

# Structured Methods - Course Outline

## SWEN 301: 2015 Trimester 1

This document sets out the workload and assessment requirements for SWEN 301. 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.

This course introduces structured methods, tools and procedures for software engineering. These include the software life-cycle, common software engineering paradigms, and key elements of software engineering such as requirements analysis and specification, design, implementation, testing, maintenance, software quality assurance and software configuration management. Practical work includes the use of an integrated computer aided software engineering (CASE) environment and other development tools.

### Objectives

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

1. Demonstrate an understanding of the main issues involved in the development of medium to large software systems:
  - advantages and disadvantages of various methodologies (BE graduate attribute 1(b)),
  - techniques for gathering and documenting requirements analysis (BE graduate attribute 2(b)),
  - designing software solutions (BE graduate attribute 3(f)),
  - testing engineered software (BE graduate attribute 3(e)), and
  - implementing designed solutions (BE graduate attribute 3(b), 3(f)).
2. Demonstrate a level of competence in using a Computer Aided Software Engineering (CASE) tool for software requirements analysis and software implementation (BE graduate attribute 3(c) and 3(f)).

Assignments and a team project will help you to understand the basic concepts of these topics and allow you to practice the practical aspects of the topics. Doing the team project will help you to learn how to function effectively in a team (BE graduate attribute 2(a)). Project presentation and writing essays will help you to further develop your communications skills (BE graduate attribute 2(b)). The final exam will assess your understanding of the course topics.

### Textbook

There is no prescribed textbook for SWEN 301. Students in the course may, however, find the following books on Software Engineering helpful for revising the contents of the course and for further reading.

1. Ian Sommerville, "Software Engineering", 8th Edition, Pearson Education Ltd., 2007.
2. R.S. Pressman, "Software Engineering: A practitioner's Approach", 7th Edition, McGraw Hill, 2007.
3. S.H. Pfleeger, J.M. Atlec, "Software Engineering: Theory and Practice", 4th Edition, Pearson Education, 2009.
4. Pankaj Jalote, "An Integrated Approach to Software Engineering", 3rd Edition, Narosa Publishers, 2008.

These books are available from the library.

### Lectures, Tutorials, Laboratories, and Practical work

SWEN 301 is a trimester 1 course. The trimester starts on 2 March. The examination period at the end of the course is 12 June - 1 July,

A schedule of lecture topics, readings, and assignment due dates is available online

Lectures and tutorials for SWEN 301 are:

Day	Time	Room
Monday, Wednesday, Thursday	13:10 - 14:00	Hunter LT220

There are no additional timetabled laboratories in SWEN 301. There will be help desks available for the project, and the help desk hours will be announced within the first three weeks of the course.

### Workload

In order to maintain satisfactory progress in SWEN 301, 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: 3 hours,
- Readings: 2-3 hours, and
- Assignments and project: 4-5 hours.

## School of Engineering and Computer Science

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

### Staff

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The course organiser for SWEN 301 is [Hui Ma](#). The lecturers for the course are [Hui Ma](#) and [David Pearce](#).

- [Dr Hui Ma](#)
- [Cotton 259](#)
- +64 4 463 5657
- [hui.ma@ecs.vuw.ac.nz](mailto:hui.ma@ecs.vuw.ac.nz)
- Office hours: 3-5pm, Tuesday
  
- [Dr David Pearce](#)
- [Cotton 231](#)
- +64 4 463 5833
- [david.pearce@ecs.vuw.ac.nz](mailto:david.pearce@ecs.vuw.ac.nz)

The course tutors of the course are:

- Alexandre Sawczuk da Silva
- [Alexandre.Sawczuk.da.Silva@ecs.vuw.ac.nz](mailto:Alexandre.Sawczuk.da.Silva@ecs.vuw.ac.nz)
  
- Mohsen Hajsalehi Sichani
- [hajsalmohs@myvw.ac.nz](mailto:hajsalmohs@myvw.ac.nz)

The Class Rep for SWEN 301 this year is:

- Ryan Ebue: [ebuegene@vw.ac.nz](mailto:ebuegene@vw.ac.nz)

## Announcements and Communication

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The main means of communication outside of lectures will be the SWEN 301 web area at [http://ecs.victoria.ac.nz/Courses/SWEN301\\_2015T1/](http://ecs.victoria.ac.nz/Courses/SWEN301_2015T1/). There you will find, among other things, this document, the [lecture schedule](#) and [assignment handouts](#), and the [SWEN 301 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.

## Assessment

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Your grade for SWEN 301 will be determined based on the following assessment weightings:

Item	Weight	Due
Assignment 1 (Software Lifecycles Essay)	15%	Week 5
Assignment 2 (Testing & Architecture)	12%	Week 8
Group project	15%	Week 12
Group Presentation	8%	Week 11 & 12
Final Examination	50%	Exam period

## Assignments and Projects

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Assignment 1, an essay on software lifecycle, will help students to understand advantages and disadvantages of various methodologies. Assignment 2 will help students to understand different concepts of designing software architecture and testing software, specified in course objectives above.

The group project will involve teams of four or five students designing and implementing a solution to a given problem. Individuals will receive a group-wide mark that contributes towards their final grade. Each group will give a presentation

on their project at a scheduled time. Every group member needs to contribute to the presentation and will receive an individual mark for his/her presentation.

Students' work should be submitted electronically to the school's servers. Instructions on how to achieve this will be provided closer to assessment deadlines.

## Tests and Exams

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 1 is 12 June - 1 July.

## Policies and penalties for late submission

Late submissions will incur an automatic penalty of 10% of the final mark per day. Any request for an extension must be made to the lecturer in charge *prior* to the due date. Any extensions requested on the basis of medical grounds must be supported by a doctor's certificate.

## 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. A satisfactory group project journal must be submitted and the project must be presented.
2. A student must achieve at least **40%** of the marks available in the final examination.

## Passing SWEN 301

To pass SWEN 301, a student must satisfy mandatory requirements and gain at least a **C-** grade overall.

## Withdrawal

The last date for withdrawal from SWEN 301 with entitlement to a refund of tuition fees is Friday 13 March 2015. The last date for withdrawal without being regarded as having failed the course is Friday 15 May 2015 -- 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](#)

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