Liverpool John Moores University

Title:	COMPUTER NETWORKS
Status:	Definitive
Code:	**7004ONLINE** (103111)
Version Start Date:	01-08-2015
Owning School/Faculty:	Computing and Mathematical Sciences
Teaching School/Faculty:	Computing and Mathematical Sciences

Team	Leader
Hui Cheng	Y
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Academic Level:	FHEQ7	**Credit Value:**	15.00	**Total Delivered Hours:**	36.00
Total Learning Hours:	150	**Private Study:**	114		

Delivery Options
Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	12.000
Seminar	12.000
Tutorial	12.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	A Theoretical/practical piece of work involving network research, design and practical implementation.	100.0	

Aims

To develop the student's understanding of the principles of Open Networking Systems.
To develop effective network architectures at hardware and software levels.
To gain practical experience of communications protocols and architectures.

Learning Outcomes

After completing the module the student should be able to:

1	Critically evaluate the structure of computer networks, architectures and their protocols.
2	Display a mastery of the structure and the requirements of local area and wide area networks.
3	Demonstrate expertise in the problems associated with the construction and management of open systems and their domains of application.
4	Apply advanced knowledge of the up-to-date techniques, methods, and architectures to specify, design, and implement communications based solutions

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Computer Networks	1	2	3	4

Outline Syllabus

Introductory Material - data Communication fundamentals; network fundamentals.
Standards and Architectures - Standards and OSI architectures and wide area networks.
Local area networks - study of representative architectures, for example, Ethernet (IEEE 802.3) and FDDI.
Multiservice Networks - ISDN and B-ISDN, high speed networks, ATM, SMDS, SONET
Internetworking - bridges, gateways, routers.
Application of networks - Industrial networking, office automation, open systems, networking, electronic mail, multi-media applications.
Management of networks - structure, configuration, security, monitoring and performance, quality of service.
TCP/IP and the Internet - Architecture, protocols and future changes
Multimedia Traffic Requirements - Bandwidth, delay, jitter. Applications: Video Conferencing, Video on Demand.
Application Protocols: Comparitive study of OSI and TCP/IP approaches.

Learning Activities

Online Tutorials and online seminars will support the online lectures.

Notes

This module covers recent developments in the area of computer networks, digital

communications protocols and distributed applications.
Areas covered include ATM and other fast networking technologies, the Internet and intranets, and the technical and practical aspects of distributed applications tat are relevant to the business and academic community, such as video conferencing, digital TV and other multimedia based commercial applications. Practical, hands-on experience of network programming using the TCP/IP protocol suite is another area covered in the module. All online activities are scheduled.