FIT9020
Data communications

Unit Guide

Semester 1, 2013

The information contained in this unit guide is correct at time of publication. The University has the right
to change any of the elements contained in this document at any time.

Last updated: 04 Mar 2013
Table of Contents

FIT9020 Data communications - Semester 1, 2013

- Mode of Delivery ...............................................................1
- Contact Hours .....................................................................1
- Workload requirements ....................................................1
- Unit Relationships ............................................................1
  - Prohibitions ....................................................................1
  - Prerequisites ....................................................................1
- Chief Examiner ....................................................................1
- Campus Lecturer ..............................................................1
  - Caulfield ..........................................................................1

Academic Overview
  - Learning Outcomes .......................................................2

Unit Schedule
  - Assessment Summary .....................................................3
  - Teaching Approach .........................................................3

Assessment Requirements
  - Assessment Policy ...........................................................4
  - Assessment Tasks ............................................................4
    - Participation ....................................................................4
  - Examinations .................................................................5
    - Examination 1 ...............................................................5
  - Learning resources ..........................................................5
  - Feedback to you ...............................................................5
  - Extensions and penalties ..................................................5
  - Returning assignments ....................................................5
  - Assignment submission ...................................................6
  - Online submission ..........................................................6
  - Required Resources ........................................................6
    - Prescribed text(s) ..........................................................6

Other Information
  - Policies ...............................................................................7
    - Graduate Attributes Policy ...........................................7
  - Student services .............................................................7
  - Monash University Library ...............................................7
  - Disability Liaison Unit ......................................................8
  - Your feedback to Us .........................................................8
  - Previous Student Evaluations of this Unit .........................8
FIT9020 Data communications - Semester 1, 2013

The unit will introduce students to fundamentals of data and computer communications method and techniques. It covers: ISO and TCP/IP layered protocols; physical layer concepts: data transmission methods, signal encoding and digital data communication techniques; data link control protocol, multiplexing methods; WAN and LAN networking fundamentals; internetworking and transport protocols.

Mode of Delivery

Caulfield (Evening)

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:

- Lectures: 2 hours per week
- Tutorials/Lab Sessions: 2 hours per week per tutorial
- and up to an additional 8 hours in some weeks for completing lab and project work, private study and revision.

Unit Relationships

Prohibitions

CSE9801, BUS3150, CSE2318, CSE3318, FIT1005

Prerequisites

FIT9018

Chief Examiner

Associate Professor Joarder Kamruzzaman

Campus Lecturer

Caulfield

Joarder Kamruzzaman
Academic Overview

Learning Outcomes

At the completion of this unit students will:

- understand layered ISO and TCP/IP protocols;
- have knowledge of data transmission technology, signal encoding techniques and data link control protocols;
- understand multiplexing methods and technologies;
- understand the functions and architectures of LAN and WAN.
## Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>No formal assessment or activities are undertaken in week 0</td>
</tr>
<tr>
<td>1</td>
<td>Introduction to Data Communications</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Application Layer</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Physical Layer</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Data Link Layer</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Network and Transport Layers - Part 1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Network and Transport Layers - Part 2</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Local Area Networks</td>
<td>Assignment 1 due Friday 26 April 2013, midnight</td>
</tr>
<tr>
<td>8</td>
<td>Wireless Local Area Networks</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Metropolitan and Wide Area Networks</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Backbones Networks</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>The Internet</td>
<td>Assignment 2 due Friday 24 May 2013, midnight</td>
</tr>
<tr>
<td>12</td>
<td>Network Security</td>
<td>No formal assessment is undertaken in SWOT VAC</td>
</tr>
</tbody>
</table>

*Unit Schedule details will be maintained and communicated to you via your learning system.

## Assessment Summary

Examination (3 hours): 60%; In-semester assessment: 40%

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment 1</td>
<td>20%</td>
<td>Friday 26 April 2013, midnight</td>
</tr>
<tr>
<td>Assignment 2</td>
<td>20%</td>
<td>Friday 24 May 2013, midnight</td>
</tr>
<tr>
<td>Examination 1</td>
<td>60%</td>
<td>To be advised</td>
</tr>
</tbody>
</table>

## 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

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:
Assignment 1 will include the material covered in Weeks 1 to 5. In particular questions will be related to components of networks, type of networks, internet models, message transmission using layers, application layer architectures, physical and data link layers.

Weighting:
20%

Criteria for assessment:
The criteria used to assess submissions are:

♦ Correctness and understanding - there may be more than one "right" answer in many cases.
♦ Completeness - that you have answered all parts of each question.
♦ Presentation - that you have presented your answers using the appropriate method.
♦ Use of evidence and argument - you are able to explain your position by using logical argument.

Due date:
Friday 26 April 2013, midnight

• Assessment task 2

Title:
Assignment 2

Description:
Assignment 2 will include the material covered in Weeks 6 to 10. In particular, the questions will be related to network and transport layers, structures and functions of local area, backbone and wide area networks.

Weighting:
20%

Criteria for assessment:
The criteria used to assess submissions are:

♦ Correctness and understanding - there may be more than one "right" answer in many cases.
Completeness - that you have answered all parts of each question.
♦ Presentation - that you have presented your answers using the appropriate method.
♦ Use of evidence and argument - you are able to explain your position by using logical argument.

Due date:
Friday 24 May 2013, midnight

Examinations

• Examination 1

  Weighting:
  60%
  Length:
  3 hours
  Type (open/closed book):
  Closed book
  Electronic devices allowed in the exam:
  None

Learning resources

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
• Solutions to tutes, labs and assignments

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:

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).

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.

Required Resources

Please check with your lecturer before purchasing any Required Resources. Limited copies of prescribed texts are available for you to borrow in the library, and prescribed software is available in student labs.

Wireshark, Packet Analysis Software freely available from http://www.wireshark.org/

Prescribed text(s)

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

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:

- Plagiarism; http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html
- Special Consideration; http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.html
- 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/
- Graduate Attributes Policy http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.html

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 Community 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

Previous feedback indicated that students' found the practical exercises in the labs useful to their study.

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