FIT9130
Systems analysis and design

Unit Guide

Semester 1, 2015

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FIT9130 Systems analysis and design - Semester 1, 2015

This unit introduces students to the key principles which underlie the analysis and design of information systems to support business and other organisational undertakings. It covers design and design thinking, requirements elicitation, consulting skills and conceptual and logical systems modelling.

Mode of Delivery

- Caulfield (Day)
- Caulfield (Online)

Workload Requirements

Minimum total expected workload equals 12 hours per week comprising:

(a.) Contact hours for on-campus students:

- 2 hours of lectures
- One 2-hour studio

(b.) Study schedule for off-campus students:

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

(c.) Additional requirements (all students):

- A minimum of 8 hours independent study per week for completing lab and project work, private study and revision.

See also Unit timetable information

Unit Relationships

Prohibitions

FIT9030, FIT5130

Chief Examiner

Dr Robert Meredith

Campus Lecturer
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

In response to the last SETU of this unit, the order of topics in the syllabus has been adjusted to include requirements elicitation earlier in the semester.

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

Learning Outcomes

On successful completion of this unit, students should be able to:

- select and use conceptual and logical modelling techniques to design an information system;
- select and use techniques to elicit requirements for an information system design;
- select and use approaches to the systems development lifecycle including the waterfall model and modern alternatives;
- assess and discuss the capabilities and limitations of an information system;
- communicate the requirements for the business functionality of an information system in terms of data required, data storage and processing to technical and non-technical stakeholders.
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 Systems and Design</td>
<td>Assignment 2 due various dates throughout the semester, with no task due after Week 11</td>
</tr>
<tr>
<td>2</td>
<td>The Design Process and Development Lifecycle Models</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Requirements Elicitation</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Conceptual Modelling and the Design Specification</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Conceptual Modelling for Information Structures</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Conceptual Modelling for Processes</td>
<td>Assignment 1a due 10am, Monday 13 April 2015</td>
</tr>
<tr>
<td>7</td>
<td>Unified Modelling Language 1: Activity Diagrams and Use Cases</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Unified Modelling Language 2: Class Diagrams</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Unified Modelling Language 3: Use Case Realisation and System Architecture</td>
<td>Assignment 1b due 10am, Monday 4 May 2015</td>
</tr>
<tr>
<td>10</td>
<td>User Interface Design</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>User-Centred Design</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Verification and Validation, and Unit Review</td>
<td>Assignment 1c due 10am, Monday 25 May 2015</td>
</tr>
<tr>
<td></td>
<td>SWOT VAC</td>
<td>No formal assessment is undertaken during SWOT VAC</td>
</tr>
</tbody>
</table>

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

Teaching Approach

- **Lecture and tutorials or problem classes**
  This approach exposes students to information that is later practiced in a hands-on studio environment and in assignments.

- **Studio teaching**
  This approach gives students an opportunity to practice skills in a hands-on, collaborative environment with other students.

- **Problem-based learning**
  This approach presents students with information and guides them on how to best find solutions for a given problem.

- **Simulation or virtual practice**
  This approach allows students to practice design skills by taking on the role of a professional designer in a simulated business setting.
Assessment Summary

Examination (3 hours): 50%; In-semester assessment: 50%

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment 1a - Draft Design Specification</td>
<td>5%</td>
<td>10am, Monday 13 April 2015 (Week 6)</td>
</tr>
<tr>
<td>Assignment 1b - Completed Draft Design</td>
<td>15%</td>
<td>10am, Monday 4 May 2015 (Week 9)</td>
</tr>
<tr>
<td>Specification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assignment 1c - Final Design Specification</td>
<td>20%</td>
<td>10am, Monday 25 May 2015 (Week 12)</td>
</tr>
<tr>
<td>Assignment 2 - Portfolio</td>
<td>10% in total</td>
<td>Various due dates throughout the semester, with no task due after Week 11</td>
</tr>
<tr>
<td>Examination 1</td>
<td>50%</td>
<td>To be advised</td>
</tr>
</tbody>
</table>
Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles

Academic Integrity - Please see resources and tutorials at
http://www.monash.edu/library/skills/resources/tutorials/academic-integrity/

Assessment Tasks

Participation

• Assessment task 1

  Title: Assignment 1a - Draft Design Specification Introductory Section
  Description: Assignment one consists of multiple submissions with feedback, working towards a completed design specification for an information system. You will be given a partial design brief as well as opportunity to elicit further requirements from the client via an online discussion forum.

