



Computer Science
Ethical Issues
Applicant Study Pack

Introduction	<p>Over the full two years, you will continually develop your programming ability in multiple languages, and as a result be a highly desirable candidate to potential universities and employers.</p> <p>You will begin with programming from the very first day and apply what you learn to more advanced programming concepts such as data structures and algorithms. This will be predominantly done within the first term, alongside learning about the fundamentals of computation.</p> <p>When you return after the first term, you will then be moving onto web development, databases and networks. What you learn here will also prepare you for your final year project during the second year of your course.</p> <p>The following term you will then learn about the fundamental low-level concepts of Computer Science, these include the system architecture such as processors and other hardware, and system software such as operating systems and memory management. After this point you will be able to explain exactly how a computer operates from the ground up.</p> <p>Recommended Skills and Interests</p> <ul style="list-style-type: none"> • Programming and solving problems • Always wanting to know “how things work” • Mathematics, in particular “Maths for Computing” • Looking for a career within Computing i.e. Cyber Security, Artificial Intelligence, Software Development etc. <p>You can be working on your programming ability right now in whatever language you choose! At Clarendon Sixth form you will use Python, Swift and JavaScript. If you have a strong ability in any of those languages coming into the course, you will hit the ground running.</p>								
Objectives	<p>Objectives:</p> <ul style="list-style-type: none"> - To analyse the implications of artificial intelligence upon society. - To evaluate the impact of computing related legislation upon privacy. <table border="1" data-bbox="384 1361 1469 1675"> <tr> <td colspan="2">Literacy – Key Words</td> </tr> <tr> <td>Ethical</td> <td>Discussing what is morally right and morally wrong</td> </tr> <tr> <td>Legal</td> <td>Discussing what is right and wrong in the eyes of the law.</td> </tr> <tr> <td>Cultural</td> <td>Discussing how ethnic groups, countries, religions affect and are affected by technology.</td> </tr> </table>	Literacy – Key Words		Ethical	Discussing what is morally right and morally wrong	Legal	Discussing what is right and wrong in the eyes of the law.	Cultural	Discussing how ethnic groups, countries, religions affect and are affected by technology.
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<p>Task 1</p>	<p>Within A level Computer Science, you will learn about a range of intersecting issues.</p> <p>For your first task, watch the linked documentary on the Ethics of AI.</p> <p>Write a one-page summary which includes a description of the issue, identification of current developments in AI technology and a discussion which includes your opinions on AI following the documentary. Come to some form of conclusion on whether you think such developments are a benefit to society overall or a danger to society.</p> <div data-bbox="598 302 1476 683" data-label="Diagram"> <p><i>Discussing how technology affects the privacy of our data and of our identity.</i></p> <p><i>Discussing what is morally right and morally wrong.</i></p> <p><i>Discussing what is right and wrong in the eyes of the law.</i></p> <p><i>Discussing how technology impacts the environment and how environmental issues affect technological progress.</i></p> <p><i>Discussing how ethnic groups, countries, religions affect and are affected by technology</i></p> </div> <p>Artificial intelligence and its ethics DW Documentary https://www.youtube.com/watch?v=lzd2qOgOGQI</p>
<p>Task 2</p>	<p>One of the most controversial laws regarding the use of computing technology in the UK is the Regulation of Investigatory Powers Act 2000 (RIPA).</p> <p>Use the following link to make notes on the provisions of the Act: https://isaacomputerscience.org/concepts/net_sec_ripa</p> <p>Once you have done this, read this news article. https://www.theguardian.com/world/2016/nov/19/extreme-surveillance-becomes-uk-law-with-barely-a-whimper</p> <p>What are the implications of RIPA upon privacy? Do you think that RIPA is necessary to protect society?</p>
<p>Further reading / links</p>	<p>Data Protection Act (1998) – Top 10 Cases of 2020 https://inform.org/2020/12/28/top-10-privacy-and-data-protection-cases-of-2020/</p> <p>Copyright, Design and Patents Act (1988) – Nintendo mod chip seller infringes copyright https://www.pinsentmasons.com/out-law/news/nintendo-mod-chip-seller-infringed-copyright-rules-high-court</p> <p>University of Cambridge – Coronavirus has intensified the UK’s digital divide https://www.cam.ac.uk/stories/digitaldivide</p> <p>Driverless cars – are they safe? https://archive.curbed.com/2016/9/21/12991696/driverless-cars-safety-pros-cons</p>

Call to
action

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Join us for enrolment in August. Letters will be sent to all applicants at the end of July with more details.