Liverpool John Moores University

Title:	COMPUTER NETWORKS
Status:	Definitive
Code:	**7504DCOM** (103695)
Version Start Date:	01-01-2012
Owning School/Faculty:	Computing and Mathematical Sciences
Teaching School/Faculty:	Dublin Business School

Team	Leader
Faycal Bouhafs	Y

Academic Level:	FHEQ7	**Credit Value:**	15.00	**Total Delivered Hours:**	36.00
Total Learning Hours:	150	**Private Study:**	114		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	12.000
Practical	12.000
Tutorial	12.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Coursework - A theoretical/practical piece of work involving design and problem solving for practical networked technologies completed as a team-based project.	25.0	
Essay	AS2	Coursework - A theoretical/practical piece of work involving research, design, and practical implementation of networking technologies.	75.0	

Aims

To develop and nurture the student's understanding of the principles of Open Networking Systems.
To critically assess and develop effective network architectures at hardware and software levels.
To identify and apply in-depth experience of communications protocols and architectures.

Learning Outcomes

After completing the module the student should be able to:

1	Critically evaluate the structure of different 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 advanced 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:

essay 1	1	2
essay 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.
Review of multiservice Networks – High speed networks, MLPS, 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.

Learning Activities

Tutorial and Labs will support the lectures.

References

Course Material	Book
Author	Tannebaum, A.S.
Publishing Year	2003
Title	Computer Networks
Subtitle	
Edition	4th
Publisher	Prentice Hall
ISBN	0130661023

Course Material	Book
Author	Kurose, J.F. & Ross K.W.
Publishing Year	2008
Title	Computer Networking: A Top-Down Approach
Subtitle	
Edition	4th
Publisher	Pearson
ISBN	

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.