

Report - SD2175 - 2019-07-05

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):

Romain Rumpler, rumpler@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 structured into five modules (same as the previous offering):

1. FD Basics - This begins with a lecture with preparatory reading accompanied by quiz questions. Then Assignment 1 follows where the students work through a finite difference method computer exercise for a simple case and answer questions about the theory and implementation issues (e.g. errors, convergence, etc.). This assignment is then submitted as a written report and peer reviewed.

2. FE Core - As it takes some time to introduce the students to the core parts of the finite element method, this module consists of three lectures with preparatory read and quiz questions. There is no assessment in this module.

3. FE Implementation - This begins with a lecture with preparatory reading. Then Assignment 2 follows where the students work through a finite element method computer exercise for a simple case and answer questions about the theory and implementation issues (e.g. errors, convergence, etc.). This assignment is then discussed orally with each student during a 30-minute individual formative discussion (format introduced in the previous offering).

4. FE Applications - This begins with a lecture with preparatory reading. Then Assignment 3 follows where the students work through a finite element method computer exercise for an applied case and answer questions about the theory and implementation issues (e.g. errors, convergence, etc.). This assignment is then submitted as a written report and peer reviewed.

5. Project - The students begin with refining their project proposals and then carry out a detailed numerical analysis and evaluation of their results. They present their result at the course seminar where they are questioned by the examiner and other participants. This assignment is then submitted as a written report and peer reviewed.

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?

This is a nine credit course and students often underestimate the time required to complete the course. However, the extent of the work being stressed in the introductory lecture, no major delays were noticed in their progress. They completed the assignments on time, except from a few final project reports which are delayed by choice of the concerned students, to postpone the validation of the 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?

The grades were generally very good this year: 4 As, 1 D and 1 E (with at least 2 additional grades to come). This may be attributed mainly to the fact that this student group had a very stimulating attitude to the course and towards each other, with a core of the group being enrolled in the Sound and Vibration Master's degree with a high motivation for 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?

Overall, I think the learning environment was good. As usual some students where more eager to participate in discussions than others, but all contribute to questions in lectures at some point. This was perhaps helped by the small size of the group.

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?

One area that has generally been improving compared to the previous sessions is the feeling that the students have received adequate feedbacks

(assignments and lab exercise sessions), for which quite some efforts have been made in the process of the course development (peer reviews, individual formative assessment, ...).

It is also rewarding that the students seem to feel that there is room for them to take control of their learning outcome, and be stimulated by the

degrees of flexibility implemented in the course (personal project, room for group discussions, ...). A weakness that remains is the feeling that the students don't get a clear connection between the stated ILOs, where they stand in acquiring and demonstrating these, and the grade they can expect. This in part could be also connected to the degree of flexibility left to their own choice in the assignments and the project, which does not limit the extent to which they could be working on each task. This may make them doubt about where they should stop in their work and reporting. At the same time as this may stimulate their degree of investment in the course, more efforts could be made to provide some feedback with respect to their current advancement.

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?

The suggestion regarding the possibility to provide feedbacks also in terms of the ILOs is definitely one to be taken for the next offering. Then a recurring advice for the next participants is to start as early as possible, both in the lectures in order not to fall behind, and in the assignments as these can take more time than anticipated.

PRIORITY COURSE DEVELOPMENT

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

For the most part the previously implemented changes to the course have been successful and no major changes are planned. The main consideration for next year will be to consider how students with less experience of acoustics and vibrations can be helped.