

| <h1>Computer Science</h1> | |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Exam Board | OCR |
| Course Entry Criteria | 6 in GCSE Computing (or 6 in GCSE Maths if Computing not taken at GCSE) |
| Essential skills | Computing is concerned with the use and functioning of computers. It is designed to give students a rich understanding of the technology involved in computers, how hardware operates and how software is created. By the end of the course students develop a good understanding of programming, both in theory and in practice, as well as considerable understanding of all of the main functions of computer systems. It involves working with more complex models for the functioning of computer systems, developing more complicated algorithms and understanding different techniques for solving computational problems. The coursework gives students an opportunity to work on a programmed system from start to finish, producing a substantial piece of work. |
| A Level | <p>Component 01 - Computer Systems. This unit provides 40% of the A Level mark, which covers the theoretical topics such as, the characteristics of contemporary processors, input/output and storage devices. In addition to this, it includes software and software development, exchanging data (Databases, networks and web technologies); Data types, representation and structures; Legal and ethical issues.</p> <p>Component 02 – Algorithms and Problem Solving This unit provides 40% of the A level mark and is primarily concerned with teaching students how to program. The content involves introducing students to the programming language Python and Visual Basic and students are set a number of programming tasks of increasing complexity. In addition, students are also taught a framework for understanding the commands and structures found in most programming languages. The final exam presents students with questions which both test their knowledge of the subject, but also their ability to solve algorithm problems under time pressure.</p> <p>Component 03 – Programming Project This is a coursework unit provides the final 20% of the A Level mark, where the student will use the underlying principles of Computational Programming to solve a practical coding problem. Using the Agile Development Methodology, students will analyse, design, evaluate and document a fully functional programmed system, using a programming language of choice.</p> |
| University requirements | Typical grade requirements to study a Computer Science degree are as follows: Oxbridge: A* A* A Russell Group: A* A A to A A B Non Russell Group: A B B |
| Related courses and careers | Physics, Chemistry, Economics, Music Technology, Engineering, Architecture, Finance, Insurance, Software Design, Scientist, Armed Forces, Police. |

| | |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other Details | Note that September 2015 saw the first teaching of the new A Level in several subjects including Computer Science. The AS Level no longer counts towards the final A Level grade but is a stand-alone qualification. However, the AS can still be co-taught with the A level and so a decision on whether to proceed with the full A Level is still possible. |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|