

## Computer systems (Component 01)

In Unit 1 of Computer Systems you will be studying hardware for the first term. Below is a list of the different elements we will discuss and review.

**Task 1:** Create a new document, watch the Craig and Dave OCR A Level playlist videos 1-12 (search Craig and Dave on YouTube or click here > [Link](#)) and take notes to provide a definition and basic explanation for each individual element in the list below. Keep this safe as you will need your notes in class.

<b>1.1 The characteristics of contemporary processors, input, output and storage devices</b>	
<b>1.1.1 Structure and function of the processor</b>	<p>(a) The Arithmetic and Logic Unit; ALU, Control Unit and Registers (Program Counter; PC, Accumulator; ACC, Memory Address Register; MAR, Memory Data Register; MDR, Current Instruction Register; CIR). Buses: data, address and control: how this relates to assembly language programs.</p> <p>(b) The Fetch-Decode-Execute Cycle; including its effects on registers.</p> <p>(c) The factors affecting the performance of the CPU: clock speed, number of cones, cache.</p> <p>(d) The use of pipelining in a processor to improve efficiency.</p> <p>(e) Von Neumann, Harvard and contemporary processor architecture.</p>
<b>1.1.2 Types of processor</b>	<p>(a) The differences between and uses of CISC and RISC processors.</p> <p>(b) GPUs and their uses (including those not related to graphics).</p> <p>(c) Multicore and Parallel systems.</p>
<b>1.1.3 Input, output and storage</b>	<p>(a) How different input, output and storage devices can be applied to the solution of different problems.</p> <p>(b) The uses of magnetic, flash and optical storage devices.</p> <p>(c) RAM and ROM.</p> <p>(d) Virtual storage.</p>

**Task 2:** Utilise your definitions to create a set of flash cards that you can use to revise. If you don't already have one, create an account on Quizlet (<https://quizlet.com/en-gb>). Structure your flash cards by creating folders and naming your flash card appropriately by section and then topic (i.e. OCR A Level Computer Science 1.1 Section 1 – Processor structure and function). Pick out the key terms and provide a short but appropriate definition for each.

**Task 3:** Sign up to an account on Isaaccomputerscience.org (use your school email if possible) and add yourself to my group by using the code **TJK4C7**. I have set an assignment to complete with some transition questions on Computer Systems that lay between GCSE and A Level. These assignments are not about right and wrong, you will not gain a score, only a completion rate. Each question will allow you to attempt it again if answered incorrectly, it is about understanding where you have gone wrong and making sure you check your knowledge before trying to answer again correctly.