Software Engineering Theory

Programme course

4 credits

Programutvecklingsmetodik, teori

TDDC93

Valid from: 2017 Spring semester

Determined by
Board of Studies for Computer Science
and Media Technology

Date determined
2017-01-25

Main field of study
Computer Science and Engineering, Computer Science

Course level
First cycle

Advancement level
G2X

Course offered for
- Computer Science and Software Engineering, M Sc in Engineering
- Computer Science and 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
The student must be well acquainted with programming in at least one high level programming language and must have used advanced algorithms and data structures. Elementary knowledge about object-oriented analysis and design. The student must also be acquainted to work without a central course book.

Intended learning outcomes
The purpose of the course is that the students shall acquire good knowledge in large-scale software engineering. After the course the students shall be able to:
- explain and exemplify basic concepts in the area of large-scale software engineering
- explain how to specify, model, implement and test a software system
- explain how to execute a software development project

Course content
The following subjects are covered in the lectures:
- Requirements.
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- Planning and processes.
- Design and Architecture.
- Testing and Software Configuration Management.
- Software Quality.

Teaching and working methods

The course contains lectures focusing on the theoretical parts of software development, with examples from industry and research. Small practical exercises and discussions are performed.

Examination

UPG1	Voluntary hand-in assignment	0 credits	U, G
TEN1	Written exam	4 credits	U, 3, 4, 5

TEN1 is a written exam on the course book and the lectures. UPG1 are voluntarily exercises which can give extra credit on the three planned exams during the study year.

Grades

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

Other information

Supplementary courses: Software engineering project

Department

Institutionen för datavetenskap

Director of Studies or equivalent

Ahmed Rezine

Examiner

Kristian Sandahl

Course website and other links

http://www.ida.liu.se/~TDDC93

Education components

Preliminary scheduled hours: 32 h
Recommended self-study hours: 75 h

Course literature

Additional literature

Books

Pfleeger, S. L. and Atlee, J. M, (2010) *Software Engineering Theory and Practice*
4th edition
ISBN: 0-13-814181-9

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://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.