**Sample Course Outline**

Applied Information Technology

ATAR Year 11

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Sample course outline

Applied Information Technology – ATAR Year 11

#### Semester 1

| **Week** | **Syllabus Points** |
| --- | --- |
| **Knowledge** | **Skills** |
| 1 | Introduction* overview
* assessment requirements
 |  |
| Impacts of technology* appropriate referencing techniques for digital publications
* acknowledgement of the intellectual property (IP) owner
* intent and purpose of the *Copyright Act 1968* (Australia), including:
	+ fair dealing
	+ private use
	+ moral rights

Hardware* hardware components of a computer system
* purpose of the central processing unit (CPU)
* purpose of memory/storage
* types of memory/storage
	+ primary
	+ secondary
* types of peripheral devices
 | **Impacts of technology*** apply appropriate referencing techniques for digital publications
 |
| 2 | Hardware* types of computer systems
	+ desktop systems
	+ mobile devices
	+ server
* purpose of an operating system
* types of operating systems
	+ Windows
	+ Mac OS
	+ iOS
	+ Android
	+ Linux
* functions of an operating system (OS)
	+ user interface
	+ managing system resources
	+ managing security and access rights
	+ running applications
* identification of software compatibility issues
	+ running older software on current hardware
	+ newer software running on older hardware
 | **Hardware*** describe criteria when selecting hardware and software for a specified purpose, including the minimum hardware requirements to run software
 |
| 3–5 | Application skills* management of software
	+ installation of software
	+ update of software
* types of software licences
	+ open and closed source
	+ proprietary
	+ shareware
	+ freeware
* purpose of data organisation
* common file formats for graphics and audio
	+ vector graphics
* computer graphics metafile (.cgm)
* scalable vector graphic (.svg)
	+ raster graphics
* bitmap (.bmp) image file
* graphical interchange format (.gif) file
* joint photographic expert group (JPEG) image file (.jpg/.jpeg)
* tagged image file (.tif)
* portable network graphics (.png)
	+ audio files
* moving pictures experts group (.mp3 )
* waveform audio file format (.wav)
* Windows media audio file (.wma)
* considerations for the construction and design of lookup tables in spreadsheets, including:
	+ hlookup
	+ vlookup
* organisation and management of data, using sort filters in spreadsheets
 | Application skills* apply data organisation techniques for user and/or client needs
* apply appropriate graphic and audio file types
	+ vector graphics
	+ raster graphics
	+ audio files
* use lookup tables in spreadsheets, including:
	+ hlookup
	+ vlookup
* composition, layout and design considerations for the construction of spreadsheets
* apply sort filters in spreadsheets
 |
| 6 | Design concepts* the elements of design
	+ line
	+ shape
	+ space
	+ texture
	+ colour
	+ 3D form
	+ tone
 | Design concepts* identify and explain the elements of design and the principles of design in an existing digital product and/or digital solution
* modify a digital product and/or digital solution to meet a design need/consideration
 |
| 7–8 | * the principles of design
	+ balance
	+ emphasis (contrast and proportion)
	+ dominance
	+ unity (proximity and repetition)
	+ pattern
	+ movement
* relationship between the elements of design and the principles of design
* typography
	+ typeface
	+ size
	+ alignment
	+ format
	+ spacing
* compositional rules
	+ reading gravity
	+ rule of thirds
	+ grid and alignment
 | * 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
* develop and apply detailed annotations for digital designs relevant to a design brief demonstrating the following considerations:
	+ elements of design and the principles of design
	+ use of appropriate typography
	+ visual composition
	+ rule of thirds
	+ grid and alignment
 |
| 9–11 | Project management* components of a project design process
	+ product purpose and design criteria
	+ target audience characteristics
	+ project presentation medium
	+ situation analysis
	+ style guide
* components of a design plan
	+ storyboard
	+ thumbnails (hand/digital)
	+ wireframes/sketches (hand/digital)
* criteria required to evaluate a digital product and/or digital solution
 | 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 and/or digital solution
* apply techniques for representing the design of a digital product and/or digital solution
 |
| 12–14 | Impacts of technology* 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
* concept of social networking
* types of social networking and their features
* types of virtual communities, including:
	+ online chat rooms
	+ virtual worlds
* concept of the ‘digital divide’ and associated issues, including:
	+ availability of digital resources
	+ use of digital technologies
	+ availability of web-based applications
* concept of electronic commerce, including:
	+ implications of improved digital communications
	+ 24/7 communications
	+ online retail opportunities
* issues related to the dependency of society upon electronic and visual communication in business
 |  |
| 15 | Revision |
| 16 | Semester 1 examination |

#### Semester 2

| **Week** | **Syllabus Points** |
| --- | --- |
| **Knowledge** | **Skills** |
| 1–3 | **Introduction*** overview
* assessment requirements
 |  |
| **Managing data*** 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, virus, SPAM and spyware
* consideration 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
* optimisation of files for
	+ digital or online
	+ print
* strategies for efficient online data management
* strategies for efficient document version control

**Impacts of technology*** impact of the *Privacy Act 1988* (Australia) on:
	+ the collection of personal information
	+ how personal information is used
	+ access to personal information
	+ implications of identity theft
	+ safe disposal of data
* intent and purpose of the *Copyright Act 1968* (Australia), including:
	+ fair dealing
	+ private use
	+ moral rights
* appropriate referencing techniques for digital publications
* acknowledgement of the intellectual property (IP) owner
 | **Managing data*** use system utility tools and accessories to ensure efficient operation and maintenance of data
* use compression to optimise transfer and display of data
* apply document version control
* apply appropriate referencing techniques for digital publications
 |
| 4–5 | **Application skills*** features of animation software
	+ frame by frame
	+ tweens
	+ buttons
* features of audio software
	+ editing
	+ converting
	+ exporting
 | **Application skills*** use animation software
* edit audio files
* create a navigation map
* use multimedia applications to edit and create a digital product and/or digital solution
 |
| 6 | **Networks*** concept of computer networking
	+ purpose
	+ advantages
	+ disadvantages
* types of transmission media
	+ optic fibre
	+ wired
	+ wireless
* the concept transmission rates
* network topologies for local area network (LAN)
	+ wired star
	+ wireless
	+ client server
	+ peer-to-peer
* network components for internet connection for a small business
	+ server
	+ router
	+ network interface card (NIC)
	+ switch
	+ modem
 | **Networks*** design a suitable LAN topology
 |
| 7 | **Project management*** project management techniques
	+ user/client requirements
	+ plan of action
	+ time management strategies
	+ resources requirements
	+ evaluation

**Design concepts*** the elements of design
* the principles of design
* relationship between the elements of design and the principles of design
* typography
* compositional rules
 |  |
| 8–14 | **Application skills*** features of web authoring
	+ hyper-links
	+ graphics
	+ templates
	+ types of files
* cascading style sheet (.css)
* hypertext markup language file (.htm/.html)
* types of online collaboration
* concept of responsive design
 | **Application skills*** create a navigation map
* use web-authoring software
* use multimedia applications to edit and create a 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*** identify and explain the elements of design and the principles of design in an existing digital product and/or digital solution
* modify a digital product and/or digital solution to meet a design need/consideration
* ensure the digital product and/or digital solution meets identified user requirements
* 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
* develop and apply detailed annotations for digital designs relevant to a design brief demonstrating the following considerations:
	+ elements of design and the principles of design
	+ use of appropriate typography
	+ visual composition
	+ rule of thirds
	+ grid and alignment
 |
| 15 | Revision |
| 16 | Semester 2 examination |