# KS5 Curriculum: Mathematics

**Curriculum Vision**

Edexcel A Level Mathematics (2017)

The intent of our mathematics curriculum is to inspire our students to continue to study mathematics or STEM subjects beyond A level. We do this by offering a coherently sequenced, continually adapted scheme of work that is designed to improve the depth of understanding and mastery a student achieves as their knowledge develops throughout the key stages.

To support this intent, we use our strong subject knowledge to impart intrigue and scholarship alongside method, by incorporating real life context into our lessons in addition to enrichment opportunities outside of the classroom. We use a variety of retrieval practices to support our teaching and to encourage long term memory transfer, giving our students the fundamental knowledge they need to finish their journey in mathematics as a confident problem solver.

We intend to challenge all our students with an ambitious scheme of work that supports strong outcomes for students and is continually adapted to ensure the same progress for all students. Through continual professional development within the school, we intend to use evidence informed teaching practices to drive developments in our curriculum to ensure it remains robust and inclusive.

**Curriculum Profile**

**Year 12**

| Autumn Term 1 | Autumn Term 2 |
| --- | --- |
| Pure 1, Chapter 1 – Indices and Surds<br>Pure 1, Chapter 2 – Quadratics<br>Pure 1, Chapter 3 – Simultaneous equations and inequalities.<br>Pure 1, Chapter 4 – Graphs<br>Pure 1, Chapter 5 – Coordinate Geometry<br>Pure 1, Chapter 7 – Polynomials, Factor theorem and proof. | Pure 1, Chapter 8 – Binomial Expansion<br>Pure 1, Chapter 6 – Equations of circles.<br>Pure 1, Chapter 12 -Differentiation<br>Pure 1, Chapter 9 – Trigonometry.<br>Stats 1, Chapter 1 – Sampling and large data set.<br>Stats 1, Chapter 2 – Locations and spread.<br>Stats 1, Chapter 3 – representing data.<br>Stats 1, Chapter 5 – Probability |

|  | Stats 2, Chapter 2 – Conditional Probability |
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| Spring Term 1 | Spring Term 2 |
| --- | --- |
| Pure 1 – Chapter 13 Integration<br>Mechanics 1 – Chapter 8 Introduction to Mechanics<br>Mechanics 1 – Chapter 9 Motion under constant acceleration (SUVAT)<br>Pure 1 – Chapter 10 Trigonometric equations and identities<br>Pure 1 – Chapter 11 Vectors<br>Pure 1 – Chapter 14- Exponentials and Logarithms | Pure 1 – Chapter 14- Exponentials and Logarithms (continued)<br>Statistics 1 – Chapter 6 – Probability distributions<br>Mechanics 1 – Chapter 10 Forces and acceleration<br>Mechanics 1 – Chapter 11 Variable acceleration |

| Summer Term 1 | Summer Term 2 |
| --- | --- |
| Statistics 1 Chapter 7 Hypothesis Testing<br>Preparation for Year 12 Assessments<br>Year 12 Assessments | Pure 2 - Chapter 5 – Trigonometry with radians<br>Pure 2 – Chapter 6 – Reciprocal and Inverse Trigonometric functions<br>Pure 2 – Chapter 1 – Algebraic Methods<br>Pure 2 – Chapter 2 - Functions |

**Year 13**

| Autumn Term 1 | Autumn Term 2 |
| --- | --- |
| Pure 2 – Chapter 4 – Further Binomial Expansion<br>Pure 2 – Chapter 8 – Parametric Equations<br>Mechanics 2 – Chapter 5 – Forces and Friction<br>Mechanics 2 – Chapter 4 – Moments | Pure 2 – Chapter 9 – Differentiation<br>Pure 2 – Chapter 10 – Numerical Methods<br>Mechanics 2 – Chapter 6 – Projectiles |

| Spring Term 1 | Spring Term 2 |
| --- | --- |
| Pure 2 – Chapter 11 – Integration<br>Mechanics 2 – Chapter 7 – Application of Forces | Mechanics 2 – Chapter – Further Kinematics<br>Statistics 2 – The Normal Distribution<br>Revision and Examination technique |

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| **Summer Term 1** | **Summer Term 2** |
| --- | --- |
| Revision and Examination technique | Public Examinations |

*Please note that this timeline may be subject to change.*

**Assessment and Feedback**

All students will:
• Have at least one piece of assessed work reviewed by their teacher per half-term (this increases to two pieces of assessed work if students receive five or more taught hours per fortnight).
• Receive feedback which outlines how they should develop their learning. This feedback should be summative, highlighting both key strengths and key areas for development in students' work.
• Be given the opportunity to act upon their feedback in a structured task. This task should then be reviewed again by the subject teacher. A review of this task can act as the second assessed task.

**Resources to support learning beyond the classroom**

[Pearson Edexcel AS and A level Mathematics (2017) | Pearson qualifications](#)

[DrFrostMaths.com](#)

[Physics Revision - PMT (physicsandmathstutor.com)](#)