

DEVL: Distributed Development

Module Title:			Distributed Development			
Language of Instruction:		n:	English			
Credits: 5		5				
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NFQ Level: 8		8				
Module Delivered In			2 programme(s)			
Teaching & Learning Strategies:			Learners will be expected to activity participate in class on the materials covered and work throughout each scheduled lab session to accomplish assigned tasks. While theoretical topics are covered in lectures the practical application of the theory will be covered in the computer laboratory classes where students get to apply the concepts to solve real world problems.			
Module Aim:			To provide learners with a theoretical knowledge and practical skills of developing distributed systems.			
Learning Ou	itcomes					
On successf	ul completio	n of th	his module the learner should be able to:			
LO1	Assess the different approaches to developing distributed systems.					
LO2	Design, develop and test distributed systems.		and test distributed systems.			
LO3 Evaluate proposed distributed architectural designs.		propos	ed distributed architectural designs.			
Pre-requisit	e learning					
<i>Module Recommendations</i> This is prior learning (or a practical skill) that is recommended before enrolment in this module.						
No recommendations listed						
<i>Incompatible Modules</i> 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

Distribution

Replication, Fault Tolerance, Load Balancing and Scalability

Internet of Things Architecture, Software and middleware platforms, Interfaces, Communication and Cooperation, Security, Sensing, Embedded Devices, Testing and Standardisation

Business Models IoT Governance, Societal and Ethical Implications

Development Frameworks and Languages used for distributed development. MPI for Clusters. Erlang/OTP for large scale distribution.

Assessment Breakdown	%
Project	15.00%
Practical	25.00%
End of Module Formal Examination	60.00%

No Continuous Assessment

Project					
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date	
Project	Develop and test a distributed system.	1,2,3	15.00	Week 10	

Practical					
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date	
Practical/Skills Evaluation	Laboratory Exercises using a high level language (e.g. Erlang) to develop basic distributed systems. Familiarization with the tool set used in distributed development.	2	25.00	Every Week	

End of Module Formal Examination						
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date		
Formal Exam	No Description	1,2,3	60.00	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
Independent Learning Time	15 Weeks per Stage	5.13
Laboratory	12 Weeks per Stage	2.00
	Total Hours	125.00

Module Delivered In Programme Code Programme Semester Delivery CW_KCCGD_B Bachelor of Science (Honours) in Computer Games Development 8 Group Elective 1 CW_KCSOF_B Bachelor of Science (Honours) in Software Development 8 Group Elective 1