St Wilfrid's RC College
Maths

Curriculum Overarching Intent
The intent of the curriculum is to build on what the students can do already and produce students with high levels of mathematical fluency and reasoning skills. The curriculum is clear on what the students need to be able to do at the end of each unit, module, year and key stage. The curriculum is sequenced clearly so that new knowledge and skills build on what has been taught previously, we will use a detailed baseline assessment in each year group to assess the strengths and areas for development of each student. The curriculum will be amended accordingly so that each class will be following their own bespoke scheme of learning, the curriculum will be continually reviewed throughout the year. We will also address gaps in the student's knowledge and real life skills; many of our students don't have bank accounts so weren't familiar with GCSE questions where terms such as credit and debit are used. We found similar challenges on questions involving booking holidays, reading timetables and more. This content will be embedded into our curriculum, the curriculum will also work alongside other subjects where there are transferrable knowledge and skills, for example when and how we teach drawing and interpreting graphs must draw parallels with science.

Prior Learning
Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The curriculum for key stage 3 is organised into distinct domains; shape, handling data, number and algebra where pupils will build on key stage 2 knowledge and make deeper connections between mathematical concepts to develop fluency, mathematical reasoning and problem solving. They will also have the opportunity to apply their mathematical knowledge in other subjects such as Science, Computing and Geography.

	Vision	Key Concepts and Key Skills
Year 7	In Year 7 students will focus on their maths transition for KS2 topics. Building on skills they already have and learning new methods and approaches for key mathematical concepts.	Students meet topics from the core areas of shape, handling data, number and algebra with references across the whole school curriculum.
Year 8	Year 8 students will be taught using an evidence-based approach to ensure they have a depth of understanding in basic mathematical concepts.	Students meet topics from the core areas of shape, handling data, number and algebra with references across the whole school curriculum. There is also a focus on applying their knowledge to practical situations.
Year 9	Students in year 9 will be taught how to mathematically reason and embed problem-solving skills in all areas of the KS3 curriculum, as well as develop as passion for mathematics.	Students meet topics from the core areas of shape, handling data, number and algebra with references across the whole school curriculum. There is also a focus on applying their knowledge to practical situations. Our curriculum, resources and lessons foster fluency, resilience, mastery, reasoning and problem solving skills.
Year 10	In year 10 students will develop their understanding from KS3 topics by facing challenging mathematical problems which build in difficulty.	Through our curriculum, we aim to meet the needs and demands to prepare our students for GCSE and our ever- changing society by delivering a curriculum that will allow students to develop fluent knowledge, acquire and apply mathematical techniques to solve problems and draw mathematical conclusions.
Year 11	Year 11 students will develop exam techniques by being exposed to a variety of question styles for each topic.	Students will follow a unique class-specific curriculum based from key misconceptions identified by the teacher.
Year 12	In year 12 students will build the foundations of key new topics to A-Level such as calculus, whilst also furthering their knowledge of GCSE mathematics.	The complete maths AS level content is taught in year 12, covering Pure maths, Statistics and Mechanics.
Year 13	Year 13 students will face more complex mathematical problems where all knowledge from year 12 must be utilised and deepened.	Students will cover all topics in the A-Level mathematics specification for Pure maths, Statistics and Mechanics.

St Wilfrid's RC College

Maths

Our Curriculum Progression Model is:

