

<b>Module Title:</b>	Online Gaming Technologies
<b>Language of Instruction:</b>	English
<b>Credits:</b>	5
<b>NFQ Level:</b>	8
<b>Module Delivered In</b>	<a href="#">1 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	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.
<b>Module Aim:</b>	To enable the student to develop on-line games in accordance with industry practice.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner should be able to:</i>	
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.
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
Games Engineering II or equivalent Web Development and Databases or equivalent Programming II and Operating Systems or equivalent	

**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

**Module Workload**

<b>Workload: Full Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
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	<a href="#">Bachelor of Science (Honours) in Computer Games Development</a>	8	Mandatory