Software Engineering - Bachelor Project

Programme course

15 credits

Kandidatprojekt i programvaruutveckling

TDDD96

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 Engineering, 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

To start the course project, the following requirements must be met:

- Promotions requirement to programme semester 6 (see below) are met.
- Completed the subject courses in:
    - programming in multiple programming paradigms
    - data structures and algorithms
    - concurrent programming and operating systems
    - perspectives to computer technology

Intended learning outcomes

Subject knowledge:
The student is expected to:

- systematically integrate knowledge acquired during their studies, particularly in programming and computer science
- apply the method and subject-area knowledge skills in computer science
- summarize the content of the relevant literature and relate this to their own work

Individual and professional skills:
The students are expected to demonstrate the ability to:

- formulate problems in developing requirements corresponding to the customer's real needs and define a project within given time frames
- search and evaluate scientific literature

Work in a group and communicate:
The student is expected to demonstrate the ability to:

- plan, carry out and present an independent work by participating in a project team of 6-8 people which tackles a programming task of an external customer
- professionally express themselves in writing and orally
- critically examine and discuss a similar independent work presented in writing and orally

CDIO professionalism:
The student is expected to

- create, analyze, and/or evaluate technical solutions
- do assessments, taking into account relevant scientific, societal, ethical snd sustainability aspects

Course content

Software development methodology, processes, leadership, team organization, written and oral presentation

Teaching and working methods

The course consists of an independent work. Student groups are appointed by lot. Each group of students is appointed a tutor and an examiner. The Department produces a list of suggestions for requested projects from external clients. Projects can vary from year to year and the student groups rank preferred projects that are finally distributed by the examiner. The project is done in groups according to examiner's instructions. The work is conducted both individually and in groups with guidance from the tutor.
Students are required to sign agreements with the client about the secrecy and the right of exploitation according to the client whishes.

Each group presents their work from different perspectives during a series of seminars, where other groups are serving as opponents. Each student must have completed at least one presentation and one opposition. Students must participate in at least 4 of 5 seminars, of which the last two are mandatory.
In parallel with the project knowledge in written/oral communication are communicated and practiced at seminars with compulsory attendance. There will also be a seminar about sustainability with focus on energy consumption of different system solutions.

Examination

UPG2	Opposition	U, G	1 credits
UPG1	Project	U, G	14 credits

Grades are given as ’Fail’ or ’Pass’.

Grades

Two-grade scale, U, G

Other information

Supplementary courses:
Courses at advanced level in programming, design, testing, quality factors such as usability, security, etc.

Department

Institutionen för datavetenskap

Director of Studies or equivalent

Ahmed Rezine

Examiner

Kristian Sandahl

Education components

Preliminär schemalagd tid: 64 h

Rekommenderad självstudietid: 336 h

Course literature

Bestäms både gruppvis och individuellt för varje student i samråd med examinator och handledare. Studenterna har själva ett ansvar att hitta lämpliga referenser till kandidatarbetesrapporten.

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.