



## Systems Analysis and Modelling (G) – 6677

Unit Outline – semester 2, 2009

Faculty of Information Sciences and Engineering  
University of Canberra

Australian Government Higher Education (CRICOS)  
Registered Provider number: #00212K

This Unit Outline must be read in conjunction with:

- a) *Studying at the University of Canberra: A Guide to Policies and Procedures*, which sets out University-wide policies and procedures, including information on matters such as plagiarism, grade descriptors, moderation, feedback and deferred exams, and is available at <http://www.canberra.edu.au/student-services>
- b) *Guide to Student Services at the University of Canberra*, and is available at <http://www.canberra.edu.au/student-services>
- c) Any additional information specified in section 6f.

### 1: General Information

1a Unit title: **Systems Analysis and Modelling (G)**

1b Unit number: **6677**

1c Semester and year offered: **2 - 2009**

1d Credit point value: **3**

1e Unit level: **G**

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## 2: Academic Content

### 2a Unit description and learning outcomes

**Syllabus:** This unit applies the theory of information systems analysis and modelling to the specification of IT-supported business processes. It describes and demonstrates the tools and techniques used to formally describe what an information system is to do, and the methods used by information systems analysis to construct these descriptions. The process of domain modelling is considered from vague systems conceptualisation using soft systems techniques through a process of refinement and verification to a 'Unified Modelling Language'- based specification. It examines the role of analysis and modelling in various systems development life cycles.

**Learning Outcomes:** On successful completion of this unit students should be able to: analyse IT-supported business processes and hence derive appropriate system models; use abstraction as a modelling device; use international standard systems description paradigms and languages; explain the role of analysis within various systems development life cycles; describe and discuss the role of systems models in the synthesis of systems; and apply tools for managing analysis processes.

### 2b Prerequisites

Assumed Knowledge: Information Systems in Organisations G or equivalent.

## 3: Delivery of Unit and Timetable

### 3a Delivery mode

This unit will be delivered in traditional mode, that is on campus in a standard semester. Each week there will be a Lecture of two hours and a Tutorial session of two hours (starting week 2).

### 3b Schedule of topics/lectures/tutorials/practicals/field classes by week

The UC timetable shows Lecture and Tutorial times. The details of the schedule below may change during the semester if the need arises.

Week	Topic
1	Unit outline; Introduction and admin.
2	Modelling; IS development process
3	SDLCs; Requirements gathering
4	Event modelling
5	Use Cases; Sequence diagrams
6	Domain modelling
7	More on Domain modelling
8	<i>Class free period -</i>
9	<i>- this is where we shut up and you catch up</i>
10	Context model; Intro to design
11	Discuss Assignment-1 solutions
12	IS design
13	Architectural design
14	Distributed architectures
15	Review; Exam hints and tips

## 4: Unit Resources

### 4a Lists of required texts/readings

– Stumpf Robert V., Teague Lavette C., *Object-Oriented Systems Analysis and Design with UML*, Pearson Prentice Hall, 2004, ISBN: 0-13-143406-3. You can purchase this text on-line at <http://www.coursesmart.com/0131434063>

### 4b Materials and equipment

No special requirements. Students may use the School's computing laboratory resources.

### 4c Unit website

Various unit resources, such as lecture notes and tutorial exercises, will be accessible via 'LearnOnline' supported by the 'Moodle' software platform.

## 5: Assessment

### 5a Assessment overview

Assessment Item (including exams held in the exam period)	Due Date of Assignments	Weighting (total to equal 100%)
<b>A) Continuous assessment</b>		<b>40%</b>
- Assignment 1	Friday Week 8	(15%)
- Assignment 2	Week 12 Tute and Friday Week 14	(25%)
<b>B) Examination</b>	UC published date	<b>60%</b>
<b>TOTAL (A + B)</b>		<b>100%</b>

### 5b Details of each assessment item

**Assignment 1: System concepts, analysis and modelling.** This assignment includes questions and exercises on system concepts and basic Object-Oriented analysis and modelling. It is to be undertaken in groups of nominally 4 students. Due on Friday of Week-8, in your tutor's box.

**Assignment 2: Case Study Project.** This is a major assignment based on a case study and is to be undertaken in groups of nominally 4 students. You are required to undertake an analysis and partial design task that involves a business domain analysis and developing a requirements specification using UML modelling techniques. Assessment is progressive and ensures students get feedback during the analysis process. The written submission includes the requirements specification UML models and supporting documentation.

The assessment stages / items are as follows.

