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 TDDD05

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 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

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

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.