APPROVED

COMP I8001: Virtual Server Technology

Module Details

Module Code:	COMP I8001
Full Title:	Virtual Server Technology APPROVED
Valid From::	Semester 1 - 2019/20 (June 2019)
Language of Instruction:	English
Duration:	1 Semester
Credits::	5
Module Owner::	Amanda Clancy
Departments:	Unknown
Module Description:	This module aims to identify the need for virtualization environments in a business. Students will carry out a comprehensive evaluation of all virtual environments under various categories. Students will evaluate and examine Virtual concepts such as Virtual Networks, Hardware, Processing and Deployment.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	**Module Learning Outcome Description**
MLO1	Examine the evolution of Enterprise Level Data Centers from Physical to Virtual environments.
MLO2	Evaluate the various Virtual Technologies and the Private, Public and Hybrid Cloud Infrastructures on the market.
MLO3	Design and implement a secure hybrid cloud implementation strategy while demonstrating knowledge of Cloud infrastructure.
MLO4	Develop Skills to plan and implement a Private Cloud including Networking, Storage and Memory management
MLO5	Discuss and apply knowledge in Data Protection, Disaster Recovery and High Availability for Virtual Servers

Pre-requisite learning
Module Recommendations *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).*
No recommendations listed

Module Indicative Content
Evolution of Physical to Virtual History and Overview of Virtualization, Virtual Concepts, Physical Demands, Planning a virtual environment and identifying the needs for Data Center Virtualization
Private Cloud Technologies Evaluate the process involved in selecting a suitable platform for an organisation. Students will install, manage, create and configure virtual technologies such as Microsoft Hyper V, VMWare, Xen Server. Conducting a detailed comparison of 2 or more of these platforms.
Networking Storage and Memory Virtual SAN, Virtual Volumes, Cloud Storage Options. Networking Features: Virtual Networking, Virtual Switches, Virtual Switch Types. Memory Management - Memory Configuration, Overhead, Ballooning, over commit, compression and page sharing
Data Protection and Disaster Recovery Server Growth and Server Sprawl, Data and Systems Backups and Monitoring. Analyse concepts such as snapshots and virtual server backup tools. Explore monitoring tools such as System Center and DPM

Module Assessment

Assessment Breakdown	%
Course Work	100.00%

Module Special Regulation

Assessments

Full Time On Campus

Course Work

Assessment Type	Class Test	**% of Total Mark**	30
Marks Out Of	0	**Pass Mark**	0
Timing	S1 Week 12	**Learning Outcome**	1,2,3,4,5
Duration in minutes	120		

Assessment Description
In Class Test

Assessment Type	Continuous Assessment	**% of Total Mark**	30
Marks Out Of	0	**Pass Mark**	0
Timing	Every Week	**Learning Outcome**	2,3,4,5
Duration in minutes	0		

Assessment Description
Weekly Reports Documenting Lab Work and Case Studies

Assessment Type	Continuous Assessment	**% of Total Mark**	40
Marks Out Of	0	**Pass Mark**	0
Timing	End-of-Semester	**Learning Outcome**	3,4,5
Duration in minutes	0		

Assessment Description
End of Semester Project: Students will independently design and implement a plan for a company to migrate them from Physical to Virtual using knowledge, techniques and concepts they have gained throughout the semester.

No Project

No Practical

No Final Examination

Part Time On Campus

Course Work

Assessment Type	Class Test	**% of Total Mark**	30
Marks Out Of	0	**Pass Mark**	0
Timing	S1 Week 12	**Learning Outcome**	1,2,3,4,5
Duration in minutes	0		

Assessment Description
In Class Test

Assessment Type	Continuous Assessment	**% of Total Mark**	30
Marks Out Of	0	**Pass Mark**	0
Timing	Every Week	**Learning Outcome**	2,3,4,5
Duration in minutes	0		

Assessment Description
Weekly Reports Documenting Lab Work and Case Studies

Assessment Type	Continuous Assessment	**% of Total Mark**	40
Marks Out Of	0	**Pass Mark**	0
Timing	End-of-Semester	**Learning Outcome**	3,4,5
Duration in minutes	0		

Assessment Description
End of Semester Project: Students will independently design a Fictitious company and migrate them from Physical to Virtual using knowledge, techniques and concepts they have gained throughout the semester.

No Project

No Practical

No Final Examination

Reassessment Requirement

No repeat examination
Reassessment of this module will be offered solely on the basis of coursework and a repeat examination will not be offered.

Module Workload

Workload: Full Time On Campus					
Workload Type	*Contact Type*	*Workload Description*	*Frequency*	*Average Weekly Learner Workload*	*Hours*
Practical	Contact	1 * 3 hour lab covering lecture material and practical demonstrations	Every Week	3.00	3
Independent Study	Non Contact	Enhancing knowledge and skills	Every Week	3.00	3
Directed Reading	Non Contact	Articles and Papers	Every Week	2.00	2
				Total Weekly Learner Workload	8.00
				Total Weekly Contact Hours	3.00

Workload: Part Time On Campus					
Workload Type	*Contact Type*	*Workload Description*	*Frequency*	*Average Weekly Learner Workload*	*Hours*
Practical	Contact	1 * 3 hour lab covering lecture material and practical demonstrations	Every Week	3.00	3
Independent Study	Non Contact	Enhancing knowledge and skills	Every Week	3.00	3
				Total Weekly Learner Workload	6.00
				Total Weekly Contact Hours	3.00

Module Resources

Recommended Book Resources

Matthew Portnoy. (2012), Virtualization Essentials, Sybex, [ISBN: 9781118176719].

John Savill (Author). (2017), Mastering Windows Server 2016 Hyper-V, 1st. Wiley, [ISBN: 978-1-119-286].

Christopher Kusek (Author), Van Van Noy (Author), Andy Daniel. (2011), VMware vSphere 5 Administration Instant Reference, Sybex, [ISBN: 978-111802443].

Supplementary Book Resources

Gustavo A. A. Santana. (2013), Data Center Virtualization Fundamentals, 1st. Pearson, [ISBN: 978-1-58714-3].

This module does not have any article/paper resources

This module does not have any other resources