Course syllabus

Kravhantering
Requirements Engineering

ETSF30, 7,5 credits, G2 (First Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED C/D
Date of Decision: 2023-04-18

General Information

Compulsory for: IDA3
Language of instruction: The course will be given in Swedish

Aim

The objective of the course is to give basic and advanced knowledge and skills within requirements engineering for large-scale development of systems completely or partly based on software. The course gives practical skills in methods and techniques for requirements engineering.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be able to define basic concepts and principles within requirements engineering
- give an account of several different types of requirements
- be able to describe and value several different methods and techniques for requirements engineering
- be able to describe and relate different sub-processes within requirements engineering
- be able to describe the relation between the requirements engineering process and other processes in the product lifecycle.

Competences and skills
For a passing grade the student must

- be able to choose suitable requirements techniques for a given context
- be able to apply several different techniques for requirements elicitation

- be able to apply several different techniques for requirements specification
- be able to apply several different techniques for requirements validation
- be able to apply several different techniques for requirements prioritisation.
- be able to applay basic concepts in buisness administration linked to projects and innovation.

Judgement and approach
For a passing grade the student must

- be able to consciously select a process depending on the nature of the requirements
- show a systematic and long-term approach to processes
- be able to consciously se the problem in the relation between the quality of requirements and the quality of the resulting implementation
- be able to adequately involve users in the requirements engineering process.
- be able to reflect on the future professional role.

Contents

- Requirements on different abstraction levels and in different contexts
- Sub-processes of requirements engineering and their relation
- Specification of data requirements, e.g. using virtual windows and data models
- Specification of functional requirements, e.g. using textual feature requirements and task descriptions
- Specification of different types of non-functional requirements, e.g. usability, performance, reliability
- Different techniques for requirements elicitation, e.g. focus groups
- Different techniques for requirements validation, e.g. inspections
- Different techniques for requirements prioritisation, e.g. pair wise comparisons
- Project economics and innovation.
- Ethics linked to the professional role.

Lectures give a theoretical overview and help for private studies. Projects give practical skills and training in different areas of requirements engineering. Exercises and assignments relate theory to practice.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: Examination is based on both individual and group assessment. Project work is assessed in groups, exercises and assessments are assessed individually and in groups, and the written exam is assessed individually. For final mark the student must pass assessments, exercises and written exam. The final mark is a combination of written exam marking and project marking. Active participation in team building activities in the beginning of the course is mandatory. Active participation in exercises mandatory sessions and meetings with supervisor is mandatory.

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: 0117. **Name:** Written Examination.

Credits: 4,5. **Grading scale:** TH. **Assessment:** The final grade of the course is based on a combination of the results of the written exam and the project. **Contents:** Written exam.

Code: 0217. **Name:** Project.

Credits: 3. **Grading scale:** TH. **Assessment:** The final grade of the course is based on a combination of the results of the written exam and the project. **Contents:** Project in teams.

Admission

Admission requirements:

- ETS032 Software Development for Large Systems or ETSF20 Software Development for Large Projects

The number of participants is limited to: No

The course overlaps following course/s: ETS672, ETS170

Reading list

- Lauesen, S: Software Requirements, Styles and Techniques. Addison-Wesley , 2002, ISBN: 9780201745702. Or publisher: Pearson Professional Education, 2001.
- Additional literature appointed by the department.

Contact and other information

Course coordinator: Universitetslektor Christin Lindholm, christin.lindholm@cs.lth.se

Course homepage: http://cs.lth.se/etsf30

Further information: Compulsory items: project, exercises, assignments, presentations, reports. This course is given at Campus Helsingborg. The character of the mandatory project requires students to participate actively during all course weeks. Some of the compulsory elements are included in the Ing-days