

<b>Module Title:</b>	Networking Systems Management
<b>Language of Instruction:</b>	English
<b>Credits:</b>	10
<b>NFQ Level:</b>	8
<b>Module Delivered In</b>	<a href="#">1 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	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.
<b>Module Aim:</b>	To prepare the student to manage, maintain and secure networks and the systems that they interconnect.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner should be able to:</i>	
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.
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
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**

<b>Workload: Full Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
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	<a href="#">Bachelor of Science (Honours) in Information Technology Management</a>	7	Mandatory