Module Title **Cisco CCNA Stage 4** **Keywords** Networks, Cisco, CCNA	Reference EN4534 SCQF SCQF Level 10 SCQF Points 15 ECTS Points 7.5 Created August 2002 Approved March 2004 Amended August 2011 Version No. 2

This Version is No Longer Current

The latest version of this module is available here

Prerequisites for Module

EN3532 Cisco CCNA Stage 3

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To provide the student with the ability to understand the design and management of wide area networks (WAN's).

Learning Outcomes for Module

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

Mode of Delivery

The module is taught using a structured programme of lectures, tutorials, practical exercises and student centred learning.

Assessment Plan

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

Component two is coursework which is the practical exercises associated with the Cisco Semester 4 material. (50% weighting).

Component one is an on-line web-based test. (50% weighting).

1. Recognise and discuss WAN technology, devices, encapsulation formats and link options.
2. Discuss the concepts of ISDN and Frame Relay.
3. Undertake the first stages of WAN design.
4. Use appropriate tools and techniques for network management and troubleshooting.

Indicative Module Content

Scaling networks with NAT/PAT. DHCP operation and configuration. WAN technologies and design, Point-to-point Protocal (PPP), Integrated Services Digital Network (ISDN), Frame Relay, Network Administration.

Indicative Student Workload

Contact Hours	Full Time
Lectures	12
Tutorials/Seminars	12

Directed Study	
Practical exercises	26
Directed study	25

Private Study	
Private Study	75

Indicative Bibliography

1. This module represents Course 4 of the four course CCNA (Cisco Certified Networking Associate) Routing and Switching Curriculum.The material for the course is provided by Cisco to the University in the form of web-based learning and assessment mechanisms as well as lab equipment in the form of routers and switches for practical training.
2. STALLINGS, W., 2010. Data and Computer Communications, 9th Ed, New Jersey:Prentice Hall.