Liverpool John Moores University

Title:	GAME DESIGN
Status:	Definitive
Code:	**4108COMP** (121206)
Version Start Date:	01-08-2021
Owning School/Faculty:	Computer Science and Mathematics
Teaching School/Faculty:	Computer Science and Mathematics

Team	Leader
Abdennour El-Rhalibi	Y

Academic Level:	FHEQ4	**Credit Value:**	20	**Total Delivered Hours:**	55
Total Learning Hours:	200	**Private Study:**	145		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Workshop	33

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Artefacts	AS1	Game Design Document and Game Prototype	80	
Report	AS2	Game Design Reflection Report	20	

Aims

To describe the core elements of computer game.
To explain the principles and methodologies of game design.
To describe and model the play mechanics for computer game.
To explain the psychological design considerations for computer game design.
To provide practical experience in computer and video games design.

Learning Outcomes

After completing the module the student should be able to:

1 Identify and specify design elements for a computer game.
2 Explain game development life cycle.
3 Apply the principles of game design to process of game design.
4 Evaluate the playability and usability of the computer game digitally-prototyped.
5 Work in a group to design and prototype a game.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Document and Prototype	1	3	4	5
Game Design Reflection Report	2			

Outline Syllabus

Studies of Play: History of Play, Games human play, Evolution of games.

Understanding elements of computer games: Game Objects and Game Environment, Game Rules, Dynamic, Play Mechanics, Goal(s), Challenges and Conflicts, Theme.

Game Design Process and Workflow: Game idea creation (ideation), Approaches to Game Design (Bottom-up vs. Top-Down, Player experience approach, World design approach, Implications: Genre, Platform, Demographic).

Personal roles in game development: Programmer, Artist, Designer, Producer, Tester, Composer, Sound Designer, Writer.

Communicating Game Design using Game Design Documents: Visualisation, Flowcharts/Flowboards, Tables and Spreadsheets, Concept Arts, Formats for Design Documents.

Play Mechanics: Interaction Rules, Scoring Rules, Penalties and Rewards, Types of Play Mechanics, Information flow and feedback loop, Game Theory, Game genres-specific play mechanics, Game balancing, Modelling play mechanics.

Theory of Fun (Funology): Understanding Fun, Types of Fun (Exploration, Character Advancement/growth, Social Experience, Challenge), Motivation of gameplay. Abstract Design Elements: Positive and Negative Feedback systems, Emergent Complexity, Simulation and Emulation, Communication Systems.

Psychological Design Constraints: Operant conditioning, Flow states, Addiction in Gaming, Rewards and Penalties, Difficulty Curve, Play Retention.

Interface Design: Interface Design Theory, Information Visualisation, User Task Modelling, Balancing player control schemes, Hardware specific constraints.

Game prototyping tools: Paper prototyping, game prototyping software.

Learning Activities

Lectures – to deliver the theoretical concepts on game design.
Workshop – Tutor-led practical session in the computer laboratory to introduce activities, techniques, methods and tools used in the process of design and prototyping both non-digital games and computer games.
Further exercises – additional exercises for students to practical work on in their own time.
Directed learning – provides additional reading to enable workshop work to be completed.
Learning materials can be accessed digitally via University Virtual Learning Environment (VLE).

Notes

In this module, students will learn how work in group to design elements of computer games using the principles and techniques of games design specific taking account of implications on game genres. Students will then use digital prototyping tool to prototype the game and evaluate the usability, playability of the game prototype. Students will also learn to work in group and manage the complexity of group working.