ZNTW C1202: Networking 2

Module Title:	Networking 2
Language of Instruction:	English

Credits:	5

NFQ Level:	6

Module Delivered In	8 programme(s)

Teaching & Learning Strategies:	Combination of lectures and practical laboratory sessions. Lectures will take the form of traditional theory and tutorials. Laboratory sessions take the form of individual & group work.

Module Aim:	To provide the student with: 1. An understanding of IPv4 and IPv6 addressing. 2. a systematic understanding of WANs and basic routing concepts. 3. the skills required to build a basic Wide Area Network

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Demonstrate an understanding of the encapsulation process and the fundamentals of computer network security
LO2	Explain IPv4 and IPv6 addressing & sub-netting including variable length subnet masks
LO3	Demonstrate competence in configuring routers to implement basic WANs

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *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
Basic Router Commands Basic commands required for initial router configuration
IPv4 Addressing Structure and use of IPv4 addresses, sub-netting and variable length subnet masks
IPv6 Addressing Structure and use of IPv6 addresses, SLACC concepts
ICMP Role of ICMP in Ethernet networks
Transport Layer Segmentation process, sequence numbers, role of port numbers, TCP/UDP
Application Layer Application Layer protocols - DNS, DHCP, SSH, HTTP, HTTPS
Network Security Fundamentals Basic network device security, encrypted passwords, securing access
Build a basic Wide Area Network Basic router configuration to enable data transfers between networks

Assessment Breakdown	%
Continuous Assessment	100.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Other	Two practical examinations to assess the student's knowledge of basic router configuration and their ability to build simple wide area networks	3	40.00	n/a
Practical/Skills Evaluation	Weekly practical/laboratory work is designed to allow students to demonstrate the achievement of the learning outcomes	1,3	20.00	n/a
Other	The students will be given two online tests to assess their understanding of IPv4 and IPv6 addressing and basic network security	1,2	20.00	n/a
Examination	The students will be given a written test to assess their knowledge of the encapsulation process, subnetting, variable length subnet masks and routing concepts	1,2	20.00	n/a

No Project

No Practical

No End of Module Formal Examination

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	1.00
Laboratory	12 Weeks per Stage	2.00
Estimated Learner Hours	15 Weeks per Stage	5.13
Tutorial	12 Weeks per Stage	1.00
	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	2	Mandatory
CW_KCCYB_B	Bachelor of Science (Honours) in Cyber Crime and IT Security	2	Mandatory
CW_KCCIT_B	Bachelor of Science (Honours) in Information Technology Management	2	Mandatory
CW_KCSOF_B	Bachelor of Science (Honours) in Software Development	2	Mandatory
CW_KCCYB_D	Bachelor of Science in Cybercrime and IT Security	2	Mandatory
CW_KCCSY_D	Bachelor of Science in Information Technology Management	2	Mandatory
CW_KCSOF_D	Bachelor of Science in Software Development	2	Mandatory
CW_KCCOM_C	Higher Certificate in Science in Computing Programming	2	Mandatory