

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	
<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	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
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		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
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