LUND UNIVERSITY
Faculty of Science

Course Analysis for MATP36 Partial Differential Equations, spring 2022

Alternative course code: FMA145F (PhD course)

Course Information

Lecturer: Erik Wahlén
Number of students:
13 newly registered and 1 PhD student
1 student answered the course evaluation

Examination

Oral examination: 5 students passed (after resit).
Written examination: 5 students passed (after resit).

- Ordinary examination 24/5 2022: 4 students participated and 3 of them passed.
- Resit examination 19/8 2022: 2 students participated and 2 of them passed.

Final grades:
In all, 5 students, including 1 PhD student, have received their final grade.
3 passed with distinction.
2 passed.
Note that PhD students can only pass/fail.

Course Evaluation

Summary of student's answers:
Since only one student participated in the evaluation, one should be very careful in drawing conclusions from the answers. With that said, the student who answered was generally very satisfied with the course. The main suggestions were to add a hand-in assignment, create more incentives to participate in the seminars and to add some qualitative questions to the more procedural parts of the exam.

Teachers' comments:
The course was given on half-speed during the second half of the spring semester. There were two lectures per week (each a double hour) and one seminar (a double hour), were the students (and sometimes the teacher) presented solutions to the homework exercises on the blackboard. The examination consisted of a written exam followed by an oral exam. While 14 students (including PhD students) were registered on the course, fewer students followed the course actively until the end (between 5-10). In the end only 6 of the students took one of the two written exams that were offered. This is a disappointing result, but it's difficult to tell from the course evaluation what is the reason. A possible explanation is that the course is a bit too demanding for some of the students. As noted in the previous course analysis, there seem to be two groups of students. Some students struggle a lot and would benefit from focusing more on

the more basic parts of the course, while others would like to see more of the advanced material at the end of the course based on functional analysis methods etc. One possibility is therefore to offer two PDE course, one more basic and one more advanced. The less advanced course could avoid having functional analysis and integration theory as prerequisites (at the moment they are recommended but not mandatory), while the more advanced course could have them as mandatory prerequisites and go a bit further than the current course (for example, including semigroup theory). One could also think about introducing some hand-in assignments and perhaps some early evaluation to activate the students more and to catch the students who are thinking of dropping out of the course.

Changes from the previous course realisation:
Compared to the last realisation of the course (spring 2020) the main change (apart from the fact that the course was now given completely on campus) was that the material on distribution theory was skipped in favour of some lectures and seminars on second order parabolic equations with variable coefficients (as suggested in the previous course analysis). This seems to have worked well for the students who stayed in the course that far, but it probably didn't have any impact (positive or negative) on the number of students who finished the course.

Suggestions for the next course realisation:
Given enough resources one should think about splitting the course in a more basic and a more advanced course as suggested above. One should also consider introducing some hand-in assignments. The suggestions of adding some more incentives to come to the seminars and some theoretical questions connected to the more procedural problems on the exam could also be considered.
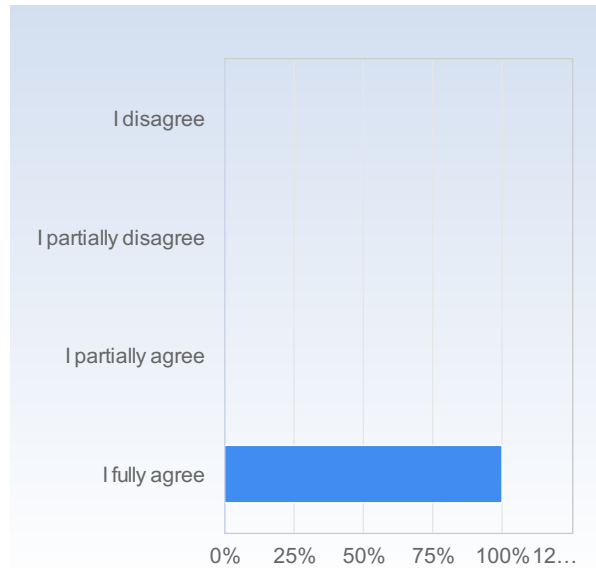
Course evaluation MATP36 PDE 2022

Answer Count: 1

The course in general
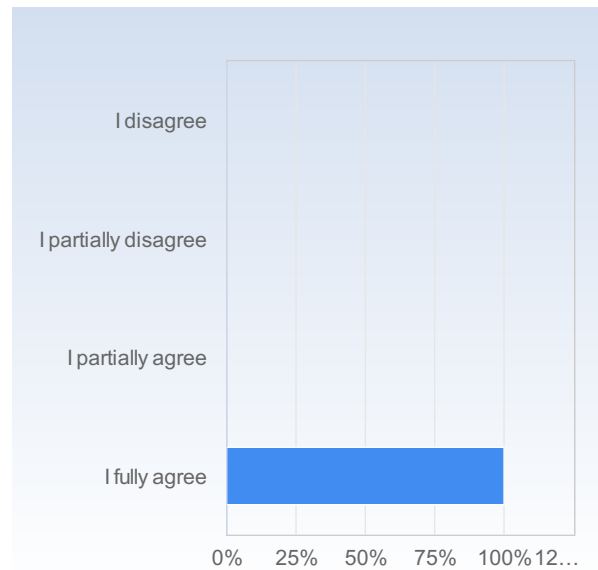
The content of the course matched my expectations.

