Mathematics Department Curriculum and Assessment Map

	Half Term 1	Half-Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 11	**Graphs**	**Algebra**	**Reasoning**	**Communication**	**Responsive Teaching**	**Final Assessments**
Fundamental Knowledge	**Unit 1 – Linear Equations** • Parallel Lines. • Equation of a straight line (including given one point and gradient & two points). • Determine if a point is on a line. • Graphical simultaneous equations. • **Equations of Perpendicular Lines.** **Unit 2 – Non-Linear Graphs** • Plot & read quadratic graphs. • Plot & read cubic graphs. • Plot & read reciprocal graphs. • Recognise graph shapes. • Identify roots and intercepts of quadratics. • **Exponential graphs.** • **Equation of a circle.** • **Tangents to curves.**	**Unit 4 – Expanding & Factorising** • Expand Binomials. • Factorise quadratic expressions. • **Factorise complex quadratic expressions.** • Solve equations equal to zero. • Solve quadratic equations by factorisation. • **Solve complex quadratic equations by factorisation.** • **Complete the square.** • **Use the quadratic formula.** **Unit 5 – Changing the subject.** • Solve linear equations and inequalities. • Form and solve equations and inequalities in the context of shape.	**Unit 7- Multiplicative Reasoning** • Direct proportion. • **Construct complex direct proportion equations.** • Calculate with pressure and density. • Understand inverse proportion. • **Construct inverse proportion equations.** • Ratio problems. **Unit 8 – Geometric Reasoning** • Angles at a point. • Angles in parallel lines and shapes. • Exterior and interior angles of polygons. • Proving geometric facts. • Solve problems involving vectors.	**Unit 10 – Transforming & Constructing** • Perform and describe line symmetry and reflection. • Perform and describe rotation and rotational symmetry. • Perform and describe translations of shapes. • **Perform and describe negative enlargements of shapes.** • Identify transformations of shapes. • Perform and describe a series of transformations of shapes. • **Use invariant points and lines.** • Perform standard constructions. • Solve loci problems. • **Understand and use Trigonometric graphs.**	**DIRT - Assessment Review Paper 1** • TBC **DIRT – Assessment Review Paper 2** • TBC **DIRT – Assessment Review Paper 3** • TBC Additional content will be identified through the monitoring of the Assertive Mentoring materials and identification of	Final GCSE Assessment papers taken by students.

	Unit 3 – Using Graphs • Reflection of shapes. • Construct and interpret conversion graphs. • Construct and interpret other real-life graphs. • Construct and interpret Distance/Time graphs • Construct and interpret Speed/Time graphs. • Construct and interpret piece-wise graphs. • Recognise and interpret graphs of direct and inverse proportion. • **Estimate the area under a curve (H).** *One week allowance for catch up materials.*	• Change the subject of simple formula. • Change the subject of a known formula. • Change the subject of a complex formula. • **Change the subject where the subject appears more than once.** • **Solve equations by iteration.** **Unit 6 - Functions** • Function machines. • Substitute into equations and formulae. • Use function notation. • **Work with composite functions.** • **Work with inverse functions.** • Graphs of quadratic functions. • **Solve quadratic inequalities.** *One week allowance for catch up materials.*	• **Review of circle theorems.** • Circle Theorem – Angle between radius and chord. • Circle Theorem – Angle between radius and tangent. • Construct Venn diagrams • Circle Theorem – Two tangents from a point. • Circle Theorem – Alternate segment theorem. • Pythagoras theorem. • Trigonometric ratios. **Unit 9 – Algebraic Reasoning.** • Simplify complex expressions. • Find the nth term of a liner sequence. • **Find the nth term of a quadratic sequence.** • Use rules for sequences. • Solve linear simultaneous equations. • **Solve simultaneous equations with one quadratic.** • **Formal algebraic proof.** • **Inequalities in two variables.** *One week allowance for catch up materials.*	• **Sketch and identify translations of the graph of a given function.** • **Sketch and identify reflections of a graph of a given function.** **Unit 11 – Listing & Describing** • Organised lists. • **Product rule for counting.** • Samples spaces and probability. • Complete and use Venn diagrams. • Construct and interpret plans and elevations. • Use data to compare distributions. • Interpreting scatter graphs. **Unit 12 – Show That…** • Using number. • Using algebra. • Using shape. • Using angles. • Using data. • **Using vectors.** • Using congruent triangles. • **Forming proof with congruent triangles.** *One week allowance for catch up materials.*	persisting gaps in knowledge.	
Learning Checkpoint Tasks	LC1 – Linear Equations LC (20) LC2 – Non-Linear Graphs LC (20) LC3 – Using Graphs LC (20)	LC4 – Expanding & Factorising LC (20) LC5 – Changing The Subject LC (20) LC6 – Functions LC (20)	LC7 – Multiplicative Reasoning LC (20) LC8 – Geometric Reasoning LC (20) LC9 – Algebraic Reasoning LC (20)	LC10 – Transforming & constructing LC (20) LC11 – Listing & Describing LC (20) LC12 – Show That…LC (20)	Assertive mentoring assessments. Content will be delivered heavily utilising GCSE assessment materials to support tracking	

Common Assessment Task	June 2019 GCSE Exam Paper (Edexcel 1AM1). All 3 Papers	June 2018 GCSE Exam Paper (Edexcel 1AM1). All 3 Papers	Final GCSE Examinations
Mock Exam (if applicable)	June 2019 GCSE Exam Paper (Edexcel 1AM1). All 3 Papers	June 2018 GCSE Exam Paper (Edexcel 1AM1). All 3 Papers	
Interleaved Knowledge	**Unit 1** **Unit 2** **Unit 3** **Unit 4** **Unit 5** **Unit 6**	**Unit 7** **Unit 8** **Unit 9** **Unit 10** **Unit 11** **Unit 12**	The nature of this term is that the content being delivered is largely not new material. Students are consistently being asked to either review gaps in knowledge or to synthesise knowledge from different domains to access AO2 and AO3 assessment elements. **Core Skills** Core skills will be regularly reviewed through the use of the assertive mentoring programme at the beginning of lessons. This will focus on the key processes that students are required to be proficient in to access wider content. These items are typically AO1 style assessment items. The majority of students will work from the Grade C/D Assertive Mentoring materials.