

Liverpool John Moores University

Title: NETWORKS & INFORMATION SYSTEMS

Status: Definitive

Code: **6507TECYPC** (115873)

Version Start Date: 01-08-2018

Owning School/Faculty: Engineering

Teaching School/Faculty: YPC International College (Kolej Antarabangsa YPC)

Team	Leader
Paul Otterson	Y

Academic Level:	FHEQ6	Credit Value:	24	Total Delivered Hours:	74
Total Learning Hours:	240	Private Study:	166		

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	48
Practical	24

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	exam	75	2
Report	AS2	Coursework	25	

Aims

This level 3 module builds on level 2 material to provide an appreciation of modern software systems, their configuration, high speed, optical and wireless networks.

Learning Outcomes

After completing the module the student should be able to:

- 1 Explain how high speed networking components function
- 2 Install and test an operating system in a networking environment
- 3 Explain network routing methodologies and strategies
- 4 Implement network security and authorisation systems
- 5 Evaluate concepts behind wireless networking and apply them to industry and in the home

Learning Outcomes of Assessments

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

Exam	1	3	4	5
Report	2	3	5	

Outline Syllabus

High speed communications networks: Gigabit Ethernet, FDDI, ATM, Frame relay, SDH

Broadband connections: xDSL, BISDN

IP protocol suite

Routing: routing strategies, routing protocols

Wireless networks: IEEE 802.11 family, Bluetooth

Network security – the use of firewalls, encryption and digital certificates.

Introduction to third generation mobile phone systems.

Operating System installation for a network.

Management of users, resources and security.

Distributed systems and information organisation.

Application performance within networks.

Learning Activities

By a series of lectures and practical demonstrations

Course Material	Book
Author	Stallings W.
Publishing Year	2005
Title	Operating Systems Internals and Design
Subtitle	
Edition	5th ed
Publisher	Pearson
ISBN	0-13-127837-1

Course Material	Book
Author	Stallings W.
Publishing Year	2000
Title	Data & Computer Communication

Subtitle	
Edition	6th ed
Publisher	Prentice-Hall
ISBN	0-13-084370-9

Course Material	Book
Author	Tanenbaum A.S.
Publishing Year	2005
Title	Computer Networks
Subtitle	
Edition	4th ed
Publisher	PH PTR
ISBN	0-13-038488-7

Course Material	Book
Author	Leinwand, A. and Conroy, K.F.
Publishing Year	2001
Title	Network Management
Subtitle	
Edition	2nd ed
Publisher	Addison Wesley
ISBN	0-201-60999-1

Course Material	Book
Author	Lewis,B. and Davis, P.T.
Publishing Year	2004
Title	Wireless Networks for Dummies
Subtitle	
Edition	
Publisher	Wiley
ISBN	0-7645-7525-2

Course Material	Book
Author	Stallings, W.
Publishing Year	2000
Title	Network Security Essential
Subtitle	
Edition	
Publisher	Prentice Hall
ISBN	0-13-016093-8

Notes

This level 3 module covers the areas of operating systems configuration in a networking environment, high-speed networking and wireless networks

Operating Systems: Internals and Design Principles provides a comprehensive and unified introduction to operating systems topics. Stallings emphasizes both design issues and fundamental principles in contemporary systems and gives readers a solid understanding of the key structures and mechanisms of operating systems. He discusses design trade-offs and the practical decisions affecting design, performance and security. The book illustrates and reinforces design concepts and ties them to real-world design choices through the use of case studies in Linux, UNIX, Android, and Windows 8. Teaching a... 2.6 OS Design Considerations for Multiprocessor and Multicore. 2.7 Microsoft Windows Overview. 2.8 Traditional UNIX Systems. Chapter 2 Operating System Overview The topic of operating system (OS) design covers a huge territory, and it is easy to get lost in the details and lose the context of a discussion of a particular issue. Chapter 2 provides an overview to which the reader can return at any point in the book for context. We begin with a statement of the objectives and functions of an operating system. Then some historically important systems and OS functions are described. This discussion allows us to present some fundamental OS design principles in a simple environment so that the relationship among various OS functions is clear. The chapter next highlights important characteristics of modern ... This page intentionally left blank

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