The content of the course matched my expectations.	Number of responses
I disagree	0 (0,0%)
I partially disagree	0 (0,0%)
I partially agree	0 (0,0%)
I fully agree	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The content of the course matched my expectations.	4,0	0,0

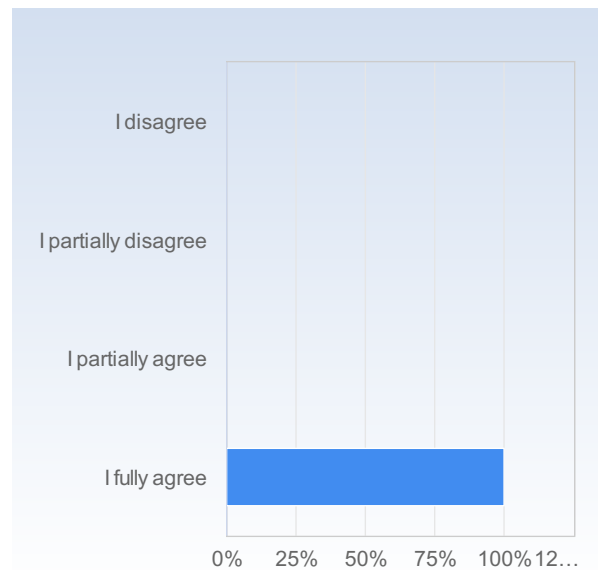## The information about the course (schedule, exam etc.) via Internet has been satisfactory.

The information about the course (schedule, exam etc.) via Internet has been satisfactory.	Number of responses
I disagree	0 (0,0%)
I partially disagree	0 (0,0%)
I partially agree	0 (0,0%)
I fully agree	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The information about the course (schedule, exam etc.) via Internet has been satisfactory.	4,0	0,0

The information about the course (schedules, exam etc.) via lectures/and seminars has been satisfactory.

The information about the course (schedules, exam etc.) via lectures/and seminars has been satisfactory.	Number of responses
I disagree	0 (0,0%)
I partially disagree	0 (0,0%)
I partially agree	0 (0,0%)
I fully agree	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The information about the course (schedules, exam etc.) via lectures/and seminars has been satisfactory.	4,0	0,0

## The course was organized in a satisfactory manner.

The course was organized in a satisfactory manner.	Number of responses
I disagree	0 (0,0%)
I partially disagree	0 (0,0%)
I partially agree	0 (0,0%)
I fully agree	1 (100,0%)
Total	1 (100,0%)
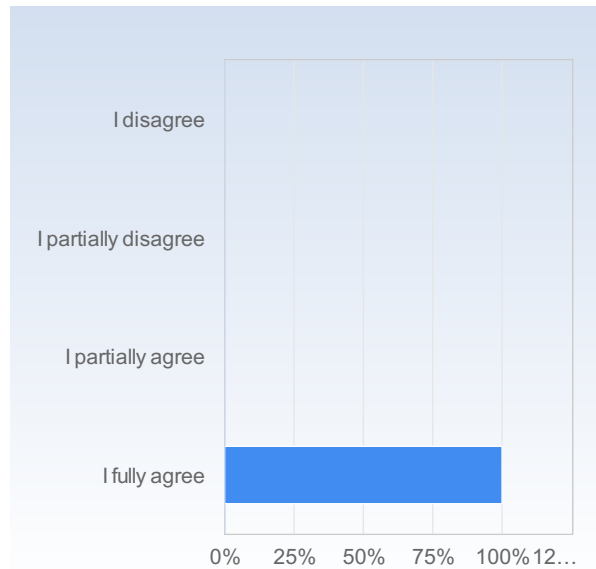
	Mean	Standard Deviation
The course was organized in a satisfactory manner.	4,0	0,0

The course material has been comprehensible.

The course material has been comprehensible.	Number of responses
I disagree	0 (0,0%)
I partially disagree	0 (0,0%)
I partially agree	0 (0,0%)
I fully agree	1 (100,0%)
Total	1 (100,0%)
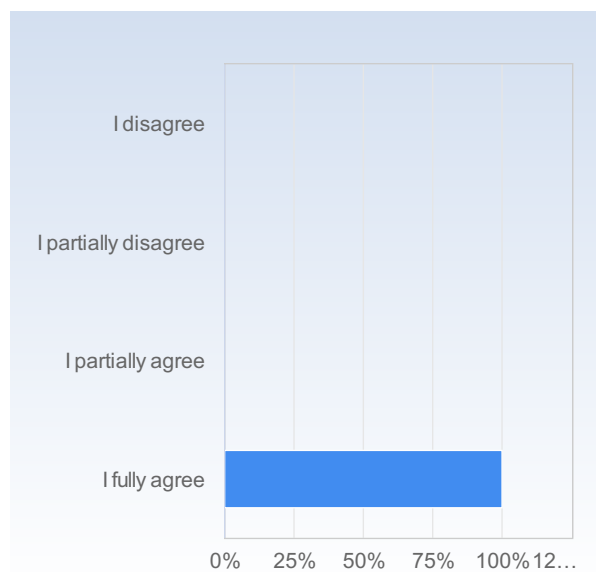
	Mean	Standard Deviation
The course material has been comprehensible.	4,0	0,0

My prior knowledge has been sufficient in order to be able to assimilate the contents of the course.

