

KS5 Curriculum Overview: Cambridge Technical IT level 3

Rationale:

Students can study Cambridge Technical IT level 3 without taking a GCSE in the subject, although the majority students will have potentially have studied ICT at GCSE. This qualification aims to develop pupils' knowledge, understanding and skills of the essentials of IT and Global information. Pupils' will gain an insight into the IT sector as they investigate the pace of technological change, IT infrastructure on a global scale, and the importance of legal and security considerations. Students will sit two exams for the externally assessed units and complete 3 units of coursework over the two year course. During year 12 pupils will complete the two exam based units, Unit 1 Fundamentals of IT and Unit 2 Global Information.

Term / Length of Unit	Outline	Assessment	Home Learning	Resources	Knowledge/Skills End Points
Y12 Autumn	<p>Unit 1: Fundamentals of IT (Examined)</p> <p>A sound understanding of IT technologies and practices is essential for IT professionals. Information learnt in this unit will provide a solid foundation in the fundamentals of hardware, networks, software, the ethical use of computers and how a business uses IT. After completing this unit, the knowledge, skills and understanding you have developed will underpin your study for the units that follow. Knowledge gained in the study of this unit will also help prepare you for IT industry qualifications in the future.</p> <p>The key topics covered in this unit are :</p>	<p>Exam questions, and notes</p> <p>Followed by an end of topic/module assessment.</p>	<p>Each lesson has a homework sheet that complements the lesson a range of these can be picked from the main topic. Student will also be encourage to read the course book and to make comprehensive notes as well as answer the exam questions in the book</p>	<p>Zig Zag resources.</p> <p>Understanding computer hardware ppt.</p> <p>Understanding computer software ppt.</p> <p>1.2 student tasks ppt.</p> <p>Understanding business it systems ppt.</p> <p>People in business ppt.</p> <p>Understanding ethical and operational ppt. Protocols ppt.</p>	<p>LO1:</p> <ul style="list-style-type: none"> • Demonstrate understanding of computer hardware, components and connectivity methods. • Explain in detail types of computer system. • State hardware used for communications and their function. • Demonstrate understanding of hardware troubleshooting. • Be able to calculate and convert units of measurement. • Demonstrate understanding of number systems used in computing. • To be able to apply number conversion. <p>LO2:</p> <ul style="list-style-type: none"> • Demonstrate understanding of different types of software • Show knowledge regarding application software, utility

	<p>L01 Understand computer hardware</p> <p>L02 Understand computer software</p> <p>L03 Understand business IT systems</p> <p>L04 Understand employability and communication skills used within an IT environment</p> <p>L05 Understand ethical and operational issues and threats to computer systems</p>			<p>Communication methods ppt.</p> <p>Software troubleshooting ppt. Virtualisation ppt.</p> <p>Network characteristics ppt. Connectivity methods ppt. Professional bodies ppt. Personal attributes ppt.</p> <p>Units of measurement ppt.</p> <p>Worksheets:</p> <ul style="list-style-type: none"> • Computer system • Identifying components • App software activity • Effective IT security policy • Binary conversion • Units of measurement 	<p>software and operating systems</p> <ul style="list-style-type: none"> • Describe a range of communication methods. • Software troubleshooting • Be able to explain the purpose of protocols. <p>L03:</p> <ul style="list-style-type: none"> • Describe types of servers • Demonstrate understanding of virtualisation • Be able to state and describe network characteristics. • Be able to explain various connectivity methods • Demonstrate understanding of Business systems <p>L04:</p> <ul style="list-style-type: none"> • Understand the importance of communication skills. • Explain a range of technology used for communication. • Describe personal attributes and job roles • Demonstrate understanding of professional bodies and industry certification <p>L05:</p> <ul style="list-style-type: none"> • Demonstrate understanding of ethical issues. • Describe operational issues • Explain threats and digital security • Explain the importance of safe disposal of data and computer equipment.
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Y12 Spring	<p>Unit 2: Global Information (Examined)</p> <p>The purpose of this unit is to demonstrate the uses of information in the public domain, globally, in the cloud and across the internet. Pupils will discover that good management of both data and information is essential, and that it can give any organisation a competitive edge. This unit will provide a greater understanding of how organisations use information sources both internally and externally, focusing on the types of information you will encounter. The skills gained will give knowledge of the functionality of information, how data is stored and processed by organisations. Pupils will also learn how individuals use information of various types and categories and the relationship between data and information,</p>	<p>Exam questions, and notes</p> <p>Followed by an end of topic/module assessment.</p>	<p>Each lesson has a homework sheet that complements the lesson a range of these can be picked from the main topic. Student will also be encourage to read the course book and to make comprehensive notes as well as answer the exam questions in the book</p>	<p>Zig Zag resources.</p> <p>LO1 Holders of information ppt.</p> <p>LO6 understand the principles of information security ppt.</p> <p>Worksheets:</p> <ul style="list-style-type: none"> • Holders of information. • Types of information. • storage media • The internet • Types of networks • Quality of information • Categories of information • UK legislation • Green IT 	<p>LO1:</p> <ul style="list-style-type: none"> • Describe Holders of information, Identifying the type and location of holder and what information would be held. • Show knowledge of Types of information storage media • Explain types of information access and storage devices. • Demonstrate understanding of the internet. • Demonstrate knowledge regarding types of World Wide Web technology networks. • Explain World Wide Web information formats and accessibility. • Explain advantages and disadvantages for individuals of World Wide Web information formats. • Be able to make comparisons of technologies. <p>LO2:</p> <ul style="list-style-type: none"> • Demonstrate understanding of Information styles and their uses. • Show knowledge of Information classifications and its purpose.

