



KURSPLAN

Säkra mjukvarusystem, 6 högskolepoäng

Safety and Security of Software Products, 6 credits

Kurskod:	TSMS25	Utbildningsnivå:	Avancerad nivå
Fastställd av:	VD 2015-02-09	Utbildningsområde:	Tekniska området (95%) och samhällsvetenskapliga området (5%)
Gäller fr.o.m.:	2015-08-01	Ämnesgrupp:	DT1
Version:	1	Fördjupning:	A1F
Diarienummer:	JTH 2015/2099-313		

Lärandemål

After completing the course, the student shall

Kunskap och förståelse

- demonstrate comprehension of basic safety and security terminology in the software domain
- be familiar with the role of safety and security standards in the development of products with software content
- display knowledge of some existing tools for evaluation software safety & security characteristics

Färdighet och förmåga

- demonstrate ability to analyse safety and security domains, addressing their causal factors, commonalities and differences
- demonstrate an ability to identify interdependencies between the safety and security aspects of software products

Värderingsförmåga och förhållningssätt

- demonstrate an ability to choose appropriate techniques for ensuring safety and security at all stages in the software development lifecycle
- demonstrate understanding of the socio-technical dimensions of software safety and security

Innehåll

The course explores software functionality in terms of the impact and differences between safety and security as they pertain to software-based products and their dependency on hardware and information content. The course illustrates analytical and design considerations of how to deliver software that is safe to use and secure against intrusions and attacks.

The course includes the following topics:

- Safety and security failures of software systems
- The human and organisational aspects of software safety and security
- The role of safety and security standards
- Safety versus security, and cross-cutting issues
- Assessing safety and security (including risk management and hazard analysis)

- Software dependability engineering (including availability, reliability, redundancy, recovery and survivability)
- Designing for safety and security, and defensive techniques
- Safety and security software assurance

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 Computer Engineering, Electrical Engineering (with relevant courses in Computer Engineering), and 15 credits Mathematics. In addition, completed courses Industrial Product Realization – Process-Methods-Leadership, 9 credits and Software Engineering – a Product Perspective, 9 credits (or the equivalent). Proof of English proficiency is required.

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 assessments. The final grade will only be issued after satisfactory completion of all assessments.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Examination	3 hp	5/4/3/U
Assignment	2 hp	5/4/3/U
Laboratory	1 hp	U/G

Övrigt

Exemption from entry requirement allowed according to the selection groups of the program, where the course is included.

Kurslitteratur

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