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| **Year 13 Term 4**  **A Level Computer Science** | In the field of Computing, our goal is to foster creativity and problem-solving skills in students, enhancing their comprehension and practical application of fundamental concepts in Computer Science and Information Technology (IT). Our aim is to empower students to critically analyse computational issues and devise innovative solutions through the process of designing, writing, developing, and assessing digital solutions | | | | | |
| **Enquiry Questions: Does an evaluation allow innovation or is it merely correcting mistakes and identifying weaknesses?** | | | | | | |
| |  | | --- | | **Component 03: Computer Science Programming Project - Evaluation**  Students will have the opportunity to demonstrate their programming skills in creating their own programming project. Learners will be expected to analyse, design, develop, test, evaluate and document a program written in Python. The underlying approach to the project is to apply the principles of computational thinking to a practical coding problem. Learners are expected to apply appropriate principles from an agile development approach to the project development. | | | | | | | |
| **Knowledge**  Students will know about… | **Application/Skills**  Students will be able to… | **Vocabulary** | **Home Learning** | **Assessment** | **Extra Resources**  **Extended Reading** | **Cultural Capital** |
| * Students at this stage will need to evaluate their project and self-criticise the outcome. * Students need to be aware that an evaluation is not just about WWW and EBI, but also how maintainable their project is to be passed on or to be continued. | * Provide annotated evidence of testing the solution of robustness at the end of the development process. * Provide annotated evidence of usability testing (user feedback). * Use the test evidence from the development and post development process to evaluate the solution against the success criteria from the analysis. * Provide annotated evidence of the usability features from the design, commenting on their effectiveness. * Discuss the maintainability of the solution. * Discuss potential further development of the solution. | * Abstraction * Decomposition * Computational Thinking * Success Criteria * Flowcharts * Pseudocode * Algorithm * Data Structure * Sequence * Selection * Iteration * Subroutine * Libraries * Packages * Variables * Data Types * Testing * Evaluation * Input Validation * Object Oriented Programming * Prototyping * Version Control * Polymorphism * Instantiation * Inheritance   Class Diagram | Teach-ICT.com  PG Online – ClearRevise A Level Computer Science  Isaac Computer Science | Controlled Assessment  Students are expected to complete this independently with guided learning. | [Teach-ICT.com](https://teach-ict.com/2016/GCSE_Computing/OCR_J277/OCR_J277_home.html)  [Isaac Computer Science](https://isaaccomputerscience.org/topics/gcse?examBoard=all&stage=all#all)  Seneca – [Computer Science](https://app.senecalearning.com/classroom/course/a1ce4570-6e27-11e8-af4b-35cf52f905c2/section/65ac2e24-3b57-4598-b4dc-01e04eddee1b/session)  BBC Bitesize  Hodder Education – Revision Book A Level Computer Science  PG Online - AS and A Level Computer Science | The National Science Museum (free events)  <https://www.sciencemuseum.org.uk/>  The Royal Institute of Science (free events)  <https://www.rigb.org/families/family-fun-days>  **National Museum of Computing, Bletchley Park (Near Milton Keynes)**  <http://www.tnmoc.org/>    <https://www.bletchleypark.org.uk/>  <http://www.codesandciphers.org.uk/bletchleypark/>  (virtual tour)    Centre for Computing History, Cambridge  <http://www.computinghistory.org.uk/> |