



---

## Report - MH2100 - 2020-02-11

---

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):**

Greta Lindwall, gretal@kth.se

---

**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 2 compulsory laboratory sessions. To pass the course participation in both labs are required and at least 50% points on the written exam. Compared to the last course round the part focusing on additive manufacturing has been extended with one more lecture on the topic. There is also a new lab session on powder characterization which is held at Swerim in their powder lab. The exercise sessions have also been restructured so that the topic of the exercises align with the content presented on the lecture the same week.

---

**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?**

According to the survey, the students were spending less time on the course than expected for a 6 credits course. I got the impression that the majority of the student attended the lectures but started self-studying only when the exam date was approaching. The lectures were always well attended but for the exercise session it varied more.

---

**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 this year was better than last course round. The distribution of grades was normal with a few more students with a A and B than common for the other courses in this program (source Anders Eliasson). I don't know why the results were better than last year, this year was my first year to give the course.

---



#### **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?**

There are too few students participating in the survey for me to draw any accurate conclusion for different groups. Looking at the average for all students compared to the answers by only the Swedish students, one can draw the conclusion that the international students on average agreed to a larger degree with the statement than the Swedish students. There was only one statement that got a number below 4 though (3.6) and this was 11: "Understanding the key concepts had high priority". This is worrying and should be a focus in the development of the course for next year.

The reason for the higher points from the international students is not clear to me. Most of the international students were not from a materials science background whereas many the Swedish students seemed to have been in contact with powder metallurgy in some way prior to the course. I think this might have affected how interesting they found the content of the course.

#### **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?**

Looking at all the student answers the statements with the lowest points were 4: "The course was challenging in a stimulating way" (4.8) and 12: "The course activities helped me to achieve the intended learning outcomes efficiently" (4.4). I think the outcome on number 4 is related to the fact that the course was mainly challenging for the students with little pre-knowledge of powder metallurgy and materials science which was not enough satisfaction for the students with a bachelor degree in materials science.

The reason for the outcome on number 12, I think could be partly due to a slightly disharmony between the exercise sessions and the lectures. Since the TA was on leave part of the course there were different persons taking care of the exercise sessions each week with various insight in the topic. I think it would be better if the exercises were more integrated with the lectures and that the same teachers/TAs attend both sessions to increase information transfer and enable repetition etc.

All other statements got numbers between 5 and 5.6. No statement stood out as extra strong.

#### **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 good advises for course development. Many positive comments that are encouraging about the lecture content and exercise sessions, in particular the connection to real-life products. The lab at Swerim seems to have been a favorite.

Good advises were given, in particular, when it comes to exercises sessions. The fact that they worked together to solve problem and the presented to each other had made students not coming to the session because they didn't feel prepared enough which could explain the low number of participant number. They also thought that there were too many exercises and not enough time and that it would have been better if the problems were solved by the teacher at the board with interactive involvement of the students and then that more similar questions were given to work on at home.

One student found the calculation questions at the exam too easy as they were too similar to the one worked on during the course. One student thought the lectures were not well prepared and the teacher was too inexperienced. This is dis-encouraging and I disagree with that the lectures were not prepared since I know that is not the case. I agree however, that my inexperience affected the quality of the course. This was the first course I ever gave. My pedagogical experience before this course is solely collected from supervision interaction with PhD students and master students working on their thesis. The atmosphere in the classroom during this course and the expectation of the students were somewhat of a shock to me. I felt very evaluated during the lectures which I found extremely stressful and I ended up finding the lectures rather terrifying. I also was not prepared that I would need to motivate them as much to try to learn. I guess I was expecting them to be more like the PhD students. I think I will be better prepared mentally for the next course round and that this will improve the quality of the lectures.



#### **PRIORITY COURSE DEVELOPMENT**

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

---

The students felt very inactive during the course. The lecture slot was Monday afternoon and the energy level was low. Since many students skipped the exercise sessions, many students were inactive in the course work during the period and then just studied for the exam. The development work for next year need to focus on making the students more active. In particular, the exercise sessions need to be restructured with a close connection to the lectures so that the students see a point in attending them. The course development work also need to focus on making the course more appealing and stimulating for the students with a strong material science background while still not be overwhelming for the students with a none-materials science background.

In the long term the content in this course should be reduced so that it can become more focuses. This course should then be complemented with a master course in powder production and an interdisciplinary course in additive manufacturing.

---

#### **OTHER INFORMATION**

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

---

My first try as a teacher was an enormous learning experience for me. I had no idea what to expect beforehand and I felt insecure about the course content. I look forward to the next round with excitement mingled with anxiety. I think it will be a very different experience.

---