## Course Structure Review

While the course may be organised on a unit basis, the units are not necessarily discrete and often overlap.

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<td>Disaster recovery planning, beta testing and signing off stages for client contracts, identifying, analysing and evaluating internal and external resources, time, human resources, cost, hardware and software, principles of effective teamwork, roles and responsibilities, visits from industry professionals, covering their methods of project management.</td>
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**Semester 3 Multimedia, Games Design and Methodologies**

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Outline of Intended Student Learning

The following unit is included to demonstrate the scope and depth of student learning as required by the syllabus.

2.1 Overview

Students will be provided with a balanced variety of activities and learning experiences within each area of study and across the whole course.

In general, learning experiences will:

- Use industry level resources to model current IT trends
- Provide opportunities for students to achieve the general objectives of the syllabus and the specific objectives derived from these
- Suit the particular needs, abilities, learning styles and interests of the students
- Provide opportunities for students to think and work individually and with others in a cooperative way
- Have scope and be interesting and challenging relevant to current industry practice.
- Provide learning experiences relevant to social, technological and economical change
- Provide authentic learning opportunities for students to gauge social practices associated with multimedia and creative industries
- Provide learning opportunities for students to develop ICT fluency as they move into their future careers

The course has been planned in such a way that students progress from simple to more complex experiences within the different contexts. Increasing demands will be made upon students to develop digital literacies to collect and analyse information, plan and organise activities, carry out procedures, solve problems, make decisions and judgments, use information technology and communicate the results in an appropriate and effective manner.

Information Technology Systems lends itself to a ‘hands on’ approach. The design develop-evaluate cycle is mandatory and must be used as the main method of inquiry.

2.2 Semester 4 – Example Intended Student Learning | Games Development and Programming

In Semester 4 the students will design and develop interactive educational games using commercial software. To accompany this major client focused project, students will design and develop software support documentation and set up a support scenario structure for their client.

Students will develop their digital design, communication and development skills and gain experience from a range of IT professionals.

They will work with an authentic client to create advanced interactive games. The games design and development will focus on client specification and needs.

During the semester students will work in both an individual and team environment.

The syllabus is divided into core and extension subject matter. The core material is mandatory and has been defined under the five threads below. All five threads will be addressed in this unit:

1. The problem-solving process
2. Project and team management
3. Theory and Techniques
4. Client relationships
5. Social and Ethical issues
Subject matter

The Problem Solving Process

The design-develop-evaluate cycle will be used as a method of inquiry. Examples of possible applications of this in this area of study include:

- Identifying the design situation
- Analysing tasks and reviewing constraints
- Specifying a solution and challenges
- Selection and application of appropriate design tools
- Designing, developing and evaluating organisational documents
- Designing, developing and evaluating educational games (also known as Learning Objects)
- Using problem solving skills in known areas during normal routine work processes
- Evaluating contexts, inputs, processes and products
- Implementing the design and testing for errors
- Setting up support structure for administering the Learning Objects

Extension areas for this unit may include:

- Research methodologies
- Exploration of other problem-solving models eg Business Process Management

Project and Team Management

Project Management

As students begin to develop larger projects, they need to consider the management of these to ensure that they are completed satisfactorily. Some areas that could be covered include:

- A broad coverage of quality assurance practices
- The functions of project management
- Investigation of models such as Weis & Wysocki, 1992, 5-Phase Project Management Guide
- Contribute to the integration of the functions of project management
- Apply skills in project management by contributing to the support of project activities throughout the project life cycle
- Participation in project development processes for both internal and external environments.
- Project management that considers scope, time, cost, quality, risk, human resource, physical resource and other constraints.

Team management

The ability to work well both in teams and individually is central to this course.

Students need to understand:

- The process of determining roles and meeting team responsibilities
- The process of developing strong interpersonal skills for team work and responsible workplace interactions
- Team dynamics and strengths
- Team structure
- Roles and responsibilities

Extension areas for this unit may include:

- Development plans that include:
Theory and Techniques

The theory and techniques to be covered include:

- Detailed knowledge and skills in the use and features of the application programs being utilized. Commercial software such as the Adobe Creative Suite Version 3 and 4
- Development of template designs for clients
- Application of principles of software and hardware usage
- The use of scripting language, such as XHTML, JavaScript, Actionscript 2 and 3
- The investigation of human computer interfaces that include usability and accessibility
- Computer system functionality, including broad knowledge of input, output, processing and storage devices
- Knowledge of products that communicate logically, coherently and aesthetically
- Various documentation types (such as user, internal, procedural and training manuals in either hard or electronic copy, online help, internet/intranet)
- Use of a scripting language, such as XHTML, Javascript, Actionscript
- Human computer interfaces that include usability and accessibility
- Application of skills and knowledge to new technology and situations
- The application of naming conventions and protocols
- Current trends in new IT
- Trends in game design and development

Extension areas for this unit may include:

- Embedding Flash Video for example - exporting 3D swf effects from Adobe After Effects and then importing 3D After Effects into Flash games.
- Importing png and psd sequences into timeline events
- Using XHTML to include database designs with Action Script 3

Client Relationships

Students need to develop a client focus in this course. Some areas that could be developed include:

- Sign off phases and contract obligations
- Designing and delivering instruction for a client
- Analysis of client support issues
- Referring the client for further technical assistance when appropriate
- Obtaining client evaluation and feedback to ensure that requirements are met
- Creating user and technical documentation and providing it to clients when appropriate
- Investigation of contractual obligations between client and developer
- The development of active listening techniques
- Providing advice and support to clients on software
- Questioning and active listening for conveying and clarifying information
- Providing group or one to one instruction to the client as required

