Computer Systems Technology

Module Information

2022.01, Approved

Summary Information

Module Code	7502COMP
Formal Module Title	Computer Systems Technology
Owning School	Computer Science and Mathematics
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Unicaf

Learning Methods

Learning Method Type	Hours
Online	33

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-PAR	PAR	January	12 Weeks

Aims and Outcomes

Aims	To evaluate the effect of distribution, benefits and problems, on the design and implementation of computer based solutions, using performance analysis tools. To assess critically a variety of principles, tools and techniques used for the design of distributed computer systems.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Analyse the requirements of a distributed system and critically review the suitability of existing distributed systems paradigms.
MLO2	2	Design a distributed computer system considering the performance implications of various design alternatives.
MLO3	3	Demonstrate mastery of advanced and research topics in distributed operating systems and middleware.
MLO4	4	Select appropriate middleware tools for the of design a distributed application.

Module Content

Outline Syllabus	Distributed Computer Systems Architectures - Parallel and Distributed Architectures. The main aims associated with Distributed Solutions.
	Distributed Systems Concepts and Architectures - Concepts of distribution, the Client Server and Peer to Peer Models. Networked applications, Message passing, Remote Procedure Calling and Remote Method Invocation mechanisms
	The World Wide Web model as a case study. Performance enhancing solutions. Network Operating Systems. Operating systems, communications subsystems and Middleware technology.
	Distributed File Systems Design: File servers, file replication and consistency, caching mechanisms and other performance enhancing techniques.
	Advanced and research issues in high performance distributed systems.
Module Overview	
Additional Information	Modern computing technologies and their trends are presented. The distributed paradigm is analysed, including distributed operating systems and applications. The Client/Server and P2P models and their support for distributed applications is presented. Current hardware technological advances are covered. Middleware case studies are used to illustrate distributed solutions.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Written assessment	40	0	MLO1, MLO2
Report	Written technical report	60	0	MLO1, MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Rubem Pereira	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings