Year 10 - Information and Software Technology 2022

<table>
<tr><th colspan="3">TERM 1</th></tr>
<tr><td rowspan="3">TIMING
Weeks: 8</td><td colspan="2">Authoring and Multimedia

Students learn about multimedia and develop skills in using authoring software. First we describe the types of multimedia products and recognise the features of data types for multimedia products. Multimedia software and the design principles used in multimedia products are examined.
Past, Current and Emerging Technologies
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.</td></tr>
<tr><td>UNIT OVERVIEW</td><td>ASSESSMENT</td></tr>
<tr><td>Authoring and Multimedia
• Multimedia is the presentation of information using text, graphics, animation, audio and video 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.
• Data types - When creating a multimedia product, the data is acquired from another application or imported using an appropriate file format. 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.
• Authoring software systems - Multimedia is created and displayed using a range of multimedia software such as presentation software, multimedia authoring and web authoring.
• Multimedia design - A multimedia product needs to be carefully designed. It involves conforming to certain design principles.
Past, Current and Emerging Technologies
• 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.
• 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.
• 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.</td><td>Task Number: 1
Nature of Task:
Ongoing Activities
Research Presentation Assignment
Percentage: 20%
Week: 8
Reported: Semester 1</td></tr>
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<table>
<tr><th colspan="3">TERM 2</th></tr>
<tr><td rowspan="3">TIMING
Weeks: 9</td><td colspan="2">Software Development and Programming

Students develop an understanding of software development and programming. Students examine the basic programming concepts, algorithms and control structures. Students learn about programming languages, testing and documentation.</td></tr>
<tr><td>UNIT OVERVIEW</td><td>ASSESSMENT</td></tr>
<tr><td>Software Development and Programming

• Programming is the process of writing programs and developing software. A program is a collection of instructions that, when executed, will complete a task on the computer.
• An algorithm is a series of steps designed to solve a problem in a finite time. An algorithm can be used to solve many types of problems.
• Control structures - Programmers solve a problem by designing an algorithm and then coding the algorithm into a programming language. Algorithms and programming languages consist of control structures.
• Programming languages are used to create the instructions in a program that can be understood by the computer.
• Testing and documentation - Most programmers strive for the perfect program; however, few are able to achieve it. It is rare for a complex program to be written without errors. Errors in a program are called bugs. A bug is an error that makes the program run incorrectly. The process of finding a bug is called debugging. Debugging is often a time consuming and challenging task.</td><td>Task Number: 2

Nature of Task:

Ongoing Activities

Project Assignment

Percentage: 30%

Week: 9

Reported: Semester 1</td></tr>
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<table>
<tr><th colspan="3">TERM 3</th></tr>
<tr><td rowspan="3">TIMING
Weeks: 7</td><td colspan="2">People
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.
Issues
Students consider the ways in which information technology is affecting people and some of the issues that are causing concern. In this chapter we categorise issues as legal, ethical, social and industrial. This topic includes issues such as copyright, piracy, privacy, nature of work and ergonomics.</td></tr>
<tr><td>UNIT OVERVIEW</td><td>ASSESSMENT</td></tr>
<tr><td>People
System development - People in system development are involved in the planning, design and construction of a computer system.
Operations and maintenance people keep the system working efficiently. They ensure the system is achieving its purpose.
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.
Issues
Legal issues - Society uses laws to ensure the correct use of information technology. Legal issues include copyright, software piracy and computer viruses.
Ethical issues are a set of beliefs about what is right and wrong.
Social issues - The effect of information technology on the nature of work and the equality of access to information technology are important social issues.</td><td>Task Number: 3
Nature of Task:
Ongoing Activities
Research Project Report
Percentage: 30%
Week: 7
Reported:
Semester 2</td></tr>
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<table>
<tr><th colspan="3">TERM 4</th></tr>
<tr><td rowspan="3">TIMING
Weeks: 7</td><td colspan="2">Exploration Project
Students undertake a project with local industry applications.</td></tr>
<tr><td>UNIT OVERVIEW</td><td>ASSESSMENT</td></tr>
<tr><td>• Local industry challenges the community faces;
• Students have the ability to solve these problems and make a real difference in our community;
• Students have the opportunity to engage in STEM inquiry-based projects to address challenges faced by the local community. The program is flexible in its delivery, suitable for a range of STEM subjects and is mapped against the curriculum;
• Higher levels of youth engagement in solving community challenges and engaging with the Council on those issues;
• Positive STEM-based activities for students, which may increase scientific literacy and encourage interest in continuing STEM-based study and careers;
• Enhanced connections between local schools, local Industry and the broader STEM networks;
• Heightened awareness of local STEM career pathways and opportunities; and
• Increased number of ‘work-ready’ students transitioning into the local STEM workforce.</td><td>Task Number: 4
Nature of Task: Yearly Examination
Percentage: 20%
Week: 3
Reported: Semester 2</td></tr>
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