MONASH University
Information Technology

FIT1005
Networks and data communications

Unit Guide

Semester 2, 2011

Last updated: 22 Aug 2011

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FIT1005 Networks and data communications - Semester 2, 2011

This unit introduces students to fundamentals of distributed networked environment. It provides knowledge of internetworking standards and understanding of the networking architecture, technology and operation.

Mode of Delivery

Caulfield (Day)

Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

Students will be expected to spend a total of 12 hours per week during semester on this unit as follows:

- A two-hour lecture and
- A two-hour tutorial (or laboratory) requiring advance preparation
- Up to eight hours of personal study in order to satisfy the reading and assignment expectations.

Off-campus students generally do not attend lecture and tutorial sessions. However, you should plan to spend equivalent time working through the relevant resources and participating in discussion groups each week.

Unit Relationships

Prohibitions

BUS2062, BUS3150, CPE1007, CSE2004, CSE2318, CSE3318, CSE9801, GCO3812, FIT2008

Chief Examiner

Dr Jefferson Tan

Campus Lecturer

Caulfield

Malik Khan

Tutors

Caulfield

Malik Khan

Academic Overview

Learning Objectives

At the completion of this unit, students will be able to:

- discuss network architecture standards for open systems;
- describe ISO reference and Internet models;
- explain fundamentals and technologies of physical, data-link and network layers;
- understand the functions and architectures of LAN and WAN;
- analyse and design LAN architecture for organisational requirements;
- adopt a problem solving approach, accept the code of professional conduct and

practice and act in accordance with best practice, industry standards and professional ethics;

- analyse data communication networks;
- cooperate effectively within small groups;
- present their work in various forms.

Graduate Attributes

Monash prepares its graduates to be:

1. responsible and effective global citizens who:

a. engage in an internationalised world
b. exhibit cross-cultural competence
c. demonstrate ethical values

critical and creative scholars who:

a. produce innovative solutions to problems
b. apply research skills to a range of challenges
c. communicate perceptively and effectively

Assessment Summary

Examination (2 hours): 50%; In-semester assessment: 50%

Assessment Task	Value	Due Date
Assignment 1	15%	Monday 22 August, 2011 at 12PM
Assignment 2	20%	Monday 17 October, 2011 at 12PM
Hands-on Lab Practical	5%	During the tutorial/lab in Week 7 (between 5-9 September, 2011)
Unit Test	10%	During the lecture in Week 8 (13 September, 2011)
Examination 1	50%	To be advised

Teaching Approach

Lecture and tutorials or problem classes

This teaching and learning approach provides facilitated learning, practical exploration and peer learning.

Feedback

Our feedback to You

Types of feedback you can expect to receive in this unit are:

- Informal feedback on progress in labs/tutes
- Graded assignments with comments
- Test results and feedback
- Solutions to tutes, labs and assignments
- Other: Graded hand's-on exercise

Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through SETU, Student Evaluation of Teacher and Unit. The University's student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, and on student evaluations, see:
http://www.monash.edu.au/about/monash-directions/directions.html
http://www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

Previous Student Evaluations of this unit

If you wish to view how previous students rated this unit, please go to
https://emuapps.monash.edu.au/unitevaluations/index.jsp

Required Resources

Prescribed text

William Stallings, *Data and Computer Communications,* 8th edition, Prentice Hall, 2007 or the latest edition, *9th Edition*, 2011.

Textbooks are available for purchase from campus bookshops.

Unit Schedule

Week	Activities	Assessment
0	Students should register for the tutorials	No formal assessment or activities are undertaken in week 0
1	Introduction to Data Communications	
2	Data Transmission	
3	Transmission Media	
4	Signal Encoding 1	
5	Signal Encoding 2	Assignment One due Monday 22 August, 2011 at 12PMM
6	Digital Data Communication Techniques	
7	Data Link Control Protocols	Hands-on Lab Practical Assessment during the tutorial/lab in Week 7
8	Multiplexing	Unit Test, during this week's lecture - 13 September, 2011
9	Local Area Networks	
10	High-Speed LANs	
11	Internetworking	
12	Internetworking and Transport Protocols	Assignment Two due Monday 17 October, 2011 at 12PM
	SWOT VAC	No formal assessment is undertaken in SWOT VAC
	Examination period	LINK to Assessment Policy: http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html

*Unit Schedule details will be maintained and communicated to you via your MUSO (Blackboard or Moodle) learning system.

Assessment Requirements

Assessment Policy

To pass a unit which includes an examination as part of the assessment a student must obtain:

- 40% or more in the unit's examination, and
- 40% or more in the unit's total non-examination assessment, and
- an overall unit mark of 50% or more.

