Year 9 - Information and Software Technology 2023

<table>
<tr><th colspan="3">TERM 1-2</th></tr>
<tr><td rowspan="3">TIMING
Weeks:
15</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: 1
Nature of Task:
Topic Test
Percentage: 10%
Week: 9 Term 1
Reported: Semester 1

Task Number: 2
Nature of Task:
Folio and Design Product
Percentage: 40%
Week 4 Term 2</td></tr>
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Year 9 - Information and Software Technology 2023

<table>
<tr><th colspan="3">TERM 2-3</th></tr>
<tr><td rowspan="3">TIMING
Weeks:
15</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 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: 3
Nature of Task:
Folio and Product
Percentage: 20%
Week: 9 Term 3
Reported: Semester 2</td></tr>
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Year 9 - Information and Software Technology 2023

<table>
<tr><th colspan="3">TERM 3-4</th></tr>
<tr><td rowspan="3">TIMING
Weeks: 8</td><td colspan="2">Digital Media
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>Digital Media
• 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.
• Manipulation techniques of digital media involves the processing of digital data. Processing involves editing the data using manipulation techniques for each data type.
• 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.
• Displaying and distributing digital media products and the presentation of that product using a range of devices.</td><td>Task Number: 4
Nature of Task:
Yearly Examination
Percentage: 30%
Week: 3 Term 4
Reported: Semester 2</td></tr>
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