IT

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Unit 1

The way we live and work in today's society is enabled by the use of digital technologies. In this unit, you will develop an understanding of what these technologies are, how they work together, and how they enable our digital world to function. Additionally, you will understand how to critically assess the value and impact of new technologies.

Networks are the backbone of communication in today's society. In this unit, you will understand how networks enable communication and collaboration, and understand how to ensure that communication is secure. You will understand the internet as a network and the world wide web as a collection of information. You will understand how cloud storage, cloud computing and online communities enable the way we work and share information in the digital world.

Data is the most valuable asset of both individuals and organisations. It is paramount that data be maintained and manipulated to provide relevant and accurate information

Assessment: Two hour written examination

Unit 2

Websites, social media and apps are part of our everyday lives. Web designers and developers are continually innovating and developing new ways for us to access information and interact with the web. In this unit, you will learn real-world, best practices in writing code for the web (HTML and CSS) and understand how coding and programming languages combine to create an effective user experience.

JavaScript is the programming language that provides much of this interactivity and responsiveness. HTML is a markup language. You will learn how to create well-structured, semantic web pages with JavaScript (interactive content) that will enable you to create consistent web products that function better and provide a better experience for the user.

Assessment: Three hour practical examination with computer

IT

A2

Unit 3

Organisations rely on their IT systems for many aspects of functionality, including finance, customer management and logistics. In this unit, you will understand the role of IT systems in supporting a variety of functions. Just having an IT system is not enough: there are challenges in ensuring that these systems are suitable, operational, and maintained. You will understand issues related to use policies, changeover, risk management and maintenance of IT systems.

Developing systems that exploit new technologies is challenging. However, in common with other developments, there is a need for project-management skills. In this unit, you will understand aspects of project management, including the value of targets, mechanisms for measuring progress and evaluating success. You will understand two approaches to project management, the waterfall method and a generalised 'agile' approach.

It is impossible to predict the impact of new technologies on individuals, organisations and societies. In this unit, you will understand several emerging technologies, including machine learning, virtual and augmented reality and the Internet of Things. You will consider their implementation and their impact on individuals, organisations and society.

Assessment: Two hour written examination

Unit 4

Unit 4 will be set in an overall context. Students will perform practical tasks using database tools and respond to a series of structured questions to produce a solution to an unseen problem and provide responses which will test their analytical and evaluative skills. All responses will be submitted using a word-processed candidate evidence template.

Students should understand the need for relational databases and how they are used to solve problems.

Students will explore how databases are used in different contexts (for example in education and commerce) and how the factors of each context affect the data to be held and the features of the database.

Students will explore how the needs of the user affect what is required from a database solution. They will look at how the design of a database is informed by the needs and skills of the intended users of the system, and how this impacts on the final solution.

Assessment: Three hour practical examination with computer.