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| **Head of Department:** | Mrs K Dennan |
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| **Subject Teachers:** | Mr B McDonnell, Mrs Lawson, Mr Sharry |
| **Entry Requirements:** | GCSE Grade 5 in Computer Science or, if not taken at GCSE, a Grade 6 in Maths |
| **Course Description** | Students must take all three components to be awarded the OCR A Level in Computer Science |

| **Component** | **Assessment Overview** | **Contents** |
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| Computer Systems 01 | 140 marks  2hr 30min  40% of total grade  non-calculator | 1. The characteristics of contemporary processors, input, output and storage devices 2. Software and software development 3. Exchanging data 4. Data types, data structures and algorithms 5. Legal, moral, cultural and ethical issues |
| Algorithms and Programming 02 | 140 marks  2hr 30min  40% of total grade  non-calculator | 1. Elements of computational thinking 2. Problem solving and programming 3. Algorithms to solve problems and standard algorithms |
| Programming Project | 70 marks  NEA  20% of total grade | 1. Analysis of problem (10 marks) 2. Design of solution (15 marks) 3. Development of solution (25 marks) 4. Evaluation and testing (20 marks) |

| **Is this the right subject for me?** | **Progression** |
| --- | --- |
| Students who study Computer Science will be logical and will enjoy problem solving. They will be independent learners who are comfortable with numbers and interested in how computers process data and information, how calculations are carried out, and how data is transmitted.  They will build on their knowledge of programming and will be able to experience the process of building a software application from scratch using a range of different programming techniques and languages.  Students do not need to have studied Computing at GCSE although if they haven’t they should have had some exposure to programming. Students new to the subject will have extra work to do to bring them up to the standard of programming attained by those who previously studied computing. Students who study computing typically will also be taking Maths and/or Science based subjects, and it suits logical students who enjoy studying how systems work and are comfortable with mathematics. | Many students who study computing go on to study this at university, however, A-level Computer Science is not normally a requirement for this. The subject develops good problem solving and logical thinking skills and Russell Group universities list Computer Science as a useful for many degree courses including biology, chemistry, economics, engineering, geology, mathematics, materials science, medicine, physics, psychology, and sociology. |