



COMPUTER SCIENCE AND ENGINEERING

DIT092 Mini Project: Team Programming, 7.5 higher education credits

Miniprojekt: Team-programmering, 7,5 högskolepoäng

First Cycle

Confirmation

This course syllabus was confirmed by Department of Computer Science and Engineering on 2017-06-09 to be valid from 2017-08-28, autumn semester of 2017.

Field of education: Science 100%

Department: Computer Science and Engineering

Position in the educational system

The course is a compulsory course in the Software Engineering and Management Bachelor's Programme.

The course can be part of the following programmes: 1) Software Engineering and Management Bachelor's Programme (N1SOF) and 2) Software Engineering and Management, Bachelor's Programme (N1SEM)

Main field of studies

Software Engineering

Specialization

G1F, First Cycle, has less than 60 credits in first-cycle course/s as entry requirements

Entry requirements

To be eligible for this course, students must have completed 7,5 hec in object oriented programming (for example DIT042 Object-Oriented Programming, 7.5 hec).

Learning outcomes

On successful completion of the course the student will be able to:

Knowledge and understanding

- relate software development to project and product management activities such as project planning and cost estimation,
- explain the impact of human factors and team dynamics on project efficiency and success,
- analyze a programming problem and describe the problem in an abstract way,

Skills and abilities

- define criteria for project reviews,
- identify and manage the risks involved in a project,
- resolve conflicts and negotiate successfully with project members,
- design and implement an object oriented solution from a problem description,
- communicate with stakeholders and solicit requirements,

Judgement and approach

- work in a project team, divide a project in tasks and dividing tasks among team members,
- take individual responsibility within a project team,
- communicate and interact professionally within a project team, and
- communicate results of the project to interested parties in professional ways.

Course content

The course introduces the students the concepts and practices of software development projects. The course has two general themes: (1) the importance of product, project, and people management; (2) the process of creating software, the skill of programming and working together as a team towards a common goal.

The purpose of this course is to give the students an introduction to the project management area and the tools and techniques used to manage software development projects. The course introduces the students to the human element and discusses people, personalities and dynamics and the way in which they have an impact on IT projects. Areas such as cost estimation, risk management, and project evaluation are also discussed.

Along the second general theme, students work in groups to create a software prototype and relevant documentation from a conceptual idea and specification. During the project the student is presented to a software development process to give the student a basic understanding of fundamental phases like analysis, design, implementation and test. The project part is organized as group work, enabling the student to practice and develop their skills to collaborate, communicate and take responsibility in project groups. The project is realistic, based on a customer's need of an application. The project requires the student to organize their work efficiently.

Sub-courses

1. **Project** (*Projekt*), 4.5 higher education credits
Grading scale: Pass with Distinction (VG), Pass (G) and Fail (U)
2. **Assignments** (*Inlämningsuppgifter*), 3 higher education credits
Grading scale: Pass (G) and Fail (U)

Form of teaching

The teaching consists of introductory lectures, weekly group meetings, seminars, as well as supervision in connection to the meetings.

Language of instruction: English

Assessment

The course is examined through artifact review and oral examination. The project part is examined by a demonstrable system which is presented orally at a seminar at the end of the course. The project part is also examined by a final written report. The work is carried out in groups of 5-7 students.

Furthermore, the student needs to submit a written report where the student shows his or her:

- artifact contributions to the project and subgroup he/she was a member of,
- role in the project group,
- fulfillment of responsibilities for this role in terms of artifacts and activities,
- interaction and knowledge transfer activities with others, and
- how this contributed to the project as a whole.

The assignments part, also carried out in groups, is examined on the basis of solutions to compulsory problems handed in during the course and on the basis of relative contribution of the group members.

Students are required to complete written self- and peer-assessment forms during the course which will be part of the assessment of the student's individual contribution to the project.

In case a student fails the project, one individual re-examination is provided. In case of failing that re-examination, the student has to join a new project group. Retake examinations of the assignments part consist of additional individual assignments.

If a student, who has failed the same examined component twice, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course and shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

In cases where a course has been discontinued or has undergone major changes, the student shall normally be guaranteed at least three examination occasions (including the ordinary examination) during a period of at least one year from the last time the course was given.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

To be awarded Pass (G) for a full course, the students must pass both the project part and the assignments part with at least grade (G). To be awarded Pass with Distinction (VG) for a full course, the student must, in addition, receive a VG on the project part.

Course evaluation

The course is evaluated through a meeting after the course between teachers and student representatives. Further, an anonymous questionnaire is used to ensure written information. The outcome of the evaluations serves to improve the course by indicating which parts could be added, improved, changed or removed.

Additional information

Course literature to be announced 8 weeks prior to the start of the course.