MTDS: Online Gaming Technologies

Module Title:	Online Gaming Technologies
Language of Instruction:	English

Credits:	5

NFQ Level:	8

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	The course is delivered via an equal mixture of laboratory and lecture sessions. Lecture sessions present high level on-line gaming concepts, which are further supported by practical implementation of concepts during laboratory sessions and assessments.

Module Aim:	To enable the student to develop on-line games in accordance with industry practice.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Design, develop, and deploy services supporting online games with high performance and scalability.
LO2	Apply the basic concepts and techniques of data compression for multiplayer games.
LO3	Identify security challenges and employ modern cryptographic techniques to enhance security for online games.

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.*
Games Engineering II or equivalent Web Development and Databases or equivalent Programming II and Operating Systems or equivalent

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Module Content & Assessment

Indicative Content
Latency and consistency Simulating real world conditions, latency and consistency management e.g. dead reckoning, interpolation, time warp
Information management Compression e.g. bitpacking, delta, message aggregation
Services Matchmaking, stats, achievements, databases, cloud hosting, RESTful API
Security Attacks: client side e.g. wall hack, server side e.g. DDOS, network level e.g. packet sniffing, social e.g. chip dumping; encryption
Scalability Instancing, fault tolerance, persistence, interest management

Assessment Breakdown	%
Project	20.00%
Practical	30.00%
End of Module Formal Examination	50.00%

No Continuous Assessment

Project				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	Project 1	1,2,3	20.00	Week 6

Practical				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Laboratory Work	1,2,3	30.00	Every Week

End of Module Formal Examination				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	n/a	1	50.00	End-of-Semester

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*
Lecture	12 Weeks per Stage	2.00
Laboratory	12 Weeks per Stage	2.00
Estimated Learner Hours	15 Weeks per Stage	5.13
	Total Hours	125.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KCCGD_B	Bachelor of Science (Honours) in Computer Games Development	8	Mandatory