- ◆ Conduct of a first-cut use case and data analysis of the business domain. Hand written submission will be accepted. To be discussed in Week-12, during tutorial class.
- ◆ Final submission – system specification with supporting documents & UML models. Due 5.30 pm, Friday of Week-14, in your tutor's box.

**Examination:** A three hour closed book examination will be held during the exam period.

### 5c Special assessment requirements

1) Your final grade for the unit will be the highest of the categories below into which your marks fit:

<u>Grade</u>	<u>A) Continuous</u>		<u>B) Exam</u>		<u>TOTAL</u>
HD	>= 80%	and	>= 80%	and	>= 85%
DI	>= 70%	and	>= 70%	and	>= 75%
CR	>= 60%	and	>= 60%	and	>= 65%
P	>= 50%	and	>= 50%	and	>= 50%

After all assessment items have been marked and graded, moderation is conducted across all tutorial groups.

2) In all cases, grades in this unit will be awarded solely on the basis of academic merit. The normal exigencies of university life, such as administrative deficiencies or oversights, resource malfunctions or workloads in other units will not be a factor in the determination of grades in this unit.

3) The lecturer/tutor reserves the right to question students orally on any of their submitted work or assessment items.

4) Referencing requirements:

All work quoted from other written sources should be appropriately referenced using the “author-date” (Harvard) style; a citation guide is available in print from the bookshop or at: <http://www.canberra.edu.au/library/attachments/pdf/1887-UC-reference-book-Fawcover.pdf>

5) If there is any doubt with regard to the requirements of any assessment item, the onus lies with the student to obtain relevant information from the unit convenor. Tutors should be, however, the first point of contact in these matters.

6) Late penalties:

Students will be expected to make arrangements with their tutor in advance of the due date for assignments if they expect to be submitting them late. Unless appropriate arrangements have been made, supported by an appropriate valid reason, late submissions will attract a penalty of 5% per day.

7) Submitted Material:

Students are required to keep a copy of all submissions.

### 5d Supplementary assessment

There will be no supplementary assessment / examination for this unit.

### 5e Text-matching software

Text-matching software from an external service (such as Turnitin) may be used to check for plagiarism.

## 6: Student Responsibility

### 6a Workload

The amount of time you will need to spend on study in this unit will depend on a number of factors including your prior knowledge, learning skill level and learning style. Nevertheless, in planning your time commitments you should note that for 3cp units, the total notional workload over the fifteen-week semester is assumed to be 150 hours or an average of 10 hours per week. These hours include time spent in classes.

## **6b Special needs**

Students who need assistance in undertaking the unit because of disability or other circumstances should inform their Unit Convener or the Disabilities Office as soon as possible so the necessary arrangements can be made.

## **6c Attendance requirements**

You are strongly advised to attend and pay attention to all lectures. You should prepare in advance and fully participate in tutorials. Group meetings also require attendance and participation.

Material covered in lectures and tutorials is examinable and it is the individual student's responsibility to ensure that they are sufficiently familiar with this material. Attending classes and participating is the best way to ensure this familiarity.

Some material will be available on the unit website; however, do not make the mistake of assuming that this can substitute for class attendance.

## **6d Required IT skills**

In addition to the pre-requisite requirements given in 2b above, students must have a good understanding of office systems (spreadsheet, word processing, general computer use), Web browsing and the use of Help features in software packages. Students must also manage network access using university accounts, and an account for printing assignments and other materials.

## **6e Costs**

No additional costs will be incurred by students undertaking this unit apart from the normal costs of being a university student, such as books, web access, printing, and consumables.

## **6f Additional information**

Announcements made at lectures or tutorials are deemed to be made to the whole group. Documents published on the unit website are also deemed to be announcements to the whole group, so check it regularly.

## **7: Student Feedback**

All students enrolled in this Unit will have an opportunity to provide anonymous feedback on the Unit at the end of the Semester via the Unit Satisfaction Survey which will be presented to you on OSIS. Your lecturer or tutor may also invite you to provide more detailed feedback on their teaching through an anonymous in-class questionnaire administered through the University's Teaching and Learning Centre (TLC).

## **8: Authority of this Unit Outline**

Any change to the information contained in Section 2 (Academic content), Section 3 (Delivery of Unit and timetable) and Section 5 (Assessment) of this document, will only be made by the Unit Convener if the written agreement of staff and a majority of students has been obtained; and if written advice of the change is then forwarded to each student enrolled in the Unit at their registered term address. Any individual student who believes him/herself to be disadvantaged by a change is encouraged to discuss the matter with the Unit Convener.