

FYTB03 vt15

Respondents: 28
Answer Count: 19
Answer Frequency: 67,86 %

General opinion

Give your opinion in the scale 1-5.

1 = very negative

2 = negative

3 = neutral

4 = positive

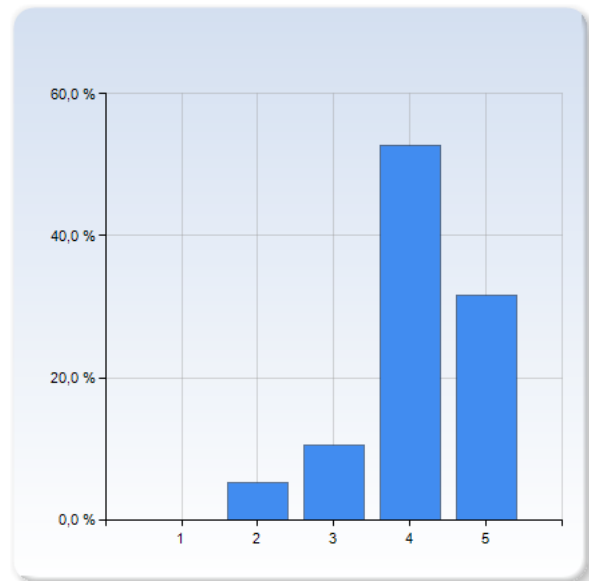
5 = very positive

The comment field in the end is very important! It will help us understand what is to be kept when the grade is good, and what to change when the grade is poor.

What is your general opinion of...

the course overall?

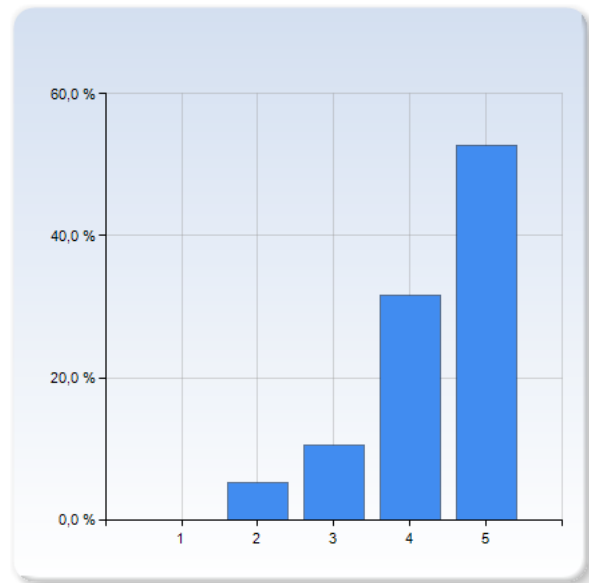
the course overall?	Number of Responses
1	0 (0,0%)
2	1 (5,3%)
3	2 (10,5%)
4	10 (52,6%)
5	6 (31,6%)
Total	19 (100,0%)



the course overall?	Mean	Standard Deviation
	4,1	0,8

the topics covered in the course

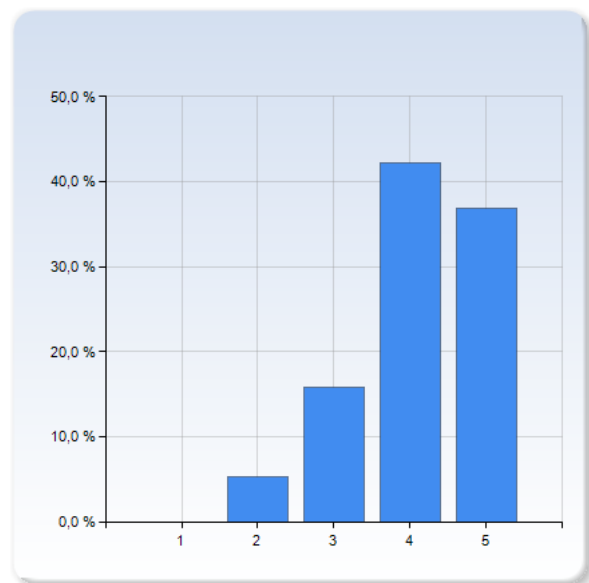
the topics covered in the course	Number of Responses
1	0 (0,0%)
2	1 (5,3%)
3	2 (10,5%)
4	6 (31,6%)
5	10 (52,6%)
Total	19 (100,0%)



the topics covered in the course	Mean	Standard Deviation
	4,3	0,9

the structure of the course

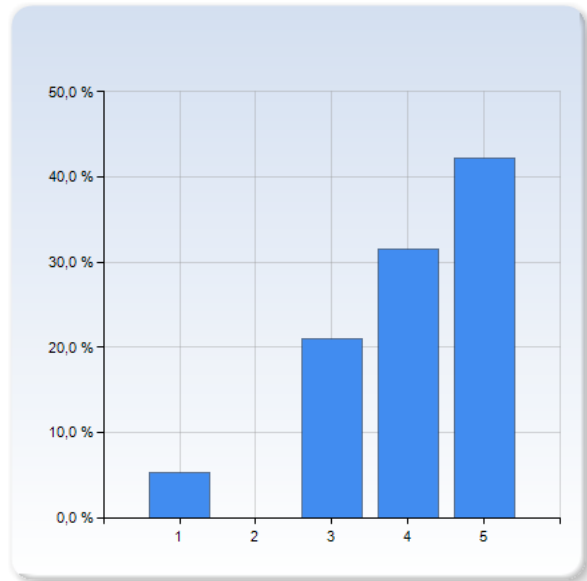
the structure of the course	Number of Responses
1	0 (0,0%)
2	1 (5,3%)
3	3 (15,8%)
4	8 (42,1%)
5	7 (36,8%)
Total	19 (100,0%)



the structure of the course	Mean	Standard Deviation
	4,1	0,9

the information about the course when it started?

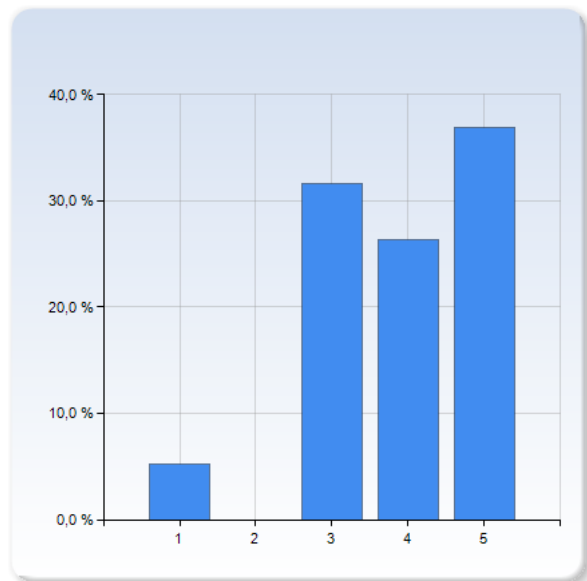
the information about the course when it started?	Number of Responses
1	1 (5,3%)
2	0 (0,0%)
3	4 (21,1%)
4	6 (31,6%)
5	8 (42,1%)
Total	19 (100,0%)



the information about the course when it started?	Mean	Standard Deviation
	4,1	1,1

the information about what was expected of you?

the information about what was expected of you?	Number of Responses
1	1 (5,3%)
2	0 (0,0%)
3	6 (31,6%)
4	5 (26,3%)
5	7 (36,8%)
Total	19 (100,0%)



the information about what was expected of you?	Mean	Standard Deviation
	3,9	1,1

Comments (help us interpret your grades!)

