KURSPLAN
Mjukvaruutveckling ur ett produktperspektiv, 6 högskolepoäng

Software Engineering - a Product Perspective, 6 credits

Kurskod:	TMUR26	**Utbildningsnivå:**	Avancerad nivå
Fastställd av:	VD 2016-02-04	**Utbildningsområde:**	Tekniska området (95%) och samhällsvetenskapliga området (5%)
Gäller fr.o.m.:	2016-01-01		
Version:	1	**Ämnesgrupp:**	DT1
Diarienummer:	JTH 2016/820-313	**Fördjupning:**	A1N
		Huvudområde:	Produktutveckling

Lärandemål

After completing the course, the student shall

Kunskap och förståelse
- display knowledge of the nature of software as a product or part of a product;
- demonstrate comprehension of the different perspectives of software development;
- demonstrate comprehension of model-based approaches to software engineering;
- be familiar with the roles and professional responsibilities of the software engineer.

Färdighet och förmåga
- demonstrate skills of identifying and specifying requirements for a software product;
- demonstrate ability to develop software project plans.

Värderingsförmåga och förhållningssätt
- demonstrate ability to select and apply different life cycle models and approaches of software product development;
- demonstrate ability to select and apply different approaches to software re-use.

Innehåll

The course provides an overview of the software engineering domain as an evolving professional discipline that is concerned with software as a product or service in its own right, or as a component of a wider product. After studying the perspectives that apply to software engineering, the course focuses upon the elements of software development beyond the writing of code. The course introduces the concept of model-driven software engineering and offers students an example approach to follow. The course also covers the planning, control and monitoring of software development work.
The course includes the following topics:
- Software as a product itself or as part of a product (including maintenance and evolution)
- Software engineering as a profession (including ethics and sustainability)
- Process models for software development life cycles (including Agile and traditional

approaches)

- The importance of requirements and their place in the software product lifecycle
- Model Driven Software Engineering (including domain-specific and translational approaches)
- Software architecture and system design decisions
- Reuse (patterns, components, frameworks, Open Source and COTS, "commercial off the shelf")
- Usability engineering of software products
- The management of software projects (including estimation, risk analysis and control)
- Introduction to software process improvement

Undervisningsformer

The course will consist of lectures, seminars, exercises and practical work.

Undervisningen bedrivs på engelska.

Förkunskapskrav

Passed courses 180 credits in first cycle, at least 90 credits within the major subject in Computer Engineering, Electrical Engineering (with relevant courses in Computer Engineering) and 15 credits mathematics, and English language requirements corresponding to English 6 or English B

Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

The final grade for the course is based upon a balanced set of assesments.
The final grade will only be issued after satisfactory completion of all assesments

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Tentamen	2 hp	5/4/3/U
Laborationer och projektarbete	3 hp	5/4/3/U
Inlämningsuppgifter	1 hp	5/4/3/U

Kurslitteratur

The literature list for the course will be provided one month before the course starts

Main textbook:

Title: Software Engineering: Principles and Practice

Author: Hans van Vliet

Publisher: John Wiley & Sons, 2008, 3rd Edition

Additional literature:

Title: *Software Engineering Essentials:*

Volume 1: The Development Process

Volume 2: The Supporting Processes

Volume 3: The Engineering Fundamentals

Author: Richard Hall Thayer & Merlin Dorfman (eds.)

Publicher: SoftwareManagementTraining Press, 2013, 4th Edition.