FYTB03 vt14

Respondents: 22
Answer Count: 12
Answer Frequency: 54,55 %

General opinion

Give your opinion in the scale 1-5.

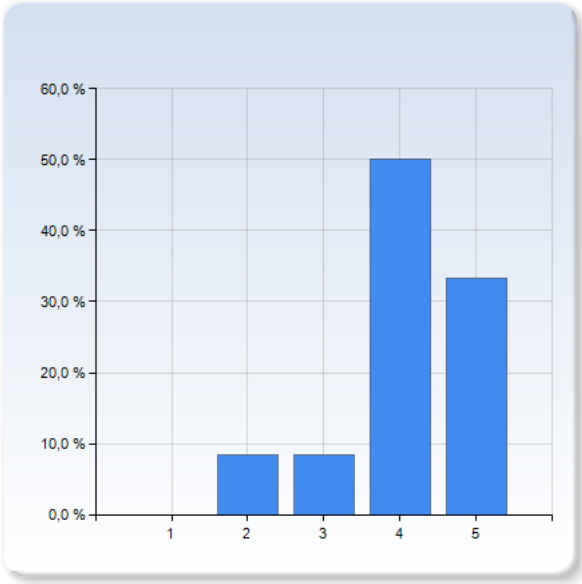
1 = very negative
2 = negative
3 = neutral
4 = positive
5 = very positive

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?

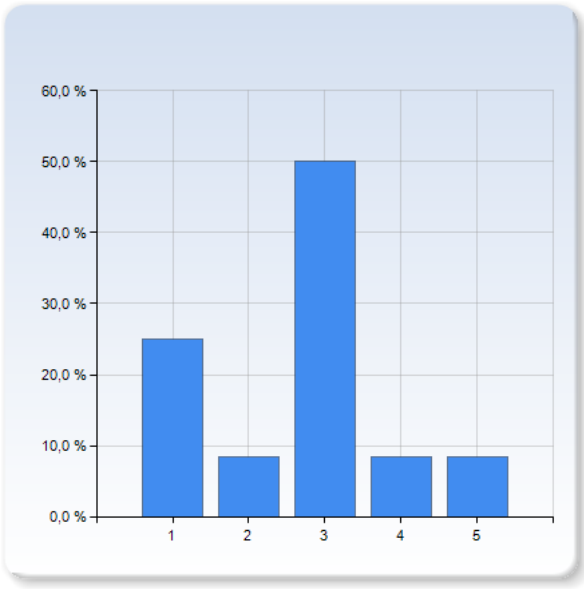
the course overall?	Number of Responses
1	0 (0,0%)
2	1 (8,3%)
3	1 (8,3%)
4	6 (50,0%)
5	4 (33,3%)
Total	12 (100,0%)



	Mean	Standard Deviation
the course overall?	4,1	0,9

the course book (Bengtsson om klassisk fysik)?

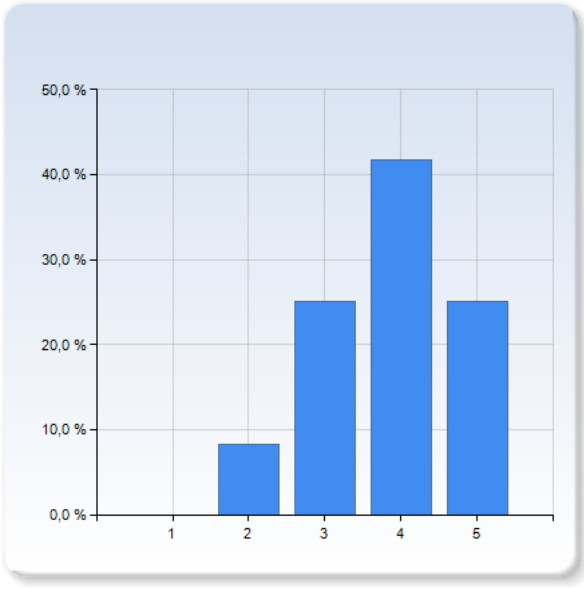
the course book (Bengtsson om klassisk fysik)?	Number of Responses
1	3 (25,0%)
2	1 (8,3%)
3	6 (50,0%)
4	1 (8,3%)
5	1 (8,3%)
Total	12 (100,0%)



	Mean	Standard Deviation
the course book (Bengtsson om klassisk fysik)?	2,7	1,2

lecture notes available on the web?

