



Your Guide to Year 13 Computer Science

Assessment Criteria

Every half term students are assessed using national curriculum levels and sub levels. Each assessment is marked using this criteria which outlines the differences between each level. This is given to students at the beginning of the school year. A copy is attached for your perusal.

Expectations of Students			
Students are expected to come equipped with appropriate stationary. They also need to read their teachers comments in their books and act on the feedback given. Students are expected to complete their progress tracking in the front of their books after every assessment.			
Year 13	Topic Title and unit	What students will be learning	How you can specifically help your child
HT1	Structure and function of the processor Types of processors Input, output and storage	Understand the purpose of ALU, Control Unit and Registers, Buses and how they relate to assembly language programs. The fetch-decode-execute cycle, including its effect on registers. Understand the factors affecting the performance of the CPU. Understand different processor architectures. Understand the purpose of pipelining. Know the differences between and uses of CISC and RISC processors. Understand Multicore and Parallel systems. Understand the purpose of GPU's. Know how different input, output and storage devices can be applied to the solution of different problems. Know the uses of magnetic, flash and optical storage devices. Know the difference between RAM and ROM. Understand the need for Virtual storage.	
HT2	System software Application generation Introduction to programming Software development. Year 13 internal deadline for remaining UCAS applications	Understand the need for OS. Know what memory management is. Understand the purpose of interrupts and scheduling. Understand the different types of OS. Know the purpose of BIOS, device drivers and virtual machines. Understand the nature of applications and utilities. Know the difference between open and closed source. Know the purpose of the different translators. Understand the stages of compilation and know the difference between linkers and loaders. Now different programming languages and their characteristics.. Know the different SDLC's.	
HT2	Compression, Encryption and Hashing Databases Networks Web Technologies	Understand the different types of compression. Understand encryption and the use of hashing. Understand different types of databases and methods to handle data. Understand how to carry out normalisation. Now how to produce SQL, understand referential integrity and use database features. Understand different networks, structure, security, hardware and different between client-server and peer-to-peer. Now different programming languages used for the web. Understand search engine indexing, page rank and server/client side processing.	
HT3			



HT4	<p>Data types and structures</p> <p>Boolean Algebra</p> <p>Legal, moral, cultural and ethical issues.</p> <p>Programming techniques</p> <p>Computational methods</p> <p>Algorithms</p>	<p>Know different data types and structures and how they can be converted and use of addition and subtraction.</p> <p>Understand how character sets are used to represent text.</p> <p>Understand different types of arrays and properties of stacks and queues.</p> <p>Now how to create and manipulate data.</p> <p>Be able to use, define and manipulate Boolean logic.</p> <p>Know how to use logic gates and truth tables.</p> <p>Know the different Acts related to Computers.</p> <p>Understand moral, social, ethical and cultural opportunities and risks of digital technology.</p> <p>Understanding different types of programming techniques.</p> <p>Know how to use different types of computational methods.</p> <p>Create and design an array of suitable algorithms for given task.</p>	
HT5	<p>Analysis of a problem</p> <p>Developing the solution</p> <p>Evaluation</p> <p>Year 13 Leaving assembly and study leave Friday May 26th</p>	<p>Ensure all aspects of project are included</p> <p>Identify a problem and the stakeholders involved.</p> <p>Research a problem and solutions and justify choices and limitations.</p> <p>Describe the approach to testing.</p> <p>Carry out iterative development process</p> <p>Continually test to inform development.</p> <p>Carry out testing and evaluation solution against success criteria.</p> <p>Describe the final product and necessary maintenance and development.</p>	
HT6	<p>Exams:</p> <p>H446/1 Computer systems 16-6-17</p> <p>H446/2 Algorithms and programming 22-6-17</p>		
<p>Key dates and what students will be doing</p>			

Contact details

Name: Mrs C George

Email: cgeorge@redditch.tgacademy.org.uk