



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DIT046 Requirements and User Experience, 7.5 credits

Kravhantering och användarupplevelse, 7,5 högskolepoäng

First Cycle

Confirmation

This course syllabus was confirmed by Department of Computer Science and Engineering on 2020-10-29 and was last revised on 2021-11-04 to be valid from 2022-08-29, autumn semester of 2022.

Field of education: Science 100%

Department: Department of Computer Science and Engineering

Position in the educational system

The course is a compulsory course in the Software Engineering and Management Bachelor's Programme. The course is also a single subject course at the University of Gothenburg.

The course can be part of the following programmes: 1) Applied Data Science Master's Programme (N2ADS), 2) Software Engineering and Management Bachelor's Programme (N1SOF) and 3) Software Engineering and Management, Bachelor's Programme (N1SEM)

Main field of studies

Software Engineering

Specialization

G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Entry requirements

To be eligible for this course, students must have completed a 7.5 credits course in programming (e.g., DIT042 Object-oriented programming, or equivalent).

Applicants must prove knowledge of English: English 6/English B or the equivalent level of an internationally recognized test, for example TOEFL, IELTS.

Learning outcomes

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

Knowledge and understanding

- Identify key RE and UX concepts such as functional and non-functional requirements, usability, and UX design patterns
- Describe important differences between a variety of requirements modeling techniques
- Describe the benefits and drawbacks between specific elicitation techniques
- Explain the role of verification and validation in RE and UX
- Identify key non-functional requirements for software, such as usability and sustainability.

Competence and skills

- Apply concepts to write good-quality requirements
- Draw several types of requirements models
- Capture personas and scenarios
- Apply UX design patterns to create prototypes from requirements
- Conduct and report on user studies

Judgement and approach

- Evaluate and select between available elicitation techniques
- Evaluate benefits and drawbacks of different requirements representations
- Evaluate the appropriateness of specific UX patterns for a design
- Evaluate and improve upon a UX design
- Evaluate the impact of RE & UX projects on sustainability goals such as reduced inequalities or responsible production and consumption

The course is sustainability-related, which means that at least one of the learning outcomes clearly shows that the course content meets at least one of the University of Gothenburg's confirmed sustainability criteria.

Course content

The course provides students with an introduction to the field of requirements engineering and user experience. It provides a solid foundation by defining foundational concepts like stakeholders, requirements, usability and specifications. It also presents the process of identifying, modeling and documenting the requirements of a software product. Emphasis is given to concepts and techniques such as quality requirements (e.g., usability, sustainability, security, privacy), creative requirements, scenarios, and

personas. The second part of the course focuses on usability aspects.

The course will focus on implementing the requirements gathered in the first part as part of UX designs. Further, the course presents methods of prototyping (for example, digital mockups) and presents some techniques to evaluate the usability of a software product (for instance, via user studies). Finally, the course will provide students with hands-on experience in designing graphical user interfaces (GUI)

Sub-courses

- 1. Written hall examination** (*Skriftlig salstentamen*), 4.5 credits
Grading scale: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U)
- 2. Assignments** (*Inlämningsuppgifter*), 3 credits
Grading scale: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U)

Form of teaching

The teaching consists of lectures, group work, exercises, as well as supervision in connection to the exercises.

Language of instruction: English

Assessment

The course is examined by an individual written exam carried out in an examination hall at the end of course and written assignments normally carried out in groups of students. The assignments part is examined on the basis of solutions to compulsory problems handed in during the course and on the basis of individual contribution to the group work.

Retake examinations of the assignments part consist of written group or individual assignments.

If a student, who has failed the same examined component twice, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course and shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

In cases where a course has been discontinued or has undergone major changes, the student shall normally be guaranteed at least three examination occasions (including the ordinary examination) during a period of at least one year from the last time the course was given.

Grades

The grading scale comprises: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U).

Students receive grades on the assignments and the exam parts of the course. To pass the whole course, students must pass both the assignment and exam parts of the course. If both parts have a passing grade, the final grade is determined by combining the scales for both the exam and the assignments, with the exam grade weighted slightly higher.

Course evaluation

The course is evaluated through a meeting after the course between teachers and student representatives. Further, an anonymous questionnaire is used to ensure written information. The outcome of the evaluations serves to improve the course by indicating which parts could be added, improved, changed or removed.

Additional information

The course is a joint course together with Chalmers.

Course literature to be announced the latest 8 weeks prior to the start of the course.

The course replaces the course DIT045, 7.5 credits. The course cannot be included in a degree which contains DIT045. Neither can the course be included in a degree which is based on another degree in which the course DIT045 is included.