ZSYS H3201: Operating Systems

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	
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	Be familiar with how memory is allocated within a modern operating system.
LO4	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

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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

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
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