MODULE 31	GAMES DEVELOPMENT		
CREDIT POINTS	7.5		
STATUS	Elective		
ASSESSMENT	Continuous Assessment	60%	
	Examination	40%	
TOTAL CONTACT HOURS: 72			
Lecture: 36		Practical: 36	
Tutorial:		Other:	
TOTAL STUDENT EFFORT: 150			

Aims

The objective of this course is to give you a practical and conceptual introduction to game development as well as the relevant theory behind game technologies. The focus of the course is on the development of a 3D game and examining the uses of artificial intelligence (AI) and physics in modern game development.

Learning Outcomes

Upon successful completion of this module, you should be able to:

1. explain phases in game development (from idea to product)
2. produce a method and schedule for a production
3. describe basic game system architecture
4. discuss level design
5. integrate 3D games engines into your production process
6. discuss the benefits of using physics in gaming
7. address the issue of AI, and animation for a game production
8. develop a small sized game to a usable level

Indicative Content

Topic	Description
Introduction and motivation	The difference between game development and game design. The challenges of game development.
Development methodology	Game production overview. Waterfall model verses agile development verses unified development. Different roles in the development process. Large scale productions.
Content pipeline	Managing game assets. Loading in new assets. Updating resources and inheritance. Working within a team.
Level design	Designing meaningful environments. Creating interactivity. Taking advantage of the system.
Engine architecture	Working with a limited number of resources. Exploiting the system to get efficient performance.
Physics	Collision detection. Gravity and mass. Newton's laws and their effect in games.
Animation	Character design and composition. Hierarchical animation. How games use animation.
Artificial intelligence	Controlling agents in a game. Path finding. A-star. Finite state machines. Fuzzy logic. Goal orientated action planning.