Topic 4 Core – Equations & Inequalities -Simultaneous Equations -Linear, Quadratic and Graphical -Inequalities - Linear, Quadratic and Graphical	Core – Straight Line Graphs -The equation of a line -Parallel and Perpendicular lines -Length and Area	Core – Circles -Equation of a circle -Intersections and tangent to circles -Circles and Triangles	Prior Learning GCSE Content (Yr. 10/11): - -Indices -Algebraic manipulation -Solving Quadratics -Plotting graphs -Sine Rule/Cosine Rule/ Area of a triangle -Simultaneous equations -Inequalities -The equation of a line and circle
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AUTUMN 2

Core – Graphs & Transformations -Cubic Graphs -Quartic Graphs -Reciprocal Graphs -Intersections of graphs -Transformations of Graphs	Core – Algebraic Methods -Algebraic Fractions -Dividing Polynomials -Factor Theorem -Proof	Core – Binomials -Pascal’s Triangle -Factorial Notation -Binomial Expansion	Prior Learning GCSE Content (Yr. 10/11):- -Plotting graphs -Algebraic Fractions -Transformation of graphs -Proof
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SPRING 1

Core – Vectors -Solving problems involving Vectors	Core – Differentiation -Differentiation -Linking to Stationary Points	Prior Learning GCSE Content (Yr. 10/11): - -Column vectors -Vector problems -Solving Quadratics
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SPRING 2

Core – Integration -Integration -Linking to Area under Curves	Core – Logs and Exponentials -Solving problems involving exponentials functions -Solving problems involving logarithms	Prior Learning GCSE Content (Yr. 10/11): - -Distance Time graphs -Velocity Time graphs -Indices -Exponential Graphs
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SUMMER 1

Core – Radians -Solving problems involving radians	Core – Further Algebraic Methods -Proof by contradiction -Partial Fractions -Repeated Factors -Algebraic Division	Core – Sequences -Arithmetic Sequences -Geometric Sequences -Sum to infinity -Sigma Notation -Recurrence relations	Prior Learning GCSE Content (Yr. 10/11): - -Angles in four quadrants -Trigonometry -Nth term -Proof Previous A Level: -Angles in four quadrants -Algebraic Methods
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CAREERS LINKS

Accountancy, Banking Insurance, Bookmaking, Risk analyst, News reporting, Analyst, Business person, Performance analyst. Actuaries, Economists, meteorologist, welders, construction, architecture, games designer, software design & IT, engineering.

CHARACTER LINKS

Traits of determination, perseverance and resilience (performance virtues) are fostered. Judgement, reasoning and reflection skills are also fostered (intellectual virtues).

KEY ASSESSMENT DATES

Pupils will have an assessment in the first 4 weeks of the course starting, in which they must achieve at least 50%. They will then have an end of topic test for every unit, and then a mock at the end of the year during the whole school assessment week.

Statistics – Data Collection -Sampling -Types of Data -The Large Data Set	Prior Learning GCSE Content (Yr. 10/11): - -Sampling
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AUTUMN 2

Statistics – Measures of Location and Spread -Measures of Central Tendency -Measures of Spread -Variance and Standard Deviation -Coding	Statistics – Representations of Data -Box Plots and Outliers -Cumulative Frequency -Histograms -Comparing Data	Prior Learning GCSE Content (Yr. 10/11): -Averages -Box plots -Cumulative Frequency -Histograms -Comparing Data
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SPRING 1

Statistics – Probability -Probability -Venn Diagrams -Mutually Exclusive and Independent Events -Tree Diagrams	Statistics – Conditional Probability -Set Notation -Conditional Probability -Probability Formulae -Tree Diagrams	Mechanics – Modelling -Modelling Assumptions -Quantities and Units -Working with Vectors	Prior Learning GCSE Content (Yr. 10/11): -SDT equations -Averages -Probability -Vector notation
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SPRING 2

Mechanics – Constant Acceleration -Displacement-Time Graphs -Velocity-Time Graphs -Constant Acceleration formulae -Vertical Motion	Prior Learning GCSE Content (Yr. 10/11): -Basic velocity time graphs -Estimated area under a curve
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SUMMER 1

Mechanics – Forces -Force Diagrams -Forces as Vectors -Forces and Acceleration -Motion in 2 dimensions -Connected Particles -Pulleys	Prior Learning Previous A Level: -Forces -Modelling problems
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SUMMER 2

Mechanics – Forces and Friction -Resolving forces -Inclined Planes -Friction	RAR Teachers will use assessment data to revisit topics to improve these skills.	Assessment and QLA Students will receive personalised feedback and revisit personalised topics.	Prior Learning Previous A Level: -Forces -Constant Acceleration
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