

# ICT246 Operating Systems

**Level:** 2

**Credit Units:** 5 Credit Units

**Language:** ENGLISH

**Presentation Pattern:** EVERY SEMESTER

## **Synopsis:**

ICT246 Operating Systems provides the fundamental knowledge and skills for the students to understand modern operating systems. Students recognize how operating systems are an essential part of any computer system by learning the core functions of an operating system that includes memory management, process management, file system management and device management. Through hands-on lab practice using virtual machines on basic system management and security in Linux operating system, students are not only able to understand the benefits of operating system virtualization, but are also able to gain the basic background in system administration. Students can know how the hypervisor technology create virtual machines and manage the guest operating systems running in them. Students also learn how mobile operating systems are designed to manage the features of mobile devices.

## **Topics:**

- Overview of operating systems
- Memory management
- Process management
- File system management
- Device management
- Fault Tolerance
- System management
- System security
- Access Control
- Virtualization
- Linux operating system
- Mobile operating systems

## **Textbooks:**

William Stallings: Operating Systems: Internals and Design Principles (eTextbook) 9th Global edition  
Pearson  
ISBN-13: 9781292214306

**Learning Outcome:**

- Explain the core functions of an operating system
- Contrast the layers of an operating system
- Describe how the processes, threads and memory are managed
- Compare the different types of mobile operating systems
- Demonstrate the creation and usage of virtual machine
- Execute system tasks in Linux operating system
- Implement system security and access control in Linux operating system

**Assessment Strategies (Evening Class):**

<b>Components</b>	<b>Description</b>	<b>Weightage Allocation (%)</b>
Overall Continuous Assessment	PRE-CLASS QUIZ 1	2
	PRE-CLASS QUIZ 2	2
	PRE-CLASS QUIZ 3	2
	QUIZ 1	6
	TUTOR-MARKED ASSIGNMENT 1	18
Overall Examinable Components	Written Exam	70
<b>Total</b>		<b>100</b>