In general good content, but why Kepler and scattering? We could have skipped that and studied the rest more thoroughly. I had some difficulties (partly because of this) to understand which the main points/topics of the course were, mainly when I prepared for the exam.

-I liked the topics in the course, a nice mix of classical mechanics and special relativity.

-It was good with the exercise session and SI meetings, it means you got extra time to answer questions while solving exercises.

Litterature

Give your opinion in the scale 1-5.

1 = very negative

2 = negative

3 = neutral

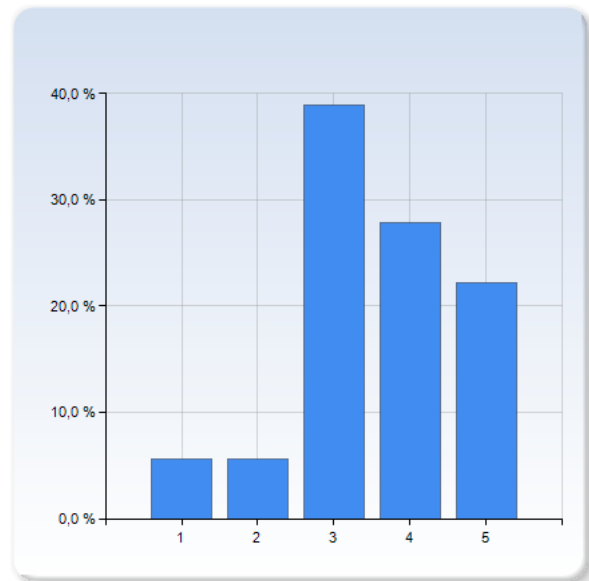
4 = positive

5 = very positive

What is your opinion of...

the book "Classical Mechanics" by Taylor?

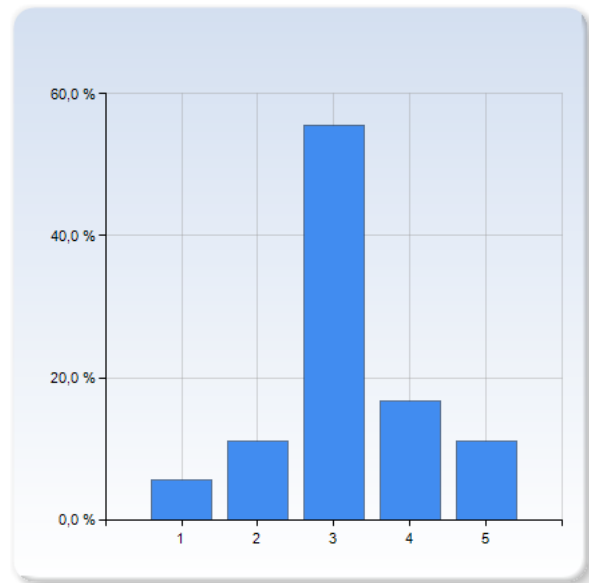
the book "Classical Mechanics" by Taylor?	Number of Responses
1	1 (5,6%)
2	1 (5,6%)
3	7 (38,9%)
4	5 (27,8%)
5	4 (22,2%)
Total	18 (100,0%)



	Mean	Standard Deviation
the book "Classical Mechanics" by Taylor?	3,6	1,1

the book "Introduction to special relativity" by Rindler?

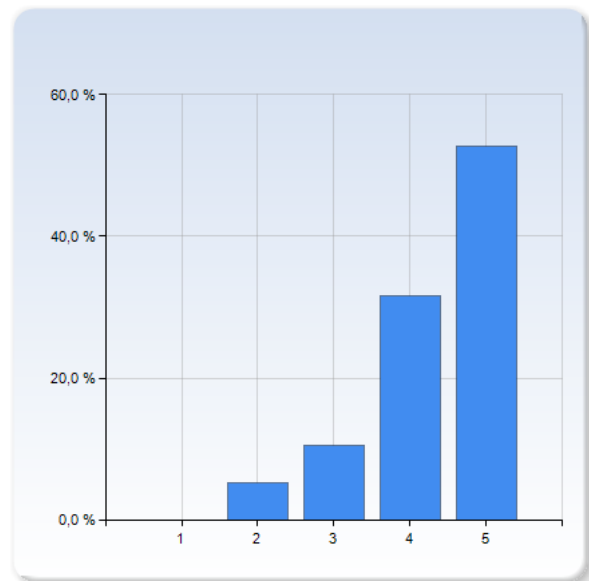
the book "Introduction to special relativity" by Rindler?	Number of Responses
1	1 (5,6%)
2	2 (11,1%)
3	10 (55,6%)
4	3 (16,7%)
5	2 (11,1%)
Total	18 (100,0%)



	Mean	Standard Deviation
the book "Introduction to special relativity" by Rindler?	3,2	1,0

lecture notes available on the web?

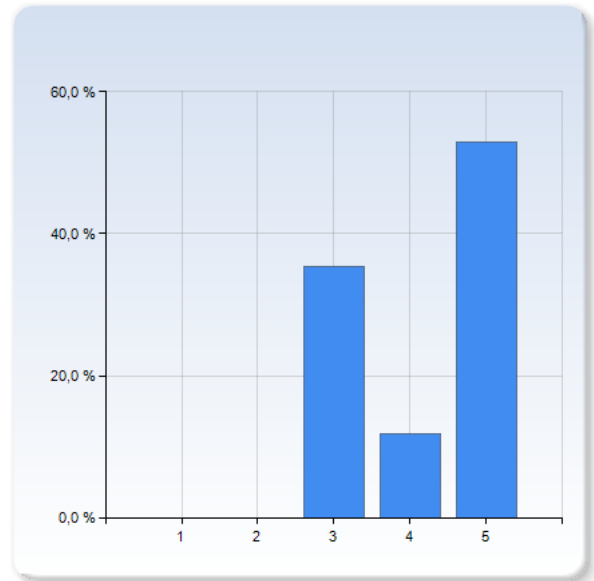
lecture notes available on the web?	Number of Responses
1	0 (0,0%)
2	1 (5,3%)
3	2 (10,5%)
4	6 (31,6%)
5	10 (52,6%)
Total	19 (100,0%)



	Mean	Standard Deviation
lecture notes available on the web?	4,3	0,9

handouts

handouts	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	6 (35,3%)
4	2 (11,8%)
5	9 (52,9%)
Total	17 (100,0%)



	Mean	Standard Deviation
handouts	4,2	1,0

Comments

Taylor was really good. Rindler was good, but it was too many "I do like this but Rindler doesn't" on the lectures for me to say that it is a good book for this course. I never used the lecture notes on the web but it is good that they are there. The only handout I got was from Bengtsson's book "Om klassisk fysik(?)" and it was good.

Rindlers book felt old. Bengtssons book was much better.

Did not use the books

Really nice with lecture notes available on the web!

The lecture notes were extremely helpful

-It didn't use either Taylor or Rindler, so can't say anything about them.

