**Sample Course Outline**

Applied Information technology

ATAR Year 12

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Sample course outline

Applied Information Technology – ATAR Year 12

## Unit 3 – Evolving digital technologies

| **Week** | **Syllabus Content** |
| --- | --- |
| **Knowledge** | **Skills** |
| 1–3 | **Introduction*** overview of Unit 3
* assessment requirements
 |  |
| **Hardware*** specifications of digital devices and their impact upon usability
* characteristics of development trends in emerging mobile devices
* suitability of emerging mobile devices to meet client (user) needs
* usability of digital devices for specified client requirements
 | **Hardware*** evaluate computer system specifications for usability
* compare various mobile devices with other computer systems
 |
| 4–5 | **Design concepts*** relationship(s) between the elements of design and the principles of design
* features of a user interface
* logical and hierarchical organisation of content
* graphical user interface (GUI) suitable for target audience
* relevant help features of a graphical user interface
* usability
* inclusivity
* accessibility
 |  |
| 6–9 | **Application skills*** online software tools
* video application features
	+ multi-layer track editing
	+ titles
	+ transitions
	+ effects
* sound application features, including sound effects
* publishing features
	+ colour schemes
	+ layers
	+ frames
	+ typography
	+ templates
	+ print/display option
* types of digital publications
* advantages and disadvantages of different types of digital publications
 | **Application skills*** use appropriate application software
* create templates suitable for use in appropriate application software
* use video and/or sound application for multi-layer track editing
* use multimedia software to create interactive digital products and/or digital solutions
* use of the publishing features for a chosen digital medium
	+ colour profiles
	+ layers
	+ frames
	+ typography
	+ print/display options
* create digital publications
 |
| **Design concepts*** annotate designs when working on a digital product and/or digital solution
* use appropriate elements of design and the principles of design for a chosen digital medium
* create logical and hierarchical organisation of content
* develop navigation controls suitable to the chosen digital medium
* critically analyse the relationship(s) between the elements of design and the principles of design
 |
| 10 | **Impacts of technology*** the concept of intellectual property (IP)
* intention and purpose of IP in Australia in relation to copyright and/or design of digital products
* the concept of online defamation in Australia
* legal action available in Australia to counteract online defamation
* the concept of freedom of information (FOI) in Australia
* the rights and responsibilities of the *Freedom of Information Act 1982* (Australia) in regards to digital products
* key provisions of FOI in Australia in relation to digital products
* advantages, disadvantages and implications of virtual and physical collaboration
* impact of convergence trends in contemporary digital technologies
 |  |
| 11–14 | **Project management*** project management approaches
	+ prototype
	+ structured
* project planning tools
	+ storyboards
	+ site maps
	+ flow charts
	+ Gantt charts
	+ project management software
* considerations for a digital product and/or digital solution
	+ structure
	+ usability
	+ accessibility
	+ user experience (UX)
	+ user interface (UI)
 | **Project management*** choose an appropriate project management approach for the development of the chosen digital solution
* develop processes and documentation to build a project brief(s)
* plan a digital solution project in detail
* apply project management techniques to meet client requirements when creating a digital solution
* produce draft design plans/drawings to represent concepts
* use appropriate functionality tools to create visual layouts
 |
| 15 | Revision |
| 16 | Semester 1 Examination |

## Unit 4 – Digital technologies within a global society

| **Week** | **Syllabus Content** |
| --- | --- |
| **Knowledge** | **Skills** |
| 1–2 | **Introduction*** overview of Unit 4
* assessment requirements
 |  |
| **Networks*** types and characteristics of communication protocols, including:
	+ transmission control protocol/internet protocol (TCP/IP)
	+ hypertext transfer protocol (HTTP)
	+ hypertext transfer protocol over secure socket layer (HTTPS)
* types and characteristics of communication standards, including:
	+ 802.11x (wireless)
	+ 802.3 (ethernet)
* types of network security measures
	+ firewalls
	+ passwords
	+ physical security
 | **Networks*** design a LAN
* justify the design of a LAN
 |
| 3 | **Project management*** concept of service level agreements
* features of service level agreements, including:
	+ availability of service
	+ type of services
* advantages of local and global outsourcing compared with in-house production
* purpose of outsourcing data management
* evaluation of software, including usability
 | **Project management*** apply project management techniques to meet client requirements
* apply a design process to create a digital solution
* use appropriate tools to evaluate the effectiveness of a digital solution in accordance with the design brief
	+ surveys
	+ client feedback
	+ self-reflection
 |
| 4–5 | **Impacts of technology*** data and information security related to personal or sensitive information
* purpose of a code of conduct
* elements of a code of conduct, including:
	+ work hours
	+ employee email use
	+ employee internet use
	+ employee privacy
	+ employer’s monitoring of work emails, internet access and computer use
* online censorship of information in a global context
* issues with the use of cloud computing
	+ confidentiality of data
	+ sensitivity of documents
	+ level of accessibility
	+ availability of online applications
 |  |
|  | * impact of digital technologies and global markets on:
	+ productivity
	+ access to knowledge or resources
	+ outsourcing
* impact of Web 2.0/Web 3.0 on the use of digital technologies
 |  |
| 6–8 | **Managing data*** security techniques for the management of data, including:
	+ disaster recovery plan
	+ audit trail
* types of backup techniques and archiving of data
	+ full
	+ differential
	+ incremental
* online data storage methods
	+ data warehouses
	+ data marts
	+ data in the cloud
* purpose of data mining
* processing of data considering security of data through the use of
	+ passwords
	+ firewalls
	+ biometrics
	+ anti-virus software
	+ digital signatures
	+ digital certificates
	+ encryption
 | **Managing data*** analyse sources of information for verifiability, accuracy and currency
* test and evaluate online applications for browser compatibility
* apply the Web Design and Applications standard from the W3C standards as relevant
 |
| 9–14 | **Managing data*** concept of user-generated content
* advantages and disadvantages of user generated content
* concept of hypertext markup language (.htm/.html)
* concept of Web 2.0 and Web 3.0
* purpose and features of content management systems (CMS)
* purpose of world wide web consortium (W3C)
* purpose of W3C conventions
* purpose of the Web Design and Applications standard from the W3C standards, including:
* HTML and CSS
* Graphics
* Audio and video
* Accessibility
* Internationalization
* Mobile web
* validation techniques for online forms
 |  |
|  |
| **Application skills** * how digital communication is used for educational purposes
 | **Application skills*** use available functions of online software
* use online tools for tutorials/learning
* use forms for online data collection
 |
| 15 | Revision |
| 16 | Semester 2 Examination |