



**LUNDS UNIVERSITET**  
Lunds Tekniska Högskola

*Course syllabus*

# Konfigurationshantering Configuration Management

**EDAN10, 7,5 credits, A (Second Cycle)**

**Valid for:** 2023/24

**Faculty:** Faculty of Engineering, LTH

**Decided by:** PLED C/D

**Date of Decision:** 2023-04-18

## General Information

**Elective for:** BME4, C4-da, D4-se, E4-pv, F4, I4-pvs, Pi4

**Language of instruction:** The course will be given in English

## Aim

The objective of the course is to give the student basic and advanced knowledge and skills in Software Configuration Management (SCM). To explain the general concepts and principles of SCM. To experiment with specific techniques and mechanisms in existing SCM tools. To give an understanding of how an SCM system is composed from processes, tools and people. To show how SCM can service and support other parts of the software development process. The course gives training in reviewing scientific papers.

## Learning outcomes

### *Knowledge and understanding*

For a passing grade the student must

- be able to identify and explain problems caused by missing or bad SCM
- be able to describe and motivate traditional SCM and its activities
- be able to define basic and fundamental concepts and principles of SCM
- be able to describe and motivate principles for developer-oriented SCM
- be able to relate the SCM solutions to the needs at different levels and roles

### *Competences and skills*

For a passing grade the student must

- be able to create and define processes for different SCM tasks
- be able to select and adapt general SCM principles to specific contexts

- be able to evaluate and select a branching strategy for a given context
- be able to develop and implement a change management process
- be able to structure and write an SCM plan
- be able to make guided experiments with SCM tools

### *Judgement and approach*

For a passing grade the student must

- be able to write a critical review of a scientific paper on SCM
- be able to test and evaluate SCM tools
- be able to find and read through quantities of literature

## Contents

Problems and goals of SCM; SCM concepts and principles; collaboration, communication and co-ordination; SCM for parallel and distributed development; SCM work models; build processes; SCM repositories; branching and merging; SCM activities: Identification, Control, Status Accounting, Audit; release management; SCM plans and roles; SCM and related areas (OSS, XP, PDM, SPF); SCM in industry. Computer labs: CVS, Perforce and Git. Project: SCM plan.

Lectures give an overview over the literature as a help for further self-study. Seminars give possibility for in-depth discussions and insights after self-study of literature. Exercise sessions relate the theory to practical problems through group discussions of possible solutions to exercises. Labs give training and insight into how different concepts and principles can be implemented in different ways in different tools. The project gives possibility to dig deeper into and read more about a part of the course that the group finds particularly interesting.

## Examination details

**Grading scale:** TH - (U,3,4,5) - (Fail, Three, Four, Five)

**Assessment:** Compulsory course items: laboratory work, a paper review (with student peer assessment) and a project work. Oral examination. To qualify for the examination students must have completed the laboratory work and the paper review. The practical tool aspects are evaluated during the computer labs (pass/fail). The rest of the course is evaluated through an oral exam in group and through the group's project. Grading is individual: U/3/4/5. The final grade of the course is based on the result of the oral exam.

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:** 0111. **Name:** Compulsory Course Items.

**Credits:** 1. **Grading scale:** UG. **Assessment:** For a passing grade, the students must have completed all six parts with a satisfactory result. **Contents:** A paper review of a scientific paper on configuration management, three tool labs with lab reports and two student peer assessments (on paper review and one tool lab report). **Further information:** To qualify for the examination part of the course, "Compulsory Course Items" (and "Project") must have been completed with a satisfactory result.

**Code:** 0211. **Name:** Project.

**Credits:** 2. **Grading scale:** UG. **Assessment:** For a passing grade the project work must be completed with a satisfactory result. **Contents:** A compulsory project work. **Further information:** To qualify for the examination part of the course, "Project" (and "Compulsory Course Items") must have been completed with a satisfactory

result.

**Code:** 0311. **Name:** Examination.

**Credits:** 4,5. **Grading scale:** TH. **Assessment:** Oral examination. **Further information:** To qualify for the examination, the student must have completed both "Compulsory Course Items" and "Project" with a satisfactory result.

## Admission

**Admission requirements:**

- For D: EDAF45 Software development in teams - project or ETSN05 Software development for large systems. For C, E, F, I and Pi: EDAG05 Agile Software Development - Project or EDAA01 Programming - second course or EDAF05 Algorithms, Data Structures and Complexity plus experience from project work in group

**The number of participants is limited to:** 56

**Selection:** 5 places (maximum) will be allotted for exchange students. 51 places are allotted to students from LTH. Criteria for selection: Credits awarded or credited within the study programme.

**The course overlaps following course/s:** EDA240

## Reading list

- Compendium of selected papers.

## Contact and other information

**Course coordinator:** Univ.lektor Lars Bendix, [Lars.Bendix@cs.lth.se](mailto:Lars.Bendix@cs.lth.se)

**Course homepage:** <http://cs.lth.se/edan10>

**Further information:** The exam is oral and takes place in the normal exam period after the course is over. Re-exams can be scheduled as needed. For exchange students: software development and work group experience are relevant for the course.