If a student does not achieve 40% or more in the unit examination or the unit non-examination total assessment, and the total mark for the unit is greater than 50% then a mark of no greater than 49-N will be recorded for the unit

Assessment Tasks

Participation

- **Assessment task 1**

  Title:
  Assignment 1
  Description:
  This assignment tests your theoretical understanding of the introductory data communications concepts through a series of short answer questions.
  Weighting:
  15%
  Criteria for assessment:

  1. Completeness - that you have answered all parts of each question. Presentation - that you have presented your answers in a suitably formatted report style.
  2. Use of evidence and argument - you are able to explain your position by using logical argument drawing on the theory presented in the unit.

  Due date:
  Monday 22 August, 2011 at 12PM

- **Assessment task 2**

  Title:
  Assignment 2
  Description:
  This is a group assignment. It provides an opportunity for you to apply data communications concepts to a practical networking example. You will be required to analyse a case study and make networking recommendations based on the user requirements. This assignment will also allow you to present your solutions in a formal report format.
  Weighting:
  20%
  Criteria for assessment:

  1. Correctness and understanding - there may be more than one "right" answer in many cases. We will look for answers that reflect understanding of the underlying

principles and theories.
2. Completeness - that you have answered all parts of each question.
3. Presentation - that you have presented your answers in a suitably formatted report style.
4. Use of evidence and argument - you are able to explain your position by using logical argument drawing on the theory presented in the unit.
5. Contributions from individual members of a group will be described in the formal report. Such data will be used to individualise student marks in cases of substantially inequitable work put in by members of a given team.

A marking guide will be provided on the unit website detailing the over all marks distribution and for allocating marks in a way that recognizes different contributions of group members for this assessment.

Due date:

Monday 17 October, 2011 at 12PM

- **Assessment task 3**

Title:

Hands-on Lab Practical

Description:

Students will be asked to perform a set of networking tasks in the lab and note their results. The results will be assessed.

Weighting:

5%

Criteria for assessment:

Completeness - that you have answered all parts of each question. Presentation - that you have presented your answers in a suitably formatted report style.

Due date:

During the tutorial/lab in Week 7 (between 5-9 September, 2011)

- **Assessment task 4**

Title:

Unit Test

Description:

A one-hour unit test will be conducted during the lecture of Week 8. It will be closed book, and no electronic devices will be permitted except for non-programmmable calculators.

Weighting:

10%

Criteria for assessment:

Due date:

During the lecture in Week 8 (13 September, 2011)

Remarks:

Only non-programmable calculators will be allowed in the exam.

Examinations

- **Examination 1**

Weighting:

50%

Length:

2 hours

Type (open/closed book):

closed book

Electronic devices allowed in the exam:

Only non-programmable calculators will be allowed in the exam.

Assignment submission

It is a University requirement (http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html) for students to submit an assignment coversheet for each assessment item. Faculty Assignment coversheets can be found at http://www.infotech.monash.edu.au/resources/student/forms/. Please check with your Lecturer on the submission method for your assignment coversheet (e.g. attach a file to the online assignment submission, hand-in a hard copy, or use an online quiz).

Extensions and penalties

Submission must be made by the due date otherwise penalties will be enforced.

You must negotiate any extensions formally with your campus unit leader via the in-semester special consideration process: http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html.

Returning assignments

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later

Other Information

Policies

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at: http://policy.monash.edu.au/policy-bank/academic/education/index.html

Key educational policies include:

- Plagiarism (http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html)
- Assessment (http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-po
- Special Consideration (http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.h
- Grading Scale (http://www.policy.monash.edu/policy-bank/academic/education/assessment/grading-scale-policy.html)
- Discipline: Student Policy (http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html)
- Academic Calendar and Semesters (http://www.monash.edu.au/students/key-dates/);
- Orientation and Transition (http://www.infotech.monash.edu.au/resources/student/orientation/); and
- Academic and Administrative Complaints and Grievances Policy (http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.
- Codes of Practice for Teaching and Learning (http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tea

Student services

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at www.monash.edu.au/students The Monash University Library provides a range of services and resources that enable you to save time and be more effective in your learning and research. Go to http://www.lib.monash.edu.au or the library tab in my.monash portal for more information. Students who have a disability or medical condition are welcome to contact the Disability Liaison Unit to discuss academic support services. Disability Liaison Officers (DLOs) visit all Victorian campuses on a regular basis

- Website: http://adm.monash.edu/sss/equity-diversity/disability-liaison/index.html;
- Telephone: 03 9905 5704 to book an appointment with a DLO;
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus.

READING LIST:

- Behrouz A. Forouzan, *Data Communications and Networking, 4th edition*, 2007, McGraw-Hill.
- David Stamper et al, *Business Data Communications, 6th Edition*, 2003, Prentice Hall.
- Fred Halsall, *Data Communications, Computer Networks, and Open Systems, 4th Edition*, 1998, Addison-Wesley.