| A LEVEL<br>Exam board AQA | # COMPUTER SCIENCE |
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| SPECIFIC ENTRY REQUIREMENTS | It is not essential to have studied computer science at Key Stage 4. Students need a good grasp of mathematics: a grade 5 or above in mathematics is required to join the course. |
| COURSE CONTENT | You must be prepared to read up on the topics we are covering and undertake work outside of the classroom to help you fully understand the implications of the content. A wide range of current issues is covered, as well as topics designed to give you the best foundations for further study. The course is organised as follows:<br>• how programming allows us to solve problems<br>• how can we organise data?<br>• how have complex problems been solved? How can we use these solutions?<br>• computing theory, including the work of Alan Turing<br>• how are data including numbers, text, images and sound stored and processed?<br>• how are computer systems organised and how do they work?<br>• what are the consequences of computer use?<br>• how do networks and the internet work?<br>• databases<br>• what is big data? How does it affect everyone?<br>• functional programming |
| EXAMINATIONS AND ASSESSMENTS | Students will take an onscreen exam and a written exam, each worth 40%; a student selected project makes up the remaining 20%. |
| SKILLS, LINKS AND PROGRESSION | The purpose of the course is to give students a greater understanding of digital technology in preparation for further study or a computing-based apprenticeship; for those considering university it would be best taken alongside maths and one of the sciences subjects.<br><br>The future of our economy is digital, with data transmitted all over the world, and financial transactions carried out electronically. Cash and paper are becoming less common. The threats to our economy and democracy from foreign governments, agencies and individuals are real. The demand for cyber security analysts, computer programmers and hardware engineers can only grow.  Computer science students have the perfect skills set to succeed in these areas and others.<br><br>Energus offers cyber security apprenticeships through the Cyber Lab in Lillyhall, GCHQ recruits computer scientists to their huge range of roles, and universities hold this course in high regard. Take computer science and open the door to your exciting future. |
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