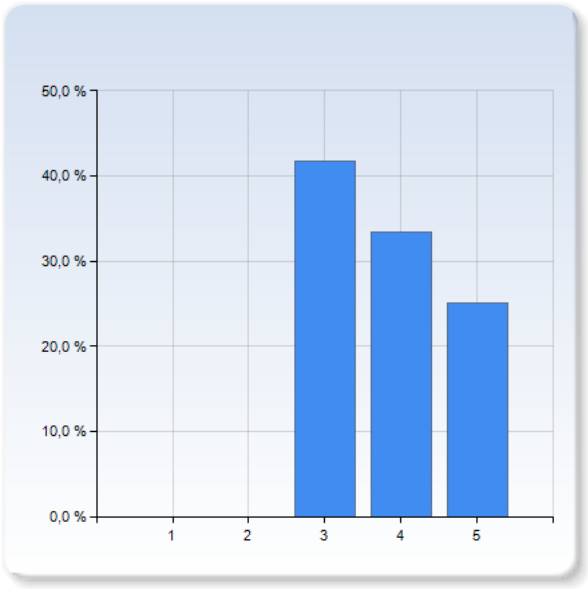
lecture notes available on the web?	Number of Responses
1	0 (0,0%)
2	1 (8,3%)
3	3 (25,0%)
4	5 (41,7%)
5	3 (25,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
lecture notes available on the web?	3,8	0,9

handouts

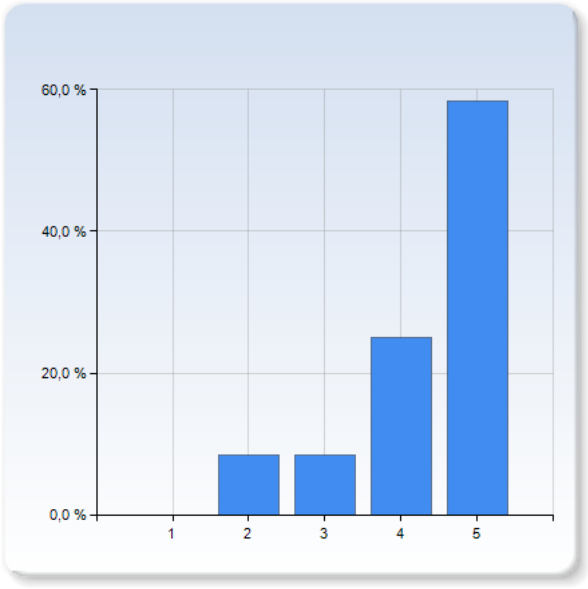
handouts	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	5 (41,7%)
4	4 (33,3%)
5	3 (25,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
handouts	3,8	0,8

lectures with Malin Sjödahl

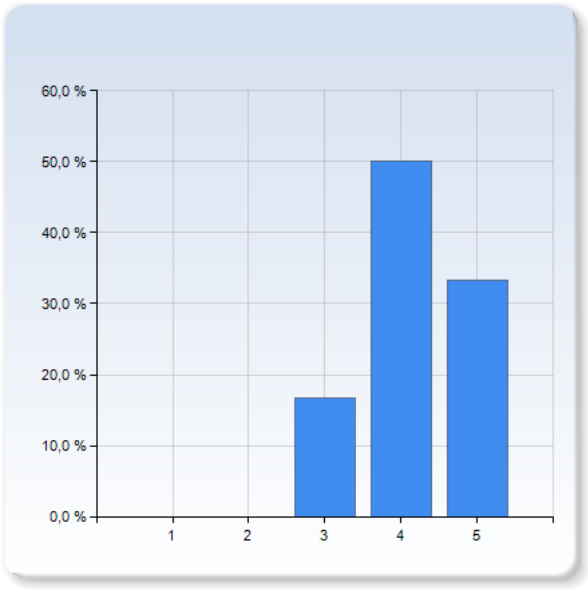
lectures with Malin Sjödahl	Number of Responses
1	0 (0,0%)
2	1 (8,3%)
3	1 (8,3%)
4	3 (25,0%)
5	7 (58,3%)
Total	12 (100,0%)



	Mean	Standard Deviation
lectures with Malin Sjödahl	4,3	1,0

the problem solving classes?

