



Report - MH2100 - 2021-01-31

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):

Greta Lindwall, gretal@kth.se

DESCRIPTION OF THE COURSE EVALUATION PROCESS

Describe the course evaluation process. Describe how all students have been given the possibility to give their opinions on the course. Describe how aspects regarding gender, and disabled students are investigated.

Students were requested to fill in the LEQ online and were invited to send me emails with comments or opinions of the course.

One student in the class was disabled and I communicated with this student regularly during the course to get feedback on the different teaching-learning activities and their accessibility.

Regarding gender, enough students answered the LEQ so it has for the first time been possible to analyse the answers from female and male students separately.

DESCRIPTION OF MEETINGS WITH STUDENTS

Describe which meetings that has been arranged with students during the course and after its completion. (The outcomes of these meetings should be reported under 7, below.)

Besides the planned teaching and learning activities there have been no separate meetings to discuss the course with the students. It was also not wished for by the students. A meeting to go over the exam answers is planned for.

COURSE DESIGN

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

Major changes to the course was done previous course round (HT2019) and only smaller changes were made to this round.

One of the lectures on additive manufacturing was converted to a exercise session to increase student activation on this part.

In addition, study questions/online quizzes were added to each lecture part to support the students with the self-study part of the course.

In summary the course design included the following:

- 6 lecture
- 6 exercises
- online quizzes
- 3 laboratory sessions
- 3 laboratory reports/assignments
- written exam

This year the exam was adapted to situation of Corona pandemic and was given as a home exam instead of a written classroom exam.



THE STUDENTS' WORKLOAD

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

The student answering the course analysis reported a workload less than expected for a 6 credit course. The reported workload is however higher than previous year which indicates that the added learning activities activated more of the students. For example, the study questions /online quizzes distributed after each lecture seem to have contributed positively to this. I also made all the exercises available to the students at the beginning of the course instead of at the time of the exercise session which might have promoted the time spent on the course throughout the course.

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?

The results are slightly lower than compared to last course round's results with less number of A:s. However, there were no F but three FX:s. I don't know if the results are somewhat different because of a different class, the fact that most of the teaching-learning activities were online or if it was because of the different examination format with more open questions.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

As for the courses the other years, the laboratory session were seen as interesting. Due to Corona, I had to make changes to the laboratory sessions since we couldn't visit companies for them which we usually do for two of the three lab sessions. Instead, we arranged all the labs at KTH which was not optimal for all of them. This is reflected in the answers by the students where it is mentioned that labs would have been more focused with the company representative physically attending and not via Zoom.

On the other hand, there were also students answering that the laboratory session were really good and interesting.

The lectures exercises also got a good comments although it was pointed out that the teacher nervousness was apparent.

Some of the students who answered also thought that it would have been better if the lab sessions had been more spread out during the course instead of all being towards the end of the course. This is a good suggestion and something I will revise to the next round of the course.

There was also a comment about the exam being different from the previous year which is due to the fact that we changed to a home exam format with more open questions compared to previous year.

SUMMARY OF STUDENTS' OPINIONS

Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.

In average, the students' responses to the LEQ statements are more positive than the previous years' course rounds. It was also more students than usually who answered the LEQ (about 64% compared to 23-33% the previous years).

In addition, the students also spent slightly more time on the course compared to previous years even though the activity of the students are yet not on the level for a 6 credit course.

Female students were slightly more positive to the course than male students and students from the KTH bachelor program was more positive to the course than the international students.



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 lectures can still be more interactive. This year with online lectures on Zoom made it the interactive part of the lectures difficult. The exercises were a mix of physical and online session since the regulation changed while the course was ongoing. The online exercises worked surprisingly well through the use of breakout rooms at Zoom. I got the impression that they were collaborating more when divided into smaller groups and being able to work together more undisturbed.

Adding more study material such as the study questions and making the exercises available from start seemed to be a positive change to the course this year.

The lab session also went well given the fact that we had to change from being at Swerim and Sandvik Coromant to being at KTH in our smaller powder lab.

I think it is good to see that the course evaluations are improving from year to year. It makes me confident that the changes I am making to the course is improving it and that I am developing as a teacher.

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?
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The female students were in general more positive to the course than the male students although there was not a very large difference. The reason for this is not known and is something I will study further. Unfortunately, there were too few female students answering the LEQ previous year so I have not been able to compare the result from this year with previous years.

Regarding international/national students, the national students were in general more positive. Last year it was the other way around so at the moment I do not know how to analyse this. Last year, I thought it had to do with the international students finding the course more challenging in a positive way compared to the national students who sometime seemed to find the course too easy. I have included slightly more research example in this course round to make it more interesting to student already with some background the topic. I also added a little more of in-depth theory such as derivations based on the input I got from last year's LEQ. Maybe this has made the course more challenging in a negative way for the international students with a non-materials science background. I will pay attention to this in future course evaluations since the international students were fewer than normally this year and it would be good with more data for this analysis.

This was the first year I had the course with a student with a disability. My impression was that it went well and that all learning activities and examination were accessible to the student with none or smaller learning activity modifications.

PRIORITIZED COURSE DEVELOPMENT

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

I want to work further on making the lecture parts more interactive. I will also add more active learning activities since it seemed to have increased the time spent on the course this year.

I will also change a bit in the schedule so that the laboratory sessions are more evenly distributed throughout the course.

Since there now will be another master course available on powder metallurgy, I also plan on starting to modify the content of the course a little and spend more of the course time on powder materials and less on powder production and characterization since that is covered in more depth in the new course.

In the long-term, I would like to move towards a flipped-classroom type of format and for this I would want to revise the examination form with examination throughout the course instead of examination by the end of the course.
