

<b>Module Title:</b>	Operating Systems
<b>Language of Instruction:</b>	English
<b>Credits:</b>	5
<b>NFQ Level:</b>	7
<b>Module Delivered In</b>	<a href="#">2 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	Lectures, tutorials on specific & general Operating Systems theories, continuous assessment, final exam.
<b>Module Aim:</b>	To give the student some theoretical understanding and practical experience of using single and multi-user operating systems
<b>Learning Outcomes</b>	
<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.
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <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**

<b>Workload: Full Time</b>		
<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	<a href="#">Bachelor of Science (Honours) in Software Development</a>	5	Mandatory
CW_KCSOF_D	<a href="#">Bachelor of Science in Software Development</a>	5	Mandatory