

Operating Systems

Module Information

2022.01, Approved

Summary Information

Module Code	5103COMP
Formal Module Title	Operating Systems
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	22
Tutorial	11

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	To develop an understanding of different operating systems and their role within IT infrastructure. To become familiar with these operating systems through practical exercises. To gain an understanding of how command-line software is developed. To gain knowledge of how operating system tools may be used for managing systems and networks. To gain knowledge on managing and maintaining services offered by networked systems. To appreciate a range of security measures involved in system administration.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Differentiate between the structure, management and maintenance of operating systems.
MLO2	2	Analyse operating systems as effective solutions for different problems.
MLO3	3	Apply command-line tools provided by operating systems and their distributions.
MLO4	4	Demonstrate problem-solving skills to create simple software solutions using command-line scripting.

Module Content

Outline Syllabus	Fundamentals of Operating Systems- Processes, Memory, Storage, I/O, File Systems- Distributed operating systems Command Line- Navigating the computer- Editing documents at the command-line- Searching for information- Extracting and manipulating information Elements of Shell Programming- Variables- Redirection and pipes- Conditionals- Loops- Functions- Shell scripting System Administration- Installing and configuring alternative operating systems- UNIX & Linux system administration- Network File System (NFS)- Domain Name Servers (DNS)- Performance Analysis- Backups and File System Recovery- System Security- Hypervisors and virtualisation- Containers and isolation
Module Overview	
Additional Information	Operating systems constitute the backbone of every system management task and knowledge on their structure and use is of high importance for any system/network administrator in modern networked environments. In response to this importance, this module introduces the fundamental aspects of operating systems and further facilitates the basis for system administration.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Essay	Essay	40	0	MLO1, MLO2
Artefacts	Development tasks	60	0	MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Nathan Shone	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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