

# Component Based Software

Programme course

6 credits

Komponentbaserad programvara

TDDD05

Valid from: 2017 Spring semester

**Determined by**

Board of Studies for Computer Science  
and Media Technology

**Date determined**

2017-01-25

**Replaced by**

TDDE41

## Main field of study

Information Technology, Computer Science and Engineering, Computer Science

## Course level

Second cycle

## Advancement level

A1X

## Course offered for

- 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
- Computer Science, Master's programme
- Information Technology, M Sc in Engineering
- Computer Science and Software Engineering, M Sc in Engineering

## 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. Some experience in reading software engineering papers.

## Intended learning outcomes

After the course students should be able to

- Describe technical platforms, conditions for and challenges with the development of larger, component-based software systems
- Describe component models and application platforms such as, for example, Enterprise Java Beans, OSGi, CORBA and Web Services
- Relate industrial and theoretical issues in the development of larger, component-based software systems to contemporary software development methods and techniques such as aspect-oriented programming and model-based development
- Analyze and critically evaluate a technical platform for component-based software development 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, AspectJ, Software Architectures and Model-based Development.

## Teaching and working methods

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

## Examination

UPG3	Individual report	4 credits	U, 3, 4, 5
UPG2	Seminar hand-in assignment	2 credits	U, G

## Grades

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

## Department

Institutionen för datavetenskap

## Director of Studies or equivalent

Ahmed Rezine

## Examiner

Ola Leifler

## Course website and other links

<http://www.ida.liu.se/~TDDD05>

## Education components

Preliminary scheduled hours: 30 h

Recommended self-study hours: 130 h

## Course literature

### Additional literature

#### Books

Clemens Szyperski, (2002) *Component Software - Beyond Object-oriented programming* Second Edition Addison-Wesley

#### Other

Further literature will be announced on the course home page.

## Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at [http://stydokument.liu.se/Regelsamling/Innehall/Utbildning\\_pa\\_grund-\\_och\\_avancerad\\_niva](http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva).