

Curriculum Intent, Implementation and Impact 2019-20

Subject (include exam board if examination subject): A –Level Mathematics Edexcel

Year group: 12

Periods per fortnight: 8

INTENT:

The intent of the A Level Mathematics course is to allow our students to gain an understanding of the mathematic concepts that underpin many aspects of our lives that include: the ability to apply a range of mathematical skills to different situations, to acute logical thinking and problem-solving abilities and the ability to process, interpret and analyse information. There are 3 types of mathematics in this course: Pure, Statistics and Mechanics; with each category being as challenging and interesting as the others. The Pure Mathematics topics include algebra, co-ordinate geometry, polynomials, trigonometry, calculus, differentiation and integration techniques, partial fractions, vectors and differential equations. In Statistics the students will learn in order on how to collect and analyse data and use it to make predictions about future events using different techniques and models. In Mechanics, the students will learn to model and analyse the physical world around us, including the study of forces and motion. By the end of the course our students will be armed with the skills/ knowledge to confidently look at the world with different lens that allows for them to understand different points from different angles. The aims of the course are to prepare our students to be confident and ambitious for their future careers in their preferred industries, as they will have an analytical mind that can problem solve with the knowledge/ models to evidence their thinking. As well, they will also have a greater respect for others in the way they think and their opinions as well as being able to empathises with others and not just take one side of the argument. Depending on the ability of the learner, each student will be challenged accordingly as the units of this course allows for a greater in depth look. Overall the course requires the student to be ambitious, and resilient as their mathematical knowledge will be consolidated alongside how they would view the world with integrity and respect.

IMPLEMENTATION:

Term	Topics studied Add dates and any assessments included	Extended learning opportunities (homework, controlled assessments, field work, trips etc.)	How parents could support students
Autumn Term	Pure – Algebra and Functions (1) Statistics – Statistical Sampling (1) Statistics – Data presentation and interpretations (2) Mechanics – Quantities and units in mechanics (6) Mechanics – Kinematics (7)	Expectations is to have at least 1 major homework piece for each chapter as a formative assessment Summative assessments at the end of each chapters' worth of materials	Ensure that their child has the textbook Ensure that all homework is cross referenced and completed on google classroom Encourage and help with your child in remember the key terms of the course Ensure that their child is working through the recommended A Level Revision guides and workbooks
Spring Term	Pure – Coordinate geometry in the (x,y) plane (2) Pure – Further Algebra (3) Statistics - Data presentation and interpretations 2 (2) Mechanics – Kinematics 2 (7)	Expectations is to have at least 1 major homework piece for each chapter as a formative assessment Summative assessments at the end of each chapters' worth of materials	Ensure that their child has the textbook Ensure that all homework is cross referenced and completed on google

			<p>classroom</p> <p>Encourage and help with your child in remember the key terms of the course</p> <p>Ensure that their child is working through the recommended A Level Revision guides and workbooks</p>
Spring Term	<p>Pure – Trigonometry (4)</p> <p>Pure – Vectors (5)</p> <p>Statistics – Probability (3)</p> <p>Statistics – Statistical distribution (4)</p> <p>Mechanics – Forces and Newton's laws (8)</p>	<p>Expectations is to have at least 1 major homework piece for each chapter as a formative assessment</p> <p>Summative assessments at the end of each chapters' worth of materials</p>	<p>Ensure that their child has the textbook</p> <p>Ensure that all homework is cross referenced and completed on google classroom</p> <p>Encourage and help with your child in remember the key terms of the course</p> <p>Ensure that their child is working through the recommended A Level Revision guides and workbooks</p>

IMPACT:

The impact of the course is measured through our ongoing formative in lessons, and our summative assessments. Formative assessments will allow students to practice skills before the termly summative assessments at the end of each unit of study whilst also allowing teachers to address any misconceptions and areas of weakness. These are opportunities that allows for the student to demonstrate their mathematical knowledge and understanding along the seven key virtues of the Buckingham school. Our goal at the end is to ensure our students will be able to confidently think, process that allows them to make sound judgements that is backed by mathematical evidence and knowledge.