COURSE SYLLABUS

Adaptiv Lean Programvarutestning
Adaptive Lean Software Testing
7.5 credits (7,5 högskolepoäng)

Course code: PA2579
Main field of study: Software Engineering
Disciplinary domain: Technology
Education level: Second cycle
Specialization: A1N - 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: 2020-02-10

1. Decision

This course is established by Dean 2019-11-25. The course syllabus is approved by Head of Department of Software Engineering 2020-02-10 and applies from 2020-08-31.

2. Entry requirements

At least 90 credits within 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 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 Systems.

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 purpose of the course is to provide elementary understanding about techniques and tools for verification and validation of software in environments where the principles for adaptive, agile, or lean software development are employed. The goal is to provide the student with branch-relevant knowledge about verification and validation that a test engineer shall know about in a modern development environment to foster the development of high quality software of use for IT-development within both industry and society at large.

3.2 Content

The course covers different testing techniques and tools for evaluation of both business quality and technical qualities of software while providing support for developers and continuous software development in adaptive, agile, or lean environments. Tools and techniques are presented from a technical perspective and how they affect/are affected by principles, processes, and people in the environment. This aims to provide a wholesome view and background to different verification and validation techniques and tools as well as how to apply them in different contexts.

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:
• Discuss the test engineer's role and contribution to an environment that employs the principles of adaptive, agile, or lean software development.
• Reason about choices of suitable test techniques in an environment that follows the principles of adaptive, agile, or lean software development.

4.2 Competence and skills

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

• Apply test techniques that are relevant for adaptive, agile, or lean software development and interpret the results of these techniques.
• Apply relevant test tools for automation of verification and validation in an environment that follows the principles of adaptive, agile, or lean software development.

4.3 Judgement and approach

On completion of the course, the student will be able to:
• Reason about benefits, drawbacks, assumptions, and limitations with the usage of different test techniques for adaptive, agile, or lean software development.
• Critically analyze research and literature on testing for adaptive, agile, or lean software development.

5. Learning activities

The teaching is organised around online lectures, pre-recorded videos, together with 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. The teaching language is English.

6. Assessment and grading

Modes of examinations of the course

Code	Module	Credits	Grade
2010	Assignments[1]	7.5 credits	GU

[1] Determines the final grade for the course, which will only be issued when all components have been approved.

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 PA2546