



	<b>ANU College of Business and Economics</b>	<b>School of Accounting &amp; Business Information Systems</b>
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## Course Outline

### INFS7007 – Information Systems Analysis and Modelling Semester 1, 2012

**STUDENTS:** *Course details change from semester to semester. Please check that you are reading the Course Outline for the correct semester.*

#### Course Description

This course aims to provide students with the knowledge and skills necessary to successfully undertake information systems analysis. Lectures and tutorials provide coverage of the concepts, skills, methodologies, techniques, tools and perspectives considered essential for systems analysts working with modern information systems and their development.

#### Graduate Studies Select Classification

Transitional

#### Contacts

Role	Office address	Contact Details	Consultation Times
Course Convenor and Lecturer ( <i>Course Authority</i> ) <b>Dr. Steven Fraser</b>	Room 3.24 ANUCBE Building 26c	Tel: (02) 6125 5453 Email: <a href="mailto:Steven.Fraser@anu.edu.au">Steven.Fraser@anu.edu.au</a>	1pm to 3pm Tuesdays
Tutor/s <b>Dr. Steven Fraser</b>	Room 3.24 ANUCBE Building 26c	Tel: (02) 6125 5453 Email: <a href="mailto:Steven.Fraser@anu.edu.au">Steven.Fraser@anu.edu.au</a>	1pm to 3pm Tuesdays
Student Administrators	HN 2037 Hanna Neumann Bldg 21	<a href="mailto:enquiries.abis@anu.edu.au">enquiries.abis@anu.edu.au</a> 6125 0025 or 6125 7968	Office hours 9am – 5pm Monday – Friday

## Communication

Most announcements will be made in lectures and will be usually reflected on Wattle. To understand the context of these announcements it is very important that students attend lectures on a regular basis.

### Email

If necessary, the lecturers and tutors for this course will contact students on their official ANU student email address. Information about your enrolment and fees from the Registrar and Student Services' office will also be sent to this email address.

### Announcements

Students are expected to check the Wattle site for announcements about this course, e.g. changes to timetables or notifications of cancellations. Notifications of emergency cancellations of lectures or tutorials will be posted on the door of the relevant room.

### Course URLs

More information about this course may be found on:

- [Study @ ANU](#),
- the [College of Business and Economics website](#), and
- [Wattle](#), the University's online learning environment. Log on to Wattle using your student number and your ISIS password.

## Course Information

### Learning Outcomes

Upon successful completion of the requirements for this course, students will be able to:

1. describe the specific organizational context in which information systems development is undertaken.
2. describe basic systems theory and the role of the systems analyst.
3. describe the systems analysis and development process.
4. elicit information system requirements.
5. describe process, logic and data models using traditional modelling techniques.
6. prepare basic object-oriented modelling using UML.
7. describe "soft" aspects and techniques in systems analysis.
8. show competence in giving presentations.

### Workload

You should expect to spend *at least* two to three times as much time in private study per week as the number of contact hours (i.e. lectures and tutorials) for this course. This means that you should normally plan to spend between 6 and 9 hours per week *minimum* in private study for this course, a substantial part of which should be devoted to completing the weekly assigned tutorial work. If you are conscientious with your private study as well as keeping up to date with your tutorial work then you should be rewarded with much success in this course. However, if you let the work slide, even if only for a week or two, then it becomes ever harder to catch up and get back on top of it.

### Course Delivery

A 2 hour lecture and a 1 hour tutorial

## Attendance Requirements

While attendance at lectures and tutorials is not compulsory it is expected that students will attend ALL lectures and tutorials. This is based on our experience that success in this unit is often associated with attendance at all lectures and tutorials. To encourage a dialogue between students and teaching staff, marks will be awarded for your active participation in class discussion in tutorials. It should be noted however that while marks will not be awarded for attendance in tutorials clearly you must be in attendance as a necessary (but not sufficient) condition for marks to be allocated.

## Lecture and Tutorial Arrangements

Each week the lecture session will include a two-hour lecture outlining the major issues pertaining to each week's theme. This lecture will provide an overview only, and you are required to supplement this lecture with reading from the text and other sources. Lectures and tutorials are held **Tuesdays: 10am to 1pm, ANUCBE LT2 (Building 26c)**

Tutorials start in week 2. Attendance at tutorials will be recorded. The mark for tutorials (10%) is determined by your tutor and will be based on your active participation in the discussion in the tutorial. In your first tutorial your tutor will indicate the assessment scheme for tutorials, as well as help organise students into presentation groups. Each group of two students will be required to present two issues at tutorials during the semester.

## Tutorial Registration

Enrolment in tutorials will be completed online using the Electronic Teaching Assistant (ETA):

1. Go to <http://eta.fec.anu.edu.au>.
2. Log in using your University ID (your student number) and password (your ISIS password).
3. In the left-hand navigation bar click on 'Sign Up!'
4. Select your course/s from the list and click on 'Submit'.
5. Select the tutorial group/s you wish to enrol in and click on 'Submit'.
6. For security purposes, please ensure that you log out (click on 'Logout' in the left hand navigation bar).
7. If you experience any difficulties, please contact the School Office (see page 1 for contact details).

## Study Schedule

Week	Lecture Date Tuesday	Lectures Topic	Reference (Bentley & Whitton, 2007)	Tutorial Questions
1	21 <sup>st</sup> February	Subject Introduction	None	No Tutorial this week
		Course overview	Ch. 1 & 2	
2	28 <sup>th</sup> February	Feasibility Analysis and Proposal	Ch. 11	<b>RQ#</b> 1-3, 1-12, 2-2, 2-5; <b>P&amp;E#</b> 1-2, 2-10, 2-14; <b>MC#</b> 1-1.
3	6 <sup>th</sup> March	The System Development Process & The Project Management Approach	Ch. 3 & 4	<b>RQ#</b> 11-4; <b>P&amp;E#</b> 11-1, 11-2, 11-3; <b>P&amp;R#</b> 11-1
4	13 <sup>th</sup> March	Systems Analysis	Ch. 5	<b>RQ#</b> 3-14, 4-3,4-4; <b>P&amp;E#</b> 3-1, 3-5, 3-10, 3-14, 4-1; <b>P&amp;R#</b> 3-1, 3-2, 4-1.
5	20 <sup>th</sup> March	Requirements Gathering	Ch. 6	<b>RQ#</b> 5-1, 5-2, 5-13; <b>P&amp;E#</b> 5-8, 5-10; <b>MC#</b> 5-2.
6	27 <sup>th</sup> March	Data Modelling <b>SUBMIT CHOSEN SYSTEM FOR ASSIGNMENT: 4pm, Friday 29<sup>th</sup> March, 2012</b>	Ch. 8	<b>RQ#</b> 6-1, 6-2, 6-7; <b>P&amp;E#</b> 6-2, 6-3; <b>P&amp;R#</b> 6-1.
7	3 <sup>rd</sup> April	Process Modelling	Ch. 9	<b>RQ#</b> 8-1, 8-2, 8-6; <b>P&amp;E#</b> 8-6, 8-8; <b>MC#</b> 8-2.
SEMESTER BREAK				
8	24 <sup>th</sup> April	Use Cases & UML	Ch. 7; Ch. 4 Unhelkar	<b>RQ#</b> 9-3,9-4; <b>P&amp;R#</b> 9-4, 9-6.
9	1 <sup>st</sup> May	Object-oriented analysis & UML	Ch. 10; Ch. 6 Unhelkar	<b>RQ#</b> 7-1, 7-2; <b>P&amp;E#</b> 7-1,7-3; <b>P&amp;R#</b> 7-1, 7-2.
10	8 <sup>th</sup> May	Object-oriented analysis & UML	Ch.10; Ch. 7 Unhelkar	<b>RQ#</b> 10-3, 10-5, 10-9; <b>P&amp;E</b> 10-1, 10-2; <b>P&amp;R#</b> 10-1.
11	15 <sup>th</sup> May	Systems Design	Ch.12	<b>P&amp;R#</b> 10-3,10-4, 10-5, 10-6.
12	22 <sup>nd</sup> May	OO Design and Modelling with UML	Ch. 18	<b>RQ#</b> 12-1, 12-2, 12-3; <b>P&amp;E#</b> 12-1, 12-2; <b>P&amp;R#</b> 12-1, 12-3.
13	29 <sup>th</sup> May	System Construction and Implementation <b>SUBMIT ASSIGNMENT REPORT: 4pm, Friday 1<sup>st</sup> Jun e, 2012</b>	Ch 19	<b>RQ#</b> 19-5, 19-7; <b>P&amp;E#</b> 18-1, 18-2, 19-2, 19-3; <b>P&amp;R#</b> 18-1, 18-2.

