FIT1005
Networks and data communications

Unit Guide

Semester 2, 2013

Last updated: 15 Jul 2013

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FIT1005 Networks and data communications - Semester 2, 2013

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 requirements

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 Abdul Khan

Campus Lecturer

Caulfield

Malik Khan

Tutors

Caulfield

Malik Khan

Academic Overview

Learning Outcomes

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.

Unit Schedule

Week	Activities	Assessment
0	Students should register for tutorials	No formal assessment or activities are undertaken in week 0
1	LN1: Introduction to Data Communications, Data Networking, and Protocol Architecture	Tutorials start from Week 2
2	LN2: Data Transmission: Signals and their characteristics	Tutorials and Hands-On (HO) exercise HO-1 start
3	LN3: Transmission Media	
4	LN4: Signal Encoding Techniques	
5	LN4: Signal Encoding Techniques (End) LN5: Digital Data Communications Techniques	Assignment 1 due Friday 30 August 2013, 12 Noon
6	LN6: Data Link Control Protocols	
7	LN7: Multiplexing	Hands-on Lab Practical Assessment during the tutorial/lab in Week 7
8	LN8: LAN Overview	Unit Test during lecture in Week 8
9	LN9: High Speed LANs	
10	LN10: Application: EMAIL, HTTP & DNS	
11	LN11: Internetworking-I	
12	LN12: Internetworking-II (continued)	Assignment 2 due Friday 25 October 2013, 12 Noon
	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 learning system.

Assessment Summary

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

Assessment Task	Value	Due Date
Assignment 1	15%	Friday 30 August 2013, 12 Noon
Assignment 2	20%	Friday 25 October 2013, 12 Noon
Hands-on Lab Practical	5%	During the tutorial/lab in Week 7 (between 9 - 13 September 2013)
Unit Test	10%	During the lecture in Week 8 (Week starting 16 September 2013)
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.

Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles
(http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu

Academic Integrity - Please see the Demystifying Citing and Referencing tutorial at
http://lib.monash.edu/tutorials/citing/

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.
    2. Presentation - that you have presented your answers in a suitably formatted report style.
    3. 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:
    Friday 30 August 2013, 12 Noon

- **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.

    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 group.
    Weighting:
    20%
    Criteria for assessment:

Assessment Requirements

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.

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

Due date:
Friday 25 October 2013, 12 Noon

- **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:

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

Due date:
During the tutorial/lab in Week 7 (between 9 - 13 September 2013)

- **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 (Week starting 16 September 2013)
Remarks:
Only non-programmable calculators will be allowed in the test.

Examinations

Assessment Requirements

- **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.

Learning resources

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
- Kurose and Ross, *Computer Networking – A top-down approach*, 6th Edition, 2012.

Monash Library Unit Reading List
http://readinglists.lib.monash.edu/index.html

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 hands-on exercise

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.monash.edu.au/exams/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.

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). Please note that it is your
responsibility to retain copies of your assessments.

Online submission

If Electronic Submission has been approved for your unit, please submit your work via the learning
system for this unit, which you can access via links in the my.monash portal.

Prescribed text(s)

Limited copies of prescribed texts are available for you to borrow in the library.

William Stallings. (2007 or 2012 (latest)). *Data and Computer Communications*. (8th or 9th (latest)
Edition) Prentice Hall.

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:
www.policy.monash.edu.au/policy-bank/academic/education/index.html

Key educational policies include:

- Aademic integrity;
  http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-academic-integrity-policy.h
- Assessment in Coursework Programs;
  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.ht
- 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/dates/
- Orientation and Transition; http://intranet.monash.edu.au/infotech/resources/students/orientation/
- Academic and Administrative Complaints and Grievances Policy;
  http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.h
- Code of Practice for Teaching and Learning;
  http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tead

Graduate Attributes Policy

http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.ht

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 http://www.monash.edu.au/students. For Sunway see http://www.monash.edu.my/Student-services, and for South Africa see http://www.monash.ac.za/current/.

Monash University Library

The Monash University Library provides a range of services, resources and programs that enable you to save time and be more effective in your learning and research. Go to www.lib.monash.edu.au or the library tab in my.monash portal for more information. At Sunway, visit the Library and Learning Commons at http://www.lib.monash.edu.my/. At South Africa visit http://www.lib.monash.ac.za/.

Disability Liaison Unit

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://www.monash.edu/equity-diversity/disability/index.htmlTelephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Commuity Services at 03 55146018 at SunwayEmail: dlu@monash.eduDrop In: Equity and Diversity Centre, Level 1, Building 55, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus

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 the Student Evaluation of Teaching and Units (SETU) survey. 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, see:

www.monash.edu.au/about/monash-directions and on student evaluations, see:
www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

Previous Student Evaluations of this Unit

The unit now includes hands-on practicals and a mid-term (unit) test. The coursework contents have been revised with emphasis on network design and industry practices.

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