FURTHER MATHS

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This evening we are going to tell you about:

- Course structure
- Assessment
- Extra resources
- Potential degree and apprenticeship routes from this A-Level
- Subjects that work well with this subject
- Potential career opportunities

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What our students say:

Teachers push me to get top grades

Challenging but rewarding

The best subject for revision management, easy to revise

Satisfying and enjoyable!

Passionate teachers who go out of their way to help you

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Course Structure

- Year 12 covers the Maths A level
- This is weighted 2/3 Pure and 1/3 Applied, which is split into Statistics and Mechanics
- Year 13 covers the Further Maths A level
- This is weighted ½ Pure, ¼ Optional, ¼ Optional
- The Optional Choices are Further Statistics, Further Mechanics, Decision

Year 12 Pure	Year 12 Applied	Year 13 Pure	Year 13 Applied
Indices/Surds	Data Collection	Proof	PMCC
Solving Quadratics	Linear Interpolation	Partial Fractions	Conditional Probability
Simultaneous Equations	Standard Deviation	Modulus Graphs	The Normal Distribution
Inequalities	Box Plots & Outliers	Sequences and Series	Hypothesis Testing
Graph Transformations	Histograms	Binomial Expansion	Moments
Straight Line Graphs	Correlation	Radians	Centres of Mass
Equation of a Circle	Probability Venn Diagrams	Sec, Cosec and Cot	Tilting
Polynomial Long Division	Binomial Probability	Solving Trig Equations	Resolving Forces
Proof	Hypothesis Testing	Parametric Equations	Inclined Planes
Binomial Expansion	Vectors in Mechanics	Implicit Differentiation	Friction
Trig Identities	Velocity Time Graphs	Connected Rates of Change	Projectiles
Vectors	SUVAT equations	Numerical Methods	Ladders
Differentiation	F = ma	Integration	Pulleys on a Slope
Exponentials & Logarithms	Pulleys	Solve differential equations	Vectors in kinematics
Integration	Using calculus in mechanics	Vectors	Calculus with vectors

Core Pure 1	Core Pure 2
Imaginary Numbers	DeMoivre's Theorem
Argand Diagrams	MacLaurin Series
Loci and Regions	Improper Integrals
Series	The Mean Value of a Function
Roots of Polynomials	Calculus with Inverse Trig Functions
Volumes of Revolution	Volumes of Revolution
Inverse of a matrix	Polar Coordinates
Solving equations with matrices	Area enclosed inside a polar curve
Transformations with matrices	Hyperbolic Functions
Proof by Induction	Solving differential equations
Vectors	Harmonic Motion
Equations of planes	Predator-Prey models

Further Statistics

Further Mechanics

Decision

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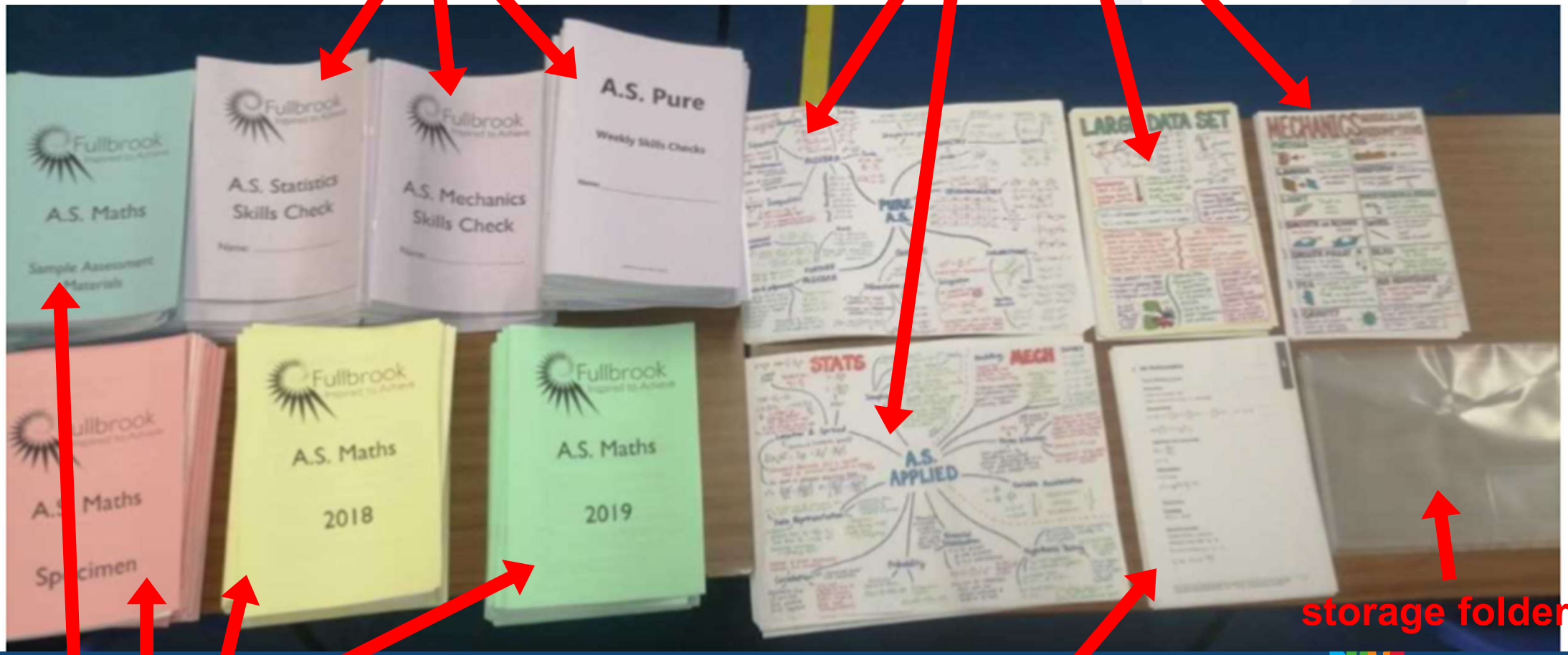
Assessment

- At the end of Year 12, we internally set an A level (2h Pure, 2h Pure, 2h Applied). This DOES NOT count towards your final grade. It is used to assess your progress and inform predicted grades.
- At the end of Year 13, you will officially sit both A levels
  3 x 2h exams for Maths
  4 x 1.5h for Further Maths

Extra Resources

- The main resource is the Edexcel textbook
- You will also be given a book of all the Maths Genie worksheets
- Mrs Mawson has made HUNDREDS of teaching videos during lockdown that you can watch, very useful if you are absent for a lesson
- Drop-in once a week to get help
- Detailed exam packs, bursting with past papers, formulae and handmade revision posters, no other college offers these!



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Potential Degree/Apprenticeship Routes

- Maths is the MOST COMMON A level amongst UK university students… every single year!
- It is HIGHLY respected by all Higher Education Providers
- The logic and problem solving skills that an A level in maths demonstrate are extremely transferable and sought after in higher education and the working world
- Further Maths and Physics are widely considered to be the hardest A levels – this doesn't mean you shouldn't take them! If you have the ability, these A levels will set you apart from the rest

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Subjects that work well with maths

- The MOST common ones are:

  Physics, Economics, Computer Science

- Also very common are:

  Biology, Chemistry, Business, Psychology

- Ultimately, maths goes with anything

Potential Career Opportunities

- Software Developers
- Engineers (mechanical, civil, aeronautical)
- Investment Analysts
- Accountants
- Operational Researchers
- Teachers
- Architects
- Cryptanalysts
- Stockbrokers

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