

Report - DD2423 - 2018-09-18

Respondents: 1
Answer Count: 1
Answer Frequency: 100.00%

Please note that there is only one respondent to this form: the person that performs the course analysis.

Course analysis carried out by (name, e-mail):

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COURSE DESIGN

Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.

The course is an introductory course in image analysis and computer vision. It covers mature areas such as image filtering, enhancement and reconstruction, feature detection and extraction, shape representation, image segmentation, object recognition, as well as stereo and motion analysis. It contains 16 seminars, out of which three are dedicated to exercises, repetition and open questions. Even if the course is heavy on theory, the focus is to make students learn how to do image analysis in practice, something that is done in three labs, one on image filtering, one on edge detection and line extraction, and the last one on image segmentation. Labs are examined by interviewing students individually, with directed questions assessing their understanding of the underlying concepts behind the labs, more than the results of the labs per se. The theoretical part of the material is examined through a final exam. Even if the lab course is worth more in terms of credit points, the exam has a higher influence on the final grade, given that grades are computed as an average of the lab and exam grade, but rounded towards the exam grade. The reason for that is the fact that theoretical aspects from the labs also end up on the exam. In recent years the course has grown quickly, with students coming from more than 15 different programs. It's also attended by a healthy number of exchange students.

Besides some updates of the course material itself, a few important changes were made to the lab course in order to reduce the burden on teaching assistants and make students focus more on the essentials:

- 1) Unlike earlier years, students were asked to upload to Canvas summaries of lab results with reflections on key concepts from the labs, doing so using standardised templates.
- 2) Students presented their labs during 20 minute individual sessions, instead of 30 minute sessions that were used before. This was possible by focusing on key concepts from the labs, rather than on the results, results that had already covered in the uploaded reports.
- 3) Instead of using computer halls, a regular seminar hall was used. Rather than showing results on-screen, the uploaded reports were used as support for the students in their presentations.

The goal of these changes were to force students to reflect more on key concepts and less on the code and results. Only in cases when it could be questioned whether the student had actually completed the lab, it became necessary to read the uploaded reports in greater detail. For most students questions covering key concepts were enough to make an assessment of their understanding.

THE STUDENTS' WORKLOAD

Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If these is a significant deviation from the expected, what can be the reason?

The workload varies a great deal depending on what program the students come from and if they are exchange students or not. Many exchange students are very ambitious and sometimes spend more time than necessary, but a fair number of students with strong programming backgrounds are able to complete the labs with ease. On average the reported workload is close to what can be expected, but it's still problematic that it varies so much depending on background.

THE STUDENTS' RESULTS

How well have the students succeeded on the course? If there are significant differences compared to previous course offerings, what can be the reason?

Most students succeeded rather well in the course, but there are a number of students that find the more mathematically oriented exercises on the exam difficult. The course assumes an understanding of basic linear algebra and multivariate analysis, something that many students haven't touched, since they once studied it. Out of 197 (140) registered students, 167 (131) participated in at least one exercise, 144 (115) passed the lab course, 151 (118) passed the exam, while 133 (114) passed the course as a whole. Numbers in parentheses are from the previous course round. A couple of additional students from this course round can be expected to complete the labs and the course as a whole, before the next course round begins. One reason for the high number of students passing the exam was because exams were given three times, once for exchange students who would leave the country after the end of the year, one regular exam and one re-exam.

OVERALL IMPRESSION

Summarize the teachers' overall impressions of the course offering in relation to students' results and their evaluation of the course, as well as in relation to the changes implemented since last course offering.

The diagram indicates that students find the course material interesting and meaningful, they understand what is expected and how the course is organised, but the teaching activities don't provide them enough feedback. The most positive group were exchange students, while the least positive students were Swedish master students. Women were more positive than men, the majority of which were exchange students. One possible explanation is that exchange students and bachelor students might attend the course more due to an intrinsic interest, while many master students have it as a compulsory course and are not necessarily as interested in the course. If you have an intrinsic interest in the course, you are more likely to accept the fact that much of the material has to be studied on one's own.

ANALYSIS

Is it possible to identify stronger and weaker areas in the learning environment based on the information you have gathered during the evaluation and analysis process? What can the reason for these be? Are there significant difference in experience between:

- students identifying as female and male?
- international and national students?
- students with or without disabilities?

The most critical points in the diagram are 15. I could practice and receive feedback without being graded (3.5) and 20. I had opportunities to choose what to do (4.0). Based on student comments it's hard to draw any hard conclusions. The course contains six help sessions, where students can ask questions on the labs. These are rather well visited. Other than that students are expected to work on their labs and exercises on their own, preferably in pairs. Given the large number of students though, it is hard to admit students to do so with TAs around for assistance. Worth noting is that the scores were higher before, when sessions were held in the lab halls and the students were fewer. Another possible explanation, supported by comments from students, is the fact that we used a number of master students recruited as TAs this year. It might be a good idea to at least keep the help sessions in the lab halls. A problem with that is that only a fraction of students would then show up. The highest score is 1. I worked with interesting issues (6.3), which is indeed positive.

PRIORITIZED COURSE DEVELOPMENT

What aspects of the course should be developed primarily? How can these aspects be developed in short and long term?

A possible solution to the problem of lacking feedback is to first keep the lab help sessions in the lab halls, so that students can sit and work on their labs, if they like to. Another possibility is to have weekly open hours during which students can come and ask about anything. Also possible is to have additional exercise sessions, primarily driven by the students themselves. A long-term solution is to split up the course in two different courses tailored towards different groups of students, given that the group of students is so diverse. The ambition is for students to get hands-on experience in working with images, but it's very hard to recruit a significant number of experienced TAs to support that ambition for a course with close to 200 students that runs over a single period.
