Institute of Technology Tallaght
Institiúid Teicneolaíochta Tamhlacht

OPSY H1001: Intro to Operating Systems Extra Header Data

Short Title:	Intro to Operating Systems APPROVED
Full Title:	Intro to Operating Systems

Module Code:	OPSY H1001	**NFQ Level:**	6	**ECTS Credits:**	5

Reviewed By:	FINBARR FEENEY

Description:	This module aims to: Instil the learner with an understanding of the purpose and importance basic operating systems functions; Develop a conceptual understanding of the architecture of a typical operating system; Provide the learner with an understanding of, and the ability to employ, techniques for the control of computer hardware resources using Unix scripting

Learning Outcomes:

On successful completion of this module the learner will be able to

1. Discriminate and differentiate the processes by which operating system software manages resources, processes, I/0 and storage
2. Order and classify the basic architecture of a modern multi-process operating system, with particular emphasis on Process Management and the File System
3. Utilise Unix scripting to implement simple problem solving tasks
4. Discern the effect of runtime load variation on operating system performance

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Module Content & Assessment

Content (The percentage workload breakdown is inidcative and subject to change)
INTRODUCTION AND OVERVIEW OF OPERATING SYSTEMS Components of an operating system. Operating system functions. Operating system types - basic terminology. Multi-user systems and Unix, Unix implementations, command set and scripting, Resource Management, Sharing and Exhaustion. **PROCESSES** CPU time, single and multiple processes, multi-tasking, creation and removal of processes, process states and scheduling, process deadlock **STORAGE MANAGEMENT** Files and file reference information; File Buffers; Disk mapping, directory structures, clustering, fragmentation and de-fragmentation, file caching, File system facilities, shared file access and inconsistency (process interleaving), transaction control systems **OS INSTALLATION AND CONFIGURATION** Linux & Windows installation, troubleshooting & basic configuration

Assessment Breakdown	%
Course Work	50%
End of Semester Formal Examination	50%

	Outcome addressed	*% of total*	*Assessment Date*
Formal End-of-Semester Examination	None	50%	Semester End

Coursework Breakdown				
Type	*Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	To develop a set of shell scripts which enable the automation of some operating system function or set of functions		25	n/a

IT Tallaght reserves the right to alter the nature and timings of assessment

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Module Workload & Resources

This course has no full time workload.

Resources
Required Book Resources
Abraham Silberschatz, Peter Baer Galvin 2003, *Operating system concepts*, Addison Wesley Longman Reading, Mass. [ISBN: ISBN: 0-201-54262-5]
Recommended Book Resources
Harvey M. Deitel, Paul J. Deitel, David R. Choffnes 2004, *Operating systems*, Addison-Wesley Pub. Co. Reading, Mass. [ISBN: ISBN: 0131828274]