HIGHFIELDS SCHOOL

CURRICULUM OVERVIEW 2023-2024

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SUBJECT: A LEVEL COMPUTER SCIENCE **EXAMINATION BOARD:** OCR

AUTUMN TERM - YEAR 12	SPRING TERM - YEAR 12	SUMMER TERM - YEAR 12
Algorithms and problem-solving Unit 02 • What is meant by computational thinking (thinking abstractly, thinking ahead, thinking procedurally etc.) • Problem solving and programming – how computers and programs can be used to solve problems • Algorithms and how they can be used to describe and solve problems	**Computer principles Unit 01** • The characteristics of contemporary processors, input, output and storage devices • Types of software and the different methodologies used to develop software • Data exchange between different systems • Data types, data structures and algorithms • Legal, moral, cultural and ethical issues	**Programming Project Unit 03** • Programming techniques • Analysis • Design • Development • Testing and evaluation and conclusions
ASSESSMENT Algorithms and problem solving (02*) 1 hour and 15 minutes written paper (no calculators allowed) **Standard Assessment** Unit 2 assessment	**ASSESSMENT** Computing principles (01) 1 hour and 15 minutes written paper (no calculators allowed) **Standard Assessment** Unit 1 assessment	**ASSESSMENT** • Analyse a problem (10 marks) • Design (15 marks) • Develop and test (25 marks) • Evaluate and document (20 marks) a program. The program must be able to solve it written in a suitable programming language **Standard Assessment** Mock NEA

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AUTUMN TERM - YEAR 13	SPRING TERM - YEAR 13	SUMMER TERM - YEAR 13
Programming project Unit 3 Students will complete a programming project that will follow a Software Development Lifecyle and should include: • Analysis • Design • Development • Testing • Evaluation	**Computer systems Unit 1** • The characteristics of contemporary processors, input, output and storage devices • Types of software and the different methodologies used to develop software • Data exchange between different systems • Data types, data structures and algorithms • Legal, moral, cultural and ethical issues	**Algorithms and programming Unit 2** • What is meant by computational thinking (thinking abstractly, thinking ahead, thinking procedurally etc.) • Problem solving and programming – how computers and programs can be used to solve problems • Algorithms and how they can be used to describe and solve problems
ASSESSMENT • Project Analysis (10 marks) • Program Design (15 marks) • Developing the Program (15 marks) • Iterative and Final testing (15 marks) • Evaluation and Documentation (15 marks) The problem must be solvable and written in a suitable programming language. **Standard Assessment** Mock NEA	**ASSESSMENT** Computer systems (01) 140 marks 2 hours and 30 minutes written paper (No calculators allowed) **Standard Assessment** Unit 1 assessment	**ASSESSMENT** Algorithms and programming (02) 140 marks 2 hours and 30 minutes written paper (No calculators allowed) **Standard Assessment** Unit 2 assessment