My prior knowledge has been sufficient in order to be able to assimilate the contents of the course.	Number of responses
I disagree	0 (0,0%)
I partially disagree	0 (0,0%)
I partially agree	0 (0,0%)
I fully agree	1 (100,0%)
Total	1 (100,0%)

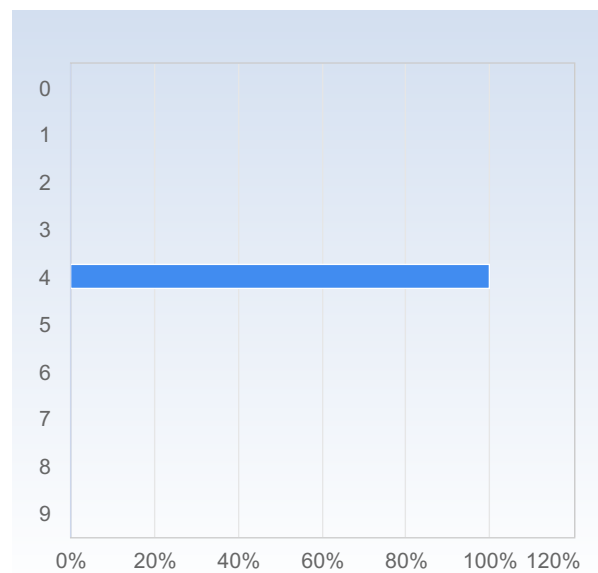|	Mean	Standard Deviation
My prior knowledge has been sufficient in order to be able to assimilate the contents of the course.	4,0	0,0

How many hours per week have you spent on studying for this course, including scheduled hours?
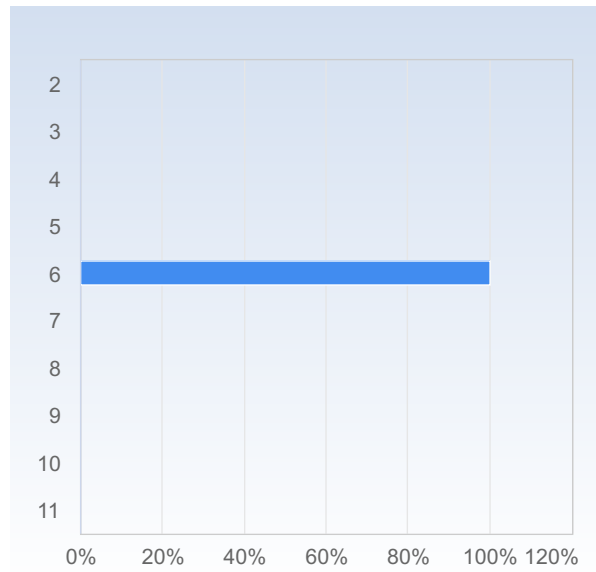
From

From	Number of responses
0	0 (0,0%)
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	1 (100,0%)
5	0 (0,0%)
6	0 (0,0%)
7	0 (0,0%)
8	0 (0,0%)
9	0 (0,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
From	4,0	0,0

To

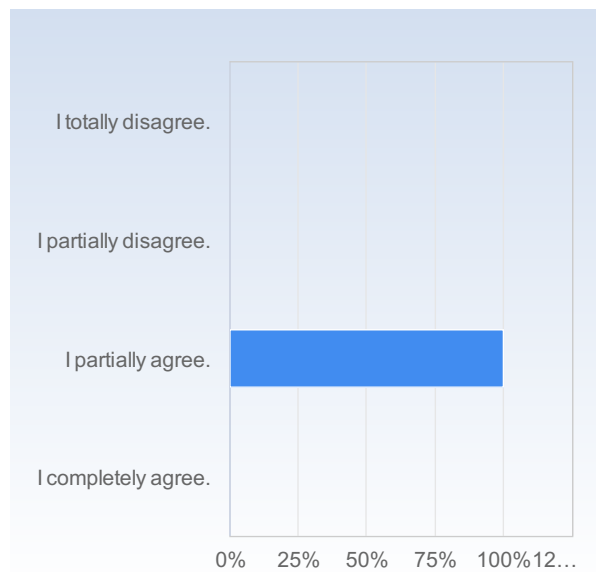| To	Number of responses
2	0 (0,0%)
3	0 (0,0%)
4	0 (0,0%)
5	0 (0,0%)
6	1 (100,0%)
7	0 (0,0%)
8	0 (0,0%)
9	0 (0,0%)
10	0 (0,0%)
11	0 (0,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
To	6,0	0,0

Course literature, course material

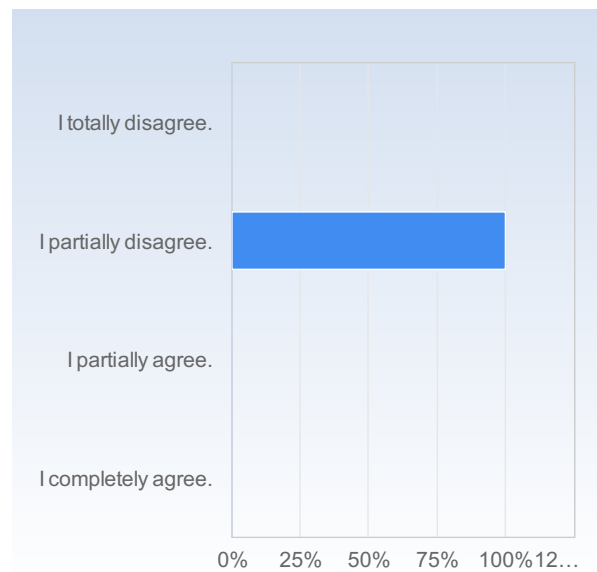### The course literature has been informative and relevant.