-Nice to have the lecture notes online if you were to miss a lecture.

Teaching

Give your opinion in the scale 1-5.

1 = very negative

2 = negative

3 = neutral

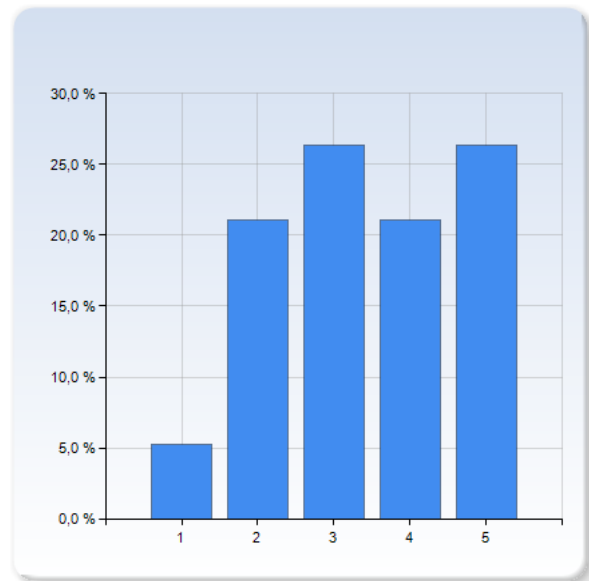
4 = positive

5 = very positive

What is your opinion of...

lectures with Malin Sjö Dahl

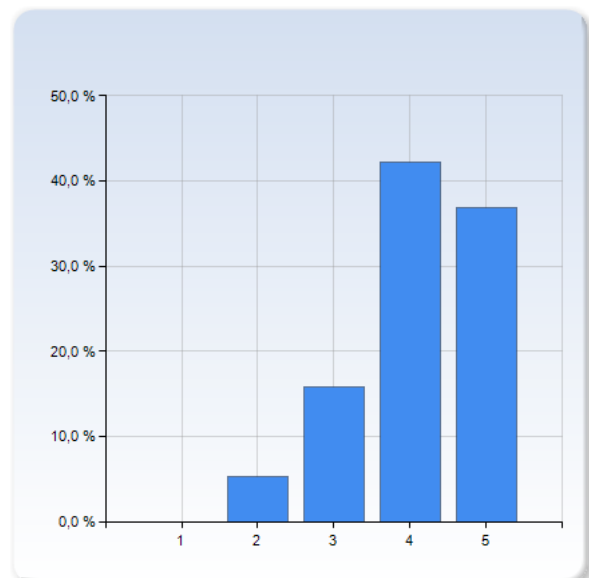
lectures with Malin Sjö Dahl	Number of Responses
1	1 (5,3%)
2	4 (21,1%)
3	5 (26,3%)
4	4 (21,1%)
5	5 (26,3%)
Total	19 (100,0%)



	Mean	Standard Deviation
lectures with Malin Sjö Dahl	3,4	1,3

the problem solving classes?

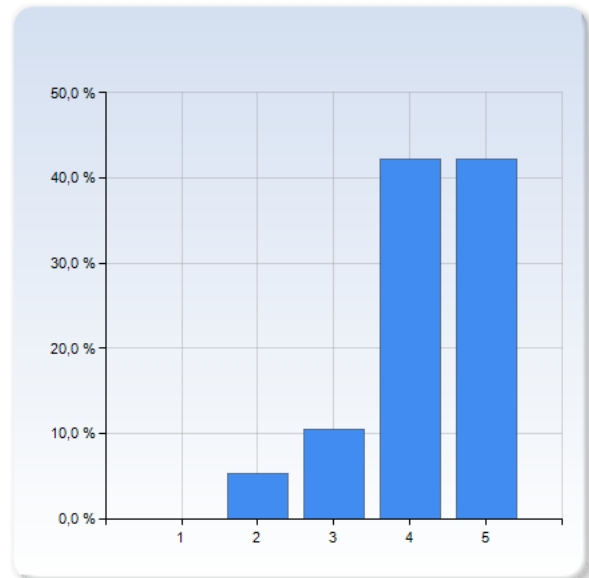
the problem solving classes?	Number of Responses
1	0 (0,0%)
2	1 (5,3%)
3	3 (15,8%)
4	8 (42,1%)
5	7 (36,8%)
Total	19 (100,0%)



	Mean	Standard Deviation
the problem solving classes?	4,1	0,9

the problems for the problem solving classes?

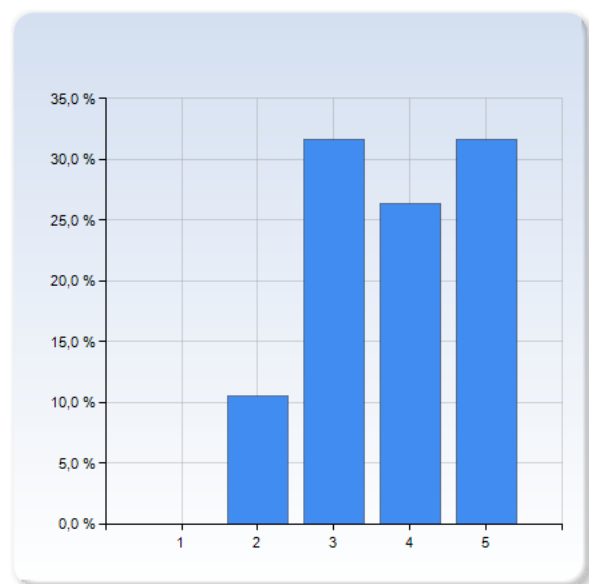
the problems for the problem solving classes?	Number of Responses
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2	1 (5,3%)
3	2 (10,5%)
4	8 (42,1%)
5	8 (42,1%)
Total	19 (100,0%)



	Mean	Standard Deviation
the problems for the problem solving classes?	4,2	0,9

the balance between lectures and problem-solving classes?

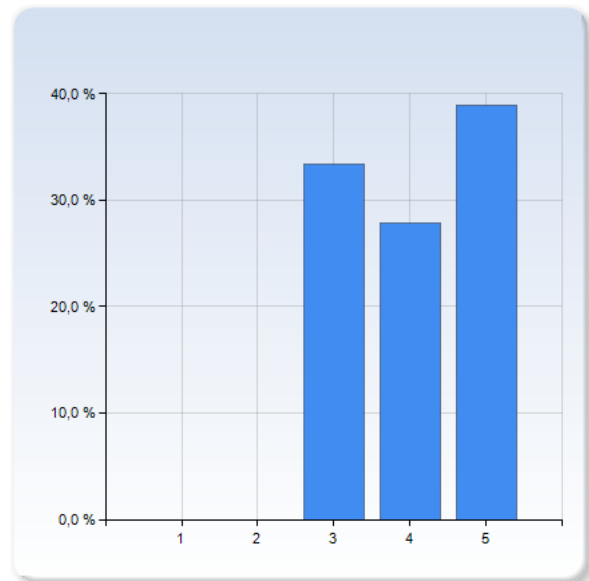
the balance between lectures and problem-solving classes?	Number of Responses
1	0 (0,0%)
2	2 (10,5%)
3	6 (31,6%)
4	5 (26,3%)
5	6 (31,6%)
Total	19 (100,0%)



	Mean	Standard Deviation
the balance between lectures and problem-solving classes?	3,8	1,0

the SI sessions?

