Operating System

نظم التشغيل

Course Outline

- **Introduction.**
- **Processes and Threads.**
- **Scheduling.**
- **Deadlocks.**
- **main memory .**
- **Virtual memory.**
- **Input/Output Management.**
- **File Systems.**

Chapter 1

Introduction

1.1 What is an operating system
1.2 History of operating systems
1.3 The operating system Zoo

Chapter 2

Processes and Threads

2.1 Processes
2.2 Threads
2.3 Scheduling
2.4 Interprocess communication

Chapter 3

Deadlocks

3.1. Resource
3.2. Introduction to deadlocks
3.3. The ostrich algorithm
3.4. Deadlock detection and recovery
3.5. Deadlock avoidance
3.6. Deadlock prevention
3.7. Other issues

Chapter 4

Memory Management

4.1 Basic memory management
4.2 Swapping
4.3 Virtual memory
4.4 Page replacement algorithms

Chapter 5
Input/Output

5.1 Principles of I/O hardware
5.2 Principles of I/O software
5.3 I/O software layers
5.4 Disks

Chapter 6

File Systems

6.1 Files
6.2 Directories
6.3 File system implementation
6.4 Example file systems

Chapter 7

Multiple Processor Systems

8.1 Multiple Processor.
8.2 Multicomputers .
8.3 Distributed Systems .
8.4 Research on Multiple Processor Systems .