

<b>Full Title</b>	Network Technologies		
<b>Status</b>	Uploaded to Banner	<b>Start Term</b>	2012
<b>NFQ Level</b>	08	<b>ECTS Credits</b>	05
<b>Module Code</b>	COMP08029	<b>Duration</b>	13 weeks - (13 Weeks)
<b>Grading Mode</b>		<b>Department</b>	Comp Science & Applied Physics
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<b>Co Authors</b>	Deirdre ODonovan		

### Module Description

This module is part of a conversion course for qualified level 8 graduates (or equivalent) to immerse them in the fundamentals of Network Technologies.

### Learning Outcomes

**On completion of this module the learner will/should be able to:**

1. Build, configure and deploy a local area network based on open (TCP/IP) standards.
2. Troubleshoot and resolve common issues around TCP/IP configuration and management.
3. Critically evaluate the design, development and configuration aspects of enterprise grade local and wide area networks.
4. Communicate to peers, both written and verbally on critical development and configuration aspects specific to corporate networks.
5. Demonstrate a critical appreciation of the design, development, implementation and on-going secure management of corporate network systems and the relevance of the contextual environment within which they reside.
6. Design, code and implement a client server application in Java.
7. Critically evaluate the potential for 'Smart objects' in a networked world.

### Indicative Syllabus

Fundamental concepts of networks and data communication (hardware, software, protocols and topology). (10%)

IP Protocol Architecture - Architectural Design Principles, Layering, Cross-layer Optimisation. (5%)

Link Layer Protocols (Ethernet, Wireless Ethernet) (5%)

Internet Core Protocols (ARP, IP, TCP, UDP, DNS, DHCP, ICMP) (35%)

Routing Protocols and Architectures (5%)

Network Application Development in Java (20%)

Smart Objects and Networks (10%)

Network Security (10%)

### Teaching and Learning Strategy

### Assessment Strategy

**Repeat Assessment Strategies****Indicative Coursework and Continuous Assessment:**

100 %

<i>Form</i>	<i>Title</i>	<i>Percent</i>	<i>Week (Indicative)</i>	<i>Learning Outcomes</i>
UNKNOWN	Practical Evaluation	50 %	Week 6	3,4,5,6,7
UNKNOWN	Project	50 %	Week 12	1,2,3

**Full Time Delivery Mode Average Weekly Workload:**

4.00 Hours

<i>Type</i>	<i>Description</i>	<i>Location</i>	<i>Hours</i>	<i>Frequency</i>	<i>Weekly Avg</i>
Lecture	Lecture	Tiered Classroom	2	Weekly	2.00
Practical	Network Practical	Computer Laboratory	2	Weekly	2.00

**Literary Resources**

Computer Networking, A top down approach, 5/e James F. Kurose , Keith W. Ross, ISBN: 0-13-607967-9  
 Computer Networks with Internet Protocols and Technology, W. Stallings  
 Internetworking with TCP/IP, (Vol 1 Principles, Protocols & Architecture) D. Comer  
 Internetworking with TCP/IP, (Vol 2 Design, Implementation and Internals) D. Comer

**Other Resources**

None

**Additional Information**

None

**Programme Membership**

GA\_KSOFG\_L08 201700 Higher Diploma in Science in Software Development