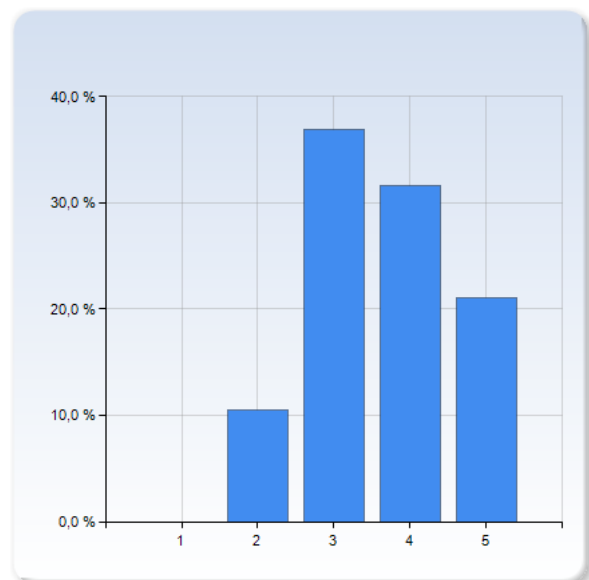
the SI sessions?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	6 (33,3%)
4	5 (27,8%)
5	7 (38,9%)
Total	18 (100,0%)



the SI sessions?	Mean	Standard Deviation
	4,1	0,9

the laboratory exercise "normal modes"

the laboratory exercise "normal modes"	Number of Responses
1	0 (0,0%)
2	2 (10,5%)
3	7 (36,8%)
4	6 (31,6%)
5	4 (21,1%)
Total	19 (100,0%)



the laboratory exercise "normal modes"	Mean	Standard Deviation
	3,6	1,0

Comments

Would like more problem-solving classes!

The lectures was really good, nothing to improve! I never attended to problemsolving or SI so I can't have any opinion about that. The lab was good, I really like that the instructor focused on error calculations and estimations, it is really important and a thing that the entire education in general needs to improve.

To much people in the lab. Four in one group is to many.

Did not attend any SI sessions

Malin's lectures were well structured and easy to unnderstand. The fact that she just copied her notes onto the board however, made them feel very unmotivating which had much to do with the fact that she often stopped to read the notes herself in silence for a few moments. It felt like although she had the knowledge, she didn't prepare very well or didn't spend much time outside of the lectures on the course. The last thing has been a reoccurring problem where we are not allowed to ask her questions outside of the lectures which is flat out preposterous. Where other lecturers have told us to come ask them if we have any questions about an exercise she has stated that she doesn't have the time to help us. If you did ask a question during a lecture, the answer would sometimes also not be satisfying.

There was clearly too much content compared to the given lecture time. The lectures always felt very stressful, which caused many mistakes on the board and does not benefit the learning process. I dont think content needs to be removed, but in that case there needs to be more lecture time.

The pace in lectures were often too slow. Malin didn't need to write as much text on the board

-The lectures was in general very good, felt like there was a good balance between general theory and examples. Sometimes it could be a bit of a fast pace though.

-The problem solving exercises were good I thought, nice to have some warm-up exercises so as one could understand the general ideas.

-I liked the SI sessions also, good exercises and supervisor.

-The lab felt a bit superfluous, but I guess it is good to see the stuff we go through on the whiteboard in some form of experiment also

Examination

Give your opinion in the scale 1-5.

1 = very negative

2 = negative

3 = neutral

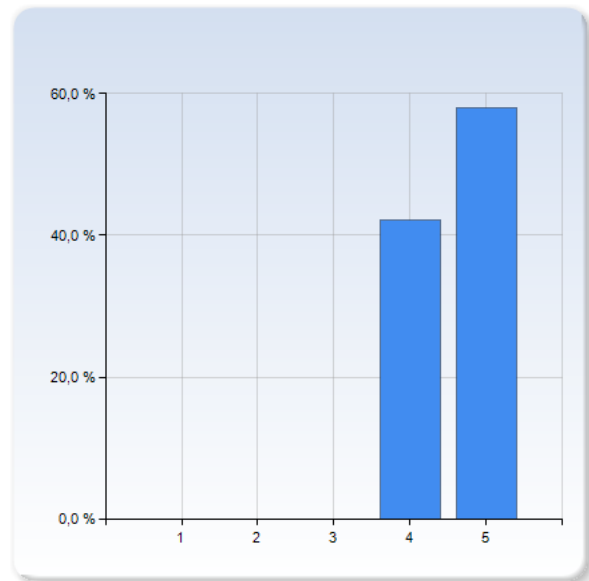
4 = positive

5 = very positive

What is your opinion of...

the hand-in exercises?

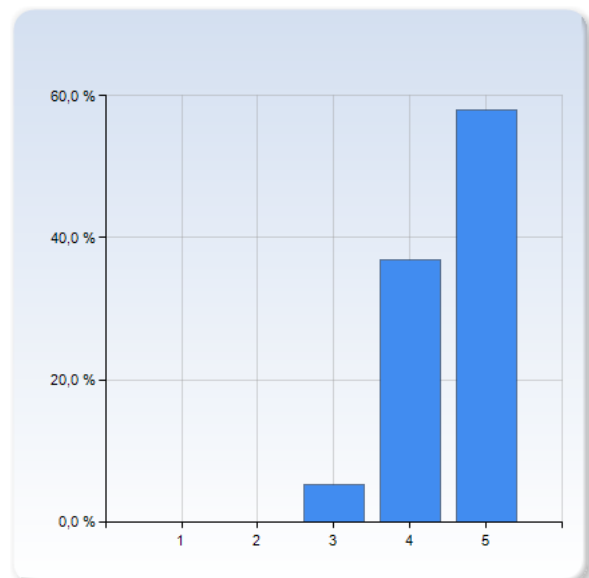
the hand-in exercises?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	8 (42,1%)
5	11 (57,9%)
Total	19 (100,0%)



the hand-in exercises?	Mean	Standard Deviation
	4,6	0,5

the bonus system with the hand-in exercises?

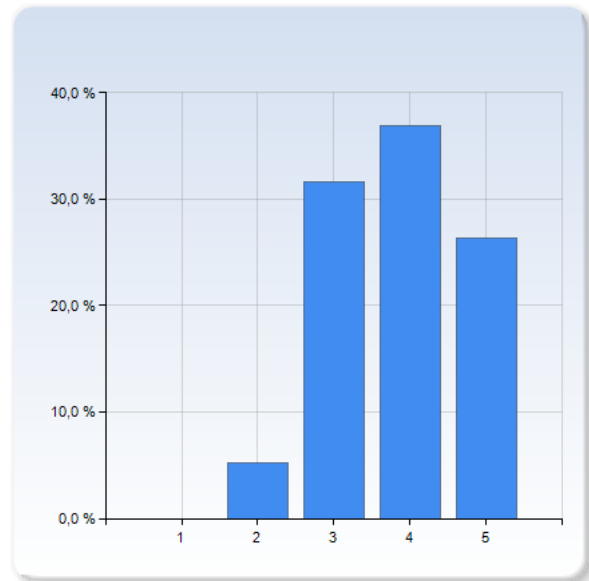
the bonus system with the hand-in exercises?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	1 (5,3%)
4	7 (36,8%)
5	11 (57,9%)
Total	19 (100,0%)



	Mean	Standard Deviation
the bonus system with the hand-in exercises?	4,5	0,6

the written exam?

the written exam?	Number of Responses
1	0 (0,0%)
2	1 (5,3%)
3	6 (31,6%)
4	7 (36,8%)
5	5 (26,3%)
Total	19 (100,0%)



	Mean	Standard Deviation
the written exam?	3,8	0,9

Comments

The hand in exercises were good, I don't remember the bonus system and I never cared to learn it but it is good that it exists. I don't really have any comments on the exam, it was like it is supposed to be.