The course literature has been informative and relevant.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	1 (100,0%)
I completely agree.	0 (0,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The course literature has been informative and relevant.	3,0	0,0

I have used the course literature and material extensively.

| I have used the course literature and material extensively.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	1 (100,0%)
I partially agree.	0 (0,0%)
I completely agree.	0 (0,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
I have used the course literature and material extensively.	2,0	0,0

The complementary course material has been satisfactory.

| The complementary course material has been satisfactory.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I completely agree.	1 (100,0%)
Total	1 (100,0%)
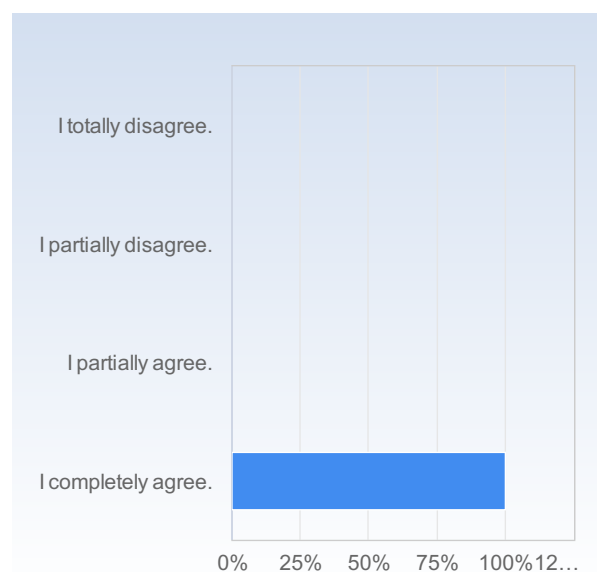
	Mean	Standard Deviation
The complementary course material has been satisfactory.	4,0	0,0

The course website
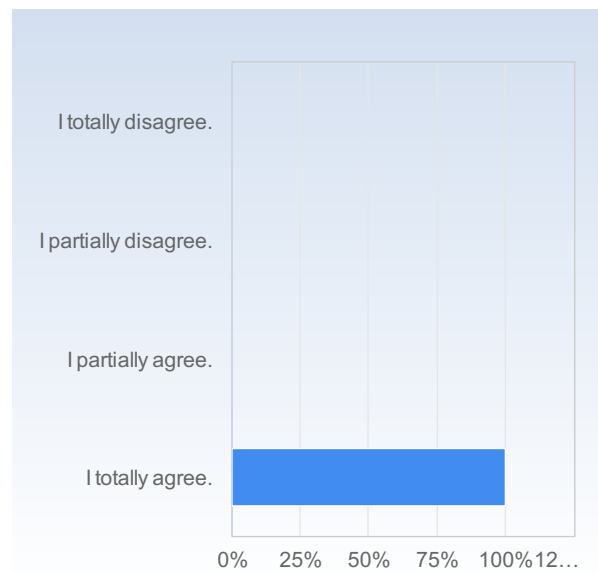
The course website was easy to reach and navigate.

The course website was easy to reach and navigate.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)
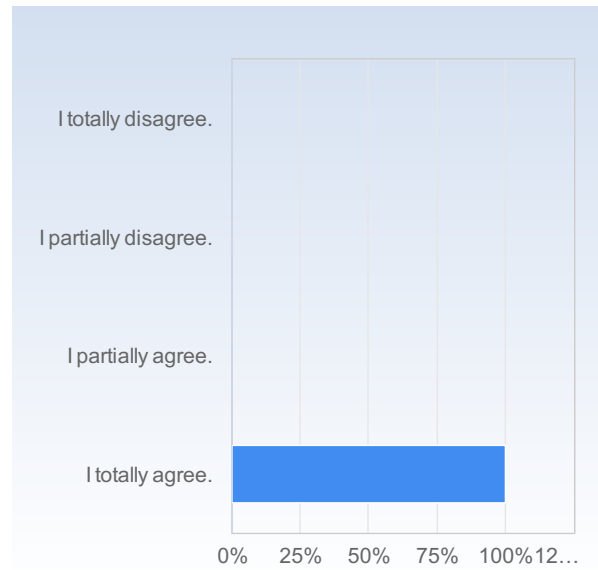
	Mean	Standard Deviation
The course website was easy to reach and navigate.	4,0	0,0

I have used the course website extensively during the course.

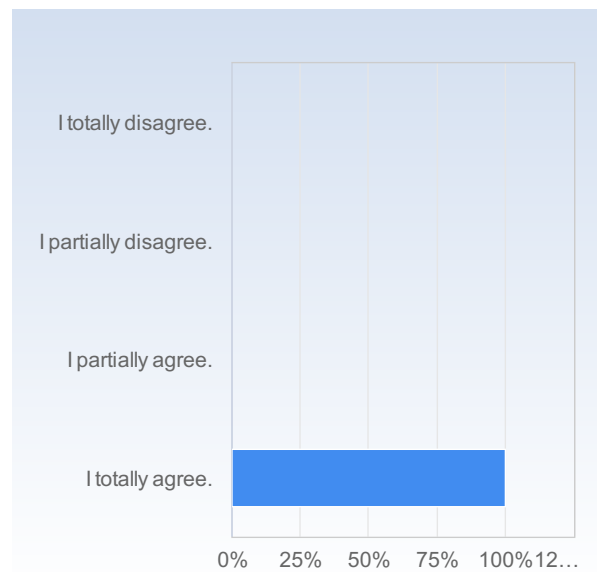| I have used the course website extensively during the course.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
I have used the course website extensively during the course.	4,0	0,0

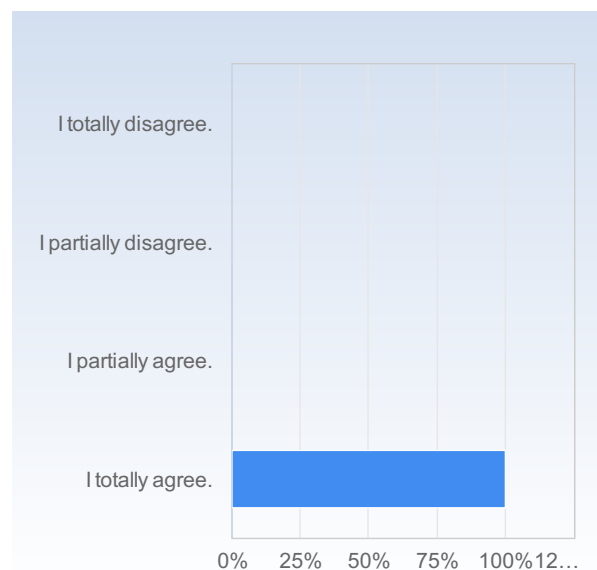## The information posted on the course website has been satisfactory.

