



Report - MH2300 - 2021-06-11

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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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.

This course evaluation is based on the feedback received from the students via course evaluation, e-mail, and orally during lectures and seminars. Also, the teachers made their own evaluation of the course round VT 2021, analyzing the things that worked and those that did not work this year.

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.)

This is the second year when the course is given in the online format. It was possible to use most of the lectures pre-recorded last year, so the online meetings/lectures with the students were more interactive. Also, it was possible to spend more time on the explanations and derivations of the basic formulae, as well on worked-out examples of their applications to specific materials. Traditionally, the two seminars were used as a mini-conference at which the student projects (literature studies) were presented; the first seminar was a rehearsal and the second was the conference. After the conference, a peer-review round was organized via e-mail, where each student was acting as an anonymous reviewer of another student's written report. The teachers (mainly Claudio) acted as editors, requesting and collecting the reports, approaching the authors with requests for corrections and cover-page figures, and finally producing the volume.

COURSE DESIGN

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

Based on last year's course analysis the course design was slightly changed this year in order to include more problems and worked-out examples into the lectures and the two tests (therefore the tests were used partly as learning activities, where the students practiced in practical applications of the formulas learned in the theoretical part to specific materials). The reports and student presentations were further redesigned in order to have the students play a more active role. Additionally, a gender equality perspective was further implemented in the course activities and for example in the formation of student groups there will be a gender balanced whenever possible.

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 amount of statistics is insufficient to judge, but the available data and the results of students' work (reports, presentations, and performance in the tests) suggest that the workload is close to the optimum.



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?

This year the teachers are very happy with the students' performance. High quality of the written reports should be mentioned; it allows us to publish the Proceedings of the student conference, for 2nd year in a row. And this is in spite of the fewer number of course participants. The most striking difference this year was that all the students worked individually, although they were given the possibility to work in groups involving up to 3 students. The reason for that is unknown, maybe everyone got used to working alone during the pandemic.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

1. There were surprisingly few Swedish students in the course.
2. [The course] Appears to be fair towards disabled students.

Q: Advice to future participants:

A: Make a rough outline of the report as soon as possible, it will make writing the final report much easier.

SUMMARY OF STUDENTS' OPINIONS

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

Q: What was the best aspect of the course?

A:

- The accessibility to the teacher.
- The wide scope of the course. Essential for a career in new materials!

Q: What would you suggest to improve?

A:

- Some concepts removed and the course streamlined to relevant parts.
- Compendium requires correction and update.
- Lecture slides: Less text, update.
- The structure of the course could be made clearer.
- Include the grading system in the course PM and have more detailed info on the partial exams.

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 students' suggestions are valuable: We appreciate the critical comments and will work seriously on improving the course content and plan for the next offering. The fact that the teachers put additional effort this year to further trigger the students active role in the workshop resulted in a workshop with plenty of questions from the students and a smaller fraction of passive students.

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?

For the next course offering, it is important to fix the two main problems that occurred this year:

1. It does not matter how early the new course program is ready, what counts is when it is PUBLISHED!
2. Report the grades timely, by e-mail to <gru@itm.kth.se>



PRIORITIZED COURSE DEVELOPMENT

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

1. Revise the course content: More focus on energy materials, include topics related to environment, climate, and circular-economy.
 2. Update Compendium chapters on:
 - magnetic materials (+ recycling of REM magnets, sustainability)
 - shape-memory alloys (general update, include Fe-based systems)
 - biomaterials (update, shorten and focus on ceramics and coatings)
 - semiconductors (revise text, include polymers, photo-electronic devices)
 - a new chapter on Catalytic materials?
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