

### Summary Information

<b>Module Code</b>	5201COMP
<b>Formal Module Title</b>	Computer Networks
<b>Owning School</b>	Computer Science and Mathematics
<b>Career</b>	Undergraduate
<b>Credits</b>	20
<b>Academic level</b>	FHEQ Level 5
<b>Grading Schema</b>	40

### Module Contacts

#### Module Leader

Contact Name	Applies to all offerings	Offerings
Gyu Lee	Yes	N/A

#### Module Team Member

Contact Name	Applies to all offerings	Offerings
Alessandro Raschella	Yes	N/A

#### Partner Module Team

Contact Name	Applies to all offerings	Offerings
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### Teaching Responsibility

<b>LJMU Schools involved in Delivery</b>
Computer Science and Mathematics

### Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	11
Tutorial	11

### Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	12 Weeks

### Aims and Outcomes

<b>Aims</b>	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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### Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Display an in-depth understanding of a range of concepts and algorithms in Computer Networks.
MLO2	Analyse the requirements of Networked Applications and the suitability of Network Designs and Algorithms.
MLO3	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
This module builds on your 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.

### **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**

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