**Sample Course Outline**

Applied Information Technology

General Year 12

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# Sample course outline

# Applied Information Technology – General Year 12

#### Unit 3 – Semester 1 – Media information and communications technologies

| **Week** | **Syllabus Content** |
| --- | --- |
| **Knowledge** | **Skills** |
| 1–3 | **Course introduction*** overview of Unit 3
* assessment requirements

**Impacts of technology*** referencing techniques for digital publications
* acknowledgement of the intellectual property (IP) owner

**Hardware*** purpose of the central processing unit (CPU)
* purpose of memory/storage
* types of memory/storage
	+ primary
	+ secondary
* types of peripheral devices
* types of computer systems
	+ desktop systems
	+ mobile devices
	+ server
* purpose of an operating system (OS)
* types of operating systems
	+ Windows
	+ Mac OS
	+ iOS
	+ Android
	+ Linux
* identification of software compatibility issues, including:
	+ running older software on current hardware
	+ running newer software on older hardware
* considerations for the purchase of hardware, including:
	+ cost
	+ specifications
	+ user needs
* physical maintenance strategies for use of a computer system, including:
	+ use of an uninterruptible power supply (UPS)
	+ environmental temperature control
 | **Impacts of technology*** apply appropriate referencing techniques for digital publications

**Hardware*** select hardware and software for a specified purpose, including the minimum hardware requirements to run software
* apply problem-solving skills for a range of simple computer problems, including:
	+ no sound
	+ frozen screen, keyboard and mouse
	+ no connection to a data projector
 |
|
| 4 | **Project management*** project management considerations, including:
	+ scope
	+ time
	+ resources
	+ client brief
 | **Project management*** apply the elements of design and the principles of design relevant to a particular design brief
* apply a design process to create a digital product, design and/or digital solution
 |
|  | * components of a project design process, including:
	+ product purpose and design criteria
	+ target audience characteristics
	+ project presentation medium
* techniques for the representation of a design plan, including:
	+ annotated digital diagrams/sketches
	+ storyboards
	+ annotated notes
	+ thumbnails (hand/digital)
* criteria required to evaluate a digital product and/or digital solution
 | * apply techniques for representing the design of a digital product and/or digital solution
 |
| 5–6 | **Managing data*** purpose of file optimisation for use in print, digital and/or online environments
* considerations for the compression of files for the transfer and display of data
	+ purpose
	+ lossy compression
	+ lossless compression
	+ file sizes
* techniques for file size minimisation
	+ cropping
	+ resampling
* strategies for efficient online data management
* strategies for efficient document version control

**Application skills*** purpose of data organisation
* common file formats for graphics and audio
	+ vector graphics
	+ raster graphics
	+ audio files
* management of software
	+ installation of software
	+ update of software
* types of software licences
	+ open and closed source
	+ proprietary
	+ shareware
	+ freeware
* composition, layout and design considerations for the construction of spreadsheets
* organisation and management of data using sort filters in spreadsheets
 | **Managing data*** use compression to optimise transfer and display of data
* apply document version control
* use digital communications media

**Application skills*** apply data organisation techniques for user and/or client needs
* apply appropriate graphic and audio file types, including:
	+ raster graphics
	+ vector graphics
	+ audio files
* apply sort filters in spreadsheets
 |
| 7 | **Impacts of technology*** purpose of the *Copyright Act 1968* (Australia), including:
	+ fair dealing
	+ private use
	+ moral rights
* concept of digital citizenship
	+ responsible use of social networking
	+ forms of cyber bullying
	+ strategies to manage/limit cyber bullying
* the impact of digital technologies on work‑life balance
* the concept of social networking
* the impact of social networking technologies on traditional methods of information publication and distribution, including use of mobile devices
 |  |
| 8–15 | **Design concepts*** the elements of design
	+ line
	+ shape
	+ space
	+ texture
	+ colour
* the principles of design
	+ balance
	+ emphasis (contrast and proportion)
	+ dominance
	+ unity (proximity and repetition)
* relationship between the elements of design and the principles of design
* typography
	+ typeface
	+ size
	+ alignment
	+ format
	+ spacing
* compositional rules
	+ rule of thirds
	+ grid and alignment
 | **Design concepts*** identify and explain the elements of design and the principles of design in an existing digital product and/or solution
* modify a digital product and/or digital solution(s) to meet a design need/consideration
* apply the elements of design and principles of design when developing a digital product and/or solution
	+ create accurate visuals/layouts
	+ apply principles of layout and composition
* develop and apply detailed annotations for digital designs, relevant to a particular design brief
* apply the elements of design and the principles of design relevant to a particular design brief
 |