The information posted on the course website has been satisfactory.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The information posted on the course website has been satisfactory.	4,0	0,0

The material posted on the course website has been relevant.

The material posted on the course website has been relevant.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The material posted on the course website has been relevant.	4,0	0,0

Other comments about the course in general:

Other comments about the course in general:

I think the course was well thought out. I mainly studied my written lecture notes and only consulted the book when something was unclear or when I was curious about the proof of the general case (when this was omitted in the lecture), and to do exercises specifically mentioned in the lectures.

What did you like the most about the course?

What did you like the most about the course?

Extremely comprehensive lectures, clear presentation. I also think that the time spent on different subjects was quite well-balanced.

# What features of the course need improvement?

What features of the course need improvement?
I don't think anything in the course needs to improve. Although the course already have a two part examination, it would maybe be nice with some kind of hand in assignment. This allows for slightly harder problems.

Lectures

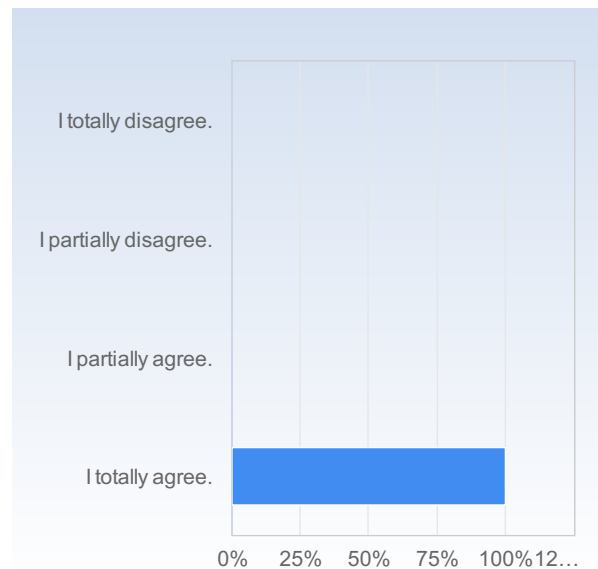## The planning of the lectures has been satisfactory.

The planning of the lectures has been satisfactory.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)
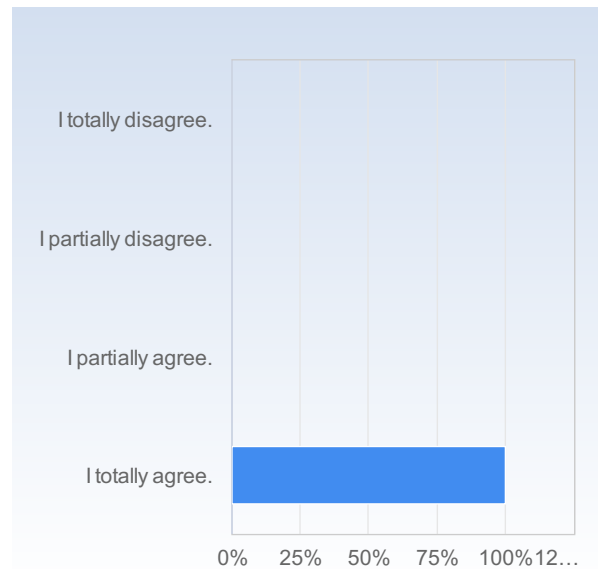
	Mean	Standard Deviation
The planning of the lectures has been satisfactory.	4,0	0,0

The number of lectures has been satisfactory.

The number of lectures has been satisfactory.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The number of lectures has been satisfactory.	4,0	0,0

## The pace of the lectures matched the content of the course.

The pace of the lectures matched the content of the course.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)
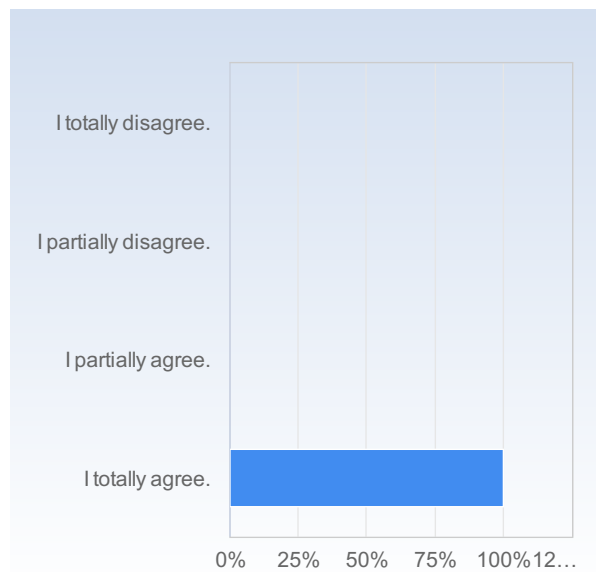
	Mean	Standard Deviation
The pace of the lectures matched the content of the course.	4,0	0,0

The lecturer presented the material in a pedagogical manner.

