



COMPUTER SCIENCE AND ENGINEERING

DIT191 Agile Development Processes, 7.5 credits

Agile Development Processes, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by The IT Faculty Board on 2009-09-22 and was last revised on 2017-06-07 by Department of Computer Science and Engineering to be valid from 2017-08-20, autumn semester of 2017.

Field of education: Science 100%

Department: Computer Science and Engineering

Position in the educational system

The course is a part of the Computer Science Master's programme and an elective course at the University of Gothenburg. The course is also offered as an elective course in the Software Engineering Master's programme.

The level for the course in relation to degree requirements is Master's degree, code A1N. The course has course/courses at first cycle level as entry requirements.

The course can be part of the following programmes: 1) Computer Science, Master's Programme (N2COS), 2) Software Engineering and Management, Master's Programme (N2SEM), 3) Applied Data Science Master's Programme (N2ADS), 4) Game Design & Technology Master's Programme (N2GDT), 5) Software Engineering Master's Programme (N2SOM), 6) Computer Science, Bachelor's Programme (N1COS), 7) No translation available (NDATM) and 8) Software Engineering and Management Master's Programme (N2SOF)

Main field of studies

Computer Science-Software Engineering and Tech

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

To be eligible for the course students should have successfully completed a first year studies within the subject Computer Science or equivalent.

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 completing the course the student is expected to be able to:

1. Knowledge and understanding

- compare agile and more traditional software development
- relate lean and agile development
- contrast different agile methodologies
- use the agile manifest and its accompanying principles
- discuss what is different when leading an agile compared to traditional teams

2. Skills and abilities

- forming a team organically
- collaborate in small software development teams
- interact and show progress continuously with a customer or user
- develop programs using small and frequent iterations
- use test-driven development and test automation
- refactor a program and a design
- be member of an Agile team
- conduct incremental planning using user stories

3. Judgment and approach

- explain how software development can be seen as primarily people- and communication-centric
- apply the fact that people are the primary drivers of project success
- describe why no single methodology can fit all projects or contexts
- discuss how development methodologies need to adapt to varying human cultures and choices.

Course content

The course teaches how to use agile methods in software development and how to work in projects based on the following principles taken from the Manifest for Agile Software Development:

- Individuals and interactions, over processes and tools
- Working software, over comprehensive documentation
- Customer collaboration, -over contract negotiation
- Responding to change, -over following a plan

The course covers:

- Management and methods to develop programs incrementally
- Principles of Agile processes
- Refactoring (restructuring) of programs and designs
- Testing and test automation on both unit and system levels
- Communication- and people-centric software development
- Agile methods in relation to more traditional, plan-based methods
- Criticism to agile development methods

Sub-courses

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

Form of teaching

Language of instruction: English

Assessment

The course is examined by project (4.5 hec), done in teams, and a individual written hall exam (3.0 hec).

A student who has failed the same examination twice has the right to request a change of examiner of the department. The request is to be in writing and submitted as soon as possible. The department is to grant such a request without undue delay.

Grades

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

The complete course grade is decided by the written examination. A student has to pass both the project and the writtemn exam in order to pass the course. To be awarded Pass with Distinction (VG) for a full course the student has to receive the grade VG in the exam and the project must be approved.

Course evaluation

The course is evaluated through meetings both during and after the course between teachers and student representatives. Further, an anonymous questionnaire can be 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