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FIT9005 Computer architecture and networks - Semester 1, 2011

This unit introduces students to fundamentals of computer hardware and software, and networking. The unit provides knowledge of computer structure and operation including: Arithmetic-Logic Unit, computer registers, internal bus, memory, I/O organisations and interfacing standards. Fundamentals of computer networking and data communication will also be provided.

Mode of Delivery

- Caulfield (Day)
- Gippsland (Off-campus)

Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

- Lectures: 2 hours per week
- Practical classes/Tutorials: 2 hours per week
- Private study (revision, homework and practical class preparation): 8 hours per week

Unit Relationships

Prohibitions

FIT1005, FIT9018, FIT9020, BUS4150, BUS5112, CPE4002, CSE4884, CSE9801

Chief Examiner

Ingrid Zukerman

Campus Lecturer

Caulfield

Ingrid Zukerman

Contact hours: Tuesday 12-1 pm

Gippsland

Iqbal Gondal

Joarder Kamruzzaman
Learning Objectives

At the completion of this unit students will have -

Developed the ability to:

- understand basic Computer Structure and Operation and demonstrate use of the associated vocabulary;
- demonstrate knowledge of Arithmetic-Logic Unit, computer registers, Internal Bus, Memory, I/O organisations and interfacing standards;
- describe the operation of the CPU and explain how it is used to execute instructions;
- demonstrate an understanding of the basics of operating systems software using examples from File Systems, User Interfaces and Software Development Tools;
- discuss network architecture standards for open systems;
- describe TCP/IP network protocol;
- understand the fundamental functions and architectures of LAN and WAN.

Developed attitudes that enable them to:

- adopt a problem solving approach;
- accept the code of professional conduct and practice;
- act in accordance with best practice, industry standards and professional ethics.

Demonstrated the communication and teamwork skills necessary to:

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

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Mid-semester test</td>
<td>12%</td>
<td>Tuesday, April 19, 11 am</td>
</tr>
<tr>
<td>Tutorial tests 1,2,3, 4</td>
<td>7% each</td>
<td>Weeks 5, 7, 9, 11</td>
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<tr>
<td>Examination 1</td>
<td>60%</td>
<td>To be advised</td>
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Teaching Approach

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
- Test results and feedback
- Quiz results
- Solutions to tutes, labs and assignments

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.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

Required Resources

Wireshark. The packet Analysys Software

Unit Schedule

<table>
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<tr>
<th>Week</th>
<th>Date*</th>
<th>Activities</th>
<th>Assessment</th>
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<tr>
<td>0</td>
<td>21/02/11</td>
<td>No formal assessment or activities are undertaken in week 0</td>
<td></td>
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<tr>
<td>1</td>
<td>28/02/11</td>
<td>Overview of unit; history of computing; overview of computer organization; why we learn this unit</td>
<td></td>
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<tr>
<td>2</td>
<td>07/03/11</td>
<td>Data representation and computer arithmetic (I)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14/03/11</td>
<td>Data representation and computer arithmetic (II)</td>
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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:  Mid-semester test
  Description:  
  Weighting:  12%
  Criteria for assessment:  
  Due date:  
    Tuesday, April 19, 11 am
Assessment task 2

Title: Tutorial tests 1, 2, 3, 4
Description: 
Weighting: 7% each
Criteria for assessment: 
Due date: Weeks 5, 7, 9, 11

Examinations

• Examination 1

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

Assignment submission

Assignment coversheets are available via "Student Forms" on the Faculty website: http://www.infotech.monash.edu.au/resources/student/forms/
You MUST submit a completed coversheet with all assignments, ensuring that the plagiarism declaration section is signed.

Extensions and penalties

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


Returning assignments

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

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)
- 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/key-dates/)
- Orientation and Transition (http://www.infotech.monash.edu.au/resources/student/orientation/)

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.