London South Bank University | School of Engineering

Module Guide

IT Infrastructure and Management

BIF-5-IIM

http://vle.lsbu.ac.uk/

2015-16

Level 5

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1. MODULE DETAILS

Module Title:	IT Infrastructure and Management
Module Level:	5
Module Reference Number:	[Click and replace]
Credit Value:	20
Student Study Hours:	200
Contact Hours:	65
Private Study Hours:	135
Pre-requisite Learning (If applicable):	Computer Technologies, Media, Computers and networks
Co-requisite Modules (If applicable):	None
Course(s):	4003
Year and Semester	2015-16, Semester 1
Module Coordinator:	Paul Carden
MC Contact Details (Tel, Email, Room)	0207 815 7432, cardenp@lsbu.ac.uk, N105
Teaching Team & Contact Details (If applicable):	Mizanur Rahman
Subject Area:	Computer Systems Management
Summary of Assessment Method:	60% coursework, 40% examination

2. SHORT DESCRIPTION

This unit address the range of topics required to plan, implement and manage computer networks of the type used in a wide range of business environments. Emphasis is given to those methods and skills required to deal with systems containing clients, servers and networking devices as effectively and efficiently as possible. This unit will give due prominence to current techniques such as multimedia networking and virtualisation, together with foundation topics such as TCP/IP and file/print serving.

3. AIMS OF THE MODULE

This unit will provide you with the knowledge and skills to function as an IS professional in a range of companies and organisations. You will learn how computer networks are designed and analysed, and how to configure network devices and software to meet a range of business requirements. You will have the opportunity to gain the practical skills required to study for the professional certification often required by employers.

4. LEARNING OUTCOMES

4.1 Knowledge and Understanding

You should be able to:

- Choose appropriate hardware and software components for a range of applications.
- Analyse both technical and business requirements to produce an effective network solution.

4.2 Intellectual Skills

You should be able to:

- Analyse and synthesise information from a number of sources to aid rational decision making

4.3 Practical Skills

You should be able to:

- Write reports that are supported by academic reading and argument.

4.4 Transferable Skills

You should be able to:

- Use research skills to make notes to both aid decision making and underpin the direction of future research.

5. ASSESSMENT OF THE MODULE

The unit will be assessed by coursework (60%) and an exam (40%)

Network design
(Summative, 70% of coursework weighting, 2000 words equivalent)
You will be required to discuss your design with the tutor in the seminar/lab sessions. The deliverable for this work will be an blog on Wordpress. This artefact must be completed for 'submission' in week 12 by 12pm, Friday 11th of May 2015. After this point' ePortfolios will no longer be accessible to students.

Network design Presentation
(Summative, 30% of coursework weighting, 300 words equivalent)
You will be required to present your design to the teaching team. This will take place in week 12, during the tutorial session.

Exam
(Summative, 40% of module weighting)
The exam will be 2 hours long. You are expected to answer four questions from six. This is the second run of the module so there is only one past paper – this will be posted on Moodle. However, appropriate revision guidance will be given to compensate for this. The exam will take place in January 2016. Close to the end of the semester, the exam timetable will be located at https://my.lsbu.ac.uk/page/exams-assessments-timetables.
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6. FEEDBACK

Formative feedback will be given every week from week 3 until week 12. You should ensure you are clear about the coursework requirements and the quality of your work through student-tutor discussion.

7. INTRODUCTION TO STUDYING THE MODULE

7.1 Overview of the Main Content

The unit will cover the following topics:

- Roles of clients and servers
- Special-purpose servers, e.g. streaming multimedia
- Performance measures for clients and servers, monitoring and bottlenecks
- Performance modelling, utilisation and queuing
- Load spreading, caches and clustering
- Typical network configurations, media and technologies
- Introduction to IP routing and protocols
- Introduction to network management, tasks, tools, protocols
- Introduction to network security, best practices, hw and sw tools
- Virtualisation in IT systems

7.2 Overview of Types of Classes

Classes will be divided into lectures or seminars on Tuesdays and tutorials on Thursdays. The lectures will be a mix of presentations and discussions. All lectures will be screencast[i] on Moodle

7.3 Importance of Student Self-Managed Learning Time

Working outside the class is as important as attending. If you find you are only engaging with the module at lecture and tutorial level, you are likely to be shallow learning and spending major parts of your attendance re-learning – and spending outside-class time losing your knowledge.

In lectures and tutorials there should be a focus on acquiring knowledge outside of class you should work on applying that learning and or reflecting on acting upon it.

7.4 Employability

This module will develop a range of topics directly relevant to the understanding and use of typical computer systems and networks of the type utilised by many employers.

8. THE PROGRAMME OF TEACHING, LEARNING AND ASSESSMENT

The date shown is the beginning of week date, i.e. Monday.

Activity timings, location and tutor details are as follows:

Seminar: 9 AM Tuesdays, LR-388 (London Road) – Paul Carden
Tutorial: 2 PM Thursdays, N206 (Faraday Wing) – Mizanur Rahman

Week 1 – 28th Sept: ..... Introduction to Business data communication and network brainstorm
Week 2 – 5th Oct: ..... Business Information
Week 3 – 12th Oct: ..... Coursework orientation
Week 4 – 19th Oct: ..... Distributed data processing
Week 5 – 26th Oct: ..... Data processing
Week 6 – 2nd Nov: ..... Data communications fundamentals
Week 7 – 9th Nov: ..... Coursework Formative Assessment
Week 8 – 16th Nov: ..... Data link control and multiplexing
Week 9 – 23rd Nov: ..... Internet operations
Week 10 – 30th Nov: ..... LAN architecture and infrastructure
Week 11 – 7th Dec: ..... Ethernet Switches and virtual LANs
Week 12 – 14th Dec: .....
Week 13 – 11th Jan: ..... Network design presentations and revision

Tutorials will focus on the coursework and networking tools. See above for assessment information.

9. STUDENT EVALUATION

Not major issues from the last run of the module.

10. LEARNING RESOURCES

10.1 Core Materials

Stallings, W. and Case, T. (2013) *Business Data Communications and Security*, Pearson Education. There is no need to purchase this book. It is expensive but there are three copies in the Perry library and all slides and materials are provided on Moodle.

10.2 Optional Materials

Tanenbaum, A., Computer Networks.

NOTES

[i] A screencast is a pre-recorded web presentation with audio. This can be watched anywhere a person has an internet connection and access privileges. Typically, it is a Powerpoint or other slied software based presentation.