

Model-Driven Development

SWEN 424, 2016 Trimester 2

Course Outline

This document sets out the workload and assessment requirements for SWEN 424. 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.

Course Dates:

SWEN 424 is a trimester 2 course and runs from 13 July -- 16 October 2016.

The Course

Model-driven development is a vital ingredient of modern software engineering. Along with an introduction to the concepts of model-driven development and domain-specific modelling, SWEN 424 addresses the foundations and principles for supporting infrastructures. This includes an in-depth discussion of 'metamodelling' and a critique of existing modelling techniques. Students will get hands-on experience with using a meta-case tool.

Prerequisites

The prerequisites for SWEN 424 are:

- 30 points from COMP/NWEN/SWEN 301-399.

Objectives

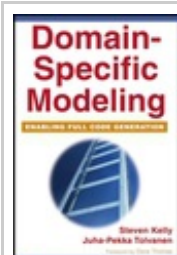
By the end of the course, students should:

1. have an understanding of model-driven development.
2. understand the advantages and disadvantages of domain-specific modelling approaches.
3. understand the potential and implementation challenges arising from description hierarchies (meta-level hierarchies).
4. be able to differentiate between super and meta classes.
5. know how to use metamodelling as a language definition tool and also as a tool for modeling domains.
6. be equipped to use the metamodeling principles discussed in a number of contexts (e.g. XML, UML Definition, Semantic Web).

A reading assignment will immerse you in a subject that you will then present to the class. The reading assignment will relate to one or more of the above mentioned objectives. A project involving a metacase tool will allow you to apply the concepts encountered in lectures. This will develop your language engineering and modelling skills (BE graduate attributes [3\(f\)](#) and [3\(c\)](#)). The project work is highly unconstrained and will increase your self-management skills (BE graduate attribute [3\(d\)](#)). Both the writing of the project report and the presentation of your reading assignment will advance your communications skills (BE graduate attribute [2\(b\)](#)). The final examination will assess your understanding of the topics of the course, i.e., relate to objectives 1--6. By passing the exam you will have demonstrated the ability to apply critical thinking in evaluating and choosing appropriate model-driven development technologies (BE graduate attribute [3\(f\)](#)).

Textbook

There is no suitable course textbook available yet, but students with a deeper interest in the subject may find the following book useful:



Steven Kelly and Juha-Pekka Tolvanen
Domain-Specific Modeling: Enabling Full Code Generation
Wiley, 2008.

This text is only loosely connected to the course. We will cover only some parts of the text and a lot of material covered

in lectures is not in the book.

Lectures and Practical work

Lectures for SWEN 424 take place in at the Kelburn campus.

- **Wednesday, Tuesday, EA 206, 11.00-11.50**
- other slots will be by announcement only.

We will usually hand out copies of the lecture slides, though we cannot guarantee to always have them ready for the lecture.

Practical Work

There will be a reading assignment and a project.

No.	Title	Due Date
1	Project	30/9/2016
2	Reading Assignment	23/09/2016

Use the [electronic submission system](#) to submit your work.

Late assignments will be accepted up to one week after the deadline. After that they will only be accepted in exceptional circumstances and after prior consultation with the course coordinator. There is no penalty for a late submission within the one week grace period. Submissions received after the grace period attract a penalty of an E (0%) grade for the respective component. The assignment and the project contribute to the overall course grade. Instructions for the assignment and the project will be provided in lectures and on the course web site.

The deadline for handing in the project deliverables, i.e., research report and the artefacts, is the 30/9/2016. [Submit](#) the report, and any artefacts created (e.g., metacase tool files).

Workload

In order to maintain satisfactory progress in SWEN 424, students should plan to spend an average of at least 10 hours per week on this paper. An approximate breakdown for these hours is:

Activity	Time
Lectures	2 h
Reading, revision and preparation	2 h
Reading Assignment	1 h
Research Project	5 h

Some students will need less time than this; others will need more.

Working Together and Plagiarism

We encourage students 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, students must hand in their own work.

Please read the [School Policy on Plagiarism](#). 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 a student had help from someone else with some detail, it is not plagiarism as long as the student states who provided help regarding that detail.

Passing SWEN 424

To pass SWEN 424 a student must achieve at least a **D** in the final exam and gain at least an average of **C-** over all the assessment.

A student's grade for SWEN 424 will be determined based on the following assessment weightings:

Item	Weight
Reading Assignment	10%
Project	25%

Final Examination (2 hours)	65%
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Mandatory Requirements

None.

Exam

There will be a 2 hour final exam in the official examination period 21 October - 12 November. The [timetable for final examinations](#) will be posted on the notice board outside the faculty office.

No computers, or programmable electronic calculators or similar devices will be allowed. Non-electronic foreign language dictionaries will be allowed.

Withdrawal

The last date for withdrawal from SWEN 424 with entitlement to a refund of tuition fees is Friday 22 July 2016. The last date for withdrawal without being regarded as having failed the course is Friday 23 September 2016 -- though later withdrawals may be approved by the Dean in special circumstances.

Additional Information

Staff

 <p>Thomas Kühne tk@ecs.vuw.ac.nz</p> <p>Coordinator</p> <p>CO 233 04 463 5443</p>	 <p>Ben Hurst</p> <p>Class Representative</p>
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Announcements and Communication

The main means of communication outside of lectures will be the [SWEN 424 web pages](#) at http://ecs.victoria.ac.nz/Courses/SWEN424_2016T2/. There you will find, among other things, this document, the [lecture times](#), [assignments](#), and the [SWEN 424 Forum](#).

Questions and comments can be posted to this web-based bulletin board system, and staff will read these posts and frequently respond to them. We will assume that all students check the announcements on the forum electronically at least once a week.

School of Engineering and Computer Science

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

Computing Facilities

Our network of Unix NetBSD workstations (and some Apple machines) is available for practical assignment work. The laboratories are open from 7am to 7pm on weekdays. In addition, students may use their student card to access the labs after 7pm weekdays and in the weekends.

Using one's own computer

If you have access to a computer outside the labs, you may use it to work on the assignments, but you will need to install any appropriate software yourself.

Please note that we do not have the resources to provide assistance if you have difficulties with a computer at home. We can only answer questions about the assignments 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.

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](#)
