

Module Title Operating Systems Keywords Resource Allocation, Process Management, File Management, System Resources Management, Systems Administration, Virtualisation, Security	Reference CM3020 SCQF Level SCQF 9 SCQF Points 15 ECTS Points 7.5 Created May 2002 Approved June 2002 Amended September 2012 Version No. 3
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This Version is No Longer Current

The latest version of this module is available [here](#)

Prerequisites for Module

CM2015 Object Oriented Software Design or equivalent.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To understand the design, construction, and functioning of operating systems.

To provide the student with the ability to administer proficiently the resources provided by operating systems.

Learning Outcomes for Module

Mode of Delivery

Key concepts are introduced and illustrated through lectures. The necessary practical skills are developed through a series of laboratory exercises.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2
Component 2	3,4

Component 2 - Coursework

Component 1 - This is a closed book examination.

Indicative Bibliography

On completion of this module, students are expected to be able to:

- 1.Explain the design principles of an operating system with due regard to system protection and security.
- 2.Describe the external and internal functionality of a typical operating system.
- 3.Design and implement programs that use some operating system features.
- 4.Analyse and interact with the management of resources of an operating system.

Indicative Module Content

The main focus of the module is on obtaining in depth knowledge of operating systems and on gaining experience of using various OS features. Key topics covered in the module will include: introduction to systems programming using system calls and standard system data types; OS structure and operations; system protection, security, and virtualisation.

Indicative Student Workload

<i>Contact Hours</i>	Full Time
Assessment	20
Laboratories	24
Lectures	12

- 1.SILBERSCHATZ, A., GALVIN,PB.,and GAGNE,G.,2013. Operating System Concepts. 9th ed. Hoboken:John Wiley & Sons.
- 2.STALLINGS,W.,2014. Operating Systems:Internals and Design Principles,8th ED.,Boston:Pearson Education.
- 3.KERRISK,M.,2010. The Linux Programming Interface:A Linux UNIX System Programming Handbook,San Fransisco:No Starch Press.
- 4.BASTA, A., FINNAMORE, D., PALLADINO, S, Linux Operations and Administration. International Edition: Cengage Learning, 2013 ISBN: 978-1-111-64147-4

Directed Study

Coursework	20
Preperation	
Directed Study	20

Private Study

Private Study	54
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