Module Title:	Networking Systems Management
Language of Instruction:	English

Credits:	10

NFQ Level:	8

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	Lecture, Lab Activities and Practicals – there is a high practical lab component to this course, with lab activities designed to complement the taught material. Students will deploy the tools and technologies studied.

Module Aim:	To prepare the student to manage, maintain and secure networks and the systems that they interconnect.

Learning Outcomes
On successful completion of this module the learner should be able to:

LO1	Manage a diverse and heterogeneous collection of network-attached devices.
LO2	Recommend and plan the implementation of a network security strategy based upon an organizations identified requirements.
LO3	Monitor the effectiveness of various network technologies.
LO4	Develop and implement a comprehensive backup strategy for an organization.
LO5	Deploy and manage a collection of network management tools and services.

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.*
3rd year Networking and Systems Administration or equivalent

Module Content & Assessment

Indicative Content
Local and Wide-area Networks Local and Wide Area Networks: review of technology; equipment and requirements for internetwork connections.
Security Security virtues, rules and high-level practices.
Backups and Disaster Recovery Backup strategy and Disaster Recovery
Internet Security Internet security: encryption, firewalls, and secure protocols.
Network Management Network management: overview, management information base, agents, proxies, common protocols and implementations, performance monitoring.
Network Management Tools and Servers Network management tools and servers: firewalls, IDS, SNMP-based tools, vulnerability scanners, servers (web, SSH, etc.).

Assessment Breakdown	%
Continuous Assessment	40.00%
End of Module Formal Examination	60.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	Continuous Assessment and Examination. Example CA/exercises to include (but not limited to): • Based on a provided case-study organisation, draft a security strategy document. • Based on a provided case-study organisation, draft a backup and DR strategy document. • Use open source port and vulnerability scanners to test pre-configured systems for weaknesses. • Install, configure and operate an IDS. • Install and operate a firewall over a fixed time-frame and forensically analyse all activity. • Install and operate a network monitoring server.	1,2,3,4,5	20.00	n/a
Project	Individual project - student to install and configure (harden) a diverse set of server applications and monitor over an extended period of time	1,3,5	20.00	n/a

No Project

No Practical

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	No Description	1,2,3,4,5	60.00	End-of-Semester

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

Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	12 Weeks per Stage	4.00
Laboratory	12 Weeks per Stage	4.00
Estimated Learner Hours	15 Weeks per Stage	10.27
	Total Hours	250.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KCCIT_B	Bachelor of Science (Honours) in Information Technology Management	7	Mandatory