**RQ**=Review Questions; **P&E**=Problems and Exercises; **P&R**=Projects and Research; **MC**=Minicases.

## Assessment

### Academic Honesty and integrity

It is the responsibility of each individual student to ensure that:

- you are familiar with ANU policy for academic integrity
- work submitted for assessment is original
- appropriate acknowledgement and citation is given to the work of others
- you declare your understanding of, and compliance with, the principle of academic integrity by completing the appropriate cover sheet when submitting assessment items

For information on academic honesty and integrity please refer to <http://academichonesty.anu.edu.au/>

### Proposed Assessment Schedule

Details about assessment may change during the first two weeks of semester. Please ensure that you check with your lecturer or tutor about any changes. Changes to the assessment schedule will be posted to the Wattle site.

Assessment item	Description and detail of assignment	Specific requirements	Due Date	Weighting (%)
Assignment	Prepare a systems analysis of a real-world system	See assignment details on pages 6 & 7 of this document.	4pm, Friday 29 <sup>th</sup> March, 2012 (One-page Summary) 4pm, Friday 1 <sup>st</sup> June, 2012 (Final Report)	10% + <u>50%</u> 60%
Tutorial #1	Tutorial participation	Provide a positive contribution to the discussion in tutorials.	Throughout the semester	10%
Tutorial #2	Tutorial presentations	In pairs, students should prepare 2 presentations for tutorials.	Throughout the semester	30% (=2x15%)

### Learning Outcomes-Assessment

How well have you achieved the learning outcomes for this course? Your lecturer makes this judgement based on your assignments and examination papers. This table illustrates how each assessment item provides evidence about your achievements against each learning outcome.

Course Learning Outcomes	Assignment	Tutorial 1	Tutorial 2
Upon successful completion of the requirements for this course, students will be able to:			
LO#1	✓	✓	✓
LO#2	✓	✓	✓
LO#3	✓	✓	✓
LO#4	✓	✓	✓
LO#5	✓	✓	✓
LO#6	✓		
LO#7	✓	✓	✓
LO#8			✓

## Assignment Details

Due dates	One-page summary → 4pm, Friday 29 <sup>th</sup> March, 2012 Systems analysis Report → 4pm, Friday 1 <sup>st</sup> June, 2012
Value (%)	60% ( 10% for one page summary of chosen system+50% report describing the systems analysis)
Suggested length	3000 words of A4, 1½ spaced, typewritten pages (using no smaller than 11 point, Arial)
Purpose	The aim of this assignment is to apply appropriate system analysis and modelling techniques discussed in this course to a real-world case. Specifically, the assignment requires you to build an information system model for a system with which you have some familiarity or would like to explore in more detail.
Instructions	<p><b><u>Introduction</u></b></p> <p>Try to choose a system for an area or application about which you know a considerable amount of knowledge or about which you are in a position to find out what you need to know. Examples might be a system related to your work, a hobby or interest that you have, or perhaps a system that a colleague or friend needs. That is, this assignment will work best (and you will learn the most from it) if you choose to analyse and develop a model for a system that relates to the “real” world in some way, rather than one that is completely fictional.</p> <p>The chosen system should be of a reasonable size and level of complexity. This may be hard to judge initially, but it is generally better to choose a system that is more likely to be too big or complex rather than too small or simple. The reason for this is that, if your choice does turn out to be too big, you can reduce the scope of your intended system or choose to model only part of it. On the other hand, if it turns out to be too simple and small to form a useful assignment exercise it is generally harder to expand it to make it more suitable as a worthwhile learning experience as well as an acceptable assignment submission.</p> <p>One useful indicator of size and complexity is the number of entities in your data model. If this turns out to be somewhere around 6-8 then you probably have a suitably sized system for this assignment, although these numbers should definitely not be treated as hard limits. However, if the number of entities is significantly fewer than 6 then the model is probably too small and simple to be a useful exercise; and if it is many more than 8 then it is probably starting to get too large to feasibly tackle.</p> <p>Another indicator is the number of levels you find yourself going down to in your DFD hierarchy. If it is more than two or perhaps three for the first few processes you decompose and there are more than about seven processes on your level 0 diagram, then your chosen system is highly likely to be too big and you may have to reduce its scope or simply leave parts of the model incomplete.</p> <p>If you have difficulty in deciding what would be an appropriate system to model, or are having other trouble deciding what to do, please discuss it with me before you set out too far in your work.</p> <p>You may use an appropriate CASE tool to assist you in your work, if you have access to one, but it is not essential for the purposes of this assignment.</p> <p><b><u>Deliverables</u></b></p> <p>The final deliverable from this assignment is a report (in both hardcopy and softcopy form) containing your systems analysis. The report should have the following sections:</p> <p>An Introduction that describes the overall background and rationale for the system you have chosen to model. In writing this Introduction you should assume that your reader has little or no knowledge of the application area and system with which you are dealing and this Introduction should therefore take your reader to a point where she/he has enough information to fully understand all the material that follows.</p> <p>A section describing the scope, functions, constraints, and any other relevant features that apply to the system you have chosen to model. Be careful, in writing this as well as the following section, to avoid focussing on matters that are primarily technical. Remember that it is <i>analysis</i> you are supposed to be doing, not <i>design</i> or <i>implementation</i>, and this is largely a business-oriented activity dealing with <i>what</i> the system should be doing rather than <i>how</i> it is going to do it.</p> <p>A section detailing the user requirements that form the basis for your model of the system. While it is not always possible, generally the best projects are those that result when real potential users (other than you!) exist for the system you are analysing and modelling and with whom you need to interact to develop the list of system user requirements.</p> <p>A section documenting the actual models you have constructed. This is to include process, logic and data models. The process model is to be constructed using the DFD technique and should, at least for several processes, extend all the way down to a primitive DFD together with its associated logic</p>

