

A Level Computing Scheme of Work

Board: OCR

Course codes: H046 (AS Level), H446 (A Level)

Note: Year 1 covers the AS Level material

Year 1	Year 2
Autumn Term	
First Half	
Unit 1.4.1 – Data Types Unit assessments: • Primitive data types and binary • Binary addition and subtraction • Floating point conversion • Floating point mathematics Unit 1.4.2 – Data Structures Unit assessments: • Traversing trees Ongoing: Python programming	Coursework preparation and commencement Unit 1.4.2 – Data Structures Ongoing: Coursework project
Second Half	
Unit 1.4.2 – Data Structures Unit assessments: • Data structures Unit 1.4.3 – Boolean Algebra Unit assessments: • Logic gates • Boolean algebra • Karnaugh maps Unit 1.1.1 – Structure and function of the processor Unit assessments: • The CPU and the Fetch-Decode-Execute cycle • Further architecture • Little Man Computer Unit 1.1.3 – Input, output and storage Unit assessments: • Input, output and storage devices • Memory and backing store Ongoing: Python programming	Unit 1.4.2 – Data Structures Unit 1.4.3 – Boolean Algebra Unit 1.1.1 – Structure and function of the processor Unit 1.1.2 – Types of processor Unit 1.2.1 – Operating systems Unit 1.2.2 – Applications generation Unit 1.2.3 – Software development Unit 1.2.3 – Types of programming language Unit 1.2.4 – Types of programming language Ongoing: Coursework project

Spring Term	
First Half	
Unit 1.2.1 – Operating systems Unit assessments: • Memory management • Virtual memory, interrupts and scheduling Unit 1.2.2 – Applications generation Unit assessments: • Open and closed source software • Translators Unit 1.2.3 – Introduction to programming Unit 1.3.1 – Databases Unit assessments: • Entity-relationship modelling • First Normal Form • Second Normal Form • Third Normal Form Ongoing: Python programming	Unit 1.2.2 – Translators Unit assessments: • Compiler questions Unit 1.2.3 – The System Life Cycle Unit assessments: • Design Methodology questions Unit 1.2.4 – Types of programming language Unit assessments: • Object Oriented Programming Exercises Unit 1.3.1 – Compression, encoding and hashing Unit assessments: • Compression, encoding and hashing Unit 1.3.2 – Networks Unit assessments: • Network threats and security Unit 1.3.4 – Web technologies Unit assessments: • Web technologies assignment Ongoing: Coursework project
Second Half	
Unit 1.3.1 – Databases Unit assessments: • Files and file types • Fields and views Ongoing: Python programming	Unit 2.1.1 – Programming Techniques Unit assessments: • Recursion Unit 2.1.5 – Thinking Concurrently Unit 2.2 – Computational Methods Unit assessments: • Computational Methods Unit 2.3 – Algorithms Unit assessments: • Dijkstra's Algorithm • A* Algorithm Ongoing: Coursework project

Summer Term	
First Half	
Unit 1.3.2 – Networks Unit assessments: • Networking • Client-server, peer-to-peer and layering Unit 1.3.3 – Web technologies Unit assessments: • SQL and web technology Unit 1.5.1 – Computing related legislation Unit assessments: • Data Protection Act • Copyright, Designs and Patents Act • Other legislation • Devices and software to assist the disabled • Moral and cultural issues Unit 1.5.2 – Ethical, moral and cultural issues Unit assessments: • Moral and cultural issues Unit 2.1.1 – Thinking abstractly Ongoing: Visual Basic tutorial	Topic based revision PPQ revision
Second Half	
Unit 2.1.2 – Thinking ahead Unit assessments: • Abstraction Unit 2.1.3 – Thinking procedurally Unit assessments: • Thinking ahead Unit 2.1.5 – Thinking logically Unit assessments: • Concurrent thinking Topic based revision PPQ revision End of year exam Ongoing: Visual Basic tutorial, 'Noughts and Crosses' programming task.	Topic based revision PPQ revision Exam