

Course analysis for DD2552, fall 2023

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Description of the course evaluation process

The course had only 5 participants, so it was deemed unfeasible to administer an anonymous course evaluation form: with high probability, the identities of respondents would have been clear from their answers. Instead, students were asked to share their feedback directly with the course responsible, both informally during the course, and by a formal request for feedback after the course.

Description of meetings with students

With only 5 participants, students were asked to informally share feedback on course progress and concerns before seminars. After the course, one student agreed to be interviewed by the course responsible based around the 6-question Learning Experience Questionnaire (LEQ) form, the answers to which are discussed below.

Course design

The course changes topic for every course offering. This offering was about advanced functional programming, focusing on theoretical principles and applications of functional programming languages in the ML family such as Standard ML and OCaml. The learning activities consisted of 14 seminars, where one seminar was devoted to research paper presentations by participants. Seminars took the form of highly interactive lectures where the teacher presented material and example problems that were discussed by participants. The primary course book was “Practical Foundations of Programming Languages” by Robert Harper. Most other material, such as slides and homework problems, was developed exclusively for this offering.

The examination consisted of two sets of homework problems and the usual mandatory presentation of a research paper. In each homework problem set, problems were marked to be either E level problems or C level problems. E level problems were mandatory to answer (mostly) correctly, while correct answers to C level problems determined the course grade.

The students’ workload

The interviewed participant said that the workload was close to the expected workload, with the first set of homework problems on the easy side. However, the second set of homework problem was deemed more time-consuming and challenging.

The students' results

Four participants had completed the course when the offering ended in October 2023, and all participants had completed the course with good results by December 2023.

Summary of students' opinions

Overall, the interviewed participant found the topic of the course offering interesting and stimulating. However, the participant said the course learning activities sometimes appeared improvisational and disorganized, and some of the homework problems were insufficiently challenging. The participant pointed to the research paper presentations as a high point of the course.

Overall impression

Participants appeared engaged with the topic of the course, and performed well on the homework problems. However, due to the difficulty of reusing course material from previous offerings when the topic changes, and the limited time available for development of new course material, there was some improvisation during the course learning activities, which participants have noticed. On the positive side, most participants appear to have worked with the course continuously to some extent, rather than only close to the examination deadline.

Analysis

It may be possible to stabilize the examination structure, with homework problem sets always given out on certain seminars and being due in time for some other seminar. While the course responsible consulted colleagues to check that homework problems were relevant and sufficiently challenging, and clarified problem formulations based on participant feedback, the next course offering unfortunately cannot benefit from refinement of existing problem sets.

Prioritized course development

Primary aspects of the course to be developed are:

- Stabilizing the examination format so that homework problem sets are handed out and due in fixed intervals. One priority is to avoid examination where the effort happens during a small fraction of the course.
- Diversifying the seminar format so that seminars are not limited to just interactive lectures and research paper presentations, but, e.g., also workshops where students directly work on and discuss problems related to the examination. Depending on the topic, some seminars could be significantly more focused on using certain automatic tools, e.g., for program analysis. For practical reasons, homeworks were pen-and-paper, but this could be changed depending on the topic.