Report - SK2773 - 2019-03-27

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):
Muhammet Toprak, toprak@kth.se

COURSE DESIGN
Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.
The course is offered the first time as a part of Nanomaterials line in the International Master Program in Nanotechnology. Thermodynamic concepts making nano unique have been discussed with application examples, Hill's theory, surface chemical potential including nucleation, Surface energy and wetting, thin film nucleation/formation, mechanical and magnetic properties at nanoscale, conversion chemistry, disperse systems (exemplified by micro emulsions) as well as heat transfer at nanoscale. The lectures were classroom teaching and discussions, while there were reading material made available through canvas, to prepare before the class. Two assignments and a final exam have been implemented for following the the student progress as well as the final evaluation fo the course. The final exam was set to be an oral exam in order to closely monitor the perception of concepts by the students. A long set of questions from each module has been prepared and distributed 2-3 weeks before the exam for the students to prepare.

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?
Students have spent generally less time than what it should be for the credit load of the course. This could be due to several reasons, including the fact that they may not have spent enough time on the reading materials to prepare before each class.

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?
Except two students all passed the course. The course is given the first time, therefore comparison with earlier course-rounds is not possible.

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?
Students' perception of the learning environment is generally very positive. All students felt that they received support when they needed. There is no significant difference between different student groups or genders.

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?

The timing of assignments and the extent of collaborative activities have been criticized by the students. Some students expressed interest in having some lab components in the course, that would have helped their understanding.

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?

best aspect of the course:
-The syllabus and material topics were very interesting and exactly what I wanted to learn about.
- Broad panorama of phenomena and subfields covered by the course.
The best aspect is having a professor that is clearly very passionate about the subject, giving great explanations of the concepts.
Despite of the course being very new and not having much organised literature (like one book that covers everything), Prof. Toprak put a lot of efforts in organising the lecture slides with information from a variety of important journal articles, review papers and books. This course taught more than I was expecting prior to attending.
- The skill of the professor to transmit knowledge to his students, as well as his skill to create a creative environment.

suggestions to improve:
-Choosing a final assessment method should be decided the very first week of the course, so the student has an idea on how to organize fitire lectures and note-taking based on that. Engagement in lectures is very different depending on that final evaluation.
- More time spent in some topics, like heat transfer and thermoelectric materials.
It could definitely been more interactive.

Advice to future participants:
- Constancy is fundamental. Focus on key points.
The professor clearly is passionate about the subject and the course, here I would wish for him to take a few hours to create a more pedagogical environment and a more interactive course.

PRIORITY COURSE DEVELOPMENT
What aspects of the course should primarily be developed? How could these aspects be developed in the short or long term?

Discussion about the exam and directions will be given very early in the course. It seems like they would have attended more carefully if this was clear to them at the first lecture.
Students will be provided with a library of key questions on each module beforehand. The content of the course will not change dramatically but an assessment of students' level will be done at the very beginning in order to set the level more properly. In order to increase student interactions flipped classroom and more classroom discussions may be introduced.

OTHER INFORMATION
Is there anything else you would like to add?

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SK2773 - Nanothermodynamics, VT 2019 SAP

Course facts

Course start:	2019 w.3
Course end:	2019 w.11
Credits:	7,5
Examination:	INL1 - Assignment, 1.0, Grading scale: P, F INL2 - Assignment, 2.5, Grading scale: A, B, C, D, E, FX, F TEN1 - Examination, 4.0, Grading scale: A, B, C, D, E, FX, F
Grading scale:	A, B, C, D, E, FX, F

Staff

Examiner:	Muhammet Toprak <toprak@kth.se>
Course responsible teacher:	Muhammet Toprak <toprak@kth.se>
Teachers:	Muhammet Toprak <toprak@kth.se>
Assistants:	

Number of students on the course offering

Registered	0

Achievements (only registered students)

Pass rate[1] [%]	*There are no course results reported*
Performance rate[2] [%]	*There are no course results reported*
Grade distribution[3] [%, number]	*There are no course results reported*

1 Percentage approved students
2 Percentage achieved credits
3 Distribution of grades among the approved students

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Grading scale:	A, B, C, D, E, FX, F

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