



# YEAR 13 A LEVEL COMPUTER SCIENCE SUMMER TERM 3 – PAPER 1

‘An ambitious curriculum that meets the needs of all’

## Medium Term Planning – Legal, Moral, Ethical and Cultural Issues

Curriculum Intent	Pupils will be taught the following National Curriculum guidelines this term:
Skills/Assessment Objective Links	<p><b>At the end of this Unit all students should be able to:</b></p> <ul style="list-style-type: none"><li>▪ Give examples of organisations that amass and analyse personal information</li><li>▪ Give examples of some of the moral and ethical choices which arise when digital technology is used.</li><li>▪ Explain, with examples, how some software applications have resulted in great benefits but also caused great harm</li><li>▪ Give examples from the range of laws which relate to the use, and misuse, of digital technology to gather, store, process and distribute digital data.</li><li>▪ Explain that there are cultural influences on the way information is understood.</li><li>▪ Explain the difference between data processing and artificial intelligence</li></ul> <p><b>Most students will be able to:</b></p> <ul style="list-style-type: none"><li>▪ Comment on the current capacity to distribute, publish, communicate and disseminate personal information and the benefits and drawbacks of this capability</li><li>▪ Discuss some of the issues involved in regard to the collection and analysing of personal information by security agencies and other organisations, and relate them to relevant laws.</li><li>▪ Identify some of the ethical issues arising from the use of digital technology</li><li>▪ Describe some environmental effects of digital technology</li><li>▪ Describe both positive and negative impacts of the use of computers on the workforce</li><li>▪ Describe some of the opportunities and risks of artificial intelligence and automated decision making</li></ul> <p><b>Some students will be able to:</b></p> <ul style="list-style-type: none"><li>▪ Be able to discuss the challenges facing legislators in the digital age</li><li>▪ Discuss how developments in computer science and the digital technologies have dramatically altered the shape of communications and information flows in societies</li><li>▪ Discuss how ethical frameworks can provide answers to challenges such as those presented by programming autonomous machines</li><li>▪ Describe examples of different cultural responses to design issues such as layout and colour, and explain the need for a range of character sets and how these can be encoded.</li></ul>
Numeracy	
Literacy	<p><b>Vocabulary Tier 3:</b> Legislation, cultural, computer misuse, copyright, patent, investigatory powers, surveillance, interception, piracy, recycling, censorship, paradigm.</p> <p><b>Vocabulary Tier 2:</b> moral, ethical, computer, environment, privacy</p> <p><b>Reading:</b> Worksheets, presentations, answer sheets, exam questions, mark scheme, further reading for homework</p> <p><b>Writing:</b> Answer on the worksheet via word</p> <p><b>Oracy:</b> listening and using tier 3 words</p>
Becoming future ready	<p><b>Careers/Employability:</b></p> <p>Understand the grade requirements at universities and the topics that can be applied for. Explore apprenticeship opportunities with a range of industries.</p> <ul style="list-style-type: none"><li>▪ Software Architect.</li><li>▪ Data Scientist.</li><li>▪ Machine Learning Engineer.</li><li>▪ Blockchain Developer</li><li>▪ Cybersecurity Engineer.</li><li>▪ Cloud Solutions Architect.</li><li>▪ AI Research Scientist.</li></ul>

	<ul style="list-style-type: none"> <li>Full-Stack Developer.</li> </ul>
<b>Adaptation</b>	Throughout this topic, quality first teaching will provide differentiation:
<b>QFT/SEND Provision</b>	<p><b>By product:</b> Learners are asked to present outcomes in a different way via pieces of writing, targeted questioning, models and drawings and speaking.</p> <p><b>By resource:</b> Worksheets are well presented and accessible. Instructions are clearly outlined and separate from the information so that pupils know where to begin and end. Handouts are differentiated by outcome. Resources used will appeal to the range of preferred learning styles of pupils e.g. visual, auditory or kinesthetic learners. Scaffolding of tasks – word frames.</p> <p><b>By Intervention:</b> By providing different levels of supervision and support</p> <p><b>By Progressive Questioning:</b> Exploring pupils' understanding through interactive dialogue using Blooms Taxonomy.</p> <p><b>By Grouping:</b> According to prior attainment, gender, social preference, preferred learning style.</p> <p><b>By Task:</b> Pupils identify targets which are meaningful to them via feedback sheets</p> <p><b>By Offering Optional Activities:</b> In class or as homework, to extend learning.</p> <p>This QFT/SEND provision will be explicit within the lesson by lesson schemes of work.</p>
<b>Implementation Curriculum Delivery</b>	To be able to:
<b>Learning Outcomes (Knowledge)</b>	<p><b>Topic 1 Computing related legislation</b></p> <p>To be aware of computing related legislation, including:</p> <ul style="list-style-type: none"> <li>The Data Protection Act 1998</li> <li>The Computer Misuse Act 1990</li> <li>The Copyright Design and Patents Act 1988</li> <li>The Regulation of Investigatory Powers Act 2000</li> </ul> <p>To understand that developments in digital technologies have enabled massive transformations in the capacity of organisations to monitor behaviour, amass and analyse personal information</p> <p><b>Topic 2 Ethical, moral and cultural issues</b></p> <p>Discuss the individual moral, social, ethical and cultural opportunities and risks of digital technology for:</p> <ul style="list-style-type: none"> <li>computers in the workforce</li> <li>automated decision-making</li> <li>artificial intelligence</li> <li>analysis of personal information</li> </ul> <p>Discuss the environmental effects of computers</p> <p><b>Topic 3 Privacy and censorship</b></p> <p>Discuss the cultural opportunities and risks of digital technology relating to:</p> <ul style="list-style-type: none"> <li>censorship and the Internet</li> <li>the monitoring of behaviour</li> <li>piracy and offensive communications</li> <li>layout, colour paradigms and character sets</li> </ul> <p>End of unit assessment</p>
<b>Current learning to be developed in the future within:</b>	Links with networks and software development.
<b>Assessment</b>	See assessment maps for formative and summative assessment opportunities.
<b>Impact</b>	<p>Review assessment results and target pupils that require further support via:-</p> <ul style="list-style-type: none"> <li>Learning conversation</li> <li>Changing seating plan</li> <li>Plan lessons to address areas of concern in assessment</li> <li>Targeted homework based on low performance areas identified in the assessment and marked pieces</li> <li>Stretch and challenge high ability pupils by identifying ambitious next steps to expand knowledge</li> </ul>

Create a feedback sheet for each student

Each student identifies areas of Green, Amber and Red using Mark Assessment on their feedback sheet

Complete NOW task on areas identified as Amber and Red

