Report - FSH3801 - 2021-05-10

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.

After the course's completion all students were asked to participate in the course evaluation by sending them the LEQ survey questionnaire. During the period of the course offering, the students were also encouraged to express their opinions on the arrangement and contents of course lectures. The students' opinions on course projects were reflected in the seminars. There was only one female student among six total students in the class, and she was active in the course evaluation process.

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.)

There were two meetings with all students held in the middle and the end of the course, respectively. Each meeting was four hours, with the main objective for students to report the progress of their course projects using the learnt outcomes from the course, and to receive feedbacks from the teacher. Meanwhile, their opinions on the course were also presented and reflected.

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, the students should be able to (1) describe the most important phenomena and principles of two-phase flow in engineering applications; (2) explain the main points of boiling and condensation heat transfer, (3) describe the concept of boiling crisis (e.g., DNB - departure from nucleate boiling, and dryout) and its modeling, (4) Apply the basic two-phase models and flow pattern maps to calculate the pressure drops of two-phase flow at various conditions; (5) Apply the models of critical flow and flooding to analyze limiting flow of engineering processes; (6) Apply the learnt knowledge to the course project, and write a report. The intended learning outcomes are accomplished by 36 hours of classroom work (26 hours of lectures and 10 hours of seminars) and 120 hours of students' independent work (50 hours of reading the course literature, 70 hours of working on the homework and course project). The final grading scale is P / F, with the consideration of a student's performance in Homework (30%), Quizzes (20%) and Project (50%).

THE STUDENTS' WORKLOAD

Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If these is a significant deviation from the expected, what can be the reason?

Yes, the total workload student is supposed to be 156 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 assignments (homework, quizzes and project). This time I had more in-class activities which required students to discuss specific topics which were just taught. The prompt feedbacks are useful for the adjustment/modification of coming lectures. To have more students' involvement in the lectures is something I learnt from the previous course offering, so I had a better idea of how well they can catch up and how much time they spent on the reading materials and project.

STUDENTS´ANSWERS TO OPEN QUESTIONS
What does students say in response to the open questions?

The response is quite positive in general, and the students appreciated that the content in each lecture is full of new knowledge and interesting. The students also gave some suggestions such as: (1) too much information was continuously presented in a very short time; (2) the course materials should be structured and corresponding modules should be created in canvas; (3) more breaks and discussions in small groups were recommended; 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. Four of five students who participated in the survey expressed that the course was challenging in a stimulating way. All students expressed that they are able to practice and receive feedback without being graded, and the assessment on the course was fair and honest. They also responded that they are able to learn by collaborating and discussing with others, and to get support if they needed

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.

Generally speaking, I am satisfactory with the offering and the students' results. The evaluation was fair and honest, and suggestions from students are useful and instructive for the improvement of the next offering of the course. The most important change from the last course offering was the addition of in-class activities in most lectures. The students were divided into three groups, and discussed the questions given by the teacher in around 5 minutes, and then presented their answers in around 5 minutes. This way the students were actively involved in the lectures, and the teacher got the prompt feedbacks on the previous learning outcomes. The another change was that a more specific reading assignment was given to the students after each lecture, so to help students to further digest and comprehend the lecturing topics. I felt all these changes were beneficial to the the students' results.

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 mal students, and between international/national students.

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

The literatures are scattering while the subject is complex. As a result, it is a challenge for the students to follow all topics discussed in the classes. For a future offering, the course materials should be more structured, and the best in long term is to develop a textbook which will not only summarize all key concepts, principals and physical models for each topic (e.g. the critical heat flux), but also highlight the specific materials (chapters or sections in reference books) for students to read in order to reach each intended learning outcome. In short term, such a textbook can be compiled from detailed handouts and explicit referencing to specific articles and sections of books. In short term, the formats of course project and homework also need improvements. More homework should be given so as to ensure that students spend sufficient time on the course. Team work for course project can be considered to increase the cooperative problem solving capability.

OTHER INFORMATION

Is there anything else you would like to add?

Due to the Covid-19 pandemic, all classroom activities (lectures and seminars) have been done through Zoom webinar. This change of learning environment had some effects on the learning process. For instance, it is hard for the teacher to know the level of attention from individual student. Also, it is inconvenient and nonefficient to organize in-class activities in the visual classroom. If the distant teaching/learning is still used in the next offering, some adaptation and modification in the teaching/learning toolbox should be done to help reach the intended learning outcomes.