

## Year 9 - Information and Software Technology 2022

### TERM 1

<b>TIMING</b> Weeks: 8	<p><b>Design, Produce and Evaluate</b>                  Students learn about project work and the four stages in project development. Students will learn the problem-solving processes and techniques involved in the development of a solution.</p> <p><b>Digital Media</b>                  Students examine the purpose of digital media and the types of digital media products. Students learn about different manipulation techniques and the digitisation process of data types. Students learn how to display and distribute digital media products.</p>	
	<b>UNIT OVERVIEW</b>	<b>ASSESSMENT</b>
	<p><b>Design, Produce and Evaluate</b></p> <ul style="list-style-type: none"> <li>• Project work - Students are required to complete a series of projects in this course. A project is an organised series of activities to design, produce and evaluate technology solutions to solve a problem. Projects are a fundamental part of this course.</li> <li>• Manipulation techniques - Digital media involves the processing of digital data. Processing involves editing the data using manipulation techniques for each data type.</li> <li>• Defining and analysing the problem - Defining and analysing the problem is the first stage in developing a solution. It involves identifying the problem and determining whether it can be solved using information technology.</li> <li>• Designing possible solutions is the second stage in developing a solution. The first task is to generate one or more potential solutions to the problem. It is important to focus on what is to be achieved by the solution. Designing a solution may require investigating solutions to similar problems. For example, if your project requires an advertising brochure, then analyse professional brochures to get some ideas. This stage often requires more data to be collected, such as researching the Internet.</li> <li>• Producing the solution is the third stage in developing a solution. It involves building the solution to solve the problem. Producing the solution may involve using application software or writing software.</li> <li>• Evaluating the solution is the last stage in developing a solution. It occurs after the solution has been produced and minor problems have been fixed. Evaluating the solution involves checking the results of the solution and making sure it solves all aspects of the problem. Evaluation of the solution can be an ongoing process if the solution is continually being used. Systems in organisations are in constant process of evaluation, analysis and development to improve their efficiency.</li> </ul> <p><b>Digital Media</b></p> <ul style="list-style-type: none"> <li>• Editing of digital data - Each data type is edited in many ways, such as cropping a graphic or trimming a video clip. Application software is available to create, edit and display each data type.</li> <li>• Manipulation techniques of digital media involves the processing of digital data. Processing involves editing the data using manipulation techniques for each data type.</li> <li>• Digitisation and file sizes - Digitising is the process of generating digital data. Digital data is represented using the binary number system. It consists of one of two digits, 0 and 1 (bit). The fact that all data is represented as a series of bits means that a computer can organise and transmit data of any type. It deals with data as 0s and 1s irrespective of the original format of the data. There is a different process to digitise each data type.</li> <li>• Displaying and distributing digital media products and the presentation of that product using a range of devices.</li> </ul>	<p>Task Number: 1</p> <p>Nature of Task:</p> <p>Ongoing Activities</p> <p>Folio and Product design</p> <p>Percentage: 20%</p> <p>Week: 8</p> <p>Reported:</p> <p>Semester 1</p>

## Year 9 - Information and Software Technology 2022

### TERM 2

<b>TIMING</b> Weeks: 9	<p><b>Past, Current and Emerging Technologies</b> Students learn about the past, current and emerging technologies. Students explore the impact of these technologies on individuals and society. Students will also learn about the effect of these technologies on the environment.</p> <p><b>Software</b> Students develop their knowledge of software. It examines the two main types of software: system software and application software. You will also learn about interface design and the graphical user interface (GUI).</p>	
	<b>UNIT OVERVIEW</b>	<b>ASSESSMENT</b>
	<p><b>Past, Current and Emerging Technologies</b></p> <ul style="list-style-type: none"> <li>• Past technologies - The computer we know today is a remarkable machine built on centuries of intellectual effort. It developed from our need to count and perform calculations.</li> <li>• Current technology is an essential tool in today's information society. It is a digital revolution. All types of information, such as text, graphics, audio, video or animation, are represented in the form of digits or numbers.</li> <li>• Emerging technologies consist of ideas that have just started to appear. Embedded intelligence is an emerging technology that will be further developed in the next few years.</li> </ul> <p><b>Software</b></p> <ul style="list-style-type: none"> <li>• System Software is the detailed instructions used to direct the hardware to perform a particular task. It controls the processing and movement of data within a computer system.</li> <li>• Application software is a program used for a specific task. It allows the computer to achieve the task for which it was bought. Application software consists of software packages and custom software.</li> <li>• Interface design is the way the user interacts with the software. The function of the user interface is to provide a means of communication between the user and the computer.</li> <li>• Features of a GUI Application - software written for a GUI must follow a strict set of guidelines that control how the application looks and how standard operations are performed.</li> </ul>	<p>Task Number: 2</p> <p>Nature of Task: Ongoing Activities Project Assignment</p> <p>Percentage: 30%</p> <p>Week: 9</p> <p>Reported: Semester 1</p>

## Year 9 - Information and Software Technology 2022

### TERM 3

<b>TIMING</b> Weeks: 7	<p><b>Robotics and Automation</b> Students learn about robotics and automated systems. It starts by examining robotics and the types, purpose and use of robots. Students learn about the function of robots including the use of sensors and actuators. The second half of the chapter describes automated control and automated systems.</p>	
	<b>UNIT OVERVIEW</b>	<b>ASSESSMENT</b>
	<p><b>Robotics and Automation</b></p> <ul style="list-style-type: none"> <li>• Robotics is the study of the design, construction, and use of robots.</li> <li>• Function of robots - Industrial robots often have movable robotic arms. The amount of movement in robots is called the degrees of freedom.</li> <li>• Automated control devices manage themselves once given suitable instructions.</li> <li>• Automated systems use automated control to perform tasks. The application of automated systems has grown with developments in information technology.</li> </ul>	<p>Task Number: 3 Nature of Task: Ongoing Activities Folio and Product Design Percentage: 30% Week: 7 Reported: Semester 2</p>

### TERM 4

<b>TIMING</b> Weeks: 7	<p><b>People</b> Students examine the roles and responsibilities of people in the field of information and software technology. Careers are divided into three sections: system development; operations and maintenance; and end user support; a range of career opportunities and career paths.</p> <p><b>Issues</b> Students consider the ways in which information technology is affecting people and some of the issues that are causing concern. In this chapter we categorised issues as legal, ethical, social and industrial. This topic includes issues such as copyright, piracy, privacy, nature of work and ergonomics.</p>	
	<b>UNIT OVERVIEW</b>	<b>ASSESSMENT</b>
	<p><b>People</b></p> <ul style="list-style-type: none"> <li>• System development - People in system development are involved in the planning, design and construction of a computer system.</li> <li>• Operations and maintenance people keep the system working efficiently. They ensure the system is achieving its purpose.</li> <li>• End user support - An end user or user is a person or a group of people who make use of the information technology. They operate the computer system to perform a particular task.</li> </ul> <p><b>Issues</b></p> <ul style="list-style-type: none"> <li>• Legal issues - Society uses laws to ensure the correct use of information technology. Legal issues include copyright, software piracy and computer viruses.</li> <li>• Ethical issues are a set of beliefs about what is right and wrong.</li> <li>• Social issues - The effect of information technology on the nature of work and the equality of access to information technology are important social issues.</li> </ul>	<p>Task Number: 4 Nature of Task: Yearly Examination Percentage: 20% Week: 3 Reported: Semester 2</p>