GCSE Computer Science

Year 10 Scheme of Work

Autumn 1	**Data representation** ✓ Number bases ✓ Converting between number bases (denary, binary and hexadecimal) ✓ Units ✓ binary arithmetic ✓ Character encoding (ASCII and Unicode) ✓ Assessment 1 **Python programming** ✓ output ✓ input ✓ Variables and assignment ✓ Selection ✓ For loops ✓ While loops & menus ✓ Functions and procedures
Autumn 2	**Data representation** ✓ Representing images ✓ Representing sound ✓ Data compression **Python Programming** ✓ Functions and procedures ✓ Lists ✓ 2D Lists ✓ Validation ✓ Error handling
Spring 1	**Algorithms** ✓ Pseudocode ✓ Flowcharts ✓ Structure Charts ✓ Designing a solution **Python Programming** ✓ Dictionaries ✓ Records ✓ Reading from text files ✓ Writing to text files

Spring 2	**Algorithms** ✓ Testing ✓ Representing algorithms ✓ Efficiency of algorithms ✓ Searching algorithms ✓ Sorting algorithms ✓ Boolean Logic ✓ Assessment 3 **Programming** ✓ Programming from design work ✓ Writing a test plan ✓ Testing using a test plan ✓ Trace tables ✓ Assessment 3
Summer 1	✓ Programming practise ✓ Boolean Logic ✓ Databases
Summer 2	✓ Mini programming project

Year 11 Scheme of Work

Autumn 1	✓ Programming practice on paper, review of year 10 programming **Fundamentals of cyber security** ✓ Cyber security threats ✓ Social engineering ✓ Malicious code ✓ Methods to detect and prevent cyber security threats **Computer systems** ✓ Hardware and Software / Software classification ✓ Classification of programming languages ✓ Efficiency of algorithms
Autumn 2	**Networking** ✓ Programming practice on paper ✓ Fundamentals of computer networks ✓ Network security ✓ CPU ✓ Memory and secondary storage
Spring 1	**Computer architecture and networking** ✓ Network protocols ✓ TCP/IP ✓ Fetch execute cycle ✓ Cloud storage ✓ Ethical, legal and enviromental impacts ✓ Programming practice on paper ✓ Mock exam
Spring 2	✓ Contingency, revision, past papers
Summer 1	✓ Contingency, revision, past papers
Summer 2	✓ Public Exams