Course Outline (Higher Education)

School: School of Engineering, Information Technology and Physical Sciences

Course Title: GAME DEVELOPMENT FUNDAMENTALS

Course ID: ITECH2001

Credit Points: 15.00

Prerequisite(s): (ITECH1101)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 020103

Description of the Course:

This course introduces students to the stream of Games development emphasising its mix of creative content development and technical specialisation. Students will be given an understanding of the Games industry from its beginnings through to current movements and a glimpse into next generation directions. Initially students will study the lifecycle of games development, focusing on game mechanics, level design, story writing, storyboarding, as well as content development including image manipulation and 3D modelling software. Students will build upon their programming skills within a games development environment and learn more detailed programming structures.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory						

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Intermediate			✔			
Advanced						

Learning Outcomes:

Knowledge:

K1. Describe the current and future trends of game technologies and cultures;

K2. Relate games design methodologies to the lifecycle of a project;

K3. Outline a common games mechanics model;

K4. Relate how games can be used to enhance communications;

K5. Identify the appropriate and correct syntax and programming constructs for different game development requirements.

Skills:

S1. Select and apply appropriate games development approaches to solve a real world game design;

S2. Create a range of assets for a game's project;

S3. Outline the design of a game's project;

S4. Use programming constructs to respond to user input and to create object and character behaviours;

S5. Analyse, design and implement game concepts using structured and basic object orientated programming concepts;

S6. Test and debug code to correctly meet game design requirements.

Application of knowledge and skills:

A1. Operate appropriate software packages to design and build games and interactive media products that align with client and project expectations;

A2. Utilise appropriate software environments to develop and integrate code implementations with game assets.

Course Content:

Topics may include:

- Definitions, characteristics, and mechanics of games;
- Uses and applications of games related skills and practice;
- Delivery platforms for games;
- 2D and 3D asset development;
- Game character design;
- Games story development;
- Game level design;

- Games design and development processes
- Current trends and developments in games;
- Programming constructs such as methods, basic Object Oriented Programming, event driven programming;
- Implementing object and character behaviours;
- Identification and utilisation of programming libraries;
- Testing and debugging code syntax and game logic;
- Documentation of code

Values:

V1. Appreciate the importance and influence of Games & Interactive media to modern society;
V2. Understand efficient and responsible games design.

Graduate Attributes

The Federation University FedUni graduate attributes (GA) are entrenched in the Higher Education Graduate Attributes Policy (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		**Development and acquisition of GAs in the course**	
		Learning Outcomes (KSA)	**Assessment task (AT#)**
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1, K2, K3, K4, K5, S1, S2, S3, S4, S5, S6, A1, A2	1 and 2
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	K1, K3, K4, K5, S1, S2, S3, S4, S5, S6, A1, A2	1
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	K1, K4, S1	1 and 2

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	K1, K2, K3, K4, K5, S1, S2, S3, S4, S5, S6, A1, A2	1 and 2
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	K1, K2, K3, K4, K5, S1, S3, S5	1

Learning Task and Assessment:

Assessment for this course will be based on a number of tasks including practical assignments, laboratory exercises covering the creation and editing of multimedia assets, documentation and code implementation, as well as an end of semester examination covering theoretical aspects of the course.

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K3, K4, K5, S1, S2, S3, S4, S5, S6, A1, A2	Theoretical and practical demonstrations of design and technical skills in game production; including but not limited to planning documents, reports and functional prototypes.	Lab work and Assignments	60% - 80%
K1, K2, K3, K4, K5, S1, S3, S5	Tests and/or examinations covering a range of taught game theory, design, development and programming topics.	Tests &/or examinations	20% - 40%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool