

School of Information Management
INFO 332 Advanced Systems Analysis
 Trimester One, 2015
COURSE OUTLINE

Names and Contact Details

	Staff	Room	Email & Telephone	Office Hours
Course Lecturer and Coordinator	Pedro Antunes	RH526	pedro.antunes@vuw.ac.nz 04 463 5525	Send email to arrange an appointment.
SIM Undergraduate Support Team	Simon Park Lucia Sohn	RH531 RH502	simstudents@vuw.ac.nz 04 463 6998	Mon-Fri 10am-4pm or by appointment

Trimester Dates

From Monday 2nd March – Friday 5th June

Withdrawal from Course

1. Your fees will be refunded if you withdraw from this course on or before Friday 13th March 2015.
2. The standard last date for withdrawal from this course is Friday 15th May.

After the date stated in 2, students forced to withdraw by circumstances beyond their control must apply for permission on an '*Application for Associate Dean's Permission to Withdraw Late*' including supporting documentation. The application form is available from either of the Faculty's Student Customer Service Desks or [online](#).

Class Times and Room Numbers

Lecture times	Lecture Room
Thursday 13:40 – 14:30 Friday 16:40 – 17:30	RHLT2

Course Delivery

Teaching and learning will take place in the context of regular classes with discussions moderated through Blackboard and other technologies. Computer based workshops will allow access to the software tools needed to complete the modelling and simulation projects.

Group Work

This course does not require group work. You are encouraged to discuss and share aspects of assignment work with others. However, when it is time to submit your assignment, the materials you use must be entirely your own.

Expected Workload

This is a 15-point course. One point should equate to 10 hours of work, which means a total of 150 hours for a 15-point course. Each week, students are expected to spend about:

- 2 hours in the lecture
- 4 hours preparing for the lecture
- 1 hour in the workshop
- 2 hours preparing for the workshop
- 3-5 hours preparing the course assignments

Prescription

This course provides a working knowledge of modern systems and analysis and design principles. Topics include tools and techniques of the systems analyst and the process of systems analysis and design, as well as object-oriented design and other modern methodologies.

Course Learning Objectives

Objective	On completion of this course students should be able to
1	Perform systems analysis and design activities with focus on business value
2	Manage the relationships between business and systems requirements
3	Manage the relationships between requirements determination, analysis, design, and communication
4	Use BPMN and UML, the languages and associated diagrams, as support to analysis and design activities
5	Design the major types of BPMN and UML diagrams using visual tools

Course Content

See detailed information in Weekly Schedule.

Readings

BPMN

- Fundamentals of Business Process Management. Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2013). Heidelberg: Springer. **Chapters 1-4.**
- Introduction to BPMN. Stephen A. White. OMG. (http://www.omg.org/bpmn/Documents/Introduction_to_BPMN.pdf)
- Business Process Model and Notation (BPMN). Version 2.0. OMG. 2011. (<http://www.omg.org/spec/BPMN/2.0/>)

UML

- Learning UML 2.0. A Pragmatic Introduction to UML. Miles, Hamilton (2006). O'Reilly Media. **Chapters 2-4, 8, 12.** (<http://it-ebooks.info/go.php?id=307-1366703170-37c460c18b1c7183790610db23a0e2de>)
- Systems Analysis and Design with UML version 2.0: An Object Oriented Approach. Dennis, Wixom & Tegarden (2009). Wiley. **Chapters 5-6.**
- Object-Oriented Systems Analysis and Design Using UML. Bennet, McRobb, Farmer (2002). McGraw Hill. 2002. **Chapter 4.**

Materials and Equipment

Students should use software available in the computer labs provided by SIM for this course. The computer labs are open from 8am to 8pm each day every day, and are accessible by swipe card if you are enrolled at SIM. The software you need to complete workshop exercises and assignments is provided on these machines.

