

Report - SG2214 - 2022-12-01

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.

The course evaluation was performed electronically with LEQ.

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.)

Informal meetings at lecture breaks.

Call for one "kursnämnd" at the end of the course.

COURSE DESIGN

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

14x2h Lectures

14x2h Recitations

3x1h Tutorials

1x3h Laboration (mandatory)

3 Homework assignments (mandatory, may give bonus points on written exam).

1 Written exam

This year we offered lectures and recitations live.

Slides and lecture notes were made available on Canvas.

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 probable estimated workload by students was 15-17 h/week.

According to course credits 7,5 it should have been 20 hours per week. If you add 6 hours per week for teaching in class one gets 21-23 hours per week, which is then at least according to the expected value (in average).

Comments indicated that work load was fair.

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?

8A

2B

4C

5D

9E

4F

The amount of F:s was about the same as last year.

The amount of E:s was doubled as compared to last year.

The amount of A:s slightly less.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

Comments about workload.

Comments (I worked: 6-8 timmar/vecka)

The course was a bit slow in the first half. But during the second half, it has a decent amount of workload. I would suggest moving the project + deadline a bit earlier to prevent too much workload in the final week.

Comments (I worked: 12-14 timmar/vecka)

Good workload, enough to deepen understanding. Project 2 is long but helps for exam and continuous learning.

Comments (I worked: 15-17 timmar/vecka)

What was the best aspect of the course?

(I worked: 6-8 timmar/vecka)

The physical aspects are built up from the fundamental basis.

(I worked: 12-14 timmar/vecka)

the home assignment that really help us to understand the course

Great connection between recitation and lecture

(I worked: 15-17 timmar/vecka)

Continuous learning

The course itself is very interesting

Very complete overview of fluid mechanics, and many details and applications.

The concepts learned

It was a challenging course for me therefore I had to spend more time but it felt reasonable

Workload seemed ok

A lot can be done by attempting to Lectures and recitations

Reasonable amount although this is an average and the course alternates 10h for a week and 20h+ the week after that (with little possibility to even out the workload considering the HW questions rely on new content)

What would you suggest to improve?

(I worked: 6-8 timmar/vecka)

The simplicity of the underlying mathematical principle ideas is somewhat distorted in an effort to make it 'simpler'. I suggest that at least a mathematically robust explanation could be offered next to the given lecture notes and the book. + I would really appreciate the possibility to do the project using python.

(I worked: 12-14 timmar/vecka)

nothing

Better adjust exercise session to help on projects.

(I worked: 15-17 timmar/vecka)

A number of things: For those who are joining the course without an extensive fluid mechanics background it is hard to get a good grip on the course and how to work through the homework assignments. There really should be a compendium of smaller, simpler problems to work on before doing the homework assignments. Otherwise the course could find a copy of the solution manual to the coursebook, and use that as a good foundation to start. The lecture notes from 2005 should be brought up at the start of the course as a more optimal way of going through the course material than the book in my opinion. The tensor notation at the start was incredibly hard to get a grasp on and was rushed through quickly (understandably so as there is a lot to go through, however this is where having practice problems is important).

Pedagogy!! The bases of FM hasn't changed in decades but the pedagogy to make students understand it has, having more relevant notes and books is strongly needed as every student I've talked to in this course have noted the lack of understanding of the material when doing the Homeworks.

What advice would you like to give to future participants?

(I worked: 6-8 timmar/vecka)

Use the comma notation. It makes derivations in this field clearer making it less prone to errors. (comma notation $du/dx = u_{,x}$)

(I worked: 12-14 timmar/vecka)

to practice a lot with old exams

Learn from the beginning

(I worked: 15-17 timmar/vecka)

Stay engaged with the course and do all the homeworks

Read from the printed lecture notes from 2005, they are 100x better than the book at explaining the course content without devoting 50 pages to a single concept. Find smaller, simpler problems with solutions online to work on, otherwise attempt to understand the old exam problems.

Homework assignment problems are much more difficult than the exam problems on average.

Ask as many questions about the HW as possible, it will help! Don't start the HWs too early because the material covered to do them only comes later

Is there anything else you would like to add?

(I worked: 12-14 timmar/vecka)

Thanks a lot the course was great!

Is there anything else you would like to add?

(I worked: 15-17 timmar/vecka)

Again, please change the course manual, or at least base your lectures on one that can make the math digestible, there are too many shortcuts made which makes it hard to know what to do in specific situations. I've had graduate level gas dynamics classes easier to understand and follow than this course...

SUMMARY OF STUDENTS' OPINIONS

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

Opinions differ, possibly reflecting the students various backgrounds preceding this course.

Call on student meeting.

Student opinions:

Lectures, recitations, lab are OK.

Homework problems can be hard to get started on. (More hints?)

Easier problems needed for exercise.

Possibility to make prerecorded lectures/recitations available (from the pandemic)?

Index notation is difficult.

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.

No big changes were made, other than going back to the class room after the pandemic.

The overall result was quite good (almost 90% of those who attended the first exam got a passing grade).

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?

Too few answers to draw any general conclusions for the different groups.

A weak point continue to be the lack of easier exercises with available solutions. That would be a valuable resource for students that find the homework assignments too demanding as a first exercise to try. (Although there are old written exams with solutions available.)

PRIORITIZED COURSE DEVELOPMENT

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

Enable problem solving on the side on shorter basic problems.
