

<b>Module Title:</b>	Computer Architecture for Game Devices
<b>Language of Instruction:</b>	English
<b>Credits:</b>	5
<b>NFQ Level:</b>	6
<b>Module Delivered In</b>	<a href="#">1 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	Combination of lecture and laboratory sessions. Lectures will provide traditional theory. Laboratory sessions will employ formative practical/assessment sheets.
<b>Module Aim:</b>	Explore the structure, role and function of components that constitute a computer system. Examine the architecture of a computer system including constituent components, buses, memory and CPU.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Identify the architectural components of a computer, and understand the role of each component and inter-connector
LO2	Understand and differentiate between hardware, software and firmware
<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>	
No requirements listed	

## Module Content & Assessment

Indicative Content
<b>Number Systems and Data Representation</b> Understanding and using numbers expressed in different bases. Unsigned and signed data types, addition and subtraction, floating-point representation, precision and accuracy and character storage ASCII and Floating Points
<b>Logic</b> Logic, Logic Gates and Circuits Flip flops, Adders and Decoders Analogue/Digital; Switching elements; Logic gates; Logic circuits, types and examples.
<b>Software Models</b> Introduction to the layers of software / firmware architecture
<b>Memory</b> RAM / ROM, Primary memory: organisation and operation; cache. Computer memory: Types, costs, organization and operation, speed. Data storage devices

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

No Continuous Assessment

Project				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Logic Circuit		30.00	Week 22

Practical				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Laboratory based practicals	1,2	20.00	Every Week

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	No Description	1,2	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	1.00
Laboratory	12 Weeks per Stage	2.00
Estimated Learner Hours	15 Weeks per Stage	5.93
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>	3	Mandatory