



Course syllabus

Programvaruutveckling i grupp - projekt Software Development in Teams - Project

EDAF45, 7,5 credits, G2 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED C/D

Date of Decision: 2023-04-18

General Information

Main field: Technology.

Compulsory for: C2, D2

Elective for: E4

Language of instruction: The course will be given in Swedish

Aim

The aim with this course is to give knowledge about and practical experience on cooperation within a software development team.

Focus is on the method Extreme Programming, which uses a highly iterative work process.

The course covers principles for customer cooperation, planning, sustainable design and implementation, testing, and delivery of the product.

The course also gives additional training in object-oriented programming.

The course also covers an introduction to program development methodology in general and the terminology used.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- be able to present and motivate the different practices within extreme programming
- be able to present principles for version control
- be able to define basic terms and definitions in software engineering.
- be able to describe the most common software development processes.

Competences and skills

For a passing grade the student must

- be able to develop and deliver a sustainable software product in cooperation with others
- be able to apply practices and tools for automated testing, refactoring, and version control
- be able to apply iterative planning
- be able to apply pair programming
- be able to reflect on your own and the team's activities during a development project and understand how these contribute to a successful development process.

Contents

A concrete iterative software development method is used where the students are trained to work in a team. The method is based on Extreme Programming (XP), with practices like iterative planning, automated testing, test-driven development, pair programming, refactoring, and frequent releases.

Customer requirements are formulated and prioritized in cooperation with the students. This way, the students get an insight into the different roles in the work process, e.g., as customer, project leader, and developer, and insight into the needs of the customer and how they can be handled. The course gives practical experience from how a small project can be run and thereby a frame of reference for subsequent courses that treat methodology for software development in larger projects and organizations.

The course covers two study periods. During the first period a series of lectures are given, supported by lab sessions on specific topics like planning, testing, version control, and refactoring. During the second period, the students work in teams of around 10. Each team carries out a software development project structured as a sequence of iterations, each consisting of a planning meeting and a development session.

At the end of the course, the teams present their developed products.

Examination details

Grading scale: UG - (U,G) - (Fail, Pass)

Assessment: To qualify for a passing grade the students must have completed the laboratory work, the planning meetings, the reflections, the development sessions and the presentation of the developed product. They must also pass a small written examination.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts

Code: 0116. **Name:** Laboratory Work and Short Written Examination.

Credits: 2,5. **Grading scale:** UG. **Assessment:** Passed laboratory work. Passed short written examination.

Code: 0216. **Name:** Project.

Credits: 5. **Grading scale:** UG. **Assessment:** Passed all parts of the project.

Admission

Admission requirements:

- The compulsory course items of EDA061/EDAF60 or EDAF10. Also a passing grade on the written exam of at least one of the courses EDAA01, EDA027, EDA061/EDAF60, EDAF10

The number of participants is limited to: 160

Selection: The course is open only to Swedish-speaking students due to the focus on collaboration. Admission guaranteed for students for whom the course is mandatory. Selection rules for the remaining places: Completed university credits within the programme. Priority is given to students enrolled on programmes that include the course in their curriculum.

The course overlaps following course/s: EDA321, EDA322, EDA260, EDAG05, ETSA03

Reading list

- chromatic: Extreme Programming Pocket Guide. O'Reilly, 2003, ISBN: 0-596-00485-0. Additional material (articles) will be distributed by the department.
- Pankaj Jalote: A Concise Introduction to Software Engineering. Springer, 2008, ISBN: 978-1-84800-301-9.

Contact and other information

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Course homepage: <http://cs.lth.se/edaf45>