Module Proforma

Approved, 2022.02

Summary Information

Module Code	5203COMP
Formal Module Title	Operating Systems
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Module Contacts

Module Leader

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

Module Team Member

Contact Name	Applies to all offerings	Offerings
Max Hashem Eiza	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings

Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	22

Module Offering(s)

Offering Code	Location	Start Month	Duration
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 operating systems through practical exercises and studying theoretical concepts. 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 appreciate a range of security measures involved in system administration.

Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Differentiate between the structure, management and maintenance of operating systems.
MLO2	Analyse operating systems as effective solutions for different problems.
MLO3	Apply command-line tools provided by operating systems and their distributions.
MLO4	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 systemsCommand Line- Navigating the computer- Editing documents at the command-line- Searching for information- Extracting and manipulating informationElements of Shell Programming- Variables- Redirection and pipes- Conditionals- Loops- Functions- Shell scriptingSystem Administration- Installing and configuring alternative operating systems- UNIX & Linux system administration- Network File System (NFS)Page 3 of 3- Domain Name Servers (DNS)- Performance Analysis- Backups and File System Recovery- System Security- Hypervisors and virtualisation- Containers and isolation

Module Overview

Operating systems constitute the backbone of every system management task and knowledge of their structure and use is of high importance for any system/network administrator in modern networked environments. In response, this module introduces you to the fundamental aspects of operating systems and further facilitates the basis for system administration.

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)	Learning Outcome Mapping
Essay	Essay	40	0	MLO2, MLO1
Portfolio	Development tasks	60	0	MLO3, MLO4