



VIETNAM NATIONAL UNIVERSITY OF HO CHI MINH CITY  
UNIVERSITY OF NATURAL SCIENCES  
FACULTY OF INFORMATION TECHNOLOGY

**COURSE SYLLABUS**

<b>Course Code:</b>	TH102
<b>Title:</b>	Computer Network
<b>Credits:</b>	2
<b>Workload:</b>	Lecture hours: 2 periods * 15 weeks = 30 periods Laboratory hours: 0 periods * 15 weeks = 0 periods Preparative hours:
<b>Prerequisites:</b>	N/A

**Course Objectives:**

This course provides students with the following knowledge: essential concepts of computer network, using inter-network devices (cables, NIC, repeaters, bridges, routers, switches, modems, etc) for designing local area networks, using and administering some network operating systems (Novell NetWare, Windows NT).

**Main Text:** N/A

**References:**

- *CNE Short Course*, Dorothy Cady, Drew Heywood, Blaine Homer, Emmett Dulaney, Matt Arnett, Debra Niedermiller - Chaffins - new Riders Publishing
- *Training Guide CNE Netware 4.1 Update*, Karanjit Siyan, Ph.D - New Riders Publishing
- *Troubleshooting Netware for the 386 day and Neff* - M&T Publishing
- *Computer Networking A TopDown Approach Featuring the Internet*, James Kurose and Keith Ross, Addison Wesley, 3rd edition.

**Course Outline:**

Chapter 1 Fundamentals of Computer Networks

- 1.1 Network Computing Models
  - 1.1.1 The centralized model
  - 1.1.2 The distributed model
  - 1.1.3 The collaborative model
- 1.2 LAN - MAN - WAN
- 1.3 File / Print / Communication / Database Server
- 1.4 Features of Computer Networks
  - 1.4.1 Transmission medium
  - 1.4.2 Transmission technique
  - 1.4.3 Access control method
- 1.5 Components of Computer Networks
  - 1.5.1 Network services

- 1.5.2 Transmission media
- 1.5.3 Protocols
- 1.6 Network Administrators' responsibilities
  - 1.6.1 Configuration management
  - 1.6.2 Fault management
  - 1.6.3 Performance management
  - 1.6.4 Security management
  - 1.6.5 Accounting management

## Chapter 2 The 7-layer OSI Model

- 2.1 Introduction to the OSI model
- 2.2 Concepts in the Physical Layer
- 2.3 Concepts in the Data Link Layer
- 2.4 Concepts in the Network Layer
- 2.5 Concepts in the Transport Layer
- 2.6 Concepts in the Session Layer
- 2.7 Concepts in the Presentation Layer
- 2.8 Concepts in the Application Layer
- 2.9 Introduction to the 802 standards

## Chapter 3 Transmission media

- 3.1 Features of a transmission media
- 3.2 Coaxial cable
- 3.3 Twisted - Pair cable
- 3.4 Fiber - Optic cable
- 3.5 Radio
- 3.6 Microwave
- 3.7 Infrared

## Chapter 4 Inter-network Device Usage

- 4.1 Connectors
  - 4.1.1 Multi - wire cable Connectors
  - 4.1.2 Twisted - Pair cable Connectors
  - 4.1.3 Coaxial cable Connectors
  - 4.1.4 Fiber - Optic cable Connectors
- 4.2 Network Devices
  - 4.2.1 Network Interface Board
  - 4.2.2 Hubs
  - 4.2.3 Repeaters
  - 4.2.4 Bridges
  - 4.2.5 Multiplexors
  - 4.2.6 Modems
- 4.3 Inter-Network Devices
  - 4.3.1 Routers
  - 4.3.2 Gateways
- 4.4 Introduction to Switches
  - 4.4.1 Architectures of Switches

- 4.4.2 Function Modes of Switches
- 4.4.3 Comparison between Switches and Bridges and Routers
- 4.5. Illustration of HP/IBM/3COM network devices

## Chapter 5 Administrating the Novell Netware

- 5.1 Netware Directory Service
- 5.2 Netware Security
- 5.3 Netware Client
- 5.4 Netware Utilities
- 5.5 Netware Printing
- 5.6 Netware Server Management

### **Grading**

Final exam :

Assignments: