Module Title **Cisco CCNA Course 1: Network Basics** **Keywords** Network, LAN, WAN, Protocols, Seven-Layer-Model, IP Addressing, Subnetting, Ethernet.	Reference EN3531 SCQF SCQF Level 9 SCQF Points 15 ECTS Points 7.5 Created May 2002 Approved March 2004 Amended October 2014 Version No. 5

This Version is No Longer Current

The latest version of this module is available here

Prerequisites for Module

Introduction to Telecommunications (EN2520) or Introduction to Data Networks (EN2521) or equivalent.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To introduce students to the architecture, structure, functions, components, and models of the Internet and other computer networks.
To introduce students to the principles and structure of IP

IP Addressing: IPv4 Network Addresses, IPv6 Network Addresses, Connectivity Verification.

Subnetting IP Networks: Subnetting an IPv4 Network, Addressing Schemes, Design Considerations for IPv6.

Network Access: Data Link Layer, Media Access Control, Physical Layer, Network Media.

Ethernet: Ethernet Protocol, Address Resolution Protocol, LAN Switches.

Network Management and Performance: Create and Grow, Keeping the Network Safe, Basic Network Performance, Managing IOS Configuration Files.

addressing.
To introduce students to the fundamentals concepts of Ethernet, media, and operations.

Learning Outcomes for Module

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

1. Select suitable equipment, and protocols for use in small network.
2. Diagnose problems and propose solutions to basic problems in equipment selection, protocol use and configurations in a network.
3. Analyse and design and IP addressing schemes for a small network.
4. Configure a small network.
5. Troubleshoot small network.

Indicative Module Content

Exploring the Network: Communicating in a Network-Centric World, The Network as a Platform, LANs, WANs, and the Internet, The Expanding Network.

Configuring a Network Operating System: IOS Bootcamp, Getting Basic, Addressing Schemes

Network Protocols and Communications:Network Protocols and Standards, Using

Indicative Student Workload

Contact Hours	Full Time	Part Time
Laboratory	36	36
Directed Study		
Practical Exercises	36	36
Student Centred Learning	36	36
Private Study	42	42

Mode of Delivery

The module is taught using a structured programme of web based learning materials, web-based activities, practical exercises and student centred learning.

Assessment Plan

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

Component 2 is a closed book on-line examination. (50% weighting).

Component 1 is coursework which consists of practical laboratory exercises associated with the Cisco Course 1 material

Requests for Comments, Moving Data in the Network.

Application Layer: Application Layer Protocols, Well-Known Application Layer Protocols and Services.

Transport Layer: Transport Layer Protocols,TCP and UPD.

Network Layer: Network Layer Protocols, Routing, Routers, Configuring a Cisco Router.

with the Cisco Course 1 material. (50% weighting).

Indicative Bibliography

1. This module represents Course 1 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., 2014. Data and Computer Communications, 10th Ed, New Jersey:Prentice Hall.