A bit disappointed by the exam where some exercises were not relevant compared to what we did in solving sessions. N4 : someone who did not follow the course but know maths can do it. N5: does not really cover something we worked and thought on during this course.

-I think it's nice with some hand-in exercises during the course and good to then have a bonus system.

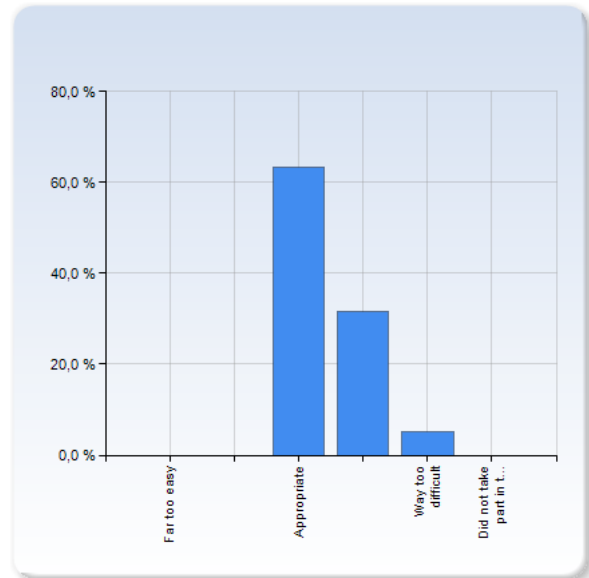
-The written exam I guess was as expected, I think the exercises we had done was a good preparation for it.

Level of difficulty

Describe how you perceived the level of difficulty on the different course modules

Lectures

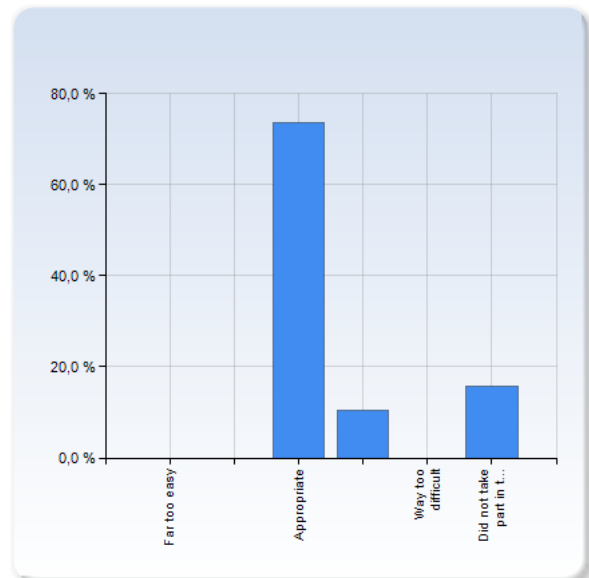
Lectures	Number of Responses
Far too easy	0 (0,0%)
	0 (0,0%)
Appropriate	12 (63,2%)
	6 (31,6%)
Way too difficult	1 (5,3%)
Did not take part in this module	0 (0,0%)
Total	19 (100,0%)



	Mean	Standard Deviation
Lectures	3,4	0,6

Litterature

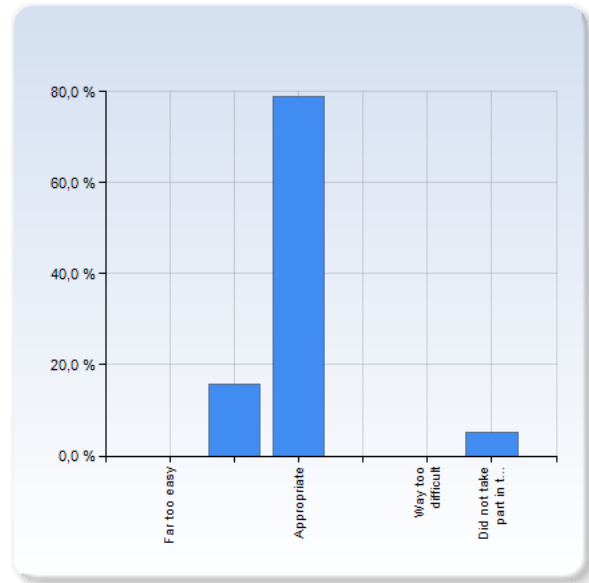
Litterature	Number of Responses
Far too easy	0 (0,0%)
	0 (0,0%)
Appropriate	14 (73,7%)
	2 (10,5%)
Way too difficult	0 (0,0%)
Did not take part in this module	3 (15,8%)
Total	19 (100,0%)



	Mean	Standard Deviation
Litterature	3,6	1,1

Problem solving exercises

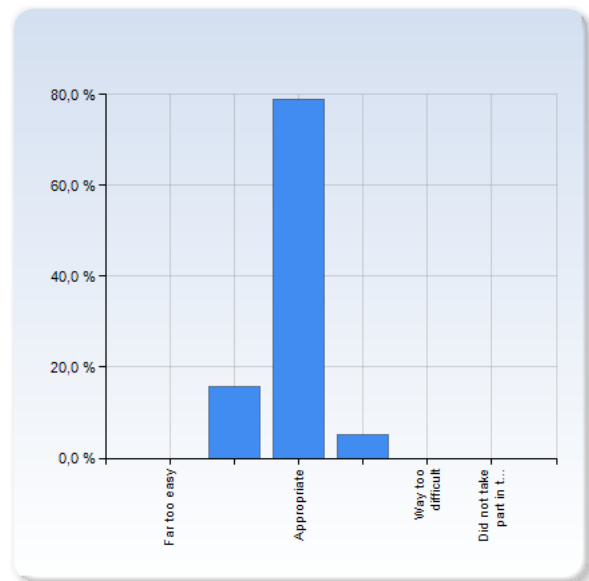
Problem solving exercises	Number of Responses
Far too easy	0 (0,0%)
	3 (15,8%)
Appropriate	15 (78,9%)
	0 (0,0%)
Way too difficult	0 (0,0%)
Did not take part in this module	1 (5,3%)
Total	19 (100,0%)