Readiness for their next step…

Year 13 Module 1 Algebraic manipulation, functions and sequences. Trigonometry	**Year 13 Module 2** Calculus Vectors Numerical methods Statistics Mechanics	**Year 13 Module 3** Revision
Year 12 Module 1 Algebraic expressions and equations Co-ordinate geometry Trigonometry	**Year 12 Module 2** Vectors Calculus Exponentials & Logarithms	**Year 12 Module 3** Proof Statistics Mechanics
Year 11 Module 1 U1: Geometry and Measures 12, U2: Number 8, U3: Algebra 9, U4: Statistics 5	**Year 11 Module 2** Individual revision tasks will be created based on identified weak areas from exam papers.	**Year 11 Module 3** Revision
Year 10 Module 1 U1: Algebra 7, U2: Ratio and proportion 5, U3: Probability 2	**Year 10 Module 2** U4: G&M 8, U5: G&M 9, U6: G&M 10	**Year 10 Module 3** U7: Algebra 8, U8: Ratio and Proportion 6, U9: Geometry and Measures 9
Year 9 Module 1 U1: Number 6, U2: Algebra 5	**Year 9 Module 2** U3: Statistics 3 U4: Ratio and Proportion 5, U5: Algebra 6	**Year 9 Module 3** U6: Geometry and Measures 6, U7: Statistics 4, U8: Geometry and Measures 7
Year 8 Module 1 U1: Number 3, U2: Geometry and Measures 4, U3: Statistics 2, U4: Algebra 3	**Year 8 Module 2** U5: Ratio and Proportion 2, U6: Number 4, U7: Geometry and Measures 5	**Year 8 Module 3** U8: Number 8, U9: Algebra 4, U10: Ratio and Proportions 3
Year 7 Module 1 U1: Number 1, U2: Statistics 1, U3: Algebra 1, U4: Geometry and measures 1	**Year 7 Module 2** U5: Number 2, U6: Probability, U7: Ratio and Proportion 1	**Year 7 Module 3** U8: Geometry and Measures 2, U9: Algebra 2, U10: Geometry and Measures 3

Knowledge over time

Knowledge over time

St Wilfrid's RC College

Maths

Key texts and websites that you can access to support their knowledge development in this subject include:

	Year 12	Year 13
	Exam Board website: https://qualifications.pearson.com/en/home.html	
Websites	https://www.examsolutions.net/ https://www.physicsandmathstutor.com/ https://www.mathsgenie.co.uk/	https://www.examsolutions.net/ https://www.physicsandmathstutor.com/ https://www.mathsgenie.co.uk/
Key texts and books	CGP: A-Level maths revision guide and workbook for Edexcel. Fermat's Last Theorem by Simon Singh The Cryptographic Mathematics of Enigma by Dr A. Ray Miller Humble Pi by Matt Parker Chaos by James Gleick e: the story of a number Eli Maor Alex's adventures in numberland by Alex Bellos	

	Year 10	Year 11
	Exam Board website: https://www.aqa.org.uk/	
Websites	HegartyMaths https://corbettmaths.com/ https://www.drfrostmaths.com/ https://diagnosticquestions.com/	HegartyMaths https://corbettmaths.com/ https://www.drfrostmaths.com/ https://diagnosticquestions.com/
Key texts and books	CGP: GCSE maths revision guide and workbook for AQA. – both higher and foundation tiers Grapes of math by Greg Tang Math Curse by Jon Scieszka and Lane Smith The Number Devil by Hans Enzensberger The Simpsons and their mathematical secrets" by Simon Singh 17 equations that changed the world by Ian Stewart Flatland - Edwin Abbott The House Keeper and the Professor - Yoko Ogawa A Certain Ambiguity - Gaurav Suri & Hartosh Singh Bal The Da Vinci Code - Dan Brown	

	Year 7	Year 8	Year 9
Websites	HegartyMaths Home Learning | White Rose Maths Maths lessons for Key Stage 3 students - Oak National Academy (thenational.academy)	HegartyMaths Home Learning | White Rose Maths Maths lessons for Key Stage 3 students - Oak National Academy (thenational.academy)	HegartyMaths Home Learning | White Rose Maths Maths lessons for Key Stage 3 students - Oak National Academy (thenational.academy)
Key texts and books	CGP: KS3 mathematics complete revision and practice A Gebra Named Al by Wendy Isdell Sir cumference and the dragon of pi by Cindy Neuschwander The adventures of Penrose the mathematical cat by Theoni Pappas Multiplying Menace by Pam Calvert Humble PI by Matt Parker Uncle Petros and Goldbach's Conjecture by Apostolos Doxiadis Measuring the World by Daniel Kehlmann Imitation Game by Jane Rollason A Beautiful Mind by Sylvia Nasar		