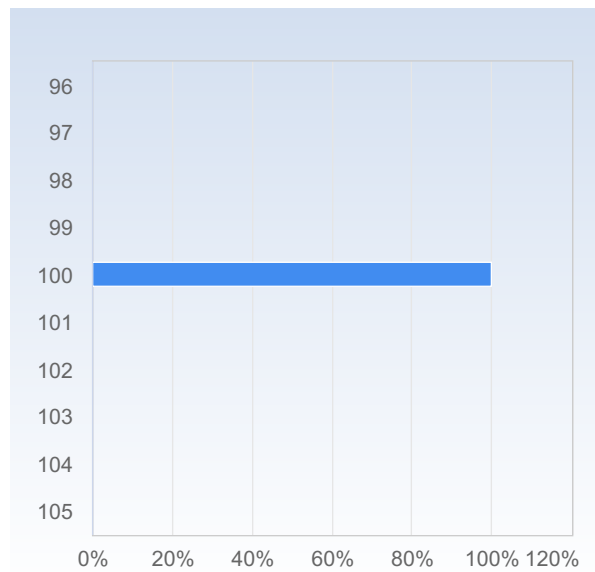| The lecturer presented the material in a pedagogical manner.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)
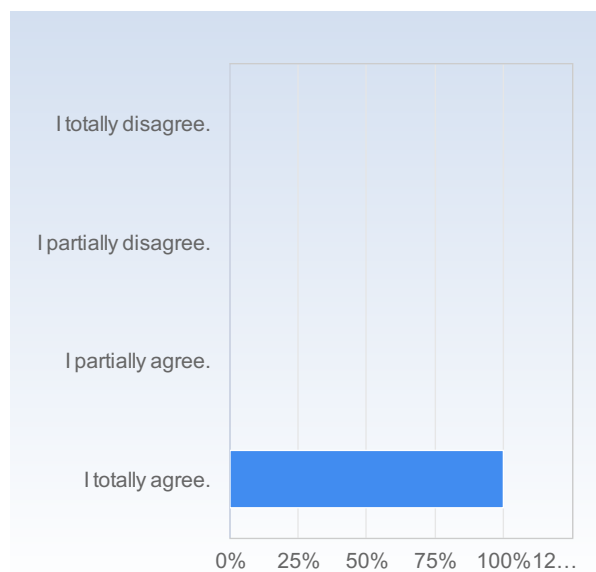
	Mean	Standard Deviation
The lecturer presented the material in a pedagogical manner.	4,0	0,0

To which extent did you attend the lectures? (percentage)

To which extent did you attend the lectures? (percentage)	Number of responses
96	0 (0,0%)
97	0 (0,0%)
98	0 (0,0%)
99	0 (0,0%)
100	1 (100,0%)
101	0 (0,0%)
102	0 (0,0%)
103	0 (0,0%)
104	0 (0,0%)
105	0 (0,0%)
Total	1 (100,0%)

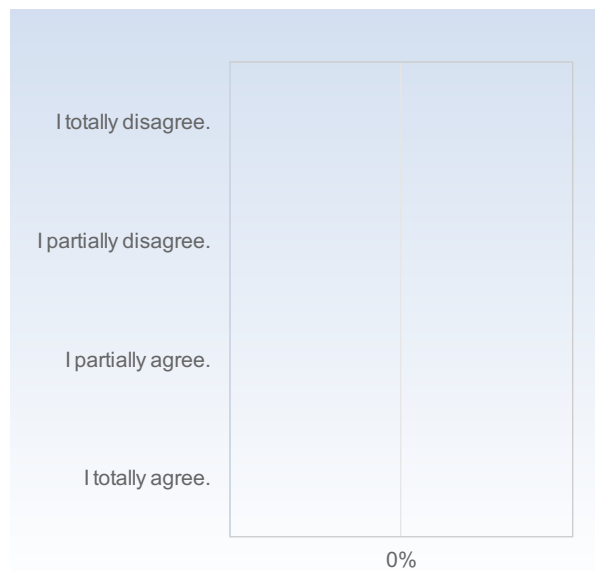|	Mean	Standard Deviation
To which extent did you attend the lectures? (percentage)	100,0	0,0

Other comments regarding the lectures:
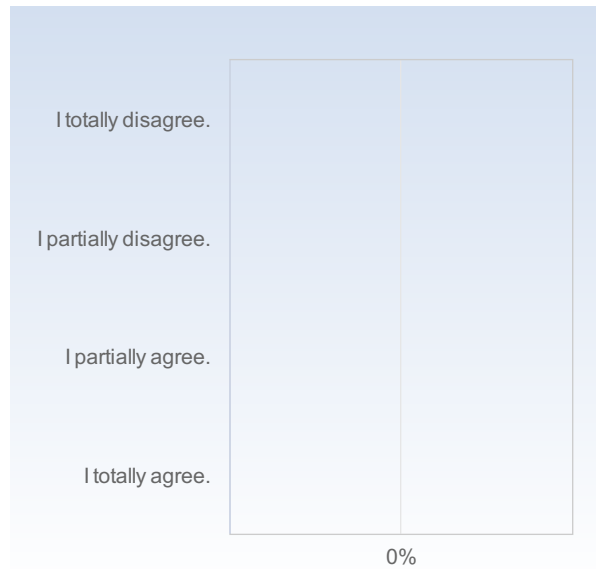
Seminars

The number of seminars has been satisfactory.

The number of seminars has been satisfactory.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	0 (0,0%)
Total	0 (0,0%)

	Mean	Standard Deviation
The number of seminars has been satisfactory.	0,0	0,0

## The teaching form and planning of the seminars has been satisfactory.

The teaching form and planning of the seminars has been satisfactory.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	0 (0,0%)
Total	0 (0,0%)

I totally disagree.