	Mean	Standard Deviation
Problem solving exercises	3,0	0,8

Hand-in exercises

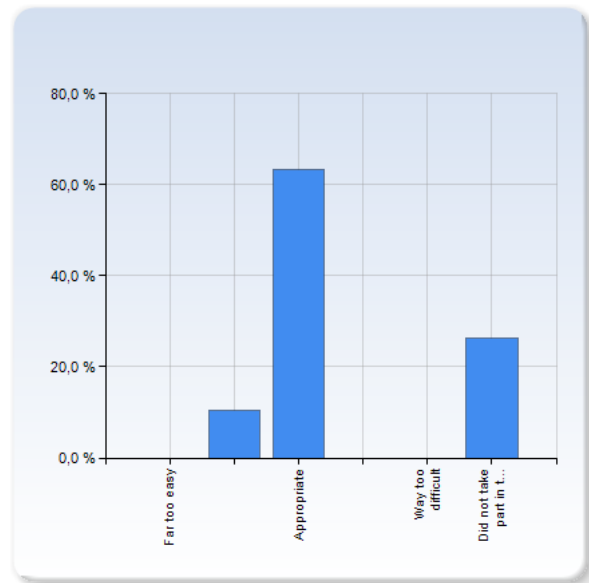
Hand-in exercises	Number of Responses
Far too easy	0 (0,0%)
	3 (15,8%)
Appropriate	15 (78,9%)
	1 (5,3%)
Way too difficult	0 (0,0%)
Did not take part in this module	0 (0,0%)
Total	19 (100,0%)



	Mean	Standard Deviation
Hand-in exercises	2,9	0,5

the SI sessions

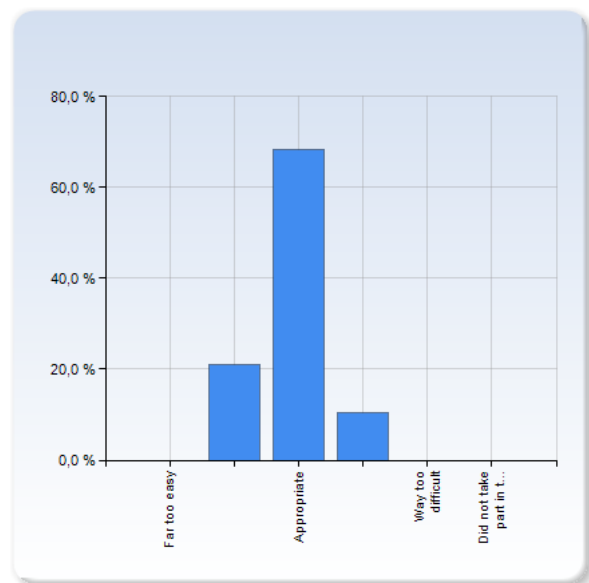
the SI sessions	Number of Responses
Far too easy	0 (0,0%)
	2 (10,5%)
Appropriate	12 (63,2%)
	0 (0,0%)
Way too difficult	0 (0,0%)
Did not take part in this module	5 (26,3%)
Total	19 (100,0%)



the SI sessions	Mean	Standard Deviation
	3,7	1,5

Laboratory exercise "normal modes"

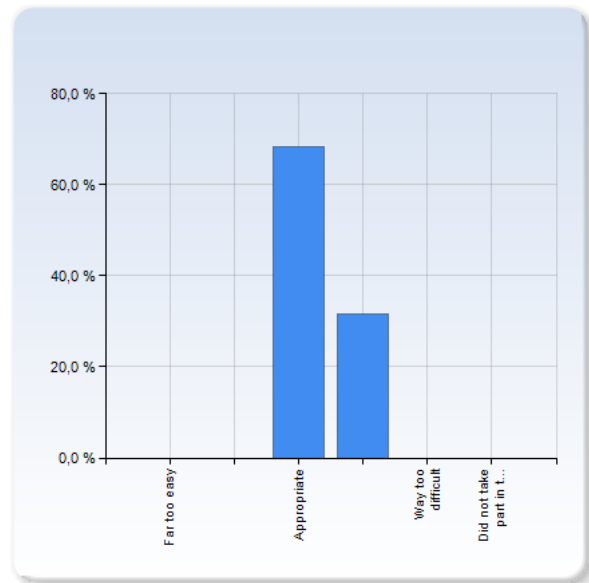
Laboratory exercise "normal modes"	Number of Responses
Far too easy	0 (0,0%)
	4 (21,1%)
Appropriate	13 (68,4%)
	2 (10,5%)
Way too difficult	0 (0,0%)
Did not take part in this module	0 (0,0%)
Total	19 (100,0%)



Laboratory exercise "normal modes"	Mean	Standard Deviation
	2,9	0,6

Written exam

Written exam	Number of Responses
Far too easy	0 (0,0%)
	0 (0,0%)
Appropriate	13 (68,4%)
	6 (31,6%)
Way too difficult	0 (0,0%)
Did not take part in this module	0 (0,0%)
Total	19 (100,0%)



	Mean	Standard Deviation
Written exam	3,3	0,5

Comments

No comments.

The level of the exercises during problem solving sessions and SI were too low and focused mostly on the theoretical bit. The fact that it focused on the theory I would generally consider to be a good thing but it meant that we would have to deal with harder problems ourselves. This would have been fine except for the fact that we weren't allowed to ask Malin for help if we got stuck.

-I think the lectures at some points could be a bit advanced for a second year course, I had seen some of the stuff before so it was a bit less work to understand the concepts but if I hadn't I think the course would have been pretty hard.

-Some exercises I think could also be a bit difficult, but then there were also easier ones so...

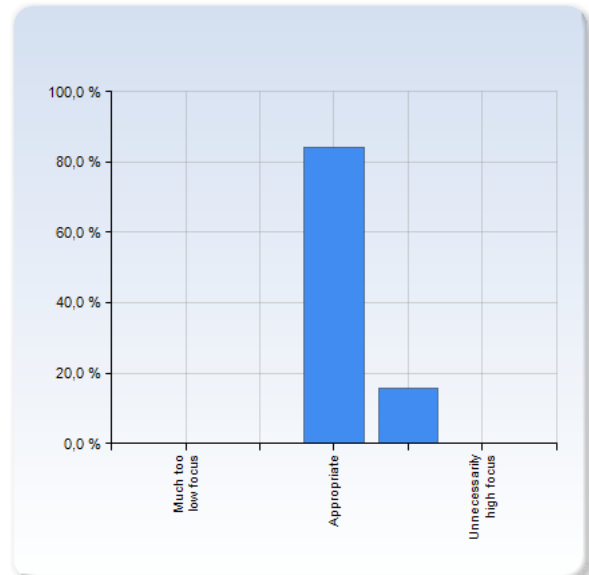
The focus of the course.

Below are learning goals from the course plan. Mark how much focus these goals got during the course, compared to what you feel would be needed.

