

# **Software Architectures**

Programme course

6 credits

Programvaruarkitekturer

TDDE41

Valid from: 2019 Spring semester

**Determined by**Board of Studies for Computer Science and Media Technology

Date determined 2018-08-31

# Main field of study

Information Technology, Computer Science and Engineering, Computer Science

#### Course level

Second cycle

#### Advancement level

A<sub>1</sub>N

#### Course offered for

- Computer Science and Engineering, M Sc in Engineering
- Information Technology, M Sc in Engineering
- Computer Science and Software Engineering, M Sc in Engineering
- Master's Programme in Computer Science
- Industrial Engineering and Management, M Sc in Engineering
- Industrial Engineering and Management International, 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 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
PRA <sub>1</sub>	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

# 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.