I partially disagree.

I partially agree.

I totally agree.

0%

	Mean	Standard Deviation
The teaching form and planning of the seminars has been satisfactory.	0,0	0,0

## The seminars contributed to increase my understanding of the subject.

The seminars contributed to increase my understanding of the subject.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	0 (0,0%)
Total	0 (0,0%)

I totally disagree.

I partially disagree.

I partially agree.

I totally agree.

0%
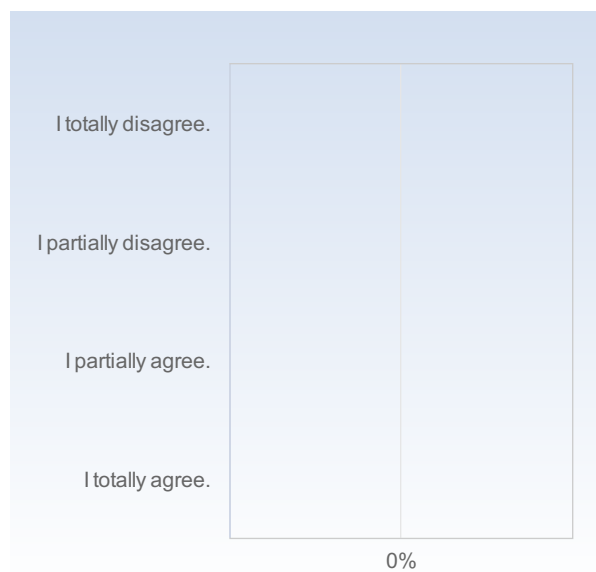
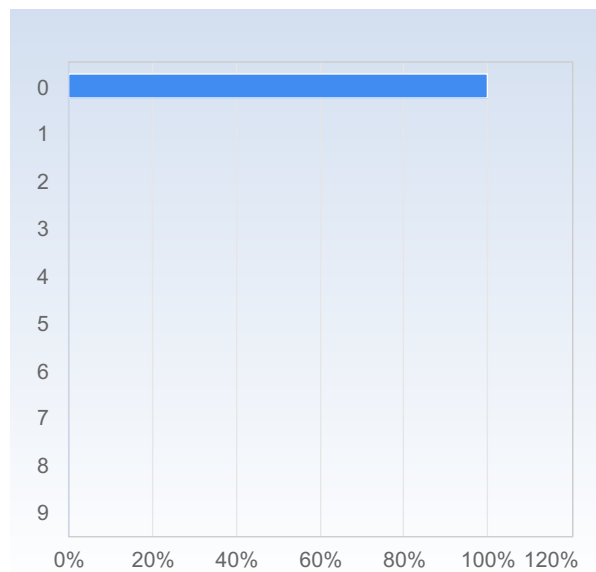|	Mean	Standard Deviation
The seminars contributed to increase my understanding of the subject.	0,0	0,0

I have actively participated in the seminars.

I have actively participated in the seminars.	Number of responses
I totally disagree.	1 (100,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	0 (0,0%)
Total	1 (100,0%)
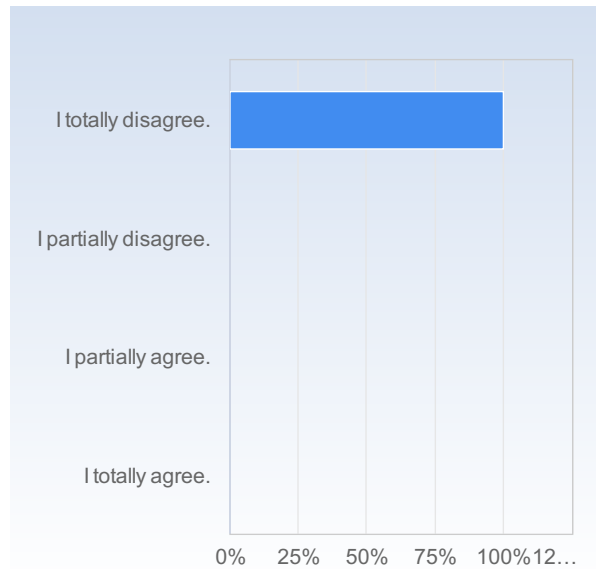
	Mean	Standard Deviation
I have actively participated in the seminars.	1,0	0,0

To which extent did you attend the seminars? (percentage)

To which extent did you attend the seminars? (percentage)	Number of responses
0	1 (100,0%)
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	0 (0,0%)
5	0 (0,0%)
6	0 (0,0%)
7	0 (0,0%)
8	0 (0,0%)
9	0 (0,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
To which extent did you attend the seminars? (percentage)	0,0	0,0

How many hours did you spend to prepare for the seminars?

How many hours did you spend to prepare for the seminars?	Number of responses
0	1 (100,0%)
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	0 (0,0%)
5	0 (0,0%)
6	0 (0,0%)
7	0 (0,0%)
8	0 (0,0%)
9	0 (0,0%)
Total	1 (100,0%)

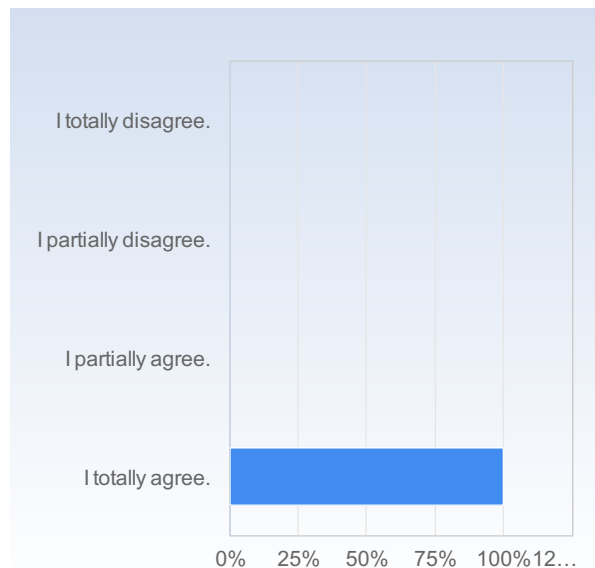|	Mean	Standard Deviation
How many hours did you spend to prepare for the seminars?	0,0	0,0

Other comments regarding the seminars.

