

## COMP C7015: Cloud Technologies

Module Details	
Module Code:	COMP C7015
Full Title:	Cloud Technologies <b>APPROVED</b>
Valid From::	Semester 1 - 2019/20 ( June 2019 )
Language of Instruction:	English
Duration:	1 Semester
Credits::	5
Module Owner::	Peadar Grant
Departments:	Unknown
Module Description:	Cloud Technologies enable students to realise familiar system configurations studied in previous modules within a cloud environment. Emphasis will be placed on scripting, automation and monitoring. This ability enables student to "learn to learn" by giving them the tools to build personal lab environments at low cost, as well as forming an asset for employability in SME and enterprise sectors.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	Module Learning Outcome Description
MLO1	Design cloud environments comprising virtual networking, virtual machine instances and managed services.
MLO2	Migrate onsite network and server configurations to cloud environments.
MLO3	Monitor the availability and performance of services provisioned in the cloud using standard tools.
MLO4	Automate the provisioning of cloud services through scripting.
Pre-requisite learning	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named DkIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i>	
No recommendations listed	

Module Indicative Content	
<b>Design</b>	Planning and documentation of implementation on cloud platforms, incorporating analysis of the various platforms available and choice of suitable vendor(s) for application. Business considerations in vendor and technology selection.
<b>Implementation</b>	Deployment of standard network services to cloud environment: installation and configuration of services such as Domain Controllers, Web Servers, Application servers, Mail Servers and Databases in the cloud for range of environments.
<b>Migration</b>	Options for hosting network services: onsite data centre, co-location facilities and cloud environments. Factors influencing choice of service location. Barriers, risks and mitigations influencing migration to cloud environments. Use of virtualisation within private and hybrid cloud environments.
<b>Monitoring</b>	Comparison of onsite and cloud needs for monitoring. Introductory vertical/horizontal scaling and load balancing. Integration of onsite and cloud monitoring.
Module Assessment	
Assessment Breakdown	%
Course Work	60.00%
Final Examination	40.00%
Module Special Regulation	

## Assessments

Full Time On Campus			
Course Work			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	30
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	S1 Week 6	<b>Learning Outcome</b>	1,4
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Design and implementation of network services suite for case study on a standard cloud provider			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	30
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	End-of-Semester	<b>Learning Outcome</b>	2,3,4
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Migration plan for suite of onsite services to a candidate cloud / hybrid-cloud environment			
No Project			
No Practical			
Final Examination			
<b>Assessment Type</b>	Formal Exam	<b>% of Total Mark</b>	40
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	End-of-Semester	<b>Learning Outcome</b>	1,2,3
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> 2-hour closed-book exam addressing all areas			
Part Time On Campus			
Course Work			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	30
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	S1 Week 6	<b>Learning Outcome</b>	1,4
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Design and implementation of network services suite for case study on a standard cloud provider			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	30
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	End-of-Semester	<b>Learning Outcome</b>	2,3,4
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Migration plan for suite of onsite services to a candidate cloud / hybrid-cloud environment			
No Project			
No Practical			
Final Examination			
<b>Assessment Type</b>	Formal Exam	<b>% of Total Mark</b>	40
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	End-of-Semester	<b>Learning Outcome</b>	1,2,3
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> 2-hour closed-book exam addressing all areas			
Reassessment Requirement			
<b>A repeat examination</b> Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.			
<b>Reassessment Description</b> Repeat exam and CA assignment to address all learning outcomes.			

## Module Workload

### Workload: Full Time On Campus

<i>Workload Type</i>	<i>Contact Type</i>	<i>Workload Description</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>	<i>Hours</i>
Lecture	Contact	1x 1h lecture per week	Every Week	1.00	1
Practical	Contact	1x 3h lab per week	Every Week	3.00	3
Directed Reading	Non Contact	-	Every Week	2.00	2
Independent Study	Non Contact	-	Every Week	2.00	2
Total Weekly Learner Workload					8.00
Total Weekly Contact Hours					4.00

### Workload: Part Time On Campus

<i>Workload Type</i>	<i>Contact Type</i>	<i>Workload Description</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>	<i>Hours</i>
Lecture	Contact	1x 1h lecture per week	Every Week	1.00	1
Practical	Contact	1x 3h lab per week	Every Week	3.00	3
Directed Reading	Non Contact	-	Every Week	2.00	2
Independent Study	Non Contact	-	Every Week	2.00	2
Total Weekly Learner Workload					8.00
Total Weekly Contact Hours					4.00

Module Resources
<i>Recommended Book Resources</i>
James Bond. (2015), The Enterprise Cloud, O'Reilly Media.
<i>Supplementary Book Resources</i>
Kavis, Michael J. (2014), Architecting the Cloud, Wiley.
<i>This module does not have any article/paper resources</i>
<i>This module does not have any other resources</i>