

Module Title:	Operating Systems
Language of Instruction:	English
Credits:	5
NFQ Level:	7
Module Delivered In	No Programmes
Teaching & Learning Strategies:	Lectures, tutorials on specific & general Operating Systems theories, continuous assessment, final exam.
Module Aim:	To give the student some theoretical understanding and practical experience of using single and multi-user operating systems
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Be familiar with the concepts and features of operating systems
LO2	Have an understanding of processes and how a modern operating system schedules and organises them.
LO3	Be familiar with how memory is allocated within a modern operating system.
LO4	Competency in command line Linux scripting.
Pre-requisite learning	
Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
2nd year Software Engineering or equivalent	

Module Content & Assessment

Indicative Content
Introduction to the main concepts of Operating Systems Historic introduction to Operating Systems and concepts generally contained within lectures.
Operating Systems Design Monolithic, Layered and Micro-Kernel approaches; System Calls;
Processes Concepts, high and low level schedulers, context switching
Interprocess communication Semaphores, Message passing, FIFO, Secondary Storage management
Memory Management Strategies Logical Vs Physical address space, Swapping & on Mobile systems, Partitioned and Virtual memory, Addressing, Paging
Input/Output File Systems
Linux Operating System Hierarchical directory structure, understanding of the Command line Interface, Linux Scripting labs
Case Studies Examination of several well-known Operating Systems including: Single-User (eg. DOS), Multi-User (eg. Unix), mobile Android & iOS Operating Systems.

Assessment Breakdown	%
Continuous Assessment	30.00%
End of Module Formal Examination	70.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Written Report	Operating Systems Structure	1,2	15.00	n/a
Written Report	Written assessment on Linux OS and on Linux commands	4	15.00	n/a

No Project

No Practical

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	n/a	1,2,3	70.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Laboratory	20 Weeks per Stage	1.00
Lecture	20 Weeks per Stage	3.00
Estimated Learner Hours	20 Weeks per Stage	5.50
Total Hours		190.00

