

# Software Architectures

Programme course

6 credits

Programvaruarkitekturer

TDDE41

Valid from: 2020 Spring semester

**Determined by**

Board of Studies for Computer Science  
and Media Technology

**Date determined**

2019-09-23

## Main field of study

Information Technology, Computer Science and Engineering, Computer Science

## Course level

Second cycle

## Advancement level

A1X

## Course offered for

- Master's Programme in Computer Science
- Computer Science and Engineering, M Sc in Engineering
- Industrial Engineering and Management - International, M Sc in Engineering
- Industrial Engineering and Management, M Sc in Engineering
- Information Technology, M Sc in Engineering
- Computer Science and Software Engineering, M Sc in Engineering

## Specific information

The course can not be included in degree together with TDDDo5

## Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

## Prerequisites

Software engineering - theory. Object-oriented programming. It is not required but good to have some experience in reading software engineering papers. Software quality. Metaprogramming.

## Intended learning outcomes

After the course students should be able to

- Describe technical platforms, conditions for and challenges with the development of larger software systems
- Describe how techniques such as metaprogramming and virtualization are used in component-based models such as, for example, Enterprise Java Beans, OSGi, and Web Services
- Relate industrial and theoretical issues in the development of larger software systems to contemporary software development methods and techniques
- Analyze and critically evaluate a software architecture and relate its properties to Software Engineering research.

## Course content

Component Models, Object-Oriented Frameworks for Component Systems, Metaprogramming, Messaging Systems, Web Services, Application Frameworks, Software Architectures, Software Quality Analysis

## Teaching and working methods

The course consists of seminars and a set of lab sessions.

## Examination

PRA1	Project assignment	3 credits	U, G
UPG1	Written assignment	3 credits	U, 3, 4, 5

## Grades

Four-grade scale, LiU, U, 3, 4, 5

## Course literature

Richard N. Taylor, Nenad Medvidovic, Eric M. Dashofy. Software Architecture - Foundations, Theory & Practice, John Wiley & Sons, 2010

## Other information

### About teaching and examination language

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is Swedish, the course as a whole or in large parts, is taught in Swedish. Please note that although teaching language is Swedish, parts of the course could be given in English. Examination language is Swedish.
- If teaching language is Swedish/English, the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English (depending on teaching language).
- If teaching language is English, the course as a whole is taught in English. Examination language is English.

### Other

The course is conducted in a manner where both men's and women's experience and knowledge are made visible and developed.

The planning and implementation of a course should correspond to the course syllabus. The course evaluation should therefore be conducted with the course syllabus as a starting point.

## Department

Institutionen för datavetenskap

## Director of Studies or equivalent

Ola Leifler

## Examiner

Lena Buffoni

## Education components

Preliminary scheduled hours: 30 h

Recommended self-study hours: 130 h

## Course literature

### Other

Further literature will be announced on the course home page.