OCR 9-1 J277 GCSE Computer Science Year 10 Learning Journey 2022-2023

Week	Date	Key Construct	Topic	Assessment
1(1/2)	05.09.22	1-1-1 Architecture of CPU	What a computer is, hardware and software, peripherals. Von Neumann Architecture: Components of a computer system and the parts inside a CPU. The stored-program concept and the Fetch-Decode-Execute cycle.	Unit Test A: Architecture A01 A02
2	12.09.22			
3	19.09.22	1-1-2 CPU Performance	Clock speed, number of cores, cache.	
4	26.09.22	1-1-3 Embedded Systems	What embedded systems are, where they are used, typical components.	
5	03.10.22	1-2-4 Data Storage	Numbers: Binary integers. Adding binary, shifting binary, overflow. Conversions between denary, binary and hexadecimal. Characters: Symbols, character codes and character sets. Bitmap images: pixels, colour-depth, quality, resolution. Sound: samples, sample-rate, bit-depth, bit-rate, quality, file-sizes.	(after half-term) A01 A02
6	10.10.22			
7	17.10.22			
Half term				
8	31.10.22	1-2-3 Units of Data Storage	Bits, Nibbles, Bytes, KB, MB, GB, TB, PB, conversion between units.	Unit Test B: Data Representation and Storage A01 A02
9	07.11.22	1-2-5 Data Storage: Compression	The need for compression, lossy compression vs loss-less compression.	
10	14.11.22	1-2-1 Primary Storage (Memory)	Differences between RAM and ROM. Purposes of each. Virtual memory.	
11	21.11.22			
12	28.11.22	1-2-2 Secondary Storage	Primary vs Secondary storage. Need for Secondary storage. Types of storage (magnetic, solid-state, optical) and devices (HDD, SSD, CD) Characteristics of storage devices: capacity, reliability, portability etc.	
13	05.12.22			
14	12.12.22			
CHRISTMAS				
15(Wed)	04.01.23	1-3-1 Networks and Topologies	LANs and WANs, Client-Server and Peer-to-Peer. Performance of networks. Network hardware: Wireless access points, routers, switches, NICs, transmission media e.g. twisted pair, coax cables, Wi-Fi. The Internet. Packets of data and routes across the internet. The Cloud. Hosting, web servers and clients. Domain Name System.	Unit Test C: Networks and Protocols A01 A02
16	09.01.23			
17	16.01.23			
18	23.01.23			
19	30.01.23	1-3-2 Wi-Fi and Wired Networks, Protocols & Layers	Star and Mesh topologies. IP and MAC addressing. Standards, protocols and layers. Modes of connection: Ethernet, Wi-Fi and Bluetooth. Encryption.	
20	06.02.23			
Half term				
21	20.02.23	2-1-1 Computational Thinking and Algorithms	Computational thinking: abstraction, decomposition and algorithmic thinking. Identifying inputs, process and outputs for a problem. Structure diagrams.	Unit Test D: Algorithms, Flow-Charts and Pseudo-Code A01 A02 A03
22	27.02.23			
23	06.03.23	2-1-2 Designing, Creating and Refining Algorithms	Flow-chart symbols. Tracing the path of execution through flow-charts. Pseudo-code: what it is and how it relates to real programming languages. Identifying common errors in code. Using trace-tables. Contingency and PAUSE lesson.	
24	13.03.23			
25	20.03.23			
26	27.03.23			
EASTER				
27	17.04.23	(2-1-2 Continued)		(Exam Prep.)
28	24.04.23	2-4-1 Boolean Logic and Computational Operations	Boolean operations: AND, OR, NOT. Truth tables. Combining operations together. Logic diagrams and logical expressions. ^ (exponentiation) , MOD (modulo), DIV (division), shifting, overflow.	
29 (BH)	02.05.23			
30	08.05.23			
31	15.05.23	EOYE prep		
32	22.05.23	EOYE prep		
Half term				
33	05.06.23	EOYE prep		
34	12.06.23	EOYE prep		
35	19.06.23	END OF YEAR EXAM		
36	23.06.23	EXAM RAP		
37	03.07.23	2-2-1 Programming Fundamentals	Data-types, variables and constants, casting. Flow of control in a program: Sequence, Assignment, Selection, Iteration. Working with 1D and 2D arrays. Generating random numbers. Sub-programs: Procedures and functions. Arguments and return values. Creating, opening and closing files. Reading and writing data. Records.	Unit Test E: Programming A01 A02 A03
38	10.07.23			
39	17.07.23	WORK EXPERIENCE		

OCR 9-1 J277 GCSE Computer Science Year 10 Assessment Progress Tracker 2022-23

Name:		Tutor:	Formal assessments – deciding your final GCSE grade Year 11 Programming Project 20 hours at the start of Year 11 – worth 0% Computer Systems Exam Paper 1 (J277/01) 1.5 hours at the end of Year 11 – worth 50% Computational thinking, algorithms and programming Exam Paper 2 (J277/02) 1.5 hours at the end of Year 11 – worth 50%
Subject Target		**Mock Grade:**	
	Flightpath	**BFL**	
Autumn 1			
Autumn 2			
Spring 1			
Spring 2			
Summer 1			
Summer 2			

Assessments and Exam Practice Questions

Date	Assessment	Flight-path Grade	Action (s) to make progress
26.09.22	Unit Test A: Architecture		
12.12.22	Unit Test B: Data Representation and Storage		
06.02.23	Unit Test C: Networks and Protocols		
27.03.23	Unit Test D: Algorithms , Flow-charts and pseudo-code		
19.06.23	Year 10 Exam		
10.07.23	Unit Test E: Programming		