

### Summary Information

Module Code	5501COMECA
Formal Module Title	Computer Networks
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
LJMU Partner Taught

### Partner Teaching Institution

Institution Name
Education Centre of Australia Pty Ltd

### Learning Methods

Learning Method Type	Hours
Online	44

### Module Offering(s)

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

### Aims and Outcomes

Aims	To evaluate a range of principles, tools and techniques used for developing networking solutions. To assess the impact of networking issues such as congestion control, routing and virtualisation on networked applications and their algorithms.
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Display an in-depth understanding of a range of concepts and algorithms in Computer Networks.
MLO2	2	Analyse the requirements of Networked Applications and the suitability of Network Designs and Algorithms.
MLO3	3	Evaluate Computer Networks and related tools and techniques.

### Module Content

Outline Syllabus	Quality of Service Models and Mechanisms; Congestion control: TCP based, Queue Management, Random Early Detection and Congestion Notification; Routing algorithms: Shortest Path, Distance Vector, Link State; Routing Protocols: Routing in the Internet, Intra and Inter-domain routing; Internet Control Protocols: ICMP, ARP, DHCP; Virtual Networks: VLANs and VPNs; P2P Networking: Main Concepts and design approaches; Distributed Hash Tables; Domain Name System – DNS: Name space, Resource Records and Domain Name Servers.
Module Overview	
Additional Information	This module builds on fundamental knowledge of Computer Networks and Data Communications, and develops more in depth knowledge of related concepts, which will be underpinned by practical Lab work.

### Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Network Design	100	0	MLO1, MLO2, MLO3

### 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