



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### **DIT279 Industrial Project in Software Engineering, 15 credits**

Industriellt projekt i Software Engineering, 15 högskolepoäng

*Second Cycle*

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#### **Confirmation**

This course syllabus was confirmed by Department of Computer Science and Engineering on 2017-12-19 to be valid from 2018-08-19, autumn semester of 2018.

*Field of education:* Science 100%

*Department:* Department of Computer Science and Engineering

#### **Position in the educational system**

The course is offered within the Software Engineering and Management Master's Programme.

The course can be part of the following programme: 1) Software Engineering and Management Master's Programme (N2SOF)

*Main field of studies*

Software Engineering

*Specialization*

A1F, Second cycle, has second-cycle course/s as entry requirements

#### **Entry requirements**

To be eligible for the course, at least 45 credits must come from courses on the advanced level within the area of software engineering, including the following courses: DIT276 Requirements Engineering, DIT847 Software Quality, DIT278 Empirical Software Engineering, and DIT844 Project Management, or equivalent.

To be admitted to the course the student must

1. demonstrate by a signed letter of support that there is interest in a company to collaborate with the student under conditions described in the course objectives,
2. identify an academic supervisor who is committed to supervise the student and monitor the progress towards the learning goals,

3. provide a planning report that clearly defines the project goals, the project execution, and how the project relates to the learning goals.

Students get admitted on approval of the planning report.

The subject of the proposed project should be in the field of software engineering. The planning report should describe:

- which company offers the practice placement to the student, including the contact persons and written consent/invitation from the company,
- which academic supervisor will monitor the progress towards the learning goals,
- project assumptions in the form of initial problem formulation,
- forms of project work, including the timeframe,
- deliverables from the student project to the company,
- how potential questions about intellectual property rights should be resolved.

Applicants must prove knowledge of English: English 6/English B or the equivalent level of an internationally recognized test, for example TOEFL, IELTS.

### **Learning outcomes**

*After the course the student should be able to:*

#### *Knowledge and understanding*

- describe the differences between the theoretical and practical principles (and assumptions) of how software engineering methods are or should be used
- identify a number of software engineering methods applicable to solve the problem at hand and point to the appropriate empirical research showing their capability to solve the industrial problem
- distinguish software engineering problems from other types of problems, e.g. those related to hardware

#### *Competence and skills*

- solve the problem at hand using the chosen methods
- apply the knowledge from courses in the area of software engineering to contribute to the development of the host company
- choose the most appropriate method under the circumstances which are relevant for the host company

#### *Judgement and approach*

- reflect over the theoretical assumptions of the applied software engineering methods
- evaluate the contribution of the project to the development of the host company both in the short and in the long run

**Course content**

The course aims to apply theoretical knowledge in practice to learn about considerations and trade-offs between theory and practice, and to build an in-depth understanding of a selected problem area in software engineering.

This course is formed mainly by an individual project placed at a software development company. The project contains parts which in practice test whether the knowledge obtained in the program is applicable in the practice.

The students in this course are expected to apply in practice their knowledge and contribute to the normal operations of the hosting company. The students have to show that they are capable to identify industrial problems where advanced knowledge in software engineering can be applied. The problem should also be solved.

The project should include comparison of different methods which could potentially be used to solve the problems. The comparison should include a reflection over theoretical principles and assumptions of the methods and their relation to the industrial constraints and practices.

**Form of teaching**

*Language of instruction:* Swedish and English

**Assessment**

The course is assessed through an individual written final report, and a demonstration of the project results.

The final report is a written document which describes how the learning outcomes of the course were achieved and in which way the project contributed to the development of the company. The report should be accompanied by a demonstration of the main results of the project to the examiner.

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). In order to pass the course both the final report and the demonstration have to be approved.

The final grade in the course is decided from the grade of the final report.

**Course evaluation**

The course is evaluated through 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**

The course is a joint course together with Chalmers.

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

The course replaces the course DIT277, 15 credits. The course cannot be included in a degree which contains DIT277. Neither can the course be included in a degree which is based on another degree in which the course DIT277 is included.