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MATHEMATICS
Curriculum Newsletter

YEAR 12

WICKERSLEY
PARTNERSHIP
TRUST.

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Curriculum Intent

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with any mathematical problem they may face in their lives and future careers.

This is achieved through promoting students to; be resilient in their approach, take risks to deepen their knowledge, forge valuable working relationships and take responsibility for and enjoy their learning. We aim to push students to be the best mathematicians by building up their skills base and maximising their attainment and understanding in mathematics at whichever stage that may be.

We ensure a coherent mathematics scheme of work that challenges all students and promotes teaching and learning; this provides students with the knowledge and skills to achieve well academically, and be successful once their education with us ends.

Year 12 Curriculum

In Y12, the course is split into Pure Mathematics, Statistics and Mechanics.

Pure Mathematics is made up of 10 main topics:
- Proof - pr oof by deduction and exhaustion
- Algebra and Functions - indices, surds, quadratic functions, simultaneous equations and inequalities
- Coordinat e Geometry in the (x,y) plane - the equation of a straight line and the equation of a circle
- Sequences and Series - pascal's triangle and the binomial expansion
- Trig onometry - the area of a triangle, trigonometric identities and solving simple trigonometric equations
- Exponentials and Logarithms - exponential functions and exponential gr   aphs, the natural logarithm, the laws of logarithms, solving equations involving exponentials and logarithms and exponential growth and decay
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- Vect ors – vectors in two dimensions, magnitude and direction of a vector, add and multiply vectors, position vectors and solve problems using vectors

Statistics is made up of 5 main topics:
- Statistical Sampling – understand and use sampling methods
- Data Presentation and Int   erpretation – standard deviation, interpret diagrams and understand correlation and regression
- Probability – mutuall   y exclusive and independent events
- Statistical Distributions – binomial distribution
- Statistical Hypothesis Testing – understand and use h   ypotheses and hypothesis testing

Mechanics is made up of 3 main topics:
- Quantities and Units in Mechanics – the S.I. Sy   stem and derived quantities and units
- Kinematics – graphs in kinematics, formulae for constant accel   eration and calculus in kinematics for motion in a straight line
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Immerse Yourself

Students have access to MathsWatch to support their revision which links to the ª – ð U – … ž ;   ª ž … X X   … @ c … ² – @ lessons.

If they are struggling with topics in lessons or want to enhance their learning in the classroom then these clip numbers are an ideal place to cover content at home.

The MathsWatch website has short video clips as well as having links to interactive questions and further worksheets.

Our intent is that all students have a full understanding of how to develop themselves as well rounded citizens, maintain healthy relationships and ² c – ž ª ð c … ; o Ë … ª o … U " … ª ; a ž X Ê ž … ž ð 3 … o ª ; … o c X @ c life.

We want all students to know what options are open to them in the future and understand the routes they have in order to progress on their life journey.

Our curriculum will include:

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- Using Maths across the curricul

Careers

Mathematics is a subject that can lead to many fascinating career paths, including those that involve cryptography and data analysis. Cryptography is the science of – ðª@c4…ž ²– … oaa²c@ ðª@ocž…ðc …@ž…²ž … Ðª cž@Ê XÑ…@ Cybersecurity, and National Security.

In Year 12 career lessons, they have been discussing the next steps they can take with ª; @–…aðª;ž…•²ðX@ ðª@ocP… X@ U…oc…ª; …@að4 … XoË…ªo… what others have done with theirs, and learn what it's like to study Mathematics at Cambridge University.

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