#### Unit 4 – Semester 2 – Digital technologies in business

| **Week** | **Syllabus Content** |
| --- | --- |
| **Knowledge** | **Skills** |
| 1 | **Course introduction*** overview of Unit 4
* assessment requirements
* review of Unit 3

**Managing data*** the concept of cloud computing
* system utility tools and accessories for the efficient operation and maintenance of data, including:
	+ disk clean-up tools
	+ deletion of temporary files/internet cache
	+ disk fragmentation
	+ anti-malware, anti-virus, spam filter, spyware
 | **Managing data*** use system utility tools and accessories to ensure efficient operation and maintenance of data
 |
| 2 | **Project management*** project management techniques, including:
	+ plan of action
	+ time management strategies
	+ resource requirements
	+ managing resources
	+ evaluation
 | **Project management*** apply project management techniques to meet client requirements or a design brief
 |
| 3–4 | **Impacts of technology*** role of the *Privacy Act 1988* (Australia) on:
	+ collection of personal information
	+ use of personal information
	+ access to personal information
	+ identity theft
	+ safe disposal of data
* the concept of the ‘digital divide’ and associated issues, including:
	+ availability of digital resources
	+ dependency of society upon electronic communication
	+ use of digital technologies
	+ availability of web based applications
* the concept of electronic commerce, including:
	+ implications of improved digital communications
	+ 24/7 communications
* issues related to the dependency of society upon electronic and visual communication, including:
	+ requirement for personal development of technology skills
	+ responsibility for maintaining privacy when using technology
 |  |
| 5–7 | **Networks*** the concept and purpose of computer networking
* advantages and disadvantages of computer networking
* types of transmission media, including:
	+ optic fibre
	+ wired
	+ wireless
* the concept of transmission rates
* network components for internet connection
	+ server
	+ router
	+ network interface card (NIC)
	+ switch
	+ modem
* network topologies for local area network (LANs)
	+ wired star
	+ wireless
	+ client server
	+ peer-to-peer
 | **Networks*** design a suitable LAN topology for a home network
 |
| 8–10 | **Application skills*** features of animation software
	+ frame by frame
	+ tweens
	+ buttons
* features of audio software, including:
	+ editing
	+ converting
	+ exporting
 | **Application skills*** use animation software
* edit audio files
* create a navigation map
* use web authoring software
* use multimedia applications to edit and create digital product and/or digital solution
 |
| 11–16 | **Application skills*** features of web authoring, including:
	+ hyperlinks
	+ graphics
	+ templates
	+ types of files
	+ cascading style sheet (.css)
	+ hypertext markup language file (.htm/.html)
* types of online collaboration
* the concept of responsive design
 | **Application skills*** create a navigation map
* use web authoring software
* use multimedia applications to edit and create digital product and/or digital solution

**Project management*** apply project management techniques to meet client requirements or a design brief
* apply a design process to create a digital product and/or digital solution

**Design concepts*** modify a digital product and/or digital solution to meet a design need/consideration
* apply the elements of design and the principles of design developing a digital product and/or digital solution
	+ create accurate visuals/layouts
	+ apply principles of layout and composition
* apply the elements of design and the principles of design relevant to a particular design brief
 |
|  |