

	problems in a Computational Way. Create Algorithms for problems, be able to create and interpret FSM's. Create suitable test plans to evaluate the effectiveness of algorithms.						these units. Review understanding. Sk – Apply theory learn to exam questions.	OO paradigm, create UML diagrams.
YEAR 13	Topic – Computer Organisation & Architecture. Assessment – End of Unit test, in class. S – Internal hardware components. Assembly language. P – Understand the need and programming style for assembly language, Understand the role of the processor, hardware & software.	Topic – NEA work Assessment – NEA preliminary feedback. S – Programming, Project Life Cycle P – Programming, Testing Sk – Program NEA project in Python, Complete suitable testing of project.	Topic – Mock Exam Prep Assessment – Mock Examination S – Exam & revision techniques, Theory. P – Understand exam question. Sk – Complete exam.	Topic – Regular languages Assessment – End of unit test, in class. S – Different languages used in Computing, Turing Machines P – Be able to explain the need for the uses of Sets, Regular Expressions (Regex), Turing Machines, Backus-Naur form and Reverse Polish Notation (RPN) Sk – Represent data as Sets and FSM's. Use Backus-Baur form and RPN.	Topic – Functional Programming Assessment – In class. S – Understand the functional programming paradigm. P – be able to apply the correct logic to understand functional programs, know high order functions and lists. Sk – Be able to write functional programs, that uses higher order functions & lists.	Topic – Paper 1 Prep Assessment – Paper 1 exam & in class. S – Object Orientation, Skelton Program P – Be able to interpret programming exam questions, apply OO principles when writing code. Sk – Complete practical and theoretical tasks on the skeleton program.	Topic – Revision Assessment – In class. S – Revision Techniques P – Use suitable revision techniques. Sk – Recap and cement knowledge of topics.	Study leave & Exams.

Sk – Be able to write programs in Assembly language, be able to explain the role and operation of the different pieces of hardware.			Use RegEx in a non-programming context.				
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KS5 Teacher B

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YEAR 12	Topic – Data Representation 1						Topic – Data Representation 2						Topic – Communication Technology					Topic – The Internet						Topic – Databases						Topic – NEA								
	Assessment – Eou Test						Assessment – Eou Test						Assessment – With next unit(internet)					Assessment – End of Unit test (Combined with Communication Tech)						Assessment – Eou Test						Assessment – NEA								
	S – Number systems, files sizes, Binary Arithmetic & fractions.						S – Images, sound, compression, encryption.						S – Privacy, Cable & wireless networking technologies.					S – The structure of the internet, TCP/IP, Routers.						S – Database Theory, SQL						S – Project Life cycle, Programming, SQL, research.								
	P – Understand conversion methods, file size calculations and Arithmetic rules/algorithms						P – Understand file size calculation methods, compression algorithms & Encryptions algorithms and their need.						P – Understand network topologies, client-server, CSMA and SSID					P – Understand the layers of the TCP/IP Stack, Ip addresses, the client server model.						P – Entity relationship diagrams (ERDs’), Normalisation, DDL and DML for SQL						P – Understand the project development life								
	Sk -Be able to normalise a database and create suitable ERD’s, write SQL that creates fully normalised																																					

	Sk – Convert between the various number bases, perform Binary Arithmetic on exam style questions.	Sk – Be able to perform files size calculations, compression and encryption methods.	Sk – Be able to suggestion suitable network technologies. Explain and discuss topologies, client-server, CSMA and SSID.	Sk – Be able to explain and discuss what happens during the TCP/IP stack and the client server model, apply IP address to a given diagram. Explain the role of routers and the structure of the internet.	databases. Be able to write SQL that selects, updates and deletes data.	cycle. Programming Sk – Research, plan and develop a suitable solution.
YEAR 13	Topic – NEA Assessment – NEA , in class. S – Project Life cycle, Programming, SQL, research. P – Understand the project development life cycle. Programming Sk – Research, plan and develop a suitable solution.	Topic – Data Structures & Big data Assessment – Eou Test, Paired with Algorithms S – Big Data, Data Structures P – Understand big data, stacks, queues, list, hash tables and dictionaries, graphs, trees and vectors. Sk – Explain the operations of and work through examples of each data structure listed. Discuss and explain the use of Big data in modern society.	Topic – Algorithms Assessment – Eou Test paired with Data Structures. S – Searching & Sorting, Big – O notation, Limits of computation, Recursion P – Understand recursion and algorithms, how efficient an algorithm is, what problems are Intractable. Sk – Be able to determine the complexity of an Algorithm, be able to apply various algorithms such as graph & tree traversal. Discuss the limits of Computation.	Topic – NEA Assessment – NEA , in class. S – Project Life cycle, Programming, SQL, research. P – Understand the project development life cycle. Programming Sk – Research, plan and develop a suitable solution.	Topic – Revision Assessment – In class. S – Revision Techniques P – Use suitable revision techniques. Sk – Recap and cement knowledge of topics.	Study leave & Exams.

