



# **61FIT2CNE**

## **Computer Networks**

### **Spring 2024**

### **Module Description**

#### **Contact details**

<b>STT</b>	<b>Họ và tên</b>	<b>Học hàm, học vị</b>	<b>Email</b>	<b>Bộ môn</b>
1	Đỗ Thị Phương Thảo	ThS	thaodtp_fit@hanu.edu.vn	IT
2	Đặng Đình Quân	ThS	quandd@hanu.edu.vn	SE
3	Nguyễn Phúc Hậu	TS	haunp@hanu.edu.vn	IT
4	Trần Ngọc Khoa	CN	khoatn@hanu.edu.vn	IT

#### **Module Overview**

##### **1. Module Details**

Faculty	Information Technology
Module code	61FIT2CNE
Module name	<b>Computer Networks</b>
Level	Undergraduate
Modules of credit	3
Prerequisite	None
Suggested study	Ten (10) hours per week
Year	2024

##### **2. Nature of the module**

This module provides knowledge in IT network includes reference network models, data communications, telecommunications, TCP/IP protocol, IP addressing, IPv6, routing, trends of next generation network...With this module, student can have a general view of selecting, designing, deploying, integrating, and administering common network and communication infrastructures in an organization or company. This module focuses also on practice of designing network, configuring router, web server, email server, FTP server, DNS server, administering network and network security.

##### **3. Learning objectives**

On the completion of this module students should be able to:

- 3.1. Understand the foundation of networking

- 3.2. Understand routing and switching, physical layer and application areas
- 3.3. Understand network management and security issues
- 3.4. have teamwork, presentation, self-study skills
- 3.5. develop strict discipline, self-motivation and time management skills

## Learning Resources

We recommend you to read the following book:

Andrew, S.T., Computer Networks, 5th edition, Prentice Hall, 2010.

Course website: <http://fit.hanu.edu.vn/fitportal>

## Assessment

### 1. Assessment table is applied to all students

Type	Assessment name	Weight	Brief Description	Linked learning objectives
Internal	Attendance	10%	Students must participate in at least 80% of classes in order to obtain this 10%.	
	Practice exercises	30%	Follow the teacher's instruction	3.1, 3.2, 3.3, 3.4, 3.5
	Midterm		Quiz: Multiple-choice question and Short-answer question	3.1, 3.2
Final	Final Exam	60%	Part I: Quiz (Multiple choices and short answer questions) Part II: Network configuration with Packet Tracer. Covers all topics	3.1, 3.2

### 2. Determination of final grade

The calculation of your final grade uses the weightings in the assessment table above.

You are not qualified to take the final exam if you participate less than 80% of classes.

### 3. Pass Criteria

To obtain a grade of pass or higher in this module student must pass the following criteria: Your final grade must be greater or equal 4.75

## Proposed Weekly Lecture & Tutorial Schedule

Week	Description	Tutorial	Assessment
1	Introduction to Computer Networks Networking Components and Devices	Real LAN configuration (in Windows & Linux)	
2	TCP/IP Model	Introduction to Packet tracer and some useful tools in this module. Virtual LAN configuration ( with Packet Tracer)	
3	Physical Layer: Guided Transmission Media	Network protocol analysis by Wireshark	
4	Network Layer: IP Addressing	Ip addressing and subnetting	
5	Network Layer: IPv4 & IPv6	CIDR and subnetting	
6	Network Layer: Routing	General Router Configuration and Static routing configuration	
7	Transport Layer: TCP and UDP	Dynamic routing configuration with RIP	
8	<b>Midterm Test</b>	<b>Midterm Test</b>	<b>Midterm test</b>
9	Transport Layer: TCP socket and UDP socket programming	Subnetting and Dynamic routing configuration with OSPFv2	
10	Application Layer: DNS, HTTP, E-mail, DHCP, NFS, SNMP	TCP socket and UDP socket programming	
11	Network Operating System	Ipv6 configuration and static routing	
12	Network Administration	Dynamic IPv6 Routing Configuration – Single area OSPFv3	
13	Next Generation Networks	Dynamic IPv6 Routing Configuration – Multiarea OSPFv3	
14	IoT	VLAN configuration	
15	Revision	Real router configuration	
16	<b>Final Examination</b>	<b>Final Exam</b>	<b>Final Exam</b>

## **Academic Honesty and Misconduct**

Hanoi University expects all students and staff to act with honesty and integrity with all matters.