

Module Code	SS-2206		
Module Title	Operating Systems		
Degree/Diploma	Bachelor of Science (Computer Science)		
Type of Module	Major Core		
Modular Credits	4	Total Student Workload	10 hours/week
		Contact Hours	4 hours/week
Pre-requisite	SS-1202 Computer Systems and Information Technology		
Anti-requisite	None		
Aims			
This module introduces basic functions of an operating system and its design principles.			
Learning Outcomes			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order:	20%	<ul style="list-style-type: none"> - explain the different abstraction layers found in a typical computer system - explain the security features typically provided by an operating system - explain how resources are managed by the system 	
Middle order:	60%	<ul style="list-style-type: none"> - discuss the differences between a micro-kernel system and a monolithic one 	
Higher order:	20%	<ul style="list-style-type: none"> - write scripts to automate repetitive administrative tasks 	
Module Content			
<ul style="list-style-type: none"> - Hardware abstraction: devices as files, shell scripts, windowing system, application programming interfaces - Security: micro-kernel architecture, memory protection, ownership and privileges - Resource management: memory management, device management, process management - Process management: preemptive multi-tasking, process schedulers, deadlock and livelock, semaphores and monitors - Memory management: virtual memory, shared memory, memory fragmentation, memory allocation strategies - Device management: buffering, spooling, file systems, journaling for efficient error recovery 			
Assessment	Formative assessment	Interactive Quizzes and Feedback	
	Summative assessment	Examination: 50% Coursework: 50% <ul style="list-style-type: none"> - 2 class tests (20%) - 1 written assignment (15%) - 1 laboratory exercise (15%) 	