"The student..."

is familiar with the use of generalised coordinates for a given mechanical system and how the the Lagrange equations follow from the principle of least action

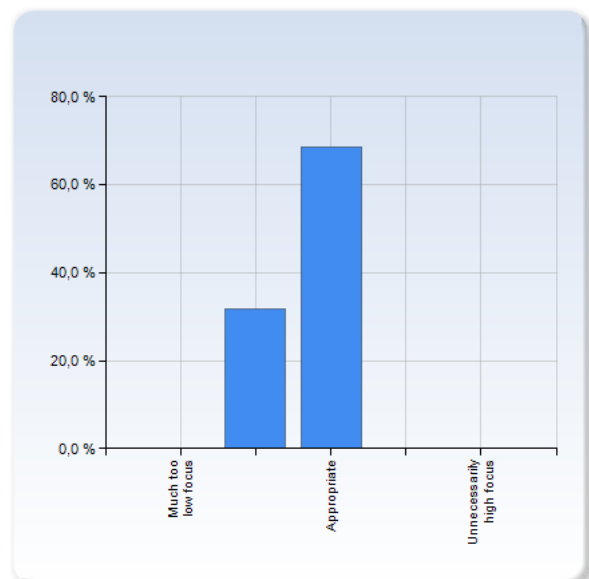
is familiar with the use of generalised coordinates for a given mechanical system and how the the Lagrange equations follow from the principle of least action	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	16 (84,2%)
Unnecessarily high focus	3 (15,8%)
Total	19 (100,0%)



is familiar with the use of generalised coordinates for a given mechanical system and how the the Lagrange equations follow from the principle of least action	Mean	Standard Deviation
	3,2	0,4

understands how conservations laws arise from different symmetries

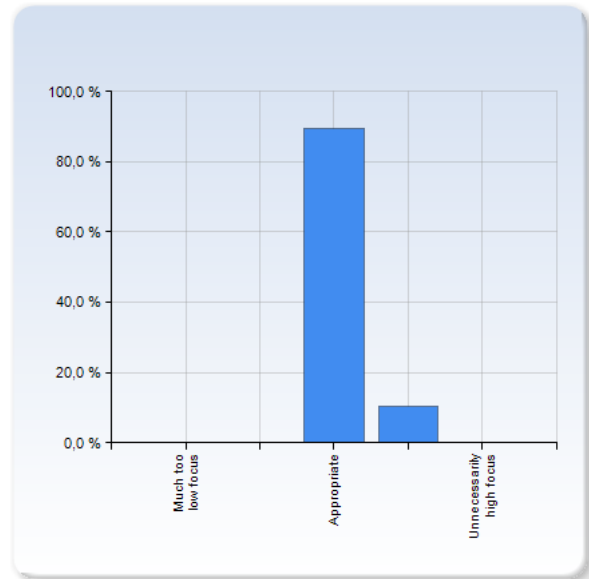
understands how conservations laws arise from different symmetries	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	6 (31,6%)
Unnecessarily high focus	13 (68,4%)
Total	19 (100,0%)



understands how conservations laws arise from different symmetries	Mean	Standard Deviation
	2,7	0,5

can choose suitable generalized coordinates for a given mechanical system and use these to describe the time evolution of the system

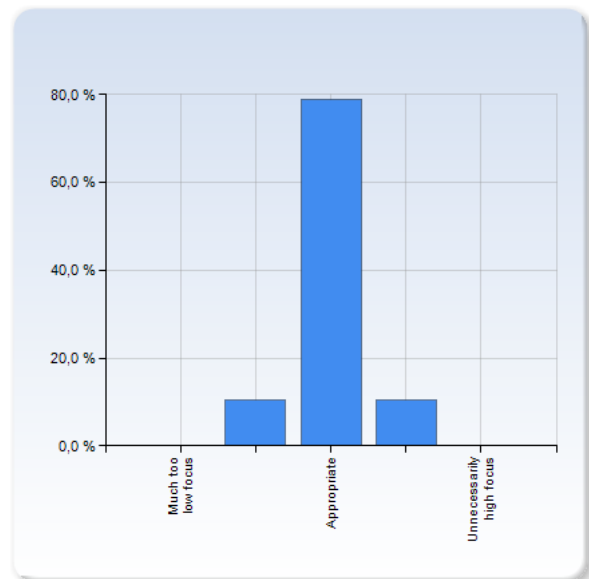
can choose suitable generalized coordinates for a given mechanical system and use these to describe the time evolution of the system	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	17 (89,5%)
Unnecessarily high focus	2 (10,5%)
Total	19 (100,0%)



	Mean	Standard Deviation
can choose suitable generalized coordinates for a given mechanical system and use these to describe the time evolution of the system	3,1	0,3

can find stationary solutions and analyse the normal modes for small oscillations around these

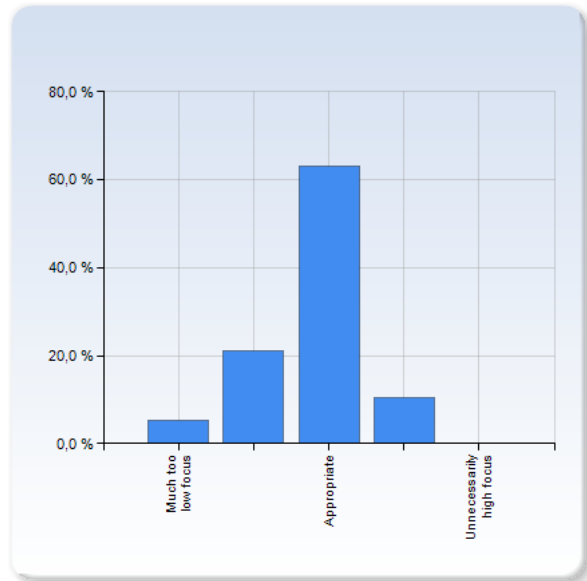
can find stationary solutions and analyse the normal modes for small oscillations around these	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	15 (78,9%)
Unnecessarily high focus	2 (10,5%)
Total	19 (100,0%)



	Mean	Standard Deviation
can find stationary solutions and analyse the normal modes for small oscillations around these	3,0	0,5

is familiar with common four-vectors and other tensors

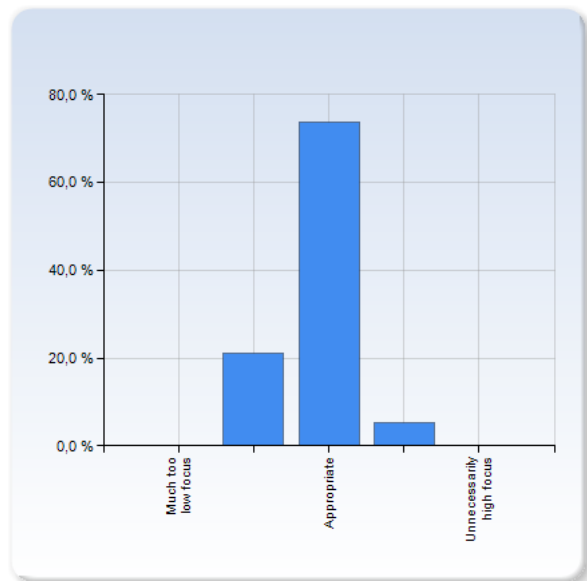
is familiar with common four-vectors and other tensors	Number of Responses
Much too low focus	1 (5,3%)
Appropriate	12 (63,2%)
Unnecessarily high focus	2 (10,5%)
Total	19 (100,0%)



	Mean	Standard Deviation
is familiar with common four-vectors and other tensors	2,8	0,7

is able to apply Lorentz transformations between two different systems in Minkowski space

