Introduction to Software Modelling - Course Outline

SWEN 102: 2013 Trimester 2

This document sets out the workload and assessment requirements for SWEN 102. It also provides contact information for staff involved in the course. If the contents of this document are altered during the course, you will be advised of the change by an announcement in lectures and/or on the course web site. A printed copy of this document is held in the School Office.

The first meeting for this course will be on Monday 15th July. The teaching term runs from 15th Jul --- 20th Oct 2013.

Objectives

By the end of the course, students should be able to:

1. Explain the relationship between models, software, and the real world. (1(a))
2. Describe software systems in terms of models other than code. (3(a),3(c))
3. Translate informal descriptions of software systems into structured textual and graphical models. (2(b),3(a),3(c))
4. Create well-formed engineering models in informal notations and formal languages. (3(a),3(c))
5. Manipulate, analyse, and verify properties of these models, both by hand and with tool support. (3(a),3(c),3(f))
6. Evaluate the qualities of models and software systems. (3(a),3(c),3(d))

Objectives 1, 2, and 6 are addressed in all parts of the course. The first half of the course (and mid-term test) will also address objectives 3 and 4; the second half will also address object 5; and the exam and assignments will address all objectives of the course.

SWEN 102 is part of the Engineering program at Victoria University of Wellington. BE students are expected to exhibit a number of graduate attributes upon graduation. These course objectives contribute to the graduate attributes as indicated above. A full table of these attributes is available at Graduate Attributes.

Textbook

The recommending text for SWEN 102 is: *UML in Practice: The Art of Modeling Software Systems Demonstrated through Worked Examples and Solutions* by Pascal Roques

Lectures, Tutorials, Laboratories, and Practical work

A schedule of lecture topics, readings, and assignment due dates is available online. A summary of the main topics:

Topic	Lectures
Requirements	2
Use Cases	4
Class Diagrams	4
Alloy	8
State Machines	2

Lectures for SWEN 102 are: *Monday, Tuesday and Thursday 12:00-12:50 in Maclaurin LT101. (note: Monday lecture slot only used in first week and for mid-term test)*

Labs will take place in the Engineering Laboratory, Cotton CO145. You must enroll in a lab session in the first week of the course and will remain in that session throughout the course.

Assignments and Projects

The practical work for the course consists of individual assignments and group work laboratory sessions. Each lab and assignment will explore different aspects of the material presented in the lectures. The labs and assignments will involve a mixture of written work and formal modeling. All assessment items are mandatory: practical work underpins this course, since it is essential for a proper understanding of the material.

Every student in SWEN 102 is required to attend a two-hour laboratory once every week. You will be assigned to a

Every student in SWEN 102 is required to attend a two hour laboratory once every week. You will be assigned to a laboratory session in the first lecture of the course, and must attend that session throughout the course. In your first session you will be assigned to a table group, and you must remain in that table group throughout the course. The lab schedule will be posted on the course web site. For any problems with laboratories, please contact the course co-ordinator. If you are unable to attend your assigned laboratory due to illness or other extraordinary circumstances, again contact the course co-ordinator as soon as possible.

If you have access to a computer outside the labs, you may use it to work on laboratories, but you will need to acquire your own software. Please note that we do not have the resources to provide assistance if you have difficulties with a computer at home -- the tutors can only answer questions about the laboratories and the workstations in the laboratories. Note also that we cannot offer you any help with choosing, setting up, or fixing your own computer system, other than the general advice that we provide on the website.

Workload

SWEN102 is an 15 point course. In order to maintain satisfactory progress in SWEN 102, you should plan to spend an average of at least 10 hours per week on this paper. A plausible and approximate breakdown for these hours would be:

- Lectures and tutorials: 2
- Labs: 2
- Readings and Lab preparation: 2
- Assignments: 3

School of Engineering and Computer Science

The School office is located on level three of the Cotton Building (Cotton 358).

Staff

The course organiser for SWEN 102 is David Pearce. The lecturers for the course are David Pearce, Macro Servetto and Peter Andreae. Their contact details are:

- *David J. Pearce*
- Cotton 231
- +64 4 463 5833
- djp@ecs.vuw.ac.nz

- *Marco Servetto*
- Cotton 258
- +64 4 463 5820
- marco.servetto@ecs.vuw.ac.nz

- *Peter "Pondy" Andreae*
- Cotton 222
- +64 4 463 5834
- peter.andreae@ecs.vuw.ac.nz

Senior Tutor

The senior tutor is Siva Dorairaj:

- *Siva Kumar Dorairaj*
- Cotton 351
- +64 4 463 5233 x8874
- Siva.Dorairaj@ecs.vuw.ac.nz

Announcements and Communication

Important announcements for the course will be made at lectures, emailed to the course mailing list and posted on the course web site at http://ecs.victoria.ac.nz/Courses/SWEN102_2013T2/. We will assume that all students attend all lectures and check the web site and their ECS email at least three times a week. On the web site you will find, among other things, this document, the course schedule, and the SWEN 102 Forum. The forum is a web-based bulletin board system. Questions and comments can be posted to the forum, and staff will read these posts and frequently respond to them.

Resources

During the course, students may wish to scan in material they have written or drawn by hand. Scanners are available at the University Library, and also within ECS. A scanner is located on level 2 of the Cotton building, outside room CO258.

To use this scanner, students should select "email", and enter their email address using the "keyboard" function.

Assessment

Your grade for SWEN 102 will be determined through group work laboratories, individual assignments, a mid-term test and a final examination. Group work in all laboratories, and all individual assignments, will be marked. The test and exam will assess your understanding of the material presented in lectures, while the laboratory and assignment work will assess your ability to apply the techniques in practice.

The weighting of the assessment items will be as follows:

Item	Weight
Group labs	15%
Individual Assignments	20%
Mid-term test	15%
Final Examination	50%

Tests and Exams

The mid-term test will be held 9th September 2013 during lecture time. No computers, electronic calculators or similar device will be allowed. Paper non-English to English dictionaries will be permitted. If you cannot attend the test, please advise the course co-ordinator well in advance.

The timetable for final examinations will be available from the University web site and will be posted on a notice board outside the faculty office. The final examination will be three hours long. No computers, electronic calculators or similar device will be allowed in the final examination. Paper non-English to English dictionaries will be permitted. The examination period for trimester 2 is 25 October - 16 November.

Practical Work

The laboratory work will be marked in the laboratory sessions, and includes 'lab prework':

- 0: not attended
- E: attended without prework
- D: prework, but no contribution in lab
- C: prework and some contribution in lab
- B: prework and good lab contribution
- A: excellent prework and/or lab contribution

Due dates for individual assignments are:

- Monday 5th August @ 23:59pm
- Monday 19th August @ 23:59pm
- Monday 23rd Sept @ 23:59pm
- Monday 7th Oct @ 23:59pm
- Sunday 20th Oct @ 23:59pm

The individual assignments will be marked out of 50. Marks will be awarded for correct answers, and also for clear and effective communication. For example, messy and/or illegible diagrams will be marked down. Each individual assignment should be handed in on the dates specified in the Schedule by midnight. Submission should be made via the online submission system (found on the course homepage). Unless prior agreement with the course co-ordinator has been made at least 24 hours in advance, late submissions will be penalised one grade step of their mark for every day overdue. After 5 days zero marks will be awarded. Approval for late submission will only be given in exceptional circumstances.

Plagiarism

Working Together and Plagiarism

We encourage you to discuss the principles of the course and assignments with other students, to help and seek help with programming details, problems involving the lab machines. However, any work you hand in must be your own work.

The School policy on Plagiarism (claiming other people's work as your own) is available from the course home page. Please read it. We will penalise anyone we find plagiarising, whether from students currently doing the course, or from other sources. Students who knowingly allow other students to copy their work may also be penalised. If you have had help from someone else (other than a tutor), it is always safe to state the help that you got. For example, if you had help from someone else in writing a component of your code, it is not plagiarism as long as you state (eg, as a comment in the code) who helped you in writing the method.

Mandatory Requirements

1. All assessment items are mandatory
2. You must obtain an average grade of at least D for your individual assignments.
3. You must obtain an average grade of at least D for your laboratory work.
4. You must attend at least 8 (out of 11) lab sessions.
5. You must also achieve at least a D grade in the final exam.

Passing SWEN 102

To pass SWEN 102, a student must satisfy mandatory requirements and gain at least a **C** grade overall.

Withdrawal

The last date for withdrawal from SWEN 102 with entitlement to a refund of tuition fees is Friday 26 July 2013. The last date for withdrawal without being regarded as having failed the course is Friday 27 September 2013 -- though later withdrawals may be approved by the Dean in special circumstances.

Rules & Policies

Find key dates, explanations of grades and other useful information at http://www.victoria.ac.nz/home/study.

Find out about academic progress and restricted enrolment at http://www.victoria.ac.nz/home/study/academic-progress.

The University's statutes and policies are available at http://www.victoria.ac.nz/home/about/policy, except qualification statutes, which are available via the Calendar webpage at http://www.victoria.ac.nz/home/study/calendar (See Section C).

Further information about the University's academic processes can be found on the website of the Assistant Vice-Chancellor (Academic) at http://www.victoria.ac.nz/home/about/avcacademic

All students are expected to be familiar with the following regulations and policies, which are available from the school web site:

Grievances
Student and Staff Conduct
Meeting the Needs of Students with Disabilities
Student Support
Academic Integrity and Plagiarism
Dates and Deadlines including Withdrawal dates
School Laboratory Hours and Rules
Printing Allocations
Expectations of Students in ECS courses

The School of Engineering and Computer Science strives to anticipate all problems associated with its courses, laboratories and equipment. We hope you will find that your courses meet your expectations of a quality learning experience.

If you think we have overlooked something or would like to make a suggestion feel free to talk to your course organiser or lecturer.

Course Outline as PDF