The software adopted by this course is:

- ARIS Express (<http://www.ariscommunity.com/aris-express>)
- Visual Paradigm Community Edition (<https://www.visual-paradigm.com/editions/community.jsp>)

ARIS Express is a freeware BPMN modelling tool that runs exclusively on Microsoft Windows, although it can be used on Mac OS X through virtualisation. You will need to use ARIS Express to develop your business processes. You may be able to work on your own computer but note that support is not provided. Brief details about installing the software on personal computers are provided on Blackboard.

Visual Paradigm Community Edition is a free UML modelling tool that runs on Mac OS X and Microsoft Windows. You will need to use Visual Paradigm to develop IT services. You may be able to work on your own computer but note that support is not provided. Brief details about installing the software on personal computers are provided on Blackboard.

NOTE: VUW cannot support your personal computer or any course related software installed on it even if it is supplied by VUW. If you do work on your own computer you must be able to independently solve any installation or execution problems. Furthermore, you must test your work on SIM's lab computers before submitting your assignments.

Assessment

The Assessment Handbook will apply to all VUW courses: see <http://www.victoria.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf>.

Assessment overview

Item	Marks	CLO
Part 1 - Process Analysis (BPMN)	30	1,4,5
Part 2 - Service Analysis (UML)	30	2,3,4,5
Mid-term test (50 min.)	20	4
Final test (50 min.)	20	4

Assignments in detail

Assessment items	Marks	Assignments ¹⁾	Marks	
Part 1 - Process Analysis (BPMN)	30	1.1	Case/function matrix	5
		1.2	As-Is model	10
		1.3	Collaboration model	5
		1.4	To-Be model	10
Part 2 - Service Analysis (UML)	30	2.1	Use cases	10
		2.2	Activity diagrams	5
		2.3	Class diagram	10
		2.4	Component diagram	5

NOTES: 1) Due dates are described in the Weekly Schedule.

Students will accomplish two assessment items, one focussed on process analysis and another involving service analysis, which require using visual tools to develop BPM and UML models, respectively. Each assessment item is structured in four consecutive assignments, which must be submitted according to the instructions given on the Weekly Schedule or, whenever necessary, to instructions updated on Blackboard.

Grading Assignments

This course involves resolving wicked problems. Wicked problems are difficult to address because they are incomplete, proposed solutions are not true-or-false, but good or bad, and require pluralistic design thinking. During analysis, students develop their own understanding of the problem, which will necessarily be diverse. When designing a solution, students decide on issues with no right answer, for which greater latitude of decision is assumed. For that reason the assessment of analysis and design usually involves the appreciation of a wide range of qualitative, subjective, and often conflicting criteria. The mark allocation scheme is described in the assignment handouts. Nevertheless, consider that the assignments will be primarily marked using subjective criteria.

Feedback

The combination of pluralistic design thinking with a large number of enrolments makes it impossible to provide a personalised, comprehensive criticism on the solutions proposed by students. Therefore, the assessment feedback will mainly consist of pre-formatted/generic feedback comments. However, following

a practice that is common in design education, students are strongly advised to obtain feedback from the course lecturer and tutors on their performance before submitting the assignments.

Scaling

To obtain a fair and consistent distribution of marks relative to assessment difficulty, scaling of marks (up or down) may be employed on some or all assessment items.

Extensions

Familiarise yourself with the assessment handbook regarding extensions. Extensions can only be granted in accordance to the conditions expressed in section 3.2.1 and further discussed in section 8.

Personal extensions are granted only in special circumstances and supporting evidence such as a medical certificate may be requested by the course coordinator or SIM undergraduate support team.

Non-extendable assessments. For some work, such as: lab projects, case discussion preparation, and tutorial preparation there is no possibility of late submission as the opportunity for the work to be completed has already passed.

Penalties

Your assignments must be submitted before the deadlines specified in the Weekly Schedule. The penalty for late submission of work without a prior extension arrangement is a reduction of 10% of the available marks per calendar day late up to 5 days after the due date. A calendar day begins at midnight.

At the course coordinator's discretion, work handed in after 5 days may be assessed and feedback provided, but no grade will be assigned.

Use of Turnitin

Student work provided for assessment in this course may be checked for academic integrity by the electronic search engine <http://www.turnitin.com>. Turnitin is an on-line plagiarism prevention tool which compares submitted work with a very large database of existing material. At the discretion of the Head of School, handwritten work may be copy-typed by the School and submitted to Turnitin. A copy of submitted materials will be retained on behalf of the University for detection of future plagiarism, but access to the full text of submissions will not be made available to any other party.

Important Notes

- Do not leave submitting your assignments to the last minute. Technology problems do occur, especially on the day an assignment is due. Extensions will not be granted due to problems with submitting work.
- Be careful to submit your assignments according to the instructions given on Blackboard. Your work will not be marked if the submission instructions are not followed.
- Ensure compatibility between the assignments developed with a personal computer and the software installed in SIM's labs.
- You are expected to back up your work. From time to time computer files are lost, computers crash, etc., so it is critical that you frequently back up your important files.
- You are encouraged to use on-line resources to help you learn and develop your assignments. However, when you include other's work within your own work, you must acknowledge the source you used. You can place that acknowledgement in a comment within your work. If you do not acknowledge the contribution of others to your work then you have plagiarised that work and will be penalised according to the University Statute on student conduct.

Examinations

This course does not involve examinations. The final test for this course will be held on the 12th week of the trimester.

Mandatory Course Requirements

In addition to obtaining an overall course mark of 50 or better, students must

- 1) Attend at least six workshops and get a sign-off.

Workshops

- You will attend weekly workshops where you gain practical knowledge on business/systems analysis necessary to work on assignments.
- Workshops are not marked, but as stated above you are required to attend a minimum number of workshops and get a sign-off.
- You are expected to work on the workshop exercises in your own time before the scheduled workshop time. The workshop sessions only allow time for discussing problems and getting feedback.
- Please note that workshops are also particularly important to get critical comments and suggestions on how to improve the quality of your assignments.
- You are also expected to learn for yourself how to use the modelling tools adopted by this course.
- You must sign up for workshops by via <https://signups.victoria.ac.nz/>. The deadline for sign up is specified in the Weekly Schedule and announced on Blackboard.
- When you have completed your participation in a workshop, a tutor will record a sign-off. Do not forget that you need to collect sign-offs.

If you cannot complete an assignment or sit a test or examination, refer to www.victoria.ac.nz/home/study/exams-and-assessments/aegrotat

Class Representative

A class representative will be elected in the first class, and that person's name and contact details made available to VUWSA, the course coordinator and the class. The class representative provides a communication channel to liaise with the course coordinator on behalf of students.

Communication of Additional Information

Email may also be used as a form of communication; hence it is vital that students check their email regularly. The University has provided each student with a student email address and all email correspondence will be sent to that email address. Should a student forward his/her email to another email provider, it is her/his responsibility to ensure that that forwarded mailbox is capable of receiving the emails. Students must check their student records and ensure the appropriate email address is set. You can do this through My Victoria → Student records. Not receiving an email will not be a valid excuse for missing information.

Email should not be used to ask questions about the course. The Discussion Forum is a very useful tool to raise questions about the course, since other students can also see your question and the responses to it.

- Make sure you regularly check the Discussion Forum to see what has been asked and what has been answered.
- If you do not find the answer to your query, post your question on the Discussion Forum.
- If you think you know the answer to some other student's question, do not hesitate to post a response.
- Make sure that all questions are relevant to the course.
- The use of appropriate language is expected at all times. All students are expected to respect one another while using the Discussion Forum.

Student Feedback

Student feedback on University courses may be found at www.cad.vuw.ac.nz/feedback/feedback_display.php

Link to General Information

For general information about course-related matters, go to <http://www.victoria.ac.nz/vbs/studenthelp/general-course-information>

Note to Students

Your assessed work may also be used for quality assurance purposes, such as to assess the level of achievement of learning objectives as required for accreditation and academic audit. The findings may be used to inform changes aimed at improving the quality of VBS programmes. All material used for such processes will be treated as confidential, and the outcome will not affect your grade for the course.

Weekly Schedule

NOTE: Small adjustments to the course contents may be accomplished to reflect the course dynamics. Such changes will be published on Blackboard.

INFO 332 • 2015 / T1 • Weekly Schedule				
Weeks	Topics	Readings	Critical Actions	
1	L1	Introduction: Origins and history of BPM. The functional organisation. Rise and fall of BPR.	FBPM ch. 1	Workshops sign up: this week, by Friday 6 March 18:00
	L2	Introduction: BPM lifecycle. Role of IT in BPM. BPM profession: Analyst, designer, project manager.	FBPM ch. 1	
	W	No workshop.		
2	L1	Process identification: Processes. Types of processes. Case types. Business functions. Case/function matrix. Level 1 and level 2 processes.	FBPM ch. 2	Submit case/function matrix by the end of this week (Sunday 15 March 23:59)
	L2	Essential modelling: Processes. Activities. Sequence. Events.	FBPM ch. 3	
	W	Exercise: Case/function matrix.	FBPM ch. 2	
3	L1	Essential modelling: Gateways. Token model. Types of gateways.	FBPM ch. 3	
	L2	Essential modelling: Loops. Data artefacts.	FBPM ch. 3	
	W	Exercises: Simple process.	FBPM ch. 3	
4	L1	Essential modelling: Pools and lanes. Messages. Black box and white box modelling. Collaborations.	FBPM ch. 3	Submit as-is model by the end of this week (Sunday 29 March 23:59)
	L2	Advanced modelling: Hierarchical decomposition. Inter-organisational decomposition. Process reuse. Embedded and global sub-processes.	FBPM ch. 4	
	W	Exercise: Complex process.	FBPM ch. 3	
5	L1	Advanced modelling: Temporal events. Message events. Boundary events. Handling events.	FBPM ch. 4	Submit collaboration model by the end of this week (Sunday 5 April 23:59)
	L2	Advanced modelling: Handling exceptions. Process abortion. Activity compensation.	FBPM ch. 4	
	W	Exercise: Events.	FBPM ch. 4	
6	L1	Mid-term test.		Submit to-be model by the end of this week (Sunday 26 April 23:59). Mid-term test: Thursday 23 April (13:40, unless a room is not available).
	L2	Advanced modelling: Collaboration diagrams. Quality assurance.		
	W	Exercise: Collaborations.		
7	L1	Introduction: Service analysis.		
	L2	Introduction: Requirements determination.	LU ch. 2	
	W	Exercise: Requirements.	LU ch. 2	
8	L1	Essential modelling: Use cases.	LU ch. 2	Submit use cases by the end of this week (Sunday 10 May 23:59)
	L2	Essential modelling: Activity diagrams.	LU ch. 3	
	W	Exercise: Use cases.	LU ch. 2	
9	L1	Essential modelling: Class diagrams.	LU ch. 4	Submit activity diagrams by the end of this week (Sunday 17 May 23:59)
	L2	Advanced modelling: Class diagrams.	LU ch. 4	
	W	Exercise: Activity diagrams.	LU ch. 3	
10	L1	Advanced modelling: Component diagrams.	LU ch. 12	
	L2	Advanced modelling: Analysis versus design	SAD ch. 8	
	W	Exercise: Simple class diagrams.	LU ch. 4	
11	L1	Advanced modelling: Strategies and tactics.	SAD ch. 8	Submit class diagram by the end of this week (Sunday 31 May 23:59)
	L2	Advanced modelling: Service architectures.	OOSAD ch. 20	
	W	Exercise: Complex class diagrams.	LU ch. 12	
12	L1	Recap and the future of systems analysis.		Submit component diagram by the end of this week (Sunday 7 June 23:59) End-term test: Friday 5 June (16:40, unless a room is not available).
	L2	Final test.		
	W	Exercise: Component diagrams.		