Year 11 Curriculum Overview [2022-2023]
OCR (9-1) GCSE Computer Science (J277)

| Autumn Term | Knowledge & Understanding | | | Literacy Skills | Employability Skills | Assessment Opportunities |
| | Composites | Components | Formal Retrieval | Opportunities for developing literacy skills | [if any] | |
		[KEY concepts & subject specific vocab]	[if any]			
HT1 5 lessons a fortnight	**2.1 Algorithms**	• Computational thinking • Designing, creating, and completing algorithms • Identifying errors in algorithms • Trace Tables and Dry runs • Structure diagrams • Searching algorithms • Sorting algorithms	Do Now activities MCQs every 2nd and 5th lesson	• Reading of instructions • Sentence starters • Use of Bloom's Taxonomy • Extended writing tasks	• Problem solving • Designing, creating and debugging programs • Independent work • Critical thinking • Logical thinking	• MCQ • Formative written assessment • Summative end of topic assessment

	2.2 Programming Fundamentals	• Programming basics
		  o use of variables, constants, operators, inputs, outputs and assignments
		  o programming constructs
		  o arithmetic operators
		  o Boolean operators
		 • Data types
		 • Additional programming techniques
		  o String manipulation
		  o File handling operations
		  o Use of records and SQL
		  o Arrays
		  o Sub programs
		  o Random number generation
					• Programming
					 • Critical thinking
					 • Logical thinking
						• MCQ
						 • Formative written assessment
						 • Summative end of topic assessment

HT2 5 lessons a fortnight	2.3 Producing Robust Programs	• Defensive design
		• Testing
		    o Purpose
		    o Types of testing
		    o Identifying errors
		    o Types of test data
		    o Refining algorithms
				• Debugging programs
				• Independent work
				• Critical thinking
					• MCQ
					• Formative written assessment
					• Summative end of topic assessment

	2.4 Boolean Logic	• Simple logic diagrams using the operators AND, OR and NOT • Truth tables • Combining Boolean operators using AND, OR and NOT • Applying logical operators in truth tables to solve problems		• Independent work • Critical thinking • Problem solving	• MCQ • Formative written assessment • Summative end of topic assessment

	2.5 Programming languages and Integrated Development Environments	• Languages
		    o High- and low-level languages
		• Purpose of Translators
		• Compilers and interpreters
		• Integrated development environments (IDE):
		    o Editors
		    o Error diagnostics
		    o Run-time environment
		    o translators
				• Programming
				• Independent work
				• Critical thinking
					• MCQ
					• Formative written assessment
					• Summative end of topic assessment

Year 11 Curriculum Overview [2022-2023] Computing						
Spring Term	**Knowledge & Understanding**			**Literacy Skills**	**Employability Skills** [if any]	**Assessment Opportunities**
	Composites	**Components** [KEY concepts & subject specific vocab]	**Formal Retrieval** [if any]	Opportunities for developing literacy skills		
HT3 5 lessons a fortnight	**Practical Programming**	• Design programs • Write programs • Test programs • Refine programs	Do Now activities MCQs every 2nd and 5th lesson	• Reading of instructions • Sentence starters • Use of Bloom's Taxonomy • Extended writing tasks	• Problem solving • Designing, creating and debugging programs • Independent work • Critical thinking • Logical thinking	• MCQ • Formative written assessment • Summative end of topic assessment
	Paper 1 Exam Preparation	• 1.1 Systems architecture • 1.2 Memory and storage • 1.3 Computer networks, connections and • protocols • 1.4 Network security • 1.5 Systems software • 1.6 Ethical, legal, cultural and environmental impacts of digital technology			• Independent work • Organisation • Written communication	• Paper 1 practice exam
HT4 5 lessons a fortnight	**Paper 2 Exam Preparation**	• 2.1 Algorithms • 2.2 Programming fundamentals • 2.3 Producing robust programs • 2.4 Boolean logic • 2.5 Programming languages and Integrated Development Environments			• Independent work • Organisation • Written communication	• Paper 2 practice exam

Year 11 Curriculum Overview [2022-2023] Computing						
Summer Term	**Knowledge & Understanding**			**Literacy Skills** Opportunities for developing literacy skills	**Employability Skills** [if any]	**Assessment Opportunities**
	Composites	**Components** [KEY concepts & subject specific vocab]	**Formal Retrieval** [if any]			
HT5 + HT6 5 lessons a fortnight	**Exam Preparation**	• Paper 1: o 1.1 Systems architecture o 1.2 Memory and storage o 1.3 Computer networks, connections and protocols o 1.4 Network security o 1.5 Systems software o 1.6 Ethical, legal, cultural and environmental impacts of digital technology • Paper 2: o 2.1 Algorithms o 2.2 Programming fundamentals o 2.3 Producing robust programs o 2.4 Boolean logic o 2.5 Programming languages and Integrated Development Environments	Do Now activities MCQs every 2nd and 5th lesson	• Reading of instructions • Sentence starters • Use of Bloom's Taxonomy • Extended writing tasks	• Independent work • Organisation • Written communication	• MCQ • Formative written assessment • Summative end of topic assessment