	<p>understanding the regulations governing them.</p> <p>The key topics covered in this unit are :</p> <p>LO1 Understand where information is held globally and how it is transmitted</p> <p>LO2 Understand the styles, classification and the management of global information</p> <p>LO3 Understand the use of global information and the benefits to individuals and organisations</p> <p>LO4 Understand the legal and regulatory framework governing the storage and use of global information</p>			<p>Starters and revision ppt.</p> <p>Unit 2 revision workbook.</p>	<ul style="list-style-type: none"> • Understand the importance of quality of information. • Demonstrate understanding regarding information management <p>L03:</p> <ul style="list-style-type: none"> • Be able to explain the difference in Data and information. • Explain categories of information used by individuals/organisations that hold information • Describe stages of data analysis • Demonstrate the ability to apply data analysis tools. • Explain in detail information system structure <p>L04:</p> <ul style="list-style-type: none"> • Demonstrate understand UK legislation and regulation relating to the storage and use of information • Demonstrate understanding of UK and global accessibility legislation relating to the storage and use of information • Explain global information protection legislation and regulation • Describe purpose of Green IT and how it can be achieved.
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Y12Summer					<p>LO5</p> <ul style="list-style-type: none"> • Demonstrate understanding of Information sources and data types. • Demonstrate the ability to construct Data flow diagrams (DFD) • Explain Impacts affecting the flow of information in information systems <p>LO6:</p> <ul style="list-style-type: none"> • Demonstrate understanding of Principles of information security • Explain Risks to data and impacts of security breach • Describe protection measures and policies • Understand physical protection methods • Understand logical protection methods
	Unit 5:	Coursework Assignments: Assignment 1	As with the other 60 GLH coursework assessed units, this unit requires a	Research and report on the early history of virtual and augmented	<p>LO1: 1.1 Virtual reality as a concept</p>

<p>Y12 Summer/ Year 13 Autumn</p>	<p>Virtual and augmented reality</p> <p>Students will learn about both virtual and augmented reality technologies and how they are used. They will research both technologies and design both a virtual and an augmented reality resource. Finally, they use their research and skills learnt whilst designing and creating resources to suggest future applications for virtual and augmented reality.</p>	<p>P1: Describe the uses of virtual and augmented reality by organisations M1: Explain the impact that an identified virtual reality resource has had on society D1: Assess the impact that an identified augmented reality resource has had on society</p> <p>Assignment 2 P2: Produce a design specification for a virtual reality resource for an identified purpose</p> <p>Assignment 3 P3: Produce a design specification for a virtual reality resource for an identified purpose</p> <p>Assignment 4 P4: Develop a virtual reality or an augmented reality resource for an identified purpose</p>	<p>significant investment of time outside of the classroom tech research to develop an understanding of the massive range of current virtual/augmented reality applications – including a number that students will ideally need to use and become familiar with.</p> <p>Additional home learning activities include textbook, weblog reading and activities and Quizizz tasks.</p>	<p>history – Part 1 web resources</p> <p>Research and report on the early history of virtual and augmented history – Part 2 web resources</p> <p>Uses of virtual and augmented reality web resources</p> <p>Virtual and augmented reality – what next? - Web resources</p> <p>The use of hardware in virtual and augmented reality – web resources</p> <p>Compare the features and possible uses of virtual and augmented reality – web resources</p> <p>Design tutorials for storyboarding, timelines, moodboards etc.</p> <p>Software and hardware manuals for department VR tech.</p>	<ul style="list-style-type: none"> • pioneers of virtual and augmented reality • uses of virtual and augmented reality <p>1.2. Areas of use</p> <ul style="list-style-type: none"> • architecture • business (marketing, service and planned maintenance) • education • entertainment, leisure and the media • health care and surgery • military (training, simulations) • sport (live streaming of scores and other statistics, sponsorship images) <p>1.3. Possible impacts</p> <ul style="list-style-type: none"> • visualisation of designs • simulations • training • demonstrations of concepts • virtual tours <p>LO2:</p> <p>2.1. Technologies</p> <ul style="list-style-type: none"> • hardware • software <p>2.2. Design</p> <ul style="list-style-type: none"> • aims of the product • financial plan • quality plan • target audience (e.g. age, gender, income) • nature of the product • content including resource plan • design tools
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