OCR A Level Computer Science (H446)

Curriculum content

Half term	**Year 12**		**Year 13**	
	Paper 1	**Paper 2**	**Paper 1**	**Paper 2**
Summer 2			Databases	NEA – Analysis & Design
Autumn 1	Data Types	Thinking Abstractly Thinking Ahead Thinking Procedurally Thinking Logically Thinking Concurrently Computational Methods	Characteristics of devices - Input, Output & Storage Systems Software	NEA – Development Programming Skills – GUI/Databases Types of programming language
Autumn 2	Structure and Function of processors Types of processors	Programming Constructs Integrated Development Environment Global & Local Variables Functions Recursion Programming Practice	Applications Generation Boolean Algebra	Algorithms Part 2 (Divide & Conquer, Heuristics, Pipelining) Dijkstra Algorithms A* Algorithms NEA – Development (continued)
Spring 1	Data Structures	Algorithms Part 1 Web Technologies	Networks	Efficiency of Algorithms NEA –Testing & Evaluation

Spring 2	Data Structures (cont) Mock Exam Revision	Mock Exam Revision Object Oriented Techniques	Impacts of Technology: Case Studies & Extended Writing	Paper 2 Revision
Summer 1	Mock Exam Software Development Compression, Encryption & Hashing	Mock Exam Programming Skills – Games/Practice NEA NEA – Project Feasibility Study Project Proposal	Paper 1 Revision Paper 1 Exam	Paper 2 Revision Paper 2 Exam

Skills

Computer Science is a practical subject where students can apply the academic principles learned in the classroom to real world systems. The A Level qualification in Computer Science will equip students with a range of computational thinking and programming skills and provide opportunities to develop, in context, desirable, transferable skills such as analysis, planning, problem solving, review and working with others.

The qualification will enable students to develop:

- valuable thinking and programming skills that are extremely attractive in the modern workplace;
- computational thinking skills and how to apply them;
- the ability to analyse problems in computational terms through practical experience of solving such problems, including writing programs to do so
- problem solving using computers;
- creative thinking skills by creatively, innovatively, analytically, logically and critically solving problems to develop a solution;
- mathematical skills used to express computational laws and processes;
- memory recall skills regarding knowledge of topics on the specification;

- research, analytical and evaluative skills;
- skills that interpret and present information to effectively communicate;
- independent working skills;
- efficient time management skills;
- digital literacy skills to be able to successfully find, evaluate, create and communicate information.

Assessment

This is a linear assessed course with external assessment taking place at the end of Year 13.

There are 2 externally assessed papers, each weighted at 40% :

Paper 1 – Computer Systems

Paper 2 – Algorithms and Programming

Students must also complete a Non-Examined Assessment (Programming Project) of their choice, weighted at 20% of the final grade.

Further details about the course can be found at: https://www.ocr.org.uk/qualifications/as-and-a-level/computer-science-h046-h446-from-2015/