Module Title **Network Design** **Keywords** Networks, LANs and WANs ,Servers, Routers, Switches, Firewalls, 3-Tier Networks.	Reference EN3533 SCQF Level SCQF 9 SCQF Points 15 ECTS Points 7.5 Created May 2002 Approved May 2004 Amended February 2012 Version No. 3

This Version is No Longer Current

The latest version of this module is available here

Prerequisites for Module

EN1530 Introduction to Networks or equivalent.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To provide the student with an understanding of the design of computer networks.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

Network Security: Resilience, Redundancy, Firewalls.

Indicative Student Workload

Contact Hours	Full Time
Lectures	12
Tutorials/Seminars	12
Assessment	14
Directed Study	
Practical exercises	12
Directed Study	25
Private Study	
Private Study	75

Mode of Delivery

The module is taught using a structured programme of lectures, tutorials, practical exercises.

Assessment Plan

1. Recognise and explain the function and configuration of networking hardware such as switches and routers.
2. Describe the architecture and operation of Wide Area Networks.
3. Describe the architecture and operation of Local Area Networks.
4. Develop a design for a Wide Area Network.
5. Develop a design for a Local Area Network.

Indicative Module Content

Hardware: NICs, hubs, switches, bridges, routers - function, installation and configuration.
Wide Area Networks: ATM, Frame Relay, SDH, Serial Links, LAN Extension, ADSL.
Local Area Networks: Ethernet, Virtual Lans, 3-Tier Networks.

	Learning Outcomes Assessed
Component 1	4,5
Component 2	1,2,3

Component 2 is a closed book exam of 2.5 hours duration.(50% weighting)

Component 1 is a coursework involving an extended design exercise.(50% weighting)

Indicative Bibliography

1. STALLINGS, W. 2004. Data and Computer Communications. 7th ed. Person Prentice hall, ISBN 0-13-183311-1