



## PLUME ACADEMY - LEARNING OVERVIEW

Year	12
Course	Computer Science
Specification Number/Exam Board	AQA
Examination Papers and Weighting	Paper 1: 40% Paper 2: 40% NEA: 20%

### Prior Learning

The majority of students will have studied GCSE Computer Science and achieved a grade 5; for those who have not, there is an expectation that students achieve a grade 7 in Mathematics. GCSE Computer Science provides a solid foundation to the KS5 course, covering topics in both Computer Systems and Computational Thinking, Algorithms and Programming.

### Curriculum Intent – What are the curriculum aims?

Our KS5 Computer Science curriculum intends to develop student's understanding across a diverse range of topics. We expand their programming skills beyond procedural programs to include object-oriented techniques. These new programming skills are used together with the introduction of abstract data types and a variety of algorithms, which includes pathfinding. These skills are all useful for completing the non-exam assessment, which takes the form of a programming project or investigation, which is defined by the student. Furthermore, students will develop their understanding of how data is stored on a computer system, database organisation, computational architecture, networks as well as consider the consequences for society of introducing new technologies.

### Curriculum Implementation – What will my child will be learning?

Term 1	Half Term 1	Fundamentals of programming Fundamentals of data representation
	Half Term 2	Fundamentals of programming Hardware and software
Term 2	Half Term 3	Fundamentals of programming Fundamentals of databases
	Half Term 4	Fundamentals of data structures Fundamentals of Functional Programming
Term 3	Half Term 5	Fundamentals of data structures Big Data Consequences of the uses of Computing
	Half Term 6	Fundamentals of algorithms Unit 2 revision and assessment



### Curriculum Impact – How will my child be assessed and receive feedback?

In addition to assessing of students' work in lesson we also assess them at the end of each topic. Paper 1 assessments require students to have studied a pre-released 'skeleton' program, which students edit and extend during the assessment using a computer. Paper 2 assessments take a more traditional approach and are completed on paper.

### Super-Curricular Opportunities – Supporting and Extending Learning

Useful study resources	If a student is really passionate about this subject they can...
<p><a href="https://www.pgonline.co.uk/resources/computer-science/a-level-aqa/aqa-as-and-a-level-textbook/">https://www.pgonline.co.uk/resources/computer-science/a-level-aqa/aqa-as-and-a-level-textbook/</a></p> <p><a href="#">Craig and Dave online videos for AQA Computer Science</a></p> <p><a href="https://isaacomputerscience.org/pages/specification_page_aqa">https://isaacomputerscience.org/pages/specification_page_aqa</a></p>	<p>Complete independent courses on CodeAcademy</p> <p>Watch TEDEd videos linked to Computer Science.</p> <p>Visit the National Museum of Computing.</p> <p>Consider options for further education in Computer Science</p>