|  | **Topic** | **Key concept – what do I want the students to learn from this unit?** | **What knowledge will they acquire?** |
| --- | --- | --- | --- |
|  **YEAR 9 – Computer Science** |
| **Autumn 1** | 2.1 Algorithms & 2.2 programming techniques | **Python skills - programming input, outputs, variables, selection, iteration, arrays, operators, sub-programs** | **Knowledge - problem solving and computational thinking to achieve desired outcomes using Python programming** |
| **Autumn 2** | 1.1 systems architecture and re-visit 2.1 and 2.2 | **About the CPU – purpose and components, functions and performance factors** | **How the CPU works and the principles behind Von Neumann architecture** |
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| **Spring 1** | 2.3 Producing Robust programs | **How to program defensive design considerations, and explore the purpose and types of testing when writing programs** | **Defensive design considerations, maintainability purpose and types of testing, identifying syntax and logic errors** |
| **Spring 2** | 1.2 Memory and 1.3 storage | **How the CPU uses memory and different storage types** | **Difference in RAM and ROM, virtual and flash memory, secondary storage and capacity, types of storage and characteristics** |
| **Summer 1** | 2.4 Computational logic | **How logic and comparison operators can be used to develop effective programs** | **Data in binary form, Boolean operators, truth tables, logic operators, computer-related maths** |
| **Summer 2** | NEA replacement **We know that the current NEA element of the course will be assessed by external assessment however we do not yet know how this will look, therefore this term will be focused on preparing learners for this element of the examination and allow flexibility of delivery moving into year 10** |