

# User Experience and Interaction Design (TDDE36) 12 ECTS credits:

## Study Guide

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### **Syllabus**

<https://liu.se/studieinfo/kurs/tdde36/vt-2025>

### **Editions**

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The course covers how to study and evaluate user experience (UX), and how to implement human-centered design of interactive products and services (i.e., interaction design). The overall goal of the course is to develop knowledge in basic UX research and evaluation methods (qualitative and quantitative), as well as in interaction design methods.

## Intended learning outcomes

After completing the course, the student should be able to:

- Use and account for basic qualitative user research methods (e.g. interviews, observation, and thematic analysis).
- Use and account for basic quantitative user experience testing methods (e.g. task success, time, self-report questionnaires), including analysis of the results using descriptive statistics.
- Ideate and sketch interaction design concept proposals, assess them, and make a convincing argument for one proposal based on user research results.
- Sketch, develop and present interaction design prototypes.
- Conduct and account for a user experience evaluation of interaction design prototypes.
- Assess user research and evaluations with respect to scientific criteria.
- Review interaction design projects with respect to societal and ethical aspects, as for example research ethics, gender, and sustainability.

## Content

*Skills:* Conducting an interaction design process with customer and user perspectives. Designing well-functioning interactive products and services. Researching and evaluating user experience.

*Subjects:* Fundamental concepts in human–computer interaction. Design principles and guidelines for user interfaces. Prototyping of interactive products and services. User research methods. Design methods. Different kinds of user interfaces. User experience and usability evaluation methods.

*Technologies:* Prototyping tools for development of interactive products and services. Interaction technologies.

## Teaching and learning methods

**Lectures** introduce or broaden the perspectives given through the course literature. Smaller exercises are also carried out at some lectures. Lectures are not formally compulsory, but it will be difficult to carry out the different parts of the project in a correct way if you are not present. The lectures are given in English, but it is possible to ask questions in Swedish.

**Presentations** have compulsory attendance and are held as critique sessions with 2–3 project groups at a time. The critique sessions are conducted around a

show-and-tell about produced material, and the purpose of them is to jointly (students and teachers) help the group presenting to do the best design work possible. It is important to give constructive critique of the other person's work. If you feel like you're not getting the feedback you need, ask again. Several groups have presentations at the same time so that learning can take place between groups. For the presentation, each group has 10 minutes for presentation and 5 minutes for critique. The final presentation is done as a poster and demo session where each student group has a large screen to report on, while you can walk around and watch the others' presentations.

**Study classes and workshops** focus on exercises prepared by teachers. They are not formally compulsory, but participating in them greatly facilitates group work and individual tasks.

**Supervision sessions** focus on what has been done, in relation to what is expected of the examiner and what the next step should be. Prepare questions that you may have for the supervisor. We expect all students to participate in supervision sessions, and if someone is missing, we will consider it an indication that something is wrong in the project team.

**Group work** is done in groups of about five students. There is time in the timetable marked as group work (without a teacher and without a lecture hall) that the groups can use as they wish. Start the group work by setting up a group contract and a Gantt chart. Templates and examples can be found in the course room at Lisam). Discuss the group dynamics in relation to what you have agreed on in the group contract after the concept presentation, after the test of the paper prototype, and after the final report.

**Individual work** is required to read up on how to do things in group work. There are also individual assignments, which form the basis for the individual grade.

### **Compulsory attendance and supplementary assignments**

The presentation of the concept design phase, the final presentation and the workshop to test the paper prototype have mandatory attendance, as part of PRA3. However, there are valid reasons to miss a mandatory session. If you miss such a session, you must inform your supervisor in advance why you cannot participate and you must complete a supplementary assignment:

- The supplementary assignment for the concept presentation is to write a description of what you yourself have done in the group work that led to the presentation, as well as a reflection on lessons learned from the group work (about 400–800 words). The lessons learned must be linked to the course's intended learning outcomes. It must be submitted by e-mail to the examiner within two weeks of the mandatory session.

- The supplementary task for the test of a paper prototype is to carry out a test of the prototype using the same procedure as the group used and to report the method and results in writing (approx. 400–800 words). It must be submitted by e-mail to the examiner within two weeks of the mandatory session.
- The supplementary assignment for the final presentation is to individually, within two weeks from the date of the final presentation, give an oral presentation of the group's work to the examiner.

### Time budget

You can potentially spend an infinite number of hours on each task, but you shouldn't. Make a time budget based on 16 hours per week (i.e., 40% of full-time study) and stick to it. Set aside time for scheduled sessions, reading, individual work and group work. The assessment of submitted documentation and assignments is adapted to what is possible to do given your time budget of two days per week in this course.

### Deadlines

Deadlines for the practical group work and the individual assignments are stated in the schedule on TimeEdit and in the document describing the examination (see the course room at Lisam). There are two deadlines for *re-examination*:

- Re-examination 1: 2025-08-30, midnight
- Round 2: 2026-01-09, midnight.

Students who miss the deadline for re-examinations must complete the assignments for the following year's course. Students cannot try to get higher grades through re-examinations. No assignments are graded between deadlines. Information for re-examination is published on Lisam (under Course Documents) or emailed out no later than one month before the last day for re-examination.

### Examination

PRA3	Practical group work	6 credits	U, G
UPG8	Individual tasks	6 credits	U, 3, 4, 5

The course is examined through practical group work (PRA3) and individual assignments (UPG8). Compulsory attendance (see above) is required for PRA3. The final grade of the course is calculated by adding the points in the three parts of the individual assignments, provided that no assignments have been failed.

Instructions for the group work and assignments, as well as grading criteria, can be found in a separate document.

## Feedback

Formative feedback on the design process and design product is given orally during tutorials and presentations. Feedback on written reports is given in writing. The feedback on the individual assignments is limited and of a summative rather than formative nature. Two types of comments are given: (1) Consider the following for future work; and (2) Correct and resubmit with specified changes.

## Course literature

The student bookstore has been informed about the course literature. Get the textbooks early and start reading since the first deadline is already on February 7.

One of the following two books is compulsory course literature on design methodology:

1. Arvola, M. (2020)
2. Boyd, B. L. M. (2019)

One of the following two books is compulsory course literature on research methodology:

1. Säfsten, K. & Gustavsson, M. (2023)
2. Säfsten, K. & Gustavsson, M. (2020/2024)

Arvola, Mattias, (2020) *Interaction design and UX : on creating a good user experience*. Lund : Studentlitteratur, [2020]. ISBN: 9789144122991

Boyl, Brian L. M., (2019) *Interaction for designers : how to make things people love*. New York, NY : Routledge, 2019. ISBN: 9780415787246, 0415787246, 9780415787253, 0415787254. Also available as an e-book

Säfsten, Kristina, Gustavsson, Maria, (2023) *Research Methodology 2.0 : for Engineers and Other Problem Solvers*. Second edition Lund : Studentlitteratur, [2023] ISBN: 9789144175478

Säfsten, Kristina, Gustavsson, Maria, Ehnsjö, Rikard, (2020) *Research methodology : for engineers and other problem-solvers*. First edition Lund : Studentlitteratur, [2020] ISBN: 9789144122304. (or second edition, 2024)

Boyl's book is good, but it doesn't cover all the content of the course. If you use that book, you also have two articles by Lou (2018) and Wikberg-Nilsson & Jahnke (2018) (see below), and [the Wikipedia page for the business model canvas](#). You'll also need to rely on lectures for details on prototyping and usability testing. Kim Goodwin's book *Designing for the Digital Age* (2009, John Wiley) can be used for information about context scenarios and requirement formulation. That book is available as an e-book through the library.

- Lou, Y. (2018). Designing Interactions to Counter Threats to Human Survival. *She Ji: The Journal of Design, Economics, and Innovation*, 4(4), 342-354.  
<https://doi.org/10.1016/j.sheji.2018.10.001>
- Wikberg Nilsson, Å. & Jahnke, M. (2018). Tactics for Norm-Creative Innovation. *She Ji: The Journal of Design, Economics, and Innovation*, 4(4), 375-391.  
<https://doi.org/10.1016/j.sheji.2018.11.002>

The following article is recommended, but not mandatory, reading for the lecture on sustainable design:

- Wever, R., van Kuijk, J., & Boks, C. (2008). User-centred design for sustainable behaviour. *International journal of sustainable engineering*, 1(1), 9-20.  
<https://www.tandfonline.com/doi/full/10.1080/19397030802166205>

## Teacher

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- *Ludwig Halvorsen* is a UX designer and has a master's degree in Cognitive Science. He is a lecturer in user experience and interaction design at Linköping University. Teacher. [ludwig.halvorsen@liu.se](mailto:ludwig.halvorsen@liu.se)
- *Wanjun Chu* is a PhD in Design and adjunct senior lecturer at Linköping University, as well as a researcher and designer at Scania.
- *Madeleine Almqvist* has a bachelor's degree in Graphic Design and Communication from Linköping University and a digital designer at KnowIt.

## Course evaluation from last year

The response rate in the course evaluation was 46%, which means that 27 out of 59 active students responded to the evaluation.

The respondents felt that the course content gave them the opportunity to achieve the intended learning outcomes (mdn = 4, IQR = 3 – 5). The teaching and working methods as well as the examination elements were perceived as relevant to the intended learning outcomes (mdn = 4, IQR = 3.5 – 5 and mdn = 4, IQR = 3 – 4). The teaching methods were perceived to support learning in a better way than the previous year (mdn = 4 compared to last year's mdn = 2), but the dispersion was large (IQR = 2.5 – 4). The course content was perceived to be in line with the syllabus (mdn = 4, IQR = 4 – 5). The overall assessment of the course was good (mdn = 4, IQR = 3 – 4), although there is room for improvement. The course was also considered relevant to the study program (mdn = 5, IQR = 4 – 5).

Half of the responding students (52%) felt that it was too much work in relation to the credits of the course, while 9% felt that the workload corresponded to the size of the course in points. No one felt that the workload was too low. This is compared with the previous year when 20% felt that the workload was too high despite the same course structure.

No issues related to discrimination, harassment, abusive treatment or exclusion were observed. However, 30% of the respondents felt that the course could take better account of gender equality and equal opportunities, but the free-text comments were more about the challenges of having both English-speaking and Swedish-speaking students in the course. This raises questions about fairness, inclusion of exchange students and language choice in lectures and other sessions. The free-text comments are also about uneven division of labour in group work.

The students' performance was decent with few who did not pass the course. Only a few students chose to take the non-mandatory assignments for higher grades, which is probably related to the experience of a high workload. Of the 53 students who submitted complete individual assignments on time, 4% received a 5, 11% a 4 and 85% a 3.

Based on the free-text comments in the course evaluations, the following changes have been implemented:

1. The grading has been restructured to better reflect the students' work by integrating the individual assignments with the project work.
2. Lectures include interactive elements (e.g. muddy cards and beehives) to clarify what content needs to be explained further.
3. What is to be done in the course's project work is woven into the content of the lectures. However, it is important not to teach for the examination, but for lifelong learning.
4. The lectures are given in English to better include the exchange students.
5. The supervisors talk to each other before each supervision session and presentation to be better coordinated. However, complete coherence is impossible to achieve. Both Emma and Mattias (who are the main teachers) understand Swedish, although some prefer to speak English.
6. Explicit discussions about the group contract are introduced during the course. This can help identify and resolve any issues early on. Since the individual assignments are linked to the group work, the person who takes a lot of responsibility is also rewarded in the individual grading.
7. The course is being restructured to better distribute the workload over the semester. The workload is reduced by integrating the individual tasks with the project work.



8. Course materials and resources are arranged in a more accessible way. Guidelines for what should be read before each lecture are stated in the schedule.
9. The individual tasks are made more focused with clearer instructions and they are integrated into the project work

## **How gender equality is integrated into the course**

Gender equality is defined as women and men having the same rights, opportunities and obligations, regardless of gender.

Gender equality in implementation (i.e. learning activities):

- Project groups are formed so that a man or a woman should never be the only person of their gender in the group. However, non-binary or genderqueer identities are not taken into account in the creation of groups.
- Seminar leaders must ensure that there are equal opportunities for speaking space, time, and attention.
- The groups are encouraged not to fall back into gender stereotypical patterns where, for example, women document, project manage and remind men who program and construct.
- The examiner and course leader is a man, with a woman and a man as teachers. One guest lecturer is a woman and one is a man.
- A workshop is held where intersectional aspects and design for all are considered.
- A workshop is held where norms and stereotypes are reflected on.

Gender equality in content (e.g. lectures and course literature):

- The course literature addresses norm-creative strategies and gender issues in design.

Gender Equality in Design (i.e. syllabus):

- A learning outcome in the syllabus is to review interaction design projects with regard to societal and ethical aspects, such as research ethics, gender and sustainability. The objective is examined in PRA3 Practical Group Work.

## **How sustainable development is integrated into the course**

Sustainable development in implementation (i.e. learning activities):

- Considerations between social, economic and ecological sustainability are central issues in all design work. Design that is not sustainable is by definition bad design.
- A workshop is held where environmental, social and ecological sustainability is reflected on.
- The project work is based on the global sustainable development goals.

Sustainable development in content (i.e. lectures and course literature):

- A lecture on design for sustainability is given.
- The course literature highlights design for sustainability.
- The website of the UN's Sustainable Development Goals (SDGs) is used in the project work.

Sustainable Development in Design (i.e. syllabus):

- A learning outcome in the syllabus is to review interaction design projects with regard to societal and ethical aspects, such as research ethics, gender and sustainability. The goal is examined in PRA3 Practical Design Work and UPG8 Individual Assignments.