## **Programme of study for Year 13 Computer Science**

| Autumn (1st term) Topic   | Autumn (2 <sup>nd</sup> term) Topic  | Spring (1st term)   | Spring (2 <sup>nd</sup> Term)      | Summer (1st term)              | Summer (2 <sup>nd</sup> term) Topic |
|---|--|---|------------------------------------|--------------------------------|-------------------------------------|
|   |  | Topic   | Topic                              | Topic                          |                                     |
| Component 1 Unit 1:   | Component 1:   | Component 1:  | Component 1:                       | Component 1:                   | Sign off                            |
| 1.2.2 Applications General (Part abc)   | 1.3.4 Web Technologies 1.4.1DataTypes  | 1.2.2 Applications General<br>Part 2  | Revision Component 2:              | EXAM                           |                                     |
| 1.3.3 Networks  Component 2:  | Component 2:  2.3.1 Standard Algorithms:   | 1.4.3 Boolean algebra Component 2:  | Revision  2.2.2Computational       | Component 2:                   |                                     |
| 2.3.1 Algorithms: Analysis,<br>Big (0) notation, Linear   | Merge and Quick sort   | 2.3.1 Optimisation Algorithms   | Methods                            | EXAM                           |                                     |
| search, Binary search. Bubble & Insertion sort  | Graph traversal algorithms,  Component 3: (NEA)                                    | 1.2.2 Applications General<br>Part (def)  | Skills:                            | Skills:                        |                                     |
| Component 3: (NEA)  Project analysis-   | Project Implementation and Testing   | Component 3: (NEA)  Project Testing and   | Study skills                       | Research and responsibility    |                                     |
| Project Design  | Skills:  | Evaluation  Skills:   |                                    | for self study                 |                                     |
| Skills:  Research, planning, time management.   |  | Research and knowledge of Current Affairs. Logical thinking   |                                    |                                |                                     |
| End of term 1 evidence to cover:  |  | End of term 2 evidence to cover:  |                                    | End of year evidence to cover: |                                     |
| Mini Revision Tests / Project   |  | Mock exam   |                                    |                                |                                     |
| Rationale for sequence:   | Rationale for sequence:  | Rationale for sequence:   | Rationale for sequence:            | Rationale for sequence:        | Rationale for sequence:             |
| Helping students<br>understand the time<br>complexity of algorithms<br>they may produce and use | Better understanding of the WWW & Internet Understanding more challenging standard | Simplifying complex boolean logic statements. Looking at common uses of optimisation algorithms. Final project work | Gearing up revision based on need. |                                |                                     |

| in their project. New topic networking  | algorithms. Progressing project.  |   |                                 |                              |                              |
|---|---|---|---------------------------------|------------------------------|------------------------------|
| Home – Learning:  Related to topic covered or revision  Project analysis-  Project Design | Home – Learning:  Related to topic covered or revision  Project Implementation and Testing                          | Home – Learning:  Related to topic covered or revision  Project work  | Home – Learning:<br>Revision    | Home – Learning:             | Home – Learning:             |
| Reading / High Quality Text: Technical language using manuals                             | Reading / High Quality Text:  Technical language using manuals. News articles related to Legal moral ethical issues | Reading / High Quality Text:  Technical language using manuals. News articles related to Legal moral ethical issues | Reading / High Quality<br>Text: | Reading / High Quality Text: | Reading / High Quality Text: |
| Numeracy: Order of Magnitude  | Numeracy: Page ranking calculations   | Numeracy:  Boolean expressions  | Numeracy:                       | Numeracy:                    | Numeracy:                    |

Enrichment / opportunities to develop cultural capital (including careers, WRL and SMSC):

Consider taking a MOOC to help with Uni Course at the end of the year.