Year 11 Computer Science Revision Timetable – Exams May 2024

Student Name:

We will be asking you to revise different topics each week using weekly revision activities via a Showbie class to be completed as homework and during revision lessons.

Exam Dates:

1CP2 01	Paper 1: Principles of Computer Science	Wednesday 15 May	Afternoon	1h 30m
1CP2 02	Paper 2: Application of Computational Thinking (Onscreen using an Integrated Development Environment (IDE) of choice)	Tuesday 21 May	Afternoon	2h 00m

Useful Resources:

- Quizlet https://quizlet.com/join/NjTer8TpC
- Use CSUK Revise https://revisecs.csuk.io/
- Videos on YouTube – Search GCSE Edexcel Computer Science and "Craig n Dave". Videos on all the topics.
- BBC Bitesize – Make sure you search Computer Science and enter the Exam Board as Edexcel
- Seneca Learning – Log in and review all the Information about the Topic, take the tests and check on the assignments.
- Practice coding on Trinket (Class code: https://trinket.io/courses/join/WdNAam) and Wednesday lunchtime
- Attend the revision sessions Monday afterschool in L2.

Date	Topics	Revision Sessions	Revised
Week 1 19th Feb	**Topic 3: Computers** ☐ Stored program concept ☐ Fetch-decode-execute cycle ☐ Main memory (RAM) ☐ CPU (control unit, arithmetic logic unit, registers) ☐ Clock speed ☐ Pipelining ☐ Buses - address bus, data bus, control bus Secondary storage and the ways in which data is stored on devices: ☐ magnetic ☐ optical ☐ solid state ☐ Embedded system and what embedded systems are used for	FDE, clock speed and pipelining Secondary storage Calculating the maximum memory locations	
Week 2 26th Feb	**Topic 2 Data** ☐ Unsigned integers ☐ Two's complement signed integers ☐ Convert between denary and 8-bit binary numbers (0 to 255, -128 to +127) ☐ Binary addition ☐ Logical binary shift	Binary, Hex, addition and shifts	

	☐ Arithmetic binary shifts ☐ Overflow ☐ Hexadecimal and binary conversions		
Week 3 4th March	**Topic 2 Data** ☐ Computers encode characters using 7-bit ASCII ☐ Bitmap images are represented in binary (pixels, resolution, colour depth) ☐ Analogue sound is represented in binary (amplitude, sample rate, bit depth, sample interval) ☐ Limitations of binary representation of data when constrained by the number of available bits **Data storage** ☐ Data storage is measured in binary multiples - bit - nibble - byte - kibibyte - mebibyte - gibibyte - tebibyte ☐ construct expressions to calculate file sizes and data capacity requirements **Compression** Data compression and methods of compressing data ☐ Lossless ☐ lossy	Character sets, image and sound representation	
Week 4 11th March	**Topic 4: Networks** ☐ Purpose of networks ☐ LAN ☐ WAN Understand characteristics of network topologies ☐ Bus ☐ Star ☐ Mesh	Network Topologies and purpose of networks	
Week 5 18th March	**Topic 4: Networks** ☐ Wired and wireless connectivity ☐ Impact on performance: - Speed - Range - Latency - Bandwidth ☐ Understand that network speeds are measured in bits per second: -Kilobit	Network performance and calculating speed	

	-Megabit -Gigabit ☐ Be able to construct expressions involving file size, transmission rate and time.		
Week 6 25th March Easter Hols	**Topic 4: Networks** Understand how the internet is structured: ☐ IP addressing ☐ routers ☐ Network protocols: - Ethernet - Wi-Fi - TCP/IP - HTTP/HTTPS - FTP ☐ Email protocols (POP3, SMTP, IMAP) ☐ Understand how the 4-layer: - Application/ Transport / Internet / Link ☐ TCP/IP model handles data transmission over a network ☐ Network security and ways of identifying network vulnerabilities: - penetration testing, - ethical hacking ☐ Methods of protecting networks: ☐ access control / physical security / firewalls	Packet switching, protocols and network layers	
Week 7 1st April Easter Hols	**Topic 3: Software** understand the purpose and functionality of an **operating system** ☐ File management ☐ Process management, ☐ Peripheral management ☐ User management Understand the purpose and functionality of **utility software** ☐ File repair ☐ backup ☐ data compression ☐ disk defragmentation ☐ anti-malware ☐ Understand the importance of developing robust software and methods of identifying vulnerabilities ☐ Audit trails ☐ Code reviews	Operating systems and utility software	
Week 8 8th April	**Topic 3 Programming Languages:** ☐ Understand the characteristics and purposes of	Flow charting practice	

	low-level and high-level programming languages ☐ Understand how an interpreter differs from a compiler in the way it translates high-level code into machine code		
Week 9 15th April	**Topic 1 Computational Thinking** ☐ Benefit of using decomposition and abstraction to model aspects of the real world and analyse, understand and solve problems ☐ Benefits of using subprograms ☐ Flow charts ☐ Programming constructs ☐ Variables, constants, global and local and data types	Programming constructs and Paper 1 Topic 1 style questions.	
Week 10 22nd April	**Topic 1 Truth tables** ☐ be able to apply logical operators (AND, OR, NOT) in truth tables with up to three inputs to solve problems	Truth tables	
Week 11 29th April	**Topic 1 Trace tables** Determine the correct output of an algorithm for a given set of data and use a trace table to determine what value a variable will hold at a given point in an algorithm. **Searching and Soring Algorithms** ☐ linear search ☐ binary search ☐ Bubble sort ☐ merge sort **Algorithm Efficiency** Use **test data** to evaluate an algorithm's fitness for purpose and **efficiency.** ☐ number of compares ☐ number of passes through a loop ☐ use of memory	Searching and sorting algorithms	
Week 12 6th May	**Topic 5: Issues and impact** ☐ Environmental Ethical and legal issues associated with the use of: ☐ Artificial intelligence ☐ Machine learning ☐ Robotics ☐ Accountability, safety, algorithmic bias, legal liability Intellectual property protection ☐ Malware & social engineering ☐ Protection methods ☐ Backup and recovery procedures	Practicing long answer questions	
Week 13 13th May	**Paper 1 Exam**		

Week 14 20th May	**Paper 2 Onscreen assessment**		