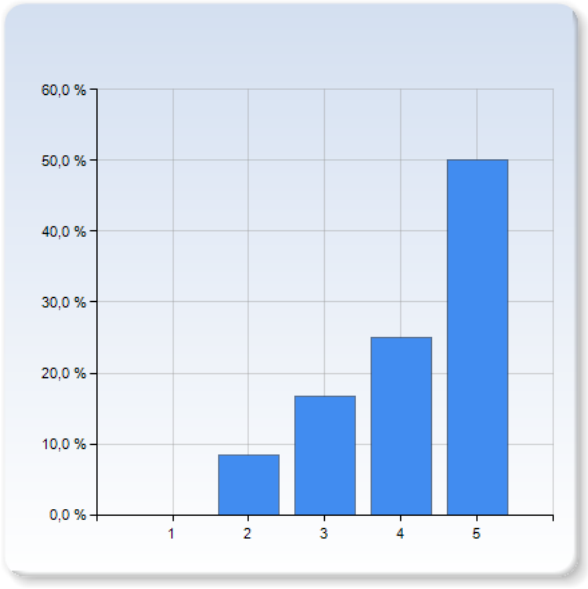
the problem solving classes?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	2 (16,7%)
4	6 (50,0%)
5	4 (33,3%)
Total	12 (100,0%)



	Mean	Standard Deviation
the problem solving classes?	4,2	0,7

the problems for the problem solving classes?

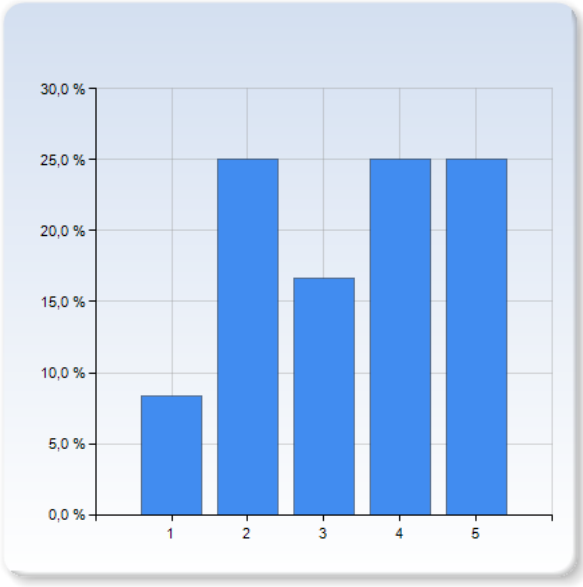
the problems for the problem solving classes?	Number of Responses
1	0 (0,0%)
2	1 (8,3%)
3	2 (16,7%)
4	3 (25,0%)
5	6 (50,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
the problems for the problem solving classes?	4,2	1,0

the balance between lectures and problem-solving classes?

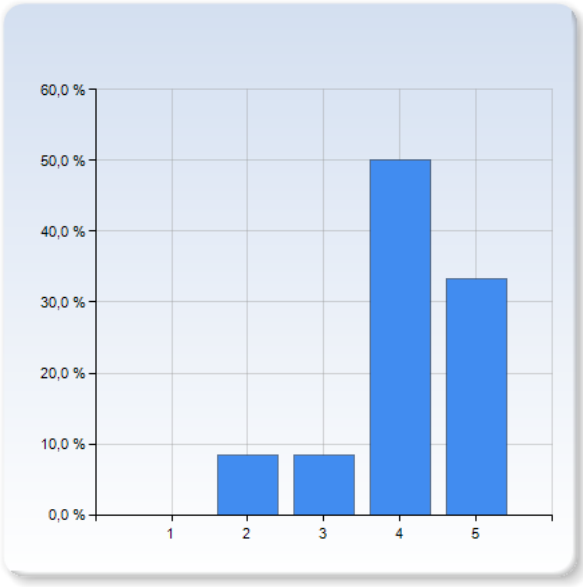
the balance between lectures and problem-solving classes?	Number of Responses
1	1 (8,3%)
2	3 (25,0%)
3	2 (16,7%)
4	3 (25,0%)
5	3 (25,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
the balance between lectures and problem-solving classes?	3,3	1,4

the hand-in exercises?

