Graphical user interfaces 7.5 credits D0026A

Grafiska användargränssnitt

Course syllabus admitted: Autumn 2024 Sp 1 - Present

DECISION DATE
2024-02-14

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Graphical user interfaces 7.5 credits D0026A

Grafiska användargränssnitt

First cycle, D0026A

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG *	Industriell design	Other Subjects within Technology

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language +
Swedish upper secondary school course English 6.

Selection

The selection is based on final school grades or Swedish Scholastic Aptitude Test.

Course Aim

After completing the course students will be able to design graphical user interfaces for specific purposes based on users' requirements and needs as well as scientifically established principles of usability and graphical design.

Knowledge and understanding
The student should after the course be able to:

- explain the basic design principles and design elements that are relevant to graphical user interfaces
- demonstrate an understanding of the communicative properties of graphical user interfaces and their connection to human cognitive abilities and needs
- demonstrate an understanding of relevant research in graphical user interfaces

Skills and Abilities
The student should after the course be able to:

- demonstrate the ability to design and develop graphical user interfaces based on human needs, conditions, understanding, and user experiences
- demonstrate the ability to use both sketching and prototyping as a tool in the design process
- demonstrate the ability to develop the overall concept and detailed solutions for graphical user interfaces based on the interaction between users and systems
- demonstrate the ability to apply principles of usability and accessibility of a user interface
- demonstrate the ability to communicate design proposals

Judgement and approach
The student should after the course be able to:

- demonstrate the ability to critically analyze existing interfaces and critical reflection on his/her own conceptual solutions.
- demonstrate the ability to consider the aesthetic, perceptual and cognitive aspects, based on human needs, circumstances and considerations to meet good usability, accessibility and user experience.
- demonstrate an understanding of their his/her own learning process and identify their own needs for additional knowledge to be able to continuously develop their skills

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Contents

The course covers the design and analysis of:

- Graphic displays with common elements within user interface design
- User-centered design
- Wireframing, layout, graphic design
- User experience of an interface
- User Dialogs, event handling
- Interaction sequences, keypaths, scenarios
- User interface for non PC-based applications

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.

The course consists of lectures interspersed with supervision in classroom or by distance meetings, independent work and group work in the form of exercises and laboratory where the theoretical knowledge must be put into practice. The main focus is a group project that to the extent possible based on a case given by an external company. Students will explore and develop their own conceptual graphical user interfaces based on scientific principles and through increased understanding of the interface's impact by identifying and analyzing the interface's capabilities and limitations, and how it relates to human capabilities and needs, and by extension, its impact on society, economy and environment. The students should practice the acquired theoretical knowledge of graphic design, user-centered and user experience on the design of graphical user interfaces using techniques such as wireframing, interaction sequences, keypaths and scenarios. The student's understanding of the topic is to be constantly reflected upon.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Several elements are examined in this course. An individual workbook and a project assignment in group. The individual workbook is examined with respect to the understanding of basic concepts and theories in interface design and the ability to critically reflect on the implementation and achievements and the skills necessary for any further work. The project task is examined in terms of skills and abilities to critically analyze and design graphical user interfaces in terms of graphic design, communication aspects, functionality, usability, accessibility and user experience according to human needs as well as the student's ability to communicate the main merits of the project's user interfaces.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Remarks

Students must register for the courses themselves or contact ETKS educational administration, eduetks@ltu.se not later than three days after the quarter commences. Failure to do so can result in the place being lost. This rule also applies to students with a guaranteed place.

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Course offered by

Department of Social Sciences, Technology and Arts

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0007	Individual workbook and project work	U G VG *	7.5	Mandatory	S17	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Director of Undergraduate Studies Daniel Örtqvist, Department of Social Sciences, Technology and Arts 2024-02-14

Syllabus established

by Director of Undergraduate Studies Bo Jonsson, Department of Business Administration, Technology and Social Sciences 2014-02-14

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