

Operating Systems and System Programming

Course # COMP 3023

Credits 6

Pre-requisites and Co-requisites: None

Course Description

This course provides a comprehensive introduction to operating systems, focusing on the key principles, components, and techniques that underpin modern OS design. Students will learn how operating systems manage hardware resources, enable software applications, and ensure system stability, security, and performance. Through hands-on programming assignments and theoretical discussions, students will gain an in-depth understanding of process management, memory management, file systems, I/O systems, and concurrency.

Course Learning Outcomes

Upon the completion of the course, students will be able to:

- Understand the core functionalities and components of an operating system.
- Implement key OS concepts such as process scheduling and memory allocation.
- Develop programmes that manage concurrency using synchronization techniques.
- Analyze and solve common OS-level problems related to deadlocks and resource allocation.
- Demonstrate a practical understanding of file systems and I/O device management.

Course Assessments and Grading

Item	Weight, %
Midterm Exam	20%
Final Exam	30%
Quiz – 1	5%
Quiz – 2	5%
Practice Sets – 1	20%
Practice Sets – 2	20%