



COURSE SYLLABUS

Agil och Lean utveckling av mjukvaruintensiva produkter Agile and Lean Development of Software Intensive Products 7.5 credits (7,5 högskolepoäng)

Course code: PA2580

Main field of study: Software Engineering

Disciplinary domain: Technology

Education level: Second cycle

Specialization: AIN - Second cycle, has only first cycle course/s as entry requirements

Subject area: Computer Technology

Language of instruction: English

Applies from: 2020-08-31

Approved: 2020-02-26

1. Decision

This course is established by Dean 2019-11-25. The course syllabus is approved by Head of Department of Software Engineering 2020-02-26 and applies from 2020-08-31.

2. Entry requirements

At least 90 credits in a technical subject containing a completed course of at least 7.5 credits in Software Engineering or a Team Software Engineering Project, and including at least 30 credits in in one or more of the following areas Programming, Object-oriented Systems, Software Design, Data Structures and Algorithms, Database Technology, Data Communications, Real Time Systems, Operating System.

or

At least 90 credits within technology and a minimum of 2 years professional experience in software development (shown by, for example, a work certificate from an employer).

3. Objective and content

3.1 Objective

The course aims to provide an understanding of the application of software development in an environment based on the philosophy of lean and agile working methods. It includes an understanding of industry-relevant technologies to promote the development of software products as well as an understanding that value is of the utmost importance within businesses and organizations. The focus of the course is thus on creating a better understanding of the relationship between values and the influence of principles on businesses and organizations to achieve the best application of agile working methods and Lean as a philosophy.

3.2 Content

The course covers various values, principles, and methods that exist within the domain agile and lean. Analyzes of the relationships that exist between philosophy and principles lead to an understanding of how to use the methods to uphold the principles and achieve a holistic approach. The course also includes, with the help of tools for value flow analysis, understanding what "waste" means for businesses and organizations. We also analyze and discuss the use of flow technology and its central role in achieving better results in a business and organization.

4. Learning outcomes

The following learning outcomes are examined in the course:

4.1 Knowledge and understanding

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

- Be able to describe basics concepts and goals, common practices, and tools as Agile enablers and constraints.
- Be able to thoroughly explain various Agile frameworks, their differences, similarities, advantages, and disadvantages.
- Be able to build a value stream mapping based on a chosen process within an operation.

4.2 Competence and skills

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

- Be able to apply agile principles in detail and make an evaluation of how they relate to a business.
- Be able to plan and execute agile work using agile steps and tools.
- Be able to critically review an agile process using agile literature and thereby explain differences between different approaches.
- Be able to apply a value stream mapping on a chosen process within an operation.

4.3 Judgement and approach

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

- Provide a general explanation that justifies Agile and Lean development of a business.

5. Learning activities

The teaching is organised around online lectures, pre-recorded videos, written material, literature, and research literature. Throughout the course, communication, feedback, and discussions with teachers and fellow participants will take place through email and the course's online learning platform. The examination is done through written reports.

6. Assessment and grading

Modes of examinations of the course

Code	Module	Credits	Grade
2010	Written report 1	1.5 credits	GU
2020	Written report 2	1.5 credits	GU
2030	Written report 3	4.5 credits	GU

The course will be graded G Pass, UX Fail, supplementation required, U Fail.

The course-PM for each course revision should include the assessment criteria and make explicit in which modes of examination that the learning outcomes are assessed.

An examiner can, after consulting the Disability Advisor at BTH, decide on a customized examination form for a student with a long-term disability to be provided with an examination equivalent to one given to a student who is not disabled.

7. Course evaluation

The course evaluation should be carried out in line with BTH:s course evaluation template and process.

8. Restrictions regarding degree

The course can form part of a degree but not together with another course the content of which completely or partly corresponds with the contents of this course.

9. Course literature and other materials of instruction

Material such as research articles and other course materials is provided via the course's online platform and recommendations for further reading.

10. Additional information

This course replaces the course PA2563