Year 11 Computer Science Timetable

W/C	TOPICS	ACTIVITIES
25.02	• Subroutines – Analysis and creation. • Algorithm Practice. • Computer Systems / CPU.	*Identifying and creating two types of subroutines – procedures and functions – using pseudo code. Highlighting parameters, global and local variables. N:\Reference\ICT\Computing\Year 11\1. Algorithms and Programming "3. Subroutines".* *Past paper question practice, found in N:\Reference\ICT\Computing "Past Papers – Questions and Answers".* *Blind test to recap computer systems and the basic computer system model. N:\Reference\ICT\Computing\Year 10\(a) Hardware (Sept - Oct)\6. Computer Systems* *Identify and research modern computer systems – including embedded systems – and list the input and outputs for each* *List the components of the CPU including physical components. Be able to identify, describe and enact the fetch-execute cycle with given real life scenarios and apply this back to the specification.*
04.03	• Flowcharts – Analysis and creation. • Memory and storage.	*Past paper examples to analysis. Use skills from NEA to produce a series of flowcharts. Differentiate by providing templates of the appropriate shapes and allowing the students to fill in the pseudocode.* *Be able to distinguish between memory and storage, specifically the characteristics of each. N:\Reference\ICT\Computing\Year 10\(a) Hardware (Sept - Oct)\9. Memory* *Provide examples scenarios for students to appropriately apply the correct storage type – common in exam questions. N:\Reference\ICT\Computing\Year 10\(a) Hardware (Sept - Oct)\10. Secondary Storage*
11.03	• Arrays – Analysis and creation • Records and files. • Software	*Link directly back to coursework where arrays where used: N:\Reference\ICT\Computing\Year 11\1. Algorithms and Programming "4. Arrays"* *Students identify values in arrays and index numbers.*

		Students create 2 dimensional arrays for given scenarios and peer assess knowledge by testing against their own arrays. *Use python to show how records and files can be handled in and out of programming language – use python to do this. Students can then build a small database using python to import, edit and export results:* *N:\Reference\ICT\Computing\Year 10\(a) Hardware (Sept - Oct)\13 - 14. Mini Project* *Revisit software by creating and distributing surveys which analyse the performance of different types of software.* *Be able to apply appropriate software types to given scenarios.* *Design interfaces for operating systems to suit a specific target audience:* *N:\Reference\ICT\Computing\Year 10\(c) Software & Cyber Security (Jan-Feb)\Revision "Operating Systems Assignment"*
18.03	• Cyber security and consequences of technology • Random number generator	*Research articles where different methods off malicious code and social engineering have been used:* *N:\Reference\ICT\Computing\Year 10\(c) Software & Cyber Security (Jan-Feb)\7. Malicious Code* *Using various encryption techniques, decrypt code to discover key clues using Caesar cipher wheel.*
25.03	• Networks – Hardware, types and topologies • Networks – Protocols and TCP/IP stack	*N:\Reference\ICT\Computing\Year 10\(e) Networks Apr- May Lessons* *Using previous resources, identify hardware (visually) and create different types / topologies of networks.* *Research rules (using abbreviations) of protocols and when they are applied. Memory cards and recall strategies to memorise and permanently embed protocols.* *Practical activity for TCP/IP stack – compare the process of wrapping items and the layers required to ensure they are securely sent and relate this to TCP/IP stack.*
EASTER		
15.04	• Data Representation – Images. • Data Representation – Sound • Data Representations – Characters/Units	*N:\Reference\ICT\Computing\Year 10\(b) Data Representation (Nov - Dec)\4. Data Representation* *Audacity – Create sound files using analogue (Waves) and analyse the process of converting this into a digital signal which is stored.*

		Images – Compare bitmap and vector images. Break image into pixels and be able to identify number of bits / colour depth of each pixel. *Characters / units – Recall units of measurement and compare different files to apply appropriate units to relevant files.*
22.04	• Data Representation – Numbers • Data Representation - Hex	*N:\Reference\ICT\Computing\Year 10\(b) Data Representation (Nov - Dec)\4. Data Representation* *Recall method of converting values from binary – den – hex.* *Revision mats with table tools and methods available in lesson to support learning.*
29.04	• Exam technique – long mark answers	*Past paper question practice. Discuss method of breaking down question into sections and provided P-E-E for each of these sections, linking it with number of marks:* *N:\Reference\ICT\Computing\Year 10 "Large Mark Questions"*
06.05	• Exam technique – Past Paper Questions	*N:\Reference\ICT\Computing "Past Papers Questions and Answers.*
EXAM		