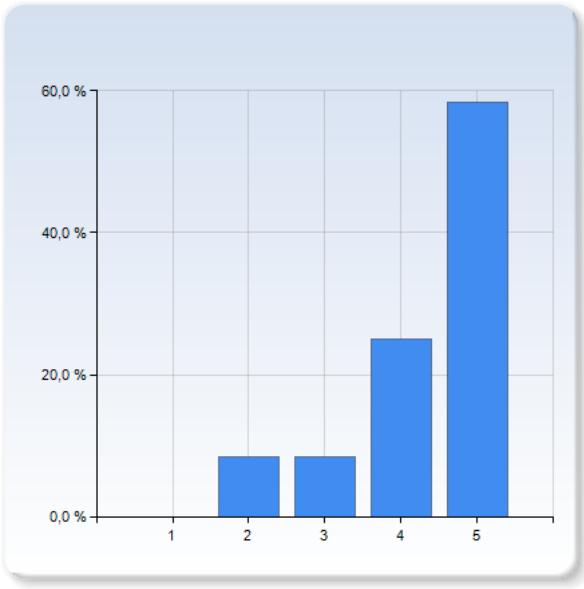
the hand-in exercises?	Number of Responses
1	0 (0,0%)
2	1 (8,3%)
3	1 (8,3%)
4	6 (50,0%)
5	4 (33,3%)
Total	12 (100,0%)



	Mean	Standard Deviation
the hand-in exercises?	4,1	0,9

the bonus system with the hand-in exercises?

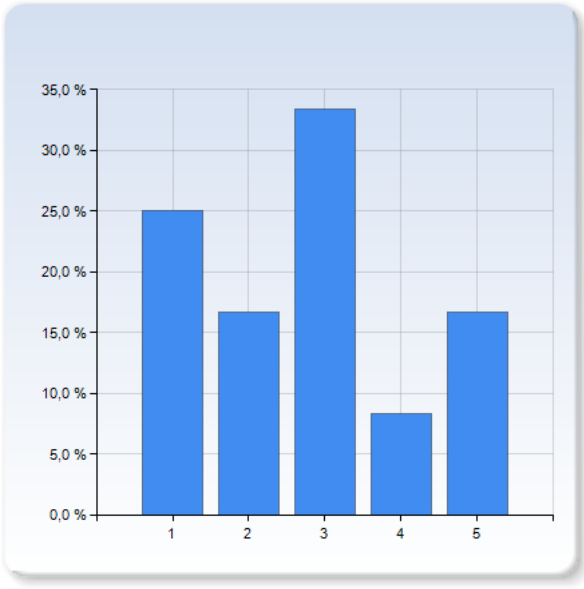
the bonus system with the hand-in exercises?	Number of Responses
1	0 (0,0%)
2	1 (8,3%)
3	1 (8,3%)
4	3 (25,0%)
5	7 (58,3%)
Total	12 (100,0%)



	Mean	Standard Deviation
the bonus system with the hand-in exercises?	4,3	1,0

the laboratory exercise "normal modes"

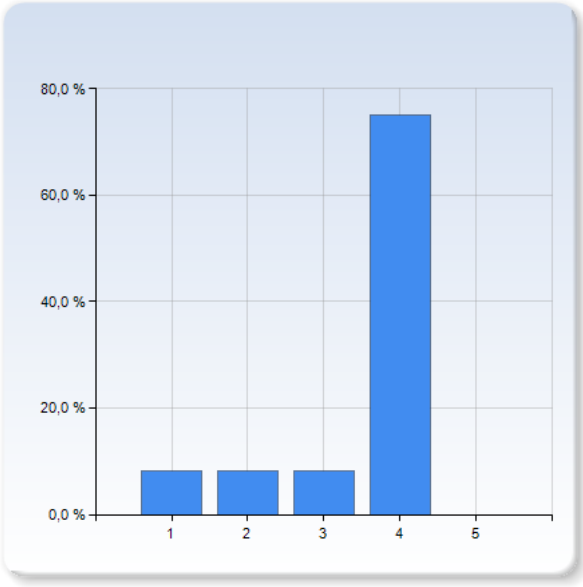
the laboratory exercise "normal modes"	Number of Responses
1	3 (25,0%)
2	2 (16,7%)
3	4 (33,3%)
4	1 (8,3%)
5	2 (16,7%)
Total	12 (100,0%)



	Mean	Standard Deviation
the laboratory exercise "normal modes"	2,8	1,4

the written exam?

