Module Title:	Operating Systems
Language of Instruction:	English

Credits:	5

NFQ Level:	7

Module Delivered In	2 programme(s)

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	
On successful completion of this module the learner should be able to:	
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	Competency in command line Linux scripting.

Pre-requisite learning	
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*	
No recommendations listed	
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*	
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*
Practical/Skills Evaluation	Application of Linux Scripts for Operating Systems	1,3	15.00	n/a
Examination	Written assessment on Operating Systems Structure	1,2	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	70.00	End-of-Semester

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

Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Laboratory	12 Weeks per Stage	1.00
Lecture	12 Weeks per Stage	3.00
Independent Learning Time	15 Weeks per Stage	5.13
	Total Hours	125.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KCSOF_B	Bachelor of Science (Honours) in Software Development	5	Mandatory
CW_KCSOF_D	Bachelor of Science in Software Development	5	Mandatory