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| **Term** | **INTENT** | **IMPLEMENTATION** | **IMPACT** |
| **Substantive Knowledge**  This is the specific, factual content for the topic, which should be connected into a careful sequence of learning. | **Disciplinary Knowledge (Skills)**  This is the action taken within a particular topic in order to gain substantive knowledge. | **Assessment opportunities**  What assessments will be used to measure student progress?  Evidence of how well students have learned the intended content. |
| **Autumn Term**  **Y12**  **1A** | **Intent**  **Boolean Algebra 1.4**  Why is this taught now?  This topic has in part been covered in Y1 but some of the more advanced content is covered in Y2.  **Continue to work on Project** | * Use the following rules to derive or simplify statements in Boolean algebra: De Morgan’s Laws, distribution, association, commutation, double negation. * Relational databases * Transaction processing, ACID (Atomicity, Consistency, Isolation, Durability), record locking * and redundancy * SQL – Interpret and modify. | In class teacher assessment through Q & A  Knowledge recall activities  Homework activities and past paper questions  Teacher assessment during lesson  End of module test  End of Year assessments |
| **DataBases**  Students learn about how data is captured, stored and exchanged. |
| **Autumn Term**  **1B** | **Intent**  **Web Technologies**  Why is this taught now?  Builds on knowledge gained through the GCSE course and a fundamental topic that forms the basis on which other topics will build on. | * HTML, CSS and JavaScript * Search engine indexing. * PageRank algorithm. * Server and client side processing. | In class teacher assessment through Q & A  Knowledge recall activities  Homework activities and past paper questions  Teacher assessment during lesson  End of module test  End of Year assessments |
| **Continue to work on Project** |
| **Spring Term**  **2A** | **Intent**  **Legislations and Ethical, Cultural and Moral Issues 1.5**  Why is this taught now?  This topic will have been taught during Y1 but is also refreshed during Y2. Reasoning is to continue to develop student skills with extended essay questions in relation to this topic as well as others.  **Algorithms 2.3**  Big O notation  Optimisation Algorithms  Advanced A level content and suited to be taught during Y2. | * Data Protection Act 1988 * Computer Misuse Act 1990 * Copyright Design And patents Act 1988 * Regulation of Investigatory and Powers Act 2000 * Measures and methods to determine the efficiency of different algorithms, Big O notation (constant, linear, polynomial, exponential and logarithmic complexity). * Understand and be able to trace Dijkstra’s shortest path algorithms * Describe A\* algorithm * Be aware of application of shortest path algorithms | In class teacher assessment through Q & A  Knowledge recall activities  Homework activities and past paper questions  Teacher assessment during lesson  End of module test  End of Year assessments |
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| **Spring Term**  **2B** | **Intent**  **Computational methods 2.2**  Why is this taught now?  This topic is taught with the project as students are able to grasp concepts and apply to their project write-ups.  **Project Submissions** | * Problem recognition * Abstraction and Decomposition * Learners should apply their knowledge of: backtracking, data mining, heuristics, performance modelling, pipelining, visualisation to solve given problems. | In class teacher assessment through Q & A  Knowledge recall activities  Homework activities and past paper questions  Teacher assessment during lesson  End of module test  End of Year assessments |
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| **Summer Term**  **3A** | **Intent**  **Recap and Refresh Y1/2 content and topics that need revising.**  Why is this taught now?  Preparation for examinations | * Through the use of assessment data and student feedback, topics are revised and students begin their revision program. | In class teacher assessment through Q & A  Knowledge recall activities  Homework activities and past paper questions  Teacher assessment during lesson  End of module test  End of Year assessments |
| Why is this taught now? |
| **Summer Term**  **3B** | **Intent**  **Recap and Refresh Y1/2 content and topics that need revising.**  Why is this taught now?  Preparation for examinations | * Through the use of assessment data and student feedback, topics are revised and students begin their revision program. | In class teacher assessment through Q & A  Knowledge recall activities  Homework activities and past paper questions  Teacher assessment during lesson  End of module test  End of Year assessments |
| **Intent**  Why is this taught now? |