SYST: Real World Modelling and Simulation

Module Title:	Real World Modelling and Simulation
Language of Instruction:	English

Credits:	5

NFQ Level:	8

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	The module uses Problem Based Learning (PBL). The students are initially given an induction into this way of learning. Subsequently, they are given a number of team problems to solve. Each student has the opportunity to play different roles within their team. The problems are tackled in a studio environment with supervision and guidance provided by the module tutors. At the end of the cycle, the students present their findings to the tutors and their peers. The students also tackle an individual problem that incorporates all elements from the team problems, along with some new challenges.

Module Aim:	The module teaches best-practice project management and development processes when designing, implementing and evaluating game systems and simulations in a team-based environment, incorporating game feel as an important consideration.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Work in teams to model, implement and evaluate game systems and simulations.
LO2	Apply best-practice project management and development processes.
LO3	Carry out independent research and develop individual components to support team work.

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
Project Management Project planning and tracking. Coordinating work within a team. Agile development.
Development Process Test Driven Development. Unit Testing. Integration Testing. Pair Programming. Source code management. Continuous Integration. Reviewing.
Design and Implementation of Game Systems and Simulations Building relatively complex game systems to simulate the operation of real or imagined worlds. e.g., physics or economic systems.
Problem Solving and Teamwork Tackling system design and implementation problems individually and as a team.

Assessment Breakdown	%
Project	100.00%

No Continuous Assessment

Project				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	The students will complete a team problem. They will play roles based on the Problem Based Learning (PBL) model. Each problem will be assessed under product and process.	1,2,3	50.00	Week 9
Project	The students will complete an individual problem. The problem will involve the design, implementation and evaluation of a game system or simulation that can be used in the team problem. They will improve their component based on the experience and feedback from the team problem.	1,2,3	50.00	Week 11

No Practical

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecturer-Supervised Learning (Contact)	12 Weeks per Stage	2.00
Studio Based Learning	12 Weeks per Stage	4.00
Independent Learning	15 Weeks per Stage	3.53
	Total Hours	125.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KCCGD_B	Bachelor of Science (Honours) in Computer Games Development	7	Mandatory