EPCHS Computing Department: Year 13 Computer Science Programme of Study

The aims of the A Level qualification are to enable learners to develop:

- *an understanding of and ability to apply the fundamental principles and concepts of computer science including; abstraction, decomposition, logic, algorithms and data representation*

- *the ability to analyse problems in computational terms through practical experience of solving such problems including writing programs to do so*

- *the capacity for thinking creatively, innovatively, analytically, logically and critically*

- *the capacity to see relationships between different aspects of computer science*

- *mathematical skills*

- *the ability to articulate the individual (moral), social (ethical), legal and cultural opportunities and risks of digital technology*

Year/Term	Unit of Work	Intent
Autumn	3 Programming Project	Students will be expected to analyse, design, develop, test, evaluate and document a program written in a suitable programming language. The underlying approach to the project is to apply the principles of computational thinking to a practical coding problem. They are expected to apply appropriate principles from an agile development approach to the project development.
Spring	2.1 Elements of Computational Thinking	Understand what is meant by computational thinking and the different approaches to solving problems computationally.
	2.2 Problem Solving and Programming	To understand how computers can be used to solve problems and programs can be written to solve them

Summer	2.3 Algorithms	To understand the use of algorithms to describe problems and standard algorithms