

Module Title:	Networking: Switching and VLAN Concepts
Language of Instruction:	English
Credits:	5
NFQ Level:	6
Module Delivered In	5 programme(s)
Teaching & Learning Strategies:	A combination of traditional lectures and laboratory sessions will be employed. The laboratory sessions will allow for regular formative assessment and feedback.
Module Aim:	To provide learners with an appreciation of the characteristics, functionality and management of switches and Virtual Local Area Networks (VLANs)
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Demonstrate skills in configuring and troubleshooting loop-free, fault tolerant LANs.
LO2	Appraise network requirements to design and implement suitable VLAN topologies.
LO3	Create suitable DHCPv4 and DHCPv6 implementations to automate the process of configuring devices on distinct VLANs.
Pre-requisite learning	
Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements <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
LAN Switching: Ethernet, Switching Concepts, CAM table operation, Layer 2 switching methods
VLANs: VLAN operation, IEEE 802.1Q, trunking, Inter-VLAN routing
Layer 2 link management: Path redundancy (STP), Fault-tolerance (Etherchannel)
Layer 3 address management: DHCPv4, DHCPv6

Assessment Breakdown	%
Continuous Assessment	50.00%
Project	40.00%
Practical	10.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Examination	n/a	1,2	20.00	Week 6
Examination	n/a	1,2	30.00	Week 9

Project				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	n/a	1,2,3	40.00	Week 12

Practical				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Weekly practical/laboratory work is designed to allow students to demonstrate the achievement of all the learning outcomes.	1,2,3	10.00	n/a

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<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_KWCCD_B	Bachelor of Science (Honours) in Creative Computing and Digital Innovation	3	Mandatory
CW_KCCYB_B	Bachelor of Science (Honours) in Cyber Crime and IT Security	3	Mandatory
CW_KCCIT_B	Bachelor of Science (Honours) in Information Technology Management	3	Mandatory
CW_KCCYB_D	Bachelor of Science in Cybercrime and IT Security	3	Mandatory
CW_KCCSY_D	Bachelor of Science in Information Technology Management	3	Mandatory