Extension areas for this unit may include:

- Marketing strategies
- Tendering processes and techniques
- Ongoing client support issues and version control
Social and Ethical Issues

Students will be made aware of the need to consider the social implications of new technologies when making decisions about adopting them. Some areas that could be explored include:

- Client support and access
- Copyright and intellectual property
- Security
- Digital rights management
- Intellectual property
- Safety and privacy
- Piracy issues
- Disaster recovery presentation by institution representative
- Historical and current trends in IT
- Historical and current trends in IT
- Accessibility and equity issues

Extension areas for this unit may include:

- Online networking cultures – sharing information i.e. virtual tuition and learning in game design
- Guest speakers on interactive design, games culture, games industry, national and international games in business
- Industry case study on disaster recovery systems

Comment [K31]: Social and cultural literacies relevant to context

Comment [K32]: Social and cultural literacies relevant to context
Learning experiences

While studying this topic, students will make in-depth usage of software applications to design and develop products such as user instruction documentation, products to client specification, development of DDE for an authentic client scenario.

Students may access information from trade magazines, electronic media and communications, product demonstrations, industry trade fairs and conferences, technical manuals and supplier technical consultants.

Suggested specific objectives

Familiar application

At the conclusion of the area of study, students should have knowledge of:

- **Advanced features of at least three commercial software applications** such as Adobe Production and Creative Suite Version 4. For example; Photoshop, After Effects, Flash, Fireworks, Sound Booth
- Customer loyalty and good service practices when establishing a clientele base
- Trends in game design and development
- **Documentation types** (technical manuals, user manuals, policy and procedure manuals, training manuals in either hard or electronic copy, on-line help, Internet/intranet), standards and policies relating to sign-off, storage, distribution and revision
- Computer system functionality, including broad knowledge of input, output, processing and storage devices with particular reference to multimedia applications
- Quality assurance practices
- **OH&S principles and responsibilities**
- Advanced features of an software to develop products to client specifications
- Access and **equity principles when communicating with people from diverse backgrounds and people with special needs**
- Functions of multimedia project management
- Team structures, roles and goals
- **Principles for construction and delivery of one to one instruction for multimedia applications**
- Scope, time, cost, quality, risk, human resource, physical resource and other constraints in project management
- The template features of the application programs being used
- Current trends and directions in IT and vendor products
- Workplace safety procedures
- Organisational security procedures
- GUI and CLI (Graphic User and Command Line Interfaces)
- Client specification documents that include cost, quality control, risk assessment, resources, both physical and human and any other constraints that apply
- Marketing strategies
- Graphic design and marketing principles

Comment [K33]: Multi-modal development and new literacies

Comment [K34]: Cultural and technological literacy development

Comment [K35]: new literacies and multi-modal documentation used for industry

Comment [K36]: Social and cultural literacies, Text participant and text analyst

Comment [K37]: Text participant and text analyst
At the conclusion of the area of study, students should be able to:

- Prepare and present data using available features of the application programs
- Transfer data efficiently between applications e.g. Adobe Photoshop to Adobe Flash
- Increase productivity through the use of shortcuts, automated actions, and batch processing
- Follow standard operating procedures for virus protection, report identified viruses to the supervisor, remove the virus and document the process
- Determine documentation standards and requirements
- Action and complete change requests to address system problems for multimedia applications
- Participate in a team and individually to achieve organisational goals
- Relate to clients on a business level
- Apply existing knowledge and techniques to explore new technology
- Employ functions and features of new technology to meet organisational requirements
- Access information to determine the full benefits of new technology
- Prepare and present data using available features of the application programs

Problem solving

At the conclusion of the area of study, students should be able to:

- Use support resources including on-line help, tutorials, manuals and training booklets to solve problems
- Design group or individual instruction to clients as required
- Design procedures that obtain client evaluation and feedback to ensure client requirements are met
- Investigate and analyse client support issues
- Design, develop and evaluate technical and user documentation
- Design, develop and evaluate for a client situation
- Identify, assess and resolve software capabilities and skills
- Contribute to the integration of the functions of project management
- Apply skills in project management by contributing to the coordination of internal and external environments
- Apply skills in project management by contributing to the support of project activities throughout the project life cycle
- Undertake capacity planning by (see below A to E)

  A. analysing existing system capacity
  B. determining future capacity requirements and developing plans for capacity enhancements
  C. monitoring on-going capacity requirements
  D. design, develop, implement and evaluate one to one instruction with clients
  E. disaster recovery planning and data loss analysis

- Design, develop and evaluate documentation and other support material for games
- Use a broad range of new technology for enhanced productivity and efficiency
- Investigate and analyse ongoing client support issues
- Use tendering processes and techniques
- Develop a disaster recovery plan
Communication

At the conclusion of the area of study, students should be able to:

- Document problems (e.g. client support issues), recommendations (e.g. for new hardware and software) and procedures (e.g. for equipment maintenance)
- Receive and process oral and written communication
- Generate oral or written client support materials
- Deliver group or one to one instruction to clients
- Generate products (documents, interactive games, installing new software packages) that communicate logically, coherently and aesthetically
- Interpret and generate technical information and user manuals
- Communicate with people from diverse backgrounds and people with special needs
- Negotiate with team members
- Use current business practices when preparing reports
- Select and use appropriate software tools to create required reports and documents
- Determine appropriate content, formats and style

Comment [K39]: Communication skills development broadly covering Luke and Freebody’s four resources model (1999)