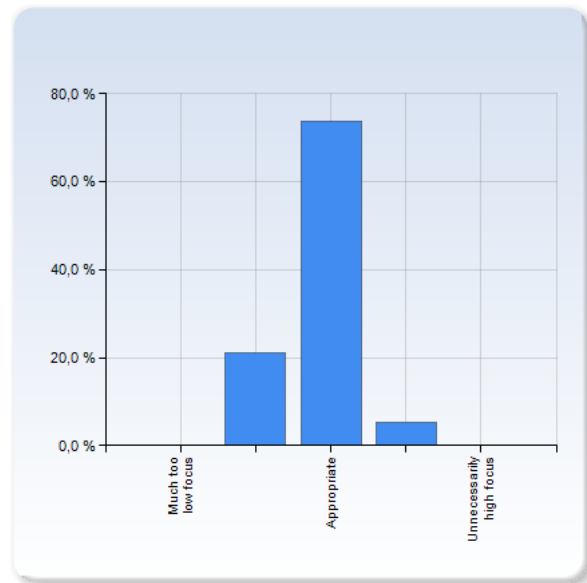
is able to apply Lorentz transformations between two different systems in Minkowski space	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	14 (73,7%)
Unnecessarily high focus	1 (5,3%)
Total	19 (100,0%)



	Mean	Standard Deviation
is able to apply Lorentz transformations between two different systems in Minkowski space	2,8	0,5

can use simple relativistic kinematics to analyse simple particle reactions

can use simple relativistic kinematics to analyse simple particle reactions	Number of Responses
Much too low focus	0 (0,0%)
	4 (21,1%)
Appropriate	14 (73,7%)
	1 (5,3%)
Unnecessarily high focus	0 (0,0%)
Total	19 (100,0%)



	Mean	Standard Deviation
can use simple relativistic kinematics to analyse simple particle reactions	2,8	0,5

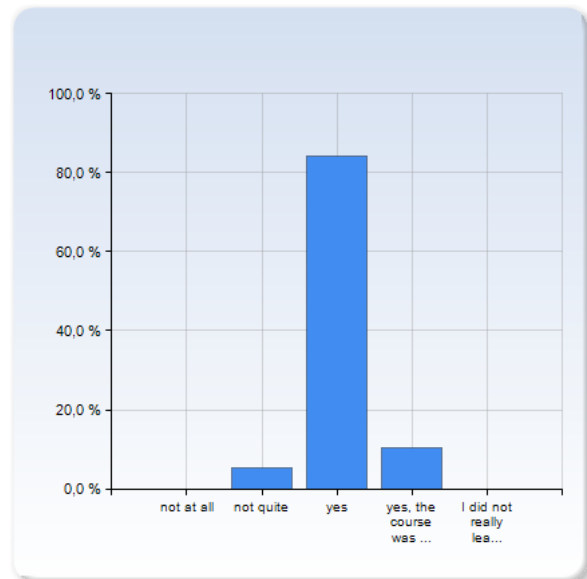
Comments

Noether's theorem is very important, more on that. Maby more about tensors.

On tensors : too much focus on 'indices recipes' when we do not even have a proper explanation on what tensors are !

Did you have enough prior knowledge for this course?

Did you have enough prior knowledge for this course?	Number of Responses
not at all	0 (0,0%)
not quite	1 (5,3%)
yes	16 (84,2%)
yes, the course was a bit easy	2 (10,5%)
I did not really learn anything new	0 (0,0%)
Total	19 (100,0%)



	Mean	Standard Deviation
Did you have enough prior knowledge for this course?	3,1	0,4

If your prior knowledge was not fairly appropriate, please comment!

What prior knowledge was missing/overlapping?

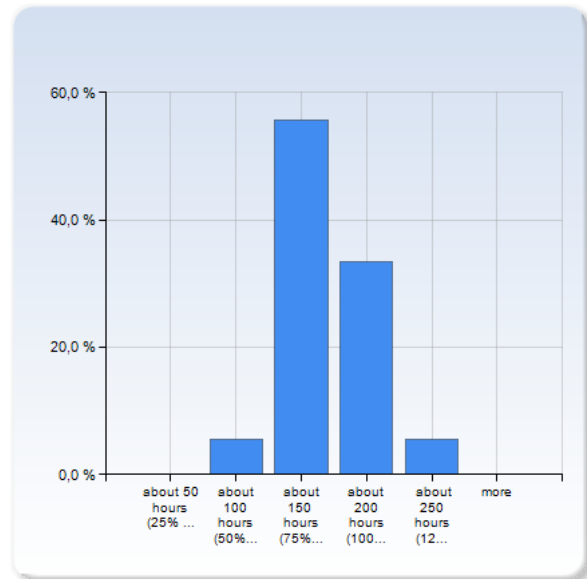
What is your background (year of higher education, relevant courses)?

4th year student.

Part of special relativity was a repeat from the general physics course introduction to particle physics. The Hamiltonian was partly known from QM, but really nice to see the full treatment of where it comes from.

How much time have you spent on the course? (In total you are supposed to spend about 200 hours or 25 work-days on a 7.5 hp course)

How much time have you spent on the course? (In total you are supposed to spend about 200 hours or 25 work-days on a 7.5 hp course)	Number of Responses
about 50 hours (25% of allotted time)	0 (0,0%)
about 100 hours (50% of allotted time)	1 (5,6%)
about 150 hours (75% of allotted time)	10 (55,6%)
about 200 hours (100% of allotted time)	6 (33,3%)
about 250 hours (125% of allotted time)	1 (5,6%)
more	0 (0,0%)
Total	18 (100,0%)



	Mean	Standard Deviation
How much time have you spent on the course? (In total you are supposed to spend about 200 hours or 25 work-days on a 7.5 hp course)	3,4	0,7

Comment

I have no idea really... but this was my easiest cours this period so less than 200 h definitely.

What did you thing about the presentation feedback given by students to students during the problem solving sessions.

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It was nice!

Did not attend to.

A good way to improve in other areas than the course!

Probably good for improvement but it made the whole sessions less enjoyable since it wasn't as relaxed as otherwise.

It was unnecessary. I just felt extra pressure during presentations.

I think it's a good idea that the students go to the board and present some exercises and also that we give each other feedback.

What did you particularly like with the course? What in the course do you think could improve?

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What in the course do you think could improve?

More problem solving classes and/or more examples of how to solve problems.

I really enjoyed the tempo of the lectures, that the important conclusions are explicitly written down on the board instead of just spoken. Interesting topics, very nice with the advanced side notes once in a while. Learned a lot. There is nothing I would like to change, apart from perhaps increasing the number of exercise sessions.

I think I have answered this above.

The lecture notes is really good. Sometimes they made the lectures unnessesery to attend. It would be a nice to get the lecture notes some days prior to the lecture so you can look through them before. It is so much easier to understand and follow the lecture if you beforehand have seen the notations used and have some understanding of the subject.

The best was to learn about Lagrangian formalism and the four vector method in special relativity. Don't spend time on less important subjects as Rutherford's formula.

I think there should be more time spent solving harder problems and help to find if you got stuck. We often asked our SI teachers for help and they were great but they also weren't always available. I think you should be allowed to come ask your lecturer questions since the lectures are only a part of the teaching/learning process.

I really liked calculus of variations, maybe do a few more exercises on this! I would have liked to see a deeper discussion about symmetries, like going into symmetry groups, for instance with rotations in a classical mechanics context.

As mentioned i think the course needs more lecture time, for the given content.

A lot of available exercises : good ! In the lectures : explanations are often not clear.

I liked the stuff we learned during the lectures in general, fun topics.

It often felt like you didn't really have anything or anyone to consult when wondering about things.
