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## Report - MH2100 - 2020-01-30

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

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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

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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.**

This course consists of 7 lectures, 7 exercises and 3 laboratory sessions. To pass the course participation in all three labs were required as well as approve lab reports. The examination consisted of a written exam at the end of the course. The exam was divided into two parts where part A tested the E level on all ILOs and the B part was used to evaluate higher grades.

Compared to last course offering the number of lab sessions has increased with one session and lab reports have been made compulsory for passing the labs. This is also the first year with goal-oriented grading criteria (mårelaterade betygskriterier) which changed the structure of the written exam.

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### **THE STUDENT'S 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 students answering the course analysis questions reported a workload less than expected given it is a 6 credits course. Since the grades on the exam were relatively high this year, most students have probably spent more time on the course than course analysis representation. There are 4 hours (lecture+exercise) in the schedule for the course per week and all lectures and exercises were well attended. This is an improvement from last year when the exercise sessions were not well attended. I got however the impression that many of the students started studying properly later in the course when the examination date got closer.

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### **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?**

There were many students this year with A and B - more than last year. There was also only very few F:s - less than last year. There were however more students that got FX than last year. This is a direct consequence of the new exam structure and that all ILOs need to be passed on E-level. If I would have use the same grading criteria as last year where I only looked at the total number of points, the FX students would have gotten an E.

The reason for the higher grade in general this year compared to last year is not clear. I think it may be a combination of possibly a slightly easier exam, a motivated group of students, the addition lab session and the compulsory lab reports. I also think the fact that this was not the first time I gave the course also had a positive effect. I felt more prepared this time for what they would find difficult. I also took all the exercise session myself instead of having a TA. That made me more aware of what concepts and topics they found more difficult and could take some time for to explain more at the subsequent lecture.

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#### **OVERALL IMPRESSION OF THE LEARNING ENVIRONMENT**

**What is your overall impression of the learning environment in the polar diagrams, for example in terms of the students' experience of meaningfulness, comprehensibility and manageability? If there are significant differences between different groups of students, what can be the reason?**

The number of students answering the course analysis is too few to draw any useful conclusions between different groups. There were only enough international master students answering to be able to look at that groups. Compared to the average for the whole group though, the international master students answered with slightly higher numbers. There were no answers at or below 4 though which means that all of the students answering agreed with all statements with varying degree.

The reason for the higher numbers for the international student, I think may be due to the fact that the course is more challenging and contain more new topics for them compared to the Swedish students. The course is an overview course and there are many topics that are covered and hence; there is no time to go in depth. Since a large part of the international students don't have a materials science background and since this course is during their first semester at KTH, I think the course is challenging enough and therefore more exciting. The Swedish students might not find it very challenging and hence, perhaps not as exciting.

#### **ANALYSIS OF THE LEARNING ENVIRONMENT**

**Can you identify some stronger or weaker areas of the learning environment in the polar diagram - or in the response to each statement - respectively? Do they have an explanation?**

All answers were higher than 4 which I see as an average good review of the course.

The two lowest numbers (below 5) was for statement "3: I was able to learn by trying out my own ideas" (4.5), 5: "I felt togetherness with others on the course" (4.6) and 14: "I received regular feedback that helped me to see my progress" (4.2). The explanation for 3 is that the course didn't include any activities where the students were trying out their own ideas. That could perhaps be something to think about for the next round. In the case of 5, I noticed the international master student mainly worked together whereas the Swedish students mainly worked together. I think this is because it is still their first semester together and that the Swedish students already know each other and have started working together during the bachelor years. For the next year I will consider to divide the students into the lab. groups instead of letting them choose themselves to make them mix more. For 14, I don't have an explanation. It could also be due to the structure of the course and the fact that the examination was at the end of the course. For next year maybe some mid-course tests could be included to help the students evaluate their own progress.

The two higher numbers (6.8) were given for 6: "The atmosphere on the course was open and inclusive" and 22: "I was able to get the support if I needed it". I found these outcomes extremely encouraging. An inclusive and supportive learning environment is really what I've been aiming at creating.

#### **ANSWERS TO OPEN QUESTIONS**

**What emerges in the students' answers to the open questions? Is there any good advice to future course participants that you want to pass on?**

There are some really good advises as well as some identified needs in the open questions. One thing that I really need to work on to talk slower. Two students advised me to have less content and talk slower and I agree. Compared to last year which was the first year I gave the course, I think this course went way better when it comes to my lectures. This round I had more to say and knew a little better what the students would find more difficult. But I definitely squeezed too much content in each lecture. One reason is that the course covers such a broad area and there is little time for each part and this made some of the students miss the view of depth which they expressed in the open questions.

One student also advised me to try to activate them more during the lecture. It was a very silent class with only 2-3 students that sometimes asked questions. The next round, I should try to incorporate more interactive elements to help them participate more.

Another comment was the wish for more in depth content on additive manufacturing (AM) and alloy design and product design for AM and PM. Two comments even expressed the wish for the course to expand to include design of alloys for AM and OM and part/product design for AM and PM, or that a new master course on this topic was offered which I agree with.

Based on the open question answer, the part of the course seems to have been the laboratory sessions. I noticed the students really find the visits in the powder lab exciting. They also recommend the next years' student to read the book which is the same advice given by some students last year which motivated keeping the course literature even though the book is not available electronically but only in printed copies.



#### **PRIORITY COURSE DEVELOPMENT**

##### **What aspects of the course should primarily be developed? How could these aspects be developed in the short or long term?**

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I think the course development work should focus on trying to make the course more challenging and exciting also for the students with a bachelor degree in materials science or a special interest in additive manufacturing and materials/product design. How the time with the students is spent should also be worked on. The current structure with traditional lectures and exercise session separately is not activating the students enough. The fact that the lectures also are scheduled to Monday afternoon don't increase student attention. Mixing theory overviews with exercises and discussions should be aimed for the next round. Activities that promote the students to read more at home during the week (and not just before the exam) should also be aimed for.

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#### **OTHER INFORMATION**

##### **Is there anything else you would like to add?**

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It is unfortunate that there are so few students that answer these course evaluations. It was the same last year. I informed them more about the importance of completing these review this year compared to last year which had no effect. I will search advises from other teachers to see if they have any recommendations of how to improve the statistics.

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