

KS4 COURSE OPTIONS – Year 10 Computer Science

Course Title	Level 1/Level 2 GCSE (9 - 1) in Computer Science
Exam Board	Edexcel
Course Description	<p>The GCSE in Computer Science gets students working with real-world, practical programming techniques that give them a good understanding of what makes technology work.</p> <p>The course gives learners a real, in-depth understanding of how computer technology works. Learners will no doubt be familiar with the use of computers and other related technology from their other subjects and elsewhere. However, the course will give them an insight into what goes on 'behind the scenes', including computer programming, which many learners find absorbing.</p>
Course Content (Term 1,2,3 etc.)	<p>Autumn Term</p> <ul style="list-style-type: none"> • Problem Solving and Programming: An Introduction Using Python • Data Representation <p>Spring Term</p> <ul style="list-style-type: none"> • Compression and Encryption • Computers and Assembly Language Programming <p>Summer Term</p> <ul style="list-style-type: none"> • Networking and HTML Programming • Databases and SQL Programming
Extra-Curricular Opportunities	<ul style="list-style-type: none"> • Photography club (digital editing and image manipulation skills) • Kodu Club • Programming Club
Useful Websites	<ul style="list-style-type: none"> • http://www.teach-ict.com • http://www.computingatschool.org.uk • www.digizen.org • http://www.bbc.co.uk/education
Important Information	<p>Students at Guilsborough selecting Computer Science as a GCSE option have two lessons per week in Year 10, in one of our dedicated IT suites. All lesson materials are digital and hosted on the school VLE. Students do not have exercise books; all work is produced digitally and saved to their Guilsborough network accounts.</p>

	<p>Computing and computer technology are part of just about everything that touches our lives from the cars we drive, to the movies we watch, to the ways businesses and governments deal with us.</p> <p>Understanding different dimensions of computing is part of the necessary skill set for an educated person in the 21st century. Whether you want to be a scientist, develop the latest application, or just know what it really means when someone says 'the computer made a mistake', studying computing will provide you with valuable knowledge.</p>
<p>Provision For Most Able</p>	<p>Students in Computer Science are not set, but are taught in mixed-ability groups. To properly extend and challenge the most able, our schemes of work are differentiated to include a wide range of extension tasks for students identified as more-able/gifted and talented.</p>
<p>Assessment</p>	<p>Students in Computer Science are continually assessed in lessons. The digital nature of the on-screen work means that teachers are able to easily see what a student is doing and give them on-going feedback as they progress through the tasks in a unit of work. Additionally, students are assessed on the work they have done at the end of each sub-unit and given feedback on their successes and how they can further improve.</p> <p>Assessment for the qualification itself is in three parts:</p> <p>Component 1: Principles of Computer Science - Written examination: 1 hour and 40 minutes. 40% of the qualification. This paper consists of multiple-choice, short open response, open response and extended open response answer questions.</p> <p>Component 2: Application of Computational Thinking - Written examination: 2 hours. 40% of the qualification. This paper is based on a scenario. It consists of short open response, open response and extended open-response answer questions.</p> <p>Component 3: Project - Non-examined assessment: 20 hours. 20% of the qualification.</p> <p>Students will develop a computer program. The content for this component will draw on:</p> <ul style="list-style-type: none"> ● algorithms, decomposition and abstraction ● design, write, test and refine a program ● data.