  Assignment 1a consists of a draft skeleton report consisting of a narrative overview for your proposed design solution, along with section headings for the remainder of the specification document that will be populated with content in subsequent submissions.

  Weighting: 5%
  Criteria for assessment:

  1. Completeness of discussion on the project background
  2. Completeness of understanding of the design problem
  3. Completeness of report structure
  4. Quality and professionalism of presentation, including report layout and grammar

  Due date: 10am, Monday 13 April 2015 (Week 6)

• Assessment task 2

  Title: Assignment 1b - Completed Draft Design Specification
  Description: Assignment 1b includes a full draft submission of your design specification. It will include revised material from Assignment 1a based on the feedback given, as well as several conceptual design models:

  ♦ An Entity Relationship model
  ♦ A matching Class Diagram model
  ♦ Use Case models
  ♦ Activity Diagrams for selected Use Cases
  ♦ Matching System Sequence Diagrams
As with 1a, you will receive feedback that will allow you to make improvements to your final submission in 1c.

**Weighting:**
15%

**Criteria for assessment:**
1. Narrative overview:
   a. Completeness of discussion of the project background
   b. Completeness of understanding of the design problem

2. Conceptual models:
   a. Quality of the design solution and support for the business requirements
   b. Correctness of technique execution

3. Quality and professionalism of presentation, including layout, structure and grammar.

**Due date:**
10am, Monday 4 May 2015 (Week 9)

**Assessment task 3**

**Title:**
Assignment 1c - Final Design Specification

**Description:**
Assignment 1c is a resubmission of assignment 1b based on the feedback received. The deliverables required are the same as for 1b.

**Weighting:**
20%

**Criteria for assessment:**
As per Assignment 1b.

**Due date:**
10am, Monday 25 May 2015 (Week 12)

**Assessment task 4**

**Title:**
Assignment 2 - Portfolio

**Description:**
The portfolio assignment is intended to build up your skills in a number of techniques, both professional and academic. Throughout the semester you will submit four small pieces of work from two categories: critiques of readings and drawing design models. You will receive feedback on this work to improve your techniques and skills.

**Weighting:**
10% in total

**Criteria for assessment:**
The assessment criteria for each item of work differs depending on the category of task.

For critiques of readings:

1. Depth of analysis (critical thinking, quality of argument)
2. Quality of expression and citation technique.
Assessment Requirements

For design models:

1. Quality of the design
2. Correctness of the execution of the modelling technique.

The overall grade for the portfolio will be the average grade of the four submissions.

Due date:
Various due dates throughout the semester, with no task due after Week 11

Examinations

• Examination 1

Weighting:
50%

Length:
3 hours

Type (open/closed book):
Closed book

Electronic devices allowed in the exam:
None

Learning resources

Reading list

Weekly readings will be specified on the unit's Moodle site.

Monash Library Unit Reading List (if applicable to the unit)
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: 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.

Resubmission of assignments

Assignments may not be resubmitted.

Referencing requirements

All material quoted, paraphrased or relied upon in your work must be cited correctly according to the APA style guide. See the links provided for more information.

Assignment submission

It is a University requirement (http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-academic-integrity-managing-plagiarism-collusion-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 electronic submission). 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.

Technological Requirements

Students must check the unit's Moodle site on a weekly basis. Access to a computer and internet connection for assignment work is required, although choice of software is up to the student. Software required includes a word processing package such as Microsoft Word and a drawing package such as Microsoft Visio or OmniGraffle.
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

Faculty resources and policies

Important student resources including Faculty policies are located at http://intranet.monash.edu.au/infotech/resources/students/

Graduate Attributes Policy

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

Student Charter


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 Malaysia 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 Malaysia, 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.html
- Telephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Commuity Services at 03 55146018 at Malaysia
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1, Building 55, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Malaysia Campus