Course report

This course report is based on student feedback and submitted course evaluations, exam results and the teacher's idea for further development. The course report is published on the course website and Canvas-site.

Course name	Prototyping Technologies
Course code	DA623E
Semester	VT22
Number of registered students	9
Course coordinator	Benjamin Maus

	Course report is published on Canvas-site
	Course report is published on course webpage

Compulsory course evaluation

Number of responses to the compulsory course evaluation:	7

The compulsory course evaluation has been conducted through:

	Standard template via SSR (Sunet Survey and Report)
	Extended standard template with *own questions* via SSR
X	Own evaluation method by the course coordinator
The course evaluation has been conducted anonymously with the tool *wooclap* in connection with the seminar in week 22.	

Additional evaluations that were conducted during the course

	Separate survey
X	Oral evaluation in class
	Oral evaluation in smaller groups
	Other evaluation method
After the first two weeks of the course, a brief oral evaluation of the introduced prototyping tools was conducted in class in connection with the kickoff seminar to the *practical challenge* in week 15.	

Comments on the course evaluations

The average score on the question “What do you think about the course (1=worst ever, 5=best ever)?” was 4.4, which suggests that the students, overall, evaluated the course positively. Similar impressions were shared related to the question of how the students would describe the course with three words. The most common descriptions were “fun”, “interesting” and “easy”. Some students mentioned also “innovative”, “short” and “satisfying”.

When being asked to tell a few good things about the course, the students mentioned, most notably, the prototyping tools that were introduced during the course, such as *Figma* and *Voiceflow*. This was also indicated in a different question, where the students prioritized the introduced prototyping tools similarly to the actual time that was given to them in the course. Furthermore, the practical focus of the course was evaluated positively. Several students also indicated that they perceived the seminars and the related literature as a sophisticated form for learning more about prototyping and evaluating prototypes. Again, the answers to a different question confirm this perception, where the students evaluated the seminars as the format that helped the students most to get a better understanding of the subject.

Regarding specific issues that could be improved in the course, some students pointed out that they would have preferred to spend more time on each tool. Several students also suggested that the VR lab visit would have fitted better in the context of the *Emerging Digital Technologies* course (DA621E). There were also specific suggestions regarding the timing of the laser cutting workshop and the way of organizing the Canvas page. First, it was indicated that Figma should be introduced before the laser cutting workshop to get to know a suitable and free tool for vector graphics. Second, it was highlighted that the visibility of the assignments on Canvas should be improved. Finally, improvement opportunities were indicated regarding the overall structure of the course and the practical challenge. While it was not specified how the latter could be improved, one student suggested increasing the theoretical part of prototyping and a slightly higher focus on the technologies as such rather than the tools.

In addition to this, the results from the survey suggest that there is room for increasing the workload of the course. While the first four weeks of the course were indented to require a full-time workload, only one student estimated the spent hours per week between 30 and 40. Most of the students (n=5) indicated that they spent 20-30 hours and one student estimated the time between 10 and 20 hours.

Finally, concerning the integration of the course in the program, five out of seven students who completed the course evaluation stated that they thought the course fits “*extremely well”* into the program. The remaining students chose the answer “*to some extent”.* A similar distribution was noticeable in a follow-up question if students would take the course if it was an elective, where four students answered “*Yes, I would take it.”*

Examination results

X	Examination results are as expected
	Examination results are not as expected

The examination results both from the practical challenge, which was conducted as group work, and the individual reflective essay, were as expected. Considering the short amount of time regarding the practical challenge, as well as the mainly promising proposals, some results were evaluated as above average. The reflective essay covered results on almost the entire scale of the grading letter scheme.

Recommendations and priorities for the course development

In short term, the improvement opportunities which were mentioned in the section "*Comments on the course evaluations*" should be considered to optimize the course's current structure. These include issues related to the content and scheduling of some lectures and seminars as well as the optimization of the Canvas page. Furthermore, the theoretical knowledge of prototyping could be supported by including low-fidelity technologies, such as cardboard which were indented to be applied in the previous year. These could also foster that the students achieve a stronger focus on iterative design which was not always the case in both DA623E and DA624E.

In the medium term, other scenarios regarding the course development should be revised. For example, the short duration of the course permits currently only a relatively limited time for teaching some prototyping technologies and tools. Additionally, there are shortcomings regarding prototyping technologies that are related to digital fabrication which also result from limited teaching resources in this area. Therefore, it could be considered to expand the course from a 7.5 credits course to a 15 credits course, including possibly also areas of "evaluating innovation" that are currently part of the course DA622E. However, it is necessary to carefully evaluate the role of the course in the program and the connection to other courses before deciding on any kind of restructuring.