	<p>model. The data model is to be constructed using the ER diagramming technique. Also provide a data dictionary in which the meanings of all the important terms in your model are explained.</p> <p>A section in which you provide a UML version of your system model.</p> <p>Lastly, a section in which you reflect on your analysis work and discuss what you learned about the analysis process, difficulties you faced and how you overcame them, and any other interesting points that emerged from your assignment work. Please include, in this section, your thoughts on the value of the assignment as a learning tool for this course, and any way(s) in which you think it could be improved.</p>
Marking criteria	See Marking Rubric table below
Submission details	"Post" your response in the assignment slot of the ABIS Office on the 2nd floor of the Hanna Neumann building

### Marking Rubric for Assignment

Marking criteria	<i>Excellent</i>	<i>Very good</i>	<i>Satisfactory</i>	<i>Needs some more work</i>	<i>Needs much more work</i>
<i>Description of chosen real-world system</i>	10%	8%	5%	<5%	<<5%
<i>Systems Analysis of your chosen system</i>	50%	40%	25%	<25%	<<25%

### Return of Assignments

When the tutor indicates the assignment has been marked, students may collect the assignment from their tutor.

### Scaling

Your final mark for the course will be based on the **raw** marks allocated for all parts of the assessment. However, your final mark may not be the same number as produced by that formula, as marks may be **scaled**. Any scaling applied will preserve the rank order of raw marks (i.e. if your raw mark exceeds that of another student, then your scaled mark will exceed the scaled mark of that student), and may be either up or down.

### Extensions

It should be noted that extensions are not normally allowed in this course. However, such extensions are possible in extenuating circumstances. See the course coordinator for details.

### Penalties

Late assignments are penalised 10% of the maximum assignment mark per day late. This means that assignments submitted 10 days late will receive no marks.

### Examinations

No Exams are scheduled for this unit.

## Texts and Other Reading

### Prescribed Texts

The prescribed textbooks for this course are:

Bentley, L. & Whitten, J. (2007) *Systems Analysis & Design for the Global Enterprise*, 7<sup>th</sup> edition, McGraw-Hill, ISBN 0-07-110766-5

Unhelkar, B. (2005) *Practical Object Oriented Analysis*, 1<sup>st</sup> edition, Cengage Learning, ISBN 978-0170122986

It is *essential* that you have ready access to both of these books since they are the primary resource for your learning. Other supplementary material needed will be provided, as will the presentations used in lectures (downloadable from the course Wattle website). Solutions to assigned tutorial exercises *will not* be provided since students are expected to attend the tutorial classes in which these are discussed, and make their own notes.

## **Course-related Matters**

### **Requisites**

There are no formal prerequisites for this course. However, students are assumed to have done an introductory or overview information systems course or possess basic background knowledge of information systems such as is covered in the following textbooks (although this is not intended to be an exclusive list since there are many other comparable textbooks covering similar topics and material):

Stair, Ralph & Reynolds, George (2010) Principles of Information Systems, 9th edition, Course Technology

Oz, Effy (2009) Management Information Systems, 6th edition, Course Technology

Laudon, Kenneth & Laudon, Jane (2010) Management Information Systems, 11th edition, Pearson Education

## **General Information for all Students**

Please visit the following link:

[http://cbe.anu.edu.au/Current\\_Students/general\\_info/student\\_info.asp](http://cbe.anu.edu.au/Current_Students/general_info/student_info.asp)