

Faculty of Commerce and Administration

School of Information Management

INFO 222 Modern Systems Design

Trimester Two 2008

COURSE OUTLINE

Prerequisites: INFO102

Names and Contact Details

Course Coordinator/Instructor

Dr. William Yu Chung Wang
Senior Lecturer/Programme Director
EA226
Yuchung.wang@vuw.ac.nz

Tutors (Workshop, test supervision, and general enquires)

Mr. Mohamed Kinaanath
PhD Researcher
EA237
Mohamed.Kinaanath@vuw.ac.nz
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(Make an appointment if you wish to see any of the staff involved in this course.)

Notes

- Please contact the Tutors if you have any enquiries regarding administration of the course. Mohamed is responsible for the day-to-day administration of the course, including:
 - record keeping and administrative queries
 - assessment queries
 - attendance, illness, due dates, and etc.
- All questions about software applications and the practical techniques of Visual Paradigm should be directed to the lab tutor of the course, during the workshop.
- If you have questions about lecture content or readings, please raise them with the Lecturer during lecture sessions on Tuesdays. The lecturer will generally be happy to answer questions during lectures (if time permits) or afterwards.
- All queries related to project submissions, extensions, project/test remarking, and lab and workshop allocations should be directed to the Tutor in the first instance.

Trimester Dates

For the second trimester in 2008 this is Monday 7 July to Saturday 8 November 2008.

Class Times and Room Numbers

LECTURES

| Room | Date | Time |
|----------|---------|-----------------------|
| HMLT 001 | Tuesday | Commencing at 14:10pm |

LAB ALLOCATION

| Room | Date | Time |
|-------|------------------|-------------------|
| MY201 | Wednesday Slot 1 | 11:00am – 12:00pm |
| MY201 | Wednesday Slot 2 | 12:00am – 01:00pm |

Note: This may change due to room availability and class size. For up-to-date information, please consult the Blackboard page. Lab time is provided for students to work on the assignments and practices.

Course Objectives

On satisfactory completion of this course, students should be able to:

1. Recall the concept of INFO102 systems design, e.g., SDLC, ERD, and etc.
2. Understand the concepts of software engineering and object-oriented development.
3. Have basic knowledge of UML, the language and its associated diagrams for designing software.
4. Model the process of system analysis and design.
5. Analyse and specify business and user needs, and system requirements.
6. Learn the concept of system quality and the implementation of quality assurance for designing software.
7. Learn the concept of software project management and its implementation.
8. Distinguish the differences between the iterative, component-based development model (such as Agile methods and RUP, etc.) and a traditional waterfall approach.
9. Design major types of UML diagrams using Visual Paradigm software, such as use case, class, activity, state, and deployment diagrams, etc.

Course Content

This course introduces students to the Unified Modelling Language (UML) for systems design. It covers the concepts of object-oriented and component-based software design and development, and the major diagrams types of the UML model. Additionally, it includes knowledge and concepts associated with quality and quality assurance, verification, validation and testing, software project management, and teamwork. Lectures will provide students with knowledge and skills in creating diagrams based on UML for designing a system/software within organizations. Students are expected to practice the concepts either at home or in the computer lab. Furthermore, the course will increase students' understanding of the analysis and specification of business and user needs, and system requirements for organizations.

Prerequisite

Students are expected to have passed, and be familiar with the material from INFO 102.

Restrictions

Students already passed INFO212 are restricted from enrolling in this course.

Schedule and Course Content

3 Colours are used to represent the content regarding functional aspects (light green), static aspects (yellow), and dynamic aspects (pink) in systems analysis.

| Date | Lecture/ Workshop | Topic | Evaluation/ Deliverables |
|--------------------|------------------------------|--|-------------------------------------|
| WEEK 1 | | | <i>Participation 10%</i> |
| 8/July | Top 1 | Introduction to Course | |
| | <i>Reading</i> | Chapter 1 | |
| WEEK 2 | | | |
| 15/July | Top 2 | Demand Analysis and Systems Specification | |
| | <i>Reading</i> | Chapters 1 & 2 | |
| WEEK 3 | | | |
| 22/July | Top 3 | Systems Design and Object Oriented Principles | |
| | <i>Reading</i> | Chapters 3 & 4 | |
| 23/July | Workshop | Getting Familiar with Visual Paradigm & Systems Specifications | |
| WEEK 4 | | | |
| 29/July | Top 4 | Use Case Models | |
| | <i>Reading</i> | Chapters 7, 8 | |
| 30 | Workshop | Use Case Diagrams | |
| WEEK 5 | | | |
| 5/Aug | Top 5 | Class Models | |
| | <i>Reading</i> | Chapters 5, 6 | |
| 6 | Workshop | Class Diagrams | |
| WEEK 6 | | | |
| 12/Aug | | Assignment one submission (Systems Specification) | |
| 13 | Workshop | State Diagrams | |
| 18/Aug – 31/Aug | | Mid-trimester break | |
| WEEK 7 | | | |
| 2/Sep | Top 6 | State and Activities Diagram | |
| | <i>Reading</i> | Chapters 11, 12 | |
| 3 | Workshop | Activities Diagrams | |

| WEEK 8 | | | |
|----------------|------------------------------|--|-------------------------------------|
| 9/Sep | Top 7 | Interaction and Components | |
| | <i>Reading</i> | Chapters 9, 10, 13 | |
| Date | Lecture/ Workshop | Topic | Evaluation/ Deliverables |
| | Workshop | Sequence Diagrams | |
| WEEK 9 | | | |
| 16/Sep | Top 8 | Deployment Diagrams and Concept of Reuse | |
| | <i>Reading</i> | Chapters 18, 19 | |
| 17 | Workshop 8 | Communication Diagrams | |
| WEEK 10 | | | |
| 26/Sep | Top 9 | Project Management and Systems Quality | |
| | <i>Reading</i> | Chapter 20 | |
| 27/Sep | Workshop 9 | Deployment Diagrams | |
| WEEK 11 | | | |
| 30/Sep | Top 10 | Enterprise Systems Design: from AS-IS to To-Be | |
| | <i>Reading</i> | Supplementary reading | |
| WEEK 12 | | | |
| 7/ Oct | | Final Test and Assignment Submission | |
| 14/Oct | | Submission of Project – Part 2: 16 OCT Due 5:00pm | |

Expected Workload

Students are expected to spend 1-2 hours per week in class, 2 hours per week for exercises at home or the lab, and 3 to 4 hours per week on studying and reading.

Textbook

Stevens, P. and Pooley, R. (2006) Using UML - Software Engineering with Objects and Components. 2nd edition. Reading, Mass.: Addison-Wesley.

Assessment Requirements

The assessments are tied with the topics covered during lectures and workshops.

| <u>Assessment Components</u> | <u>%</u> | <u>Due Date</u> |
|------------------------------|------------|-----------------|
| Course Participation | 10 | |
| Final Test | 30 | Week 12 |
| Project – Part 1 | 30 | |
| Project –Part 2 | 30 | 14/OCT 5PM |
| TOTAL | 100 | |

Project: The project consists of two phases – the individual systems proposal (Part 1) and the group project (Part 2) of a specific system. The complete details will be made available in the assignment document (released in Week 2).

Tests: There will be a final test conducted during Week 12. Unless otherwise stated, all material covered during the course will be assessable. Details will be advised closer to the date.

Important Notes:

- *No extension is possible based on a student's workload. You are expected to manage your workload to ensure there is sufficient time to complete assessments as required.*
- *You are expected to back up your work – From time to time files are lost, computers crash, etc., so it is critical that you get into the habit of backing up important files (on CD or USB drive, for example). You should upload "work in progress" to your course web-site regularly.*
- *Do not leave submitting your work to the last minute – technology problems do occur (especially on the day an project is due). Be smart and submit it in plenty of time. Extensions will not be granted due to problems with submitting work.*
- *Working together – You are encouraged to discuss aspects of your projects with others. I would like to see the synergy of group work as well as the evidence of your individual output in the project.*

Assessment Submission

The Assignment will be submitted as a hardcopy (and Softcopy if required later) at the Tutor Locker (details would be announced in Blackboard).

An automatic 10% penalty per day will be applied to projects that are not submitted correctly, or that do not open correctly from the starting page, regardless of the circumstances. Project submission details will be covered in the classes.

Penalties

In fairness to other students, work submitted after the deadline will incur a 10% penalty (of the marks achieved for the project) for each day (within 24 hours) late. In the event of bereavement or prolonged illness affecting your ability to meet the deadline, discuss your situation with the Tutor / Course Coordinator as soon as you are able to. You must verify your claim, e.g., produce a medical certificate. By doing so, you agree to the Senior Tutor seeking verification of your documentation. Extensions will only be granted under these conditions.

Plagiarism and Cheating

Plagiarism is not acceptable in any form by any university. Plagiarism takes many forms and includes:

- Submitting for one course, a piece of your own work which has been written or submitted for another course;

- Copying text, diagrams, images, or code directly from textbooks, the Internet, and other sources without using quotation marks or otherwise acknowledging your source.
- Not acknowledging the sources you have used in your work (i.e., you must cite all references);
- Deliberately copying another student's work.

Work, that shows evidence of plagiarism, will be penalised in line with the seriousness of the case. Minor breaches will result in lowered grades. Deliberate cheating will result in University academic disciplinary procedures being invoked with possible expulsion from the course.

Responsibilities for Practicum Arrangements

Workshop Allocation Procedure

Sign-up sheets for each time slot will be available on Blackboard. You must sign up for the workshop sessions yourself in the first week. Contact **Mohamed Kinaanath** if you have not signed up at that time. Detailed instructions for signing up your workshop sessions will be announced on Blackboard and discussed at the first lecture. You must select a time slot that fits your timetable and enter your name on only one of the lists provided. Once you have been allocated to a workshop, it is your responsibility to know where and when your workshop is scheduled.

Warning

- * Make sure you bring your personal timetable with you, so that your selected workshop time does not clash with other classes. It will not be easy to change your selection once accepted.
- * If your name appears on more than one workshop list, the Senior Tutor reserves the right to put you in the workshop of his choice.
- * Each workshop can take up to 40 students. When a list is full, it is removed from circulation. As the names are entered on a first-come-first-served basis, it is strongly recommended that you attend to this early, otherwise you may be allocated to a less desirable time slot.
- * If you have any serious problems about the allocations, see the Senior Tutor.

Lab Access

Information Systems and Electronic Commerce students have access to a range of computer lab facilities. This means that you can still undertake this course even if you don't have a computer at home.

Like all university students you are able to use any SCS computer lab throughout the University (this includes labs in the Murphy building, the Library and in the Law School) as long as you have a current SCS account. If you don't have a current SCS account, contact either of the SCS helpdesk in the library or the Murphy building.

In addition, INFO and ELCM students have access to the purpose built school lab MY201. This lab is located on the second floor of the Murphy building. **Please note that specialist software found in the SIM labs is not available in all the SCS labs.**

There are two kinds of lab access provided for this course:

- 1) Scheduled lab sessions: Lab supervisors will be in attendance, and formal instruction that is a part of the course requirements will be offered during these scheduled sessions. At other times during the scheduled sessions, you will have the opportunity to work independently, and a lab supervisor will be available to assist you and to answer questions. This is your main opportunity to obtain technical help. Your lab supervisors are not obliged to assist you if you have not attended your scheduled sessions. Lab attendance is not compulsory but will be regularly monitored.
- 2) Ad-hoc access: The lab offers 24-hour access via student ID cards unless booked for another class. Students should check the booking schedules on the lab doors before entering a laboratory to ensure
 - (a) they are not interrupting a class and
 - (b) they can finish their work before the next scheduled class. You may be asked to leave by the lab supervisor if the machine you are using is required for a scheduled class.

Mandatory Course Requirements

To pass this course, students must have:

1. correctly enrolled in the courses
2. attained a weighted average over all assessments of at least 50% - there is no final exam.
3. attended 70% of the lectures/workshops (unless reasons of absences and evidences are provided)

Participations

Students are expected to attend all lectures and to complete the recommended readings, weekly. Bonus marks are allocated for those who can answer questions in the class.

Communication of Additional Information

All formal notices relating to this course will be posted on the Blackboard system, <http://blackboard.vuw.ac.nz>. You are expected to check for announcements on Blackboard on a regular basis. Please contact the Senior Tutor in order to have a user ID and a password to log in.

Faculty of Commerce and Administration Offices

Railway West Wing (RWW) - FCA Student and Academic Services Office

The Faculty's Student and Academic Services Office is located on the ground and first floors of the Railway West Wing. The ground floor counter is the first point of contact for general enquiries and FCA forms. Student Administration Advisers are available to discuss course status and give further advice about FCA qualifications. To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

Easterfield (EA) - FCA/Education/Law Kelburn Office

The Kelburn Campus Office for the Faculties of Commerce and Administration, Education and Law is situated in the Easterfield Building on the ground floor (EA005). This counter is the first point of contact for :

- Duty tutors for student contact and advice.
- Information concerning administrative and academic matters.

- Forms for FCA Student and Academic Services (e.g. application for academic transcripts, requests for degree audit, COP requests).
 - Examinations-related information during the examination period.
- To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

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 identifies material that may have been copied from other sources including the Internet, books, journals, periodicals or the work of other students. Turnitin is used to assist academic staff in detecting misreferencing, misquotation, and the inclusion of unattributed material, which may be forms of cheating or plagiarism. *At the discretion of the Head of School, handwritten work may be copy-typed by the School and subject to checking by Turnitin.* You are strongly advised to check with your tutor or the course coordinator if you are uncertain about how to use and cite material from other sources. Turnitin will retain a copy of submitted materials 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.

General University Policies and Statutes

Students should familiarise themselves with the University's policies and statutes, particularly the Assessment Statute, the Personal Courses of Study Statute, the Statute on Student Conduct and any statutes relating to the particular qualifications being studied; see the Victoria University Calendar or go to www.victoria.ac.nz/home/about/policy/students.aspx

For information on the following topics, go to the Faculty's website www.victoria.ac.nz/fca under Important Information for Students:

- Academic Grievances
- Student and Staff Conduct
- Meeting the Needs of Students with Impairments
- Student Support

Academic Integrity and Plagiarism

Academic integrity is about honesty – put simply it means *no cheating*. All members of the University community are responsible for upholding academic integrity, which means staff and students are expected to behave honestly, fairly and with respect for others at all times.

Plagiarism is a form of cheating which undermines academic integrity. The University defines plagiarism as follows:

The presentation of the work of another person or other persons as if it were one's own, whether intended or not. This includes published or unpublished work, material on the Internet and the work of other students or staff.

It is still plagiarism even if you re-structure the material or present it in your own style or words.

Note: including the work of others will not be considered plagiarism as long as the work is acknowledged by appropriate referencing.

Plagiarism is prohibited at Victoria and is not worth the risk. Any enrolled student found guilty of plagiarism will be subject to disciplinary procedures under the Statute on Student Conduct and may be penalised severely. Consequences of being found guilty of plagiarism can include:

- an oral or written warning
- cancellation of your mark for an assessment or a fail grade for the course
- suspension from the course or the University.

Find out more about plagiarism, and how to avoid it, on the University's website:

www.victoria.ac.nz/home/studying/plagiarism.html

Manaaki Pihipihinga Programme

Manaaki Pihipihinga is an academic mentoring programme for undergraduate Māori and Pacific students in the Faculties of Commerce and Administration, and Humanities and Social Sciences. Sessions are held at the Kelburn and Pipitea Campuses in the Mentoring Rooms, 14 Kelburn Parade (back courtyard), Room 109D, and Room 210, Level 2, Railway West Wing. There is also a Pacific Support Coordinator who assists Pacific students by linking them to the services and support they need while studying at Victoria. Another feature of the programme is a support network for Postgraduate students with links to Postgraduate workshops and activities around Campus.

For further information, or to register with the programme, email manaaki-pihipihinga-programme@vuw.ac.nz or phone (04) 463 6015. To contact the Pacific Support Coordinator, email pacific-support-coord@vuw.ac.nz or phone (04) 463 5842.