Other comments regarding the seminars.
I did not participate in the seminars, but maybe create some hard incentive to attend them?

Examination

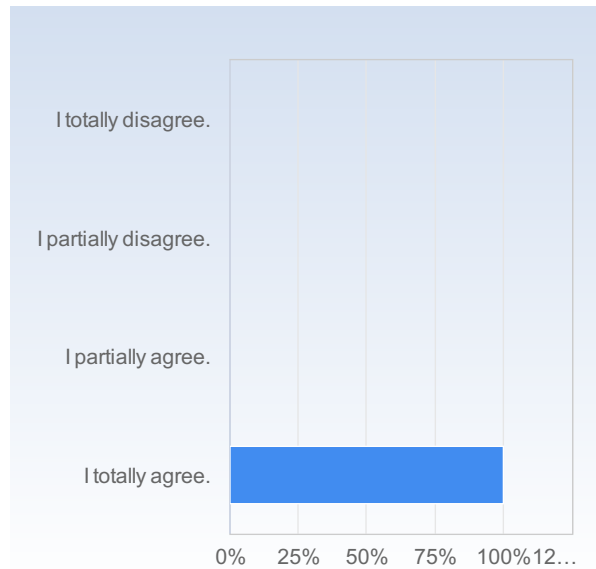## The examination form has been satisfactory.

The examination form has been satisfactory.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The examination form has been satisfactory.	4,0	0,0

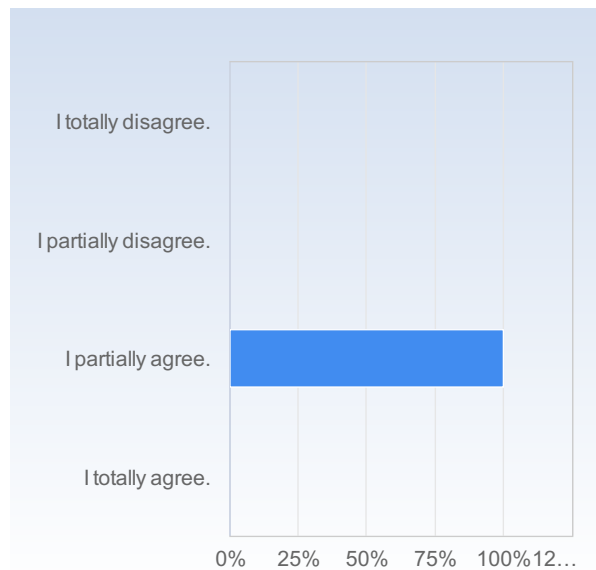## The degree of difficulty of the examination matched the content of the course.

The degree of difficulty of the examination matched the content of the course.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	0 (0,0%)
I totally agree.	1 (100,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The degree of difficulty of the examination matched the content of the course.	4,0	0,0

The exam questions reflected the content of the course and matched the learning objectives.
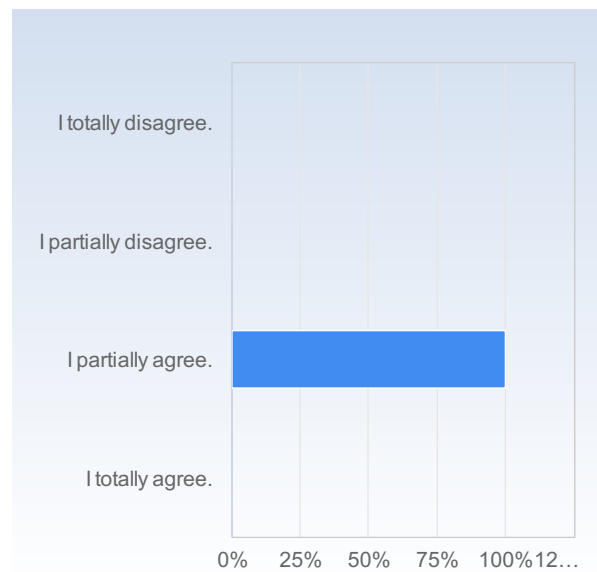
The exam questions reflected the content of the course and matched the learning objectives.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	1 (100,0%)
I totally agree.	0 (0,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The exam questions reflected the content of the course and matched the learning objectives.	3,0	0,0

The grade that I received on the exam reflects my work during the course.

The grade that I received on the exam reflects my work during the course.	Number of responses
I totally disagree.	0 (0,0%)
I partially disagree.	0 (0,0%)
I partially agree.	1 (100,0%)
I totally agree.	0 (0,0%)
Total	1 (100,0%)

	Mean	Standard Deviation
The grade that I received on the exam reflects my work during the course.	3,0	0,0

Other comments regarding the examination:

Other comments regarding the examination:
I think the examination was in line with the material. In general, I think it is good to add some qualitative questions to the more procedural part (separation of variables, method of characteristics and energy methods), as this part seems to roughly correspond to 40% of the exam.

What is your opinion about this course evaluation form?