



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

COURSE SYLLABUS

Course Code:	TH106
Title:	Operating Systems
Credits:	4
Workload:	Lecture hours: 3 periods * 15 weeks = 45 periods Laboratory hours: 2 periods * 15 weeks = 30 periods Preparative hours:
Prerequisites:	TH104 - Assembly Language & Device Control Programming TH105 - Data structures 2

Course Objectives:

This course presents fundamental concepts that are applicable to a wide variety of operating systems. It introduces the internal operations of some popular operating systems: MS-DOS, Windows (95+NT), Netware, and Unix. The file management system and the I/O management system are discussed in details.

Main Text: *Operating Systems* - Lê Khắc Nhiên Ân – HCMUNS, 1997.

References:

- *Modern Operating Systems*
Andrew S. Tanenbaum- Prentice Hall 1994
- *Operating Systems Concepts*
Abraham Silberschatz, Peter B. Galvin - Addison- Wesley 1995/2002, 780 pages
- *Operating Systems*
H.M Deitel - Addison - Wesley 1990, 850 pages

Course Outline:

- Chapter 1 Overview of Operating Systems
 - 1.1 Operating System concepts
 - 1.1.1 PC system
 - 1.1.2 Operating system
 - 1.2 Operating system classification
 - 1.2.1 Simple Batch Systems
 - 1.2.2 Multi-programmed Batched Systems
 - 1.2.3 Time-Sharing Systems
 - 1.2.4 Parallel Systems
 - 1.2.5 Distributed Systems
 - 1.2.6 Real-time Systems
 - 1.3 Operating System Structures
 - 1.3.1 System Components

- 1.3.2 Operating System Services
- 1.3.3 System Calls
- 1.3.4 System Programs
- 1.3.5 System Structure
- 1.3.6 Virtual Machines
- 1.3.7 System Organization
- 1.4 History of the development of operating systems

Chapter 2 Introduction of Some Specific Operating Systems

- 2.1 DOS Operating System
 - 2.1.1 Features
 - 2.1.2 History of development
 - 2.1.3 Booting process
 - 2.1.4 Instruction set
- 2.2 Windows Operating System
 - 2.2.1 Features
 - 2.2.2 History of development
 - 2.2.3 Booting process
 - 2.2.4 Using Windows Desktop
- 2.3 Netware operating system
 - 2.3.1 Features
 - 2.3.2 History of development
 - 2.3.3 Booting process
 - 2.3.4 Instruction set
- 2.4 Unix operating system
 - 2.4.1 Features
 - 2.4.2 History of development
 - 2.4.3 Instruction set

Chapter 3 File Systems

- 3.1 Basic concepts
 - 3.1.1 External memory
 - 3.1.2 File and Directory
 - 3.1.3 File system
- 3.2 Organizing and managing files models
 - 3.2.1 Model
 - 3.2.2 Functions
- 3.3 Setting up file system
 - 3.3.1 Directory of files table
 - 3.3.2 Allocation memory table
- 3.4 Accessing file managing system
 - 3.4.1 Accessing as a user
 - 3.4.2 Accessing as a software developer

Chapter 4 Input/Output Management System

- 4.1 Basic Concepts
 - 4.1.1 Input/ Output devices
 - 4.1.2 Logic devices
 - 4.1.3 Input/ Output managing system
- 4.2 Organizing and managing Input/Output model
 - 4.2.1 Model

- 4.2.2 Functions
- 4.3 Setting up input / output management system
 - 4.3.1 Setting up disk input/output managing system
 - 4.3.2 Setting up standard input/output managing system
 - 4.3.3 Setting up clock
- 4.4 Accessing input/output system
 - 4.4.1 Accessing as a user
 - 4.4.2 Accessing as a developer

Grading

Final exam :

Assignments: