Software Engineering

Single subject and programme course

12 credits

Programutvecklingsmetodik

725G64

Valid from: 2010 Autumn semester

Determined by
The Quality Board at the Faculty of Arts and Sciences

Date determined
2011-10-28

Main field of study
Information Systems

Course level
First cycle

Advancement level
G2X

Course offered for
- Master Programme in IT and Management
- Bachelor programme in Information Systems Analysis

Entry requirements
Basic programming experience in Java. Basic knowledge in UNIX. Basic knowledge in object-orientation, algorithms, data structures and databases.

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
•specify, model, implement and test a smaller software system
•define, plan and execute a development project in a group of about 30 students, where several smaller groups can be formed.
•elicit, analyze and document experience from the own development project
•use basic functions from a selection of tools used in software industry.

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

Teaching and working methods

The course contains lectures, seminars and practical exercises. The lectures focus on the theoretical parts of software development, with examples from industry and research. The project is organized by grouping the students into teams where the members work together to perform a development project with a fictitious customer who states the requirements. The project aims to give students practical experience in the different steps in a development process: feasibility study, requirements specification, system design, detailed design, implementation, integration, testing, and deployment. Interactive development methods are used. The course runs the entire semester. The seminars are project status meetings and give the students an opportunity to train presentation technique and to coordinate and discuss project progress. The labs are carried out in groups of two students and give basic training in a selection of tools suitable for the project work.

Examination

Written examination, Laboratory work, Project work and Voluntary hand-in assignment.

TEN1 is a written exam on the course book and the lectures.

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it. If the coordinator has instead recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

Grades

Three-grade scale, U, G, VG

Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus.

The course is carried out in such a way that both men´s and women´s experience and knowledge is made visible and developed.

Department

Institutionen för datavetenskap