

User Experience and Interaction Design (TDDE36)

12 ECTS Credits:

Study Guide

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Syllabus

<https://liu.se/studieinfo/kurs/tdde36/vt-2024>

Editions

Edition 1.0: First published version.

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Intended Learning Outcomes

This course is about how to study and evaluate user experience (UX), and how to conduct human-centred design of interactive products and services (i.e., interaction design). The overarching aim of the course is to develop knowledge in basic user experience research and evaluation methods (qualitative and quantitative), as well as in interaction design methods.

The student shall after the course 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.

Course Contents

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.

Course Evaluation from Last Year

The response rate in the course evaluation last year was 35%, which means that 20 out of 57 students answered the evaluation.

The responding participants thought that the course contents gave them opportunity to achieve the learning outcomes ($mdn = 4$, $IQR = 3 - 4.5$). The teaching and working methods as well as the examination components were perceived as relevant to the learning objectives ($mdn = 4$, $IQR = 3 - 5$ and $mdn = 4$, $IQR = 3 - 5$ respectively). The educational methods were not perceived to

support learning adequately ($mdn = 2$, $IQR = 2 - 4$). A minority of the responding students (20%) thought that there was too much work in relation to the credits of the course. The course content was perceived to agree with the syllabus ($mdn = 4$, $IQR = 4 - 5$). The overall evaluation of the course was OK ($mdn = 3$, $IQR = 3 - 4$).

No problems in relation to discrimination, harassment, victimization or exclusion were observed.

The student performance was fair with few students that did not pass the course. Only a few students chose to do the tasks for higher grades. Out of the 53 students that handed in complete individual assignments on time, 4% got a 5, 11% got a 4, and 85% got a 3.

As a result of the course evaluation, the following changes have been made:

1. Simplified and clarified instructions for group work.
2. Group work will have other students as target user group to make it easier to recruit participants.
3. Individual assignments will be reflective in relation to group work.
4. Revised contents and structure for lectures (first what and why of the topic in general, then what and how specifically in relation to the present course).
5. Lecturers will if needed use microphone in the larger lecture halls.
6. Lectures will be given in Swedish and summarized in English.
7. Instructions for re-submission of work will clearly distinguish between what must be done and general feedback. Two kinds of comments are given: (1) Consider the following for future work; and (2) Rectify and re-submit the following changes.

Working and Teaching Methods

Lectures (Swe. föreläsningar) introduce or broaden the perspectives given through the readings. They describe both the general and the course specifics of what, why and how of a certain topic. Smaller exercises are also conducted at some lectures. Lectures are not formally compulsory, but performing the different parts of the project becomes difficult if they are not attended. Lectures are given in Swedish, and incoming exchange students have instead special supervision sessions over Zoom that aims to cover the contents of the lectures.

Presentations (Swe. redovisningar) have compulsory attendance and are held as critique sessions with 2–3 project teams at the time. Critique sessions are conducted around a show-and-tell about produced materials. It is important to give constructive critique on the others work. Several groups have presentation at the same time so that learning may occur between groups. For the

presentation, every group has 10 minutes for presentation and 5 minutes for critique.

Teaching sessions and workshops (Swe. lektioner) focus on exercises that are prepared by the lecturer. They are not formally compulsory but attending them facilitate the group work greatly.

Supervisions (Swe. handledningar) focus on what has been done, in relation to what is expected by the examiner, and what the next steps should be. Prepare questions that you may have for the teacher. If you feel you do not get the feedback you need, then ask again. We expect all students to attend supervision sessions, and if someone repeatedly is missing, we will consider that an indication that something is wrong in the project team. Incoming exchange students also have supervisions over Zoom that aim to introduce and discuss the contents of the lectures.

Group work (Swe. grupparbete) in the practical research and design work is done in groups of approximately five students. It includes collaboration with different user groups (i.e., third-stream activities). There is time in the timetable marked as group work (without teacher and without a lecture hall) for the groups to use as they please.

Individual work is required in reading up on how to do things in the group work. There are also individual assignments.

Compulsory Attendance and Supplementary Tasks

The presentation (Swe. redovisning) of the concept design phase, the final presentation, and the workshop for testing the paper prototype have compulsory attendance, as part of the examination of the modules Research Work (PRA1) and Design Work (PRA2).

There are however a few valid reasons for missing a presentation. If you do miss a presentation, you must notify your supervisor in advance about why you cannot participate and you must do a supplementary task. The supplementary task is to write a description of what you personally did in the group work leading up to the presentation, and a reflection on lessons learned from the group work (about 800 words). The supplementary tasks must be delivered by email to the examiner within two weeks after the presentation.

Time Budget

You could potentially ship in an infinite number of hours on each assignment, but you should not. Make a time budget based on 16 hours per week (i.e., 40% of fulltime studies) and stick to it. The assessment of submitted documentation

and assignments is adjusted according to what is possible to do given your time constraints of two days per week on this course.

Deadlines

The *practical group work* has deadline 2024-05-26, 17:30.

The *individual assignments* have deadline 2022-06-02, 17:30.

There are two deadlines for *re-examination*:

- Re-examination 1: 2024-08-27, midnight
- Re-examination 2: 2025-01-05, midnight.

Students that miss the last deadline for re-examination must do the assignments for the following year's course. Students cannot try for higher grade by re-examination. No assignments are graded between deadlines. Re-examination assignments are published on Lisam (under Documents) no later than one month before the re-examination deadline.

Examination

PRA1	Research work	2 credits	U, G
PRA2	Design work	4 credits	U, G
UPG6	Research method	2 credits	U, 3, 4, 5
UPG7	Design method	4 credits	U, 3, 4, 5

The course is assessed through practical groupwork (PRA1 and PRA2) and individual assignments. Compulsory attendance (see above) is required for PRA1 and PRA2. The final course grade is calculated by adding the points earned in the two parts of the individual assignments (UPG6 and UPG7), provided that no assignments have been failed.

Instructions for the groupwork and the assignments, as well as grading criteria, are detailed in a separate document.

Feedback

Formative feedback on design process and design product is given orally during supervisions and presentations. Feedback on written reports is given in writing on submissions in Lisam. Feedback on the individual assignments is limited and of a summative rather than formative nature. Two kinds of comments are given: (1) Consider the following for future work; and (2) Rectify and re-submit the following changes.

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 never should be the only person of his or her gender in the group (non-binary or genderqueer identities are however not considered).
- Seminar leaders must ensure that there are equal opportunities for speaking space, time, and attention.
- The groups are urged not to fall back into gender stereotypical patterns where e.g., women document, project lead and remind men who program and construct.
- The examiner and course leader is a man, with two women and two men as co-teachers.
- A workshop where intersectional aspects and design for all is considered is held.
- A workshop where norms and stereotypes are reflected on is conducted.

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

- A paper on norm-creative strategies in design is recommended reading.
- A section of the course book highlight gender issues.

Gender equality in design (i.e., syllabus):

- A learning objective in the syllabus is to review interaction design projects with respect to societal and ethical aspects, as for example research ethics, gender, and sustainability. The goal is examined in PRA2 Design 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 questions in all design work. Designs that are not sustainable are by definition bad design.
- A workshop where environmental, social, and ecological sustainability is reflected on is conducted.
- The project work takes departure from the global sustainable development goals and aims to contribute to one of them

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

- One lecture on design for sustainability is given.
- There are two papers on design for sustainability as recommended readings.
- A section of the course book highlights sustainability issues.
- The website for UN's global sustainable development goals is used in project work.

Sustainable development in design (i.e., syllabus):

- A learning objective in the syllabus is to review interaction design projects with respect to societal and ethical aspects, as for example research ethics, gender, and sustainability. The goal is examined in PRA2 Design work.

Course Literature

The student bookstore has been notified of the course literature. Get the course books early on and start reading.

The following book is course literature on research methods:

Muratovski, G. (2022). *Research for designers: a guide to methods and practice* (2. ed.). Sage.

Choose **one** of the following two books as your *main book* on interaction design and UX:

Arvola, M. (2020). *Interaktionsdesign och UX: Om att skapa goda användarupplevelser* (2. uppl.). Studentlitteratur.

Boyl, B.L.M. (2019). *Interaction for designers : how to make things people love*. Routledge.
(Exists also as e-book.)

Boyl's book is good, but it does not cover all contents of the course. If you use Boyl's book and not Arvola's, then you also have the following two papers (below) and the [Wikipedia page for the business model canvas](#). You also have to rely on [usability.gov](#) and lectures for details on prototyping and usability testing.

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 paper 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>

Teachers

- *Mattias Arvola* has a PhD in Cognitive Systems and is Associate Professor in Cognitive Science at Linköping University. He specialises in interaction design and user experience design methods and theory. Course leader, examiner, lecturer, and supervisor. mattias.arvola@liu.se
- *Stefan Holmlid* is a Professor in Design at Linköping University. He specialises in service design and design for policy. Supervisor. stefan.holmlid@liu.se
- *Vanessa Rodrigues* is a PhD in Design and an Assistant Professor at Linköping University. Here research focuses on service design and service prototyping. Supervisor. vanessa.rodrigues@liu.se

- *Emma Chilufya* is a PhD student in Cognitive Science at Linköping University. Her thesis topic is the design of interactive artificially intelligent virtual agents. Supervisor. emma.mainza.chilufya@liu.se
- *Ludwig Halvorsen* is an interaction designer and has a MSc in Cognitive Science as is a Lecturer in user experience and interaction design at Linköping University. Course assistant. ludwig.halvorsen@liu.se

Timeline

The timeline for the course is visualised in the simplified Gantt chart below (Table 1). You have two full workdays per week to spend in this course (16 hours) including lectures reading. Use those hours well to maximize your learning of the subject and the skills involved.

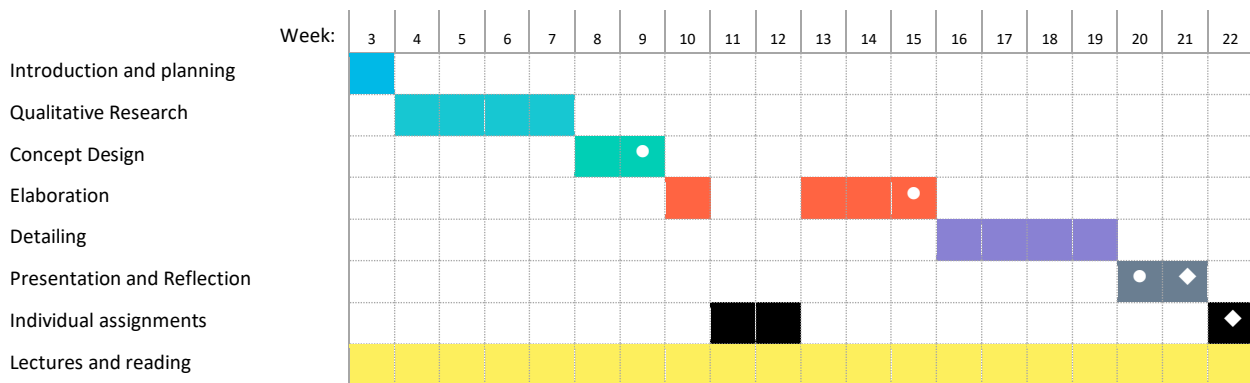


Table 1. Timeline for the course. Examination modules are indicated in parentheses. Deadlines are marked with a diamond. Presentations and workshops with compulsory attendance are marked with dot (●).