Computer Science

Curriculum Intent	To equip students with the skills to participate in a rapidly- changing world through challenging and engaging topics. Students will develop an understanding and application in the fundamental principles of computer science, computational thinking, digital literacy and e safety. Computing and digital skills are a major factor in enabling children to be confident, creative, independent and responsible learners and it is our intention that pupils have every opportunity available to allow them to achieve this and use these skills in a technological driven world.

Year 8	Year 9	Year 10 & 11 (OCR)	Year 12 & 13(OCR)
T1 - How to be a responsible user of digital technology T2 - How do you represent numbers in a computer system? T3 - What is the purpose of Logic Gates and Algorithms T4 - Using High Level Language to create hyperlinked documents T5- How is the digital world connected Students will earn about the www, internet and networking T6- Spreadsheet Modelling	T1 - How do you represent characters, sound and image in a computer system? T2 - What is the purpose of Boolean Statements with Logic Gate? T3 - What is Computational Thinking and Algorithms T4 - What are the principles in High level programming Creating programs using T5- The connected World - Protocols, Topologies, LAN WAN T6 - Computer Graphics - Photoshop	T1 -COMP01 Systems architecture Year 11 -Practical Programming + Algorithms In Producing Program Techniques T2 - COMP01 Memory and Storage Year 11 -Practical Programming + Programming fundamentals T3 - Algorithms Year 11 - Practical Programming + Additional programming techniques T4 COMP01 Computer Network COMP 02 Programming fundamentals Year 11 - Practical Programming + Producing robust programs + System Software, Ethical, legal, cultural and environmental concerns T5 - COMP01 Computer Systems Software Comp 02 Producing robust programs Year 11 - Practical Programming + Algorithms + Revision	T1 - COMP01 Structure and Function of Processor, Types of Processor, Input, Output and storage,Systems Software YR13 - Project + Comp01 Moral and Ethical Issues T2 - COMP01 Applications Generation (The nature of applications, justifying suitable applications for a specific purpose),Utilities, Software Development (Project methodologies) YR13 Project + COMP02 Programming Techniques T3 Types of Programming Language Need for and characteristics of a variety of programming paradigms YR 13 - Project + Computational Methods + Revision

		T6 COMP02 Computational thinking, algorithms and programming Year 11 - Revision Comp 01/02	T4-Compression, Encryption and Hashing Symmetric and asymmetric encryption, Lossy vs. Lossless compression, Run Length Databases - Relational database, flat file, primary key, foreign key, secondary key, entity relationship modelling, normalisation and indexing, SQL YR13 - Algorithms + Revision T5 Networks + Web Technologies Characteristics of networks and the importance of protocols and standards. Computing related legislation YR13 - Revision T6 - Data Types + Boolean Algebra Primitive data types, integer, real/floating point, character, string and Boolean. COMP02 Computational Thinking