



Report - MH2029 - 2020-11-25

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):

parj@kth.se and akarasev@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.

After the completion of the course the students were invited to fill out a LEQ. Four out of 8 students completed the survey.

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 course has been given by using zoom. It has involved 3 teachers. No special meetings have been organized with the students. Especially Andrey Karasev who has been the main teacher has replied to the students questions.

COURSE DESIGN

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

The overall aims of the course are:

- To develop students' knowledge of current methods to produce base metals from natural ores and recycled materials with focus on steel, which are most relevant for the Swedish steel industry. However, the production of aluminum and silicon is also discussed to exemplify the production other metal as well as other production concepts.
- To develop students' individual skills at performing relevant thermodynamic calculations for the extraction of base metals with focus on steel.
- To develop students' individual skills at interpreting the significance of the results of these calculations.

Course requirements:

Exam (TEN1), 4 p.

Home assignment (ÖVN1: 2p) Computer lab steel production, participation and written report.

Since 2019 we have added some extra lectures where basics of thermodynamics is explained, since in the pasta many students have said that they did not have enough knowledge in this area.

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?

Most students spent between 3-5 hours per week, which corresponds to the expected levels. One student spent 12-14 hours per week. This is high and may most likely be due to that the student has not previously studied basic thermodynamics to a sufficient level.



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 eight students received the following grades:

A: 1
B: 5
C: 2

This is a good result. It shows that the teachers have been able to teach the required material in a successful manner.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

What was the best aspect of the course?

I think the course gave a nice description of aspects in the production of steel from the Blast furnace to casting processes.

The course gave me an idea of the strategies and processes also from a practical thermodynamics point of view in the extractive metallurgy stimulating me.

Preparatory thermo lectures were very useful.

What would you suggest to improve?

I think it would be great if some field visits to steel making plants are arranged. It really helps to correlate what we learn in the class to practices

in the industry. Maybe after Corona?

Maybe the slides could be with some more words.

Presentation slides could use a makeover (A. Karasev's part).

Add study questions to book chapters that do not have any (or where they have been left out).

Before the RawMatMix lab, a more thorough introduction to the topic (more than 45min) could help.

What advice would you like to give to future participants?

I think it would be really helpful if one could revise the physical-chemistry aspects that are taught in high school.

To follow the lectures and to try to relate the theory to the practical thermodynamics aspect to achieve a deeper knowledge

Do the study questions in the book chapter "before" exam preparation starts!

Is there anything else you would like to add?

I enjoyed the course. Andrey is a nice teacher :)

SUMMARY OF STUDENTS' OPINIONS

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

The students thought that the course was interesting and based on the good exam result it seems that the material was presented in a way so that they successfully could pass the exam.

Some students expressed that they wish a more in-depth introduction to the RAWMATMIX lab.

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 teachers Believe that the organization of the course is done in a proper way. It is a good balance on how some goals are examined using an exam and others by using computer laborations. Also, both theory and calculations are part of the course that provide the students with the knowledge to get a progressed knowledge in other process Courses that will follow in the masterprogram.



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?

No, to few students in the class.

PRIORITIZED COURSE DEVELOPMENT

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

No major changes are deemed to be necessary. We will improve the introduction to the RAWMATMIX laboration as pointed out as a small weakness by some students.
