

Report - SH2706 - 2023-11-21

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.

All students were asked to participate in the course evaluation by sending them the LEQ survey questionnaire after the course's completion. However, only 10 students among 27 total students answered the LEQ survey questionnaire. They are all international students. All students were also asked by teachers to provide opinions on classroom activities and home assignments during lectures.

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.)

No meetings dedicated course evaluation were arranged, but there were 20 lectures, 5 exercises and 1 workshop of students debate in the classrooms.

COURSE DESIGN

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

After learning the course of Sustainable Energy Transformation Technologies, the students are expected to possess a basic understanding of the principles of operation for various currently known energy transformation technologies. More specifically, the students should be able to (i) explain principles of design and describe major components of commercially operating energy transformation systems; (ii) make balances of energy, entropy and exergy of such systems; (iii) analyze major environmental effects of such systems; (iv) perform simplified economic analyses of such systems; (v) explain principles of performing life-cycle analyses of such systems; and (vi) compare the systems with each-other as far as sustainability, economy and safety are concerned. Learning-by-doing approach is employed to help achieve the intended learning outcomes, and therefore large home assignments and in-class exercises are conceived for students to make sufficient practices. The intended learning outcomes are accomplished by 52 hours of classroom work (40 hours of lectures, 10 hours of exercises, 2 hours of workshop) and 188 hours of students' independent work (home assignments, preparation for debate, and written exam). The final grading scale is A/B/C/D/E/F based on the point of final written exam and points of home assignments. The written exam and home assignments consist of several questions and numerical problems of varying level of difficulty to be answered and solved using the Möbius. This is the first-time offering of the course after I became the examiner of the course. Three lectures were given by me, and other lectures were given by Prof. Henry Anglart who was about to retire. I helped in home assignments and student debate.

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?

Yes, the total workload of each student is supposed to be 240 hours for this course.

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?

I believe all students have reached the intended learning outcomes, manifested in their successful delivery of the home assignments, debate and written exam. This is my first time to be the examiner of the course, so there were no previous offering which I can compare with.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

The responses are positive in general. Here are a few responses from students: (1) course materials in themselves are pretty interesting; (2) the best aspect of the course is the diversity between calculation and general knowledge; (3) the technical thermal-hydraulics content relevant nuclear engineering was good; (4) it would be interesting to talk about how the energy systems are interconnected; (5) as global warming is very actuate, maybe focus a bit more on that; (6) the home assignment evaluation needs to be improved.; etc.

SUMMARY OF STUDENTS' OPINIONS

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

All students who participated in the survey expressed that they worked with interesting issues, and received supports and feedbacks. Among ten students who participated in the survey, nine expressed there worked with interesting issues, six said the course was challenging in a stimulating way, six expressed they were able to practice and receive feedback without being graded, eight replied that the assessment on the course was fair and honest, nine said they were able to learn by collaborating and discussing with others, and to get support if they needed. Therefore, the students' opinions were quite good, although one may point out that only 10 of 27 students participated in the course survey. From my participating most of class activities, I also received a warm feeling of students' opinions.

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.

Overall, as the examiner, I am happy with this offering in relation to students' results. The students has learnt how to look at the sustainability of different energy transformation technologies and find approaches to improve.

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?

Yes, it is possible to identify stronger and weaker areas in the learning environment based on the information I have gathered during the evaluation and analysis process. There were no significant differences in experience between female and male students, between international/national students, and between students with/without disabilities.

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

The course has multidisciplinary contents, so not everyone student can follow perfectly, since they may come from deferent background. I would like like to discuss the interconnections between different energy transition technologies, and emphasize how to improve their sustainability. Moreover, the grading system can be changed to be mainly based on the point of final written exam.

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

Although I was following most class activities, and gave three lectures (6 hours) in the course offering. But this is my first time to the examiner of the course, so I was learning from the previous examiner of the course (Prof. Henryk Anglart) and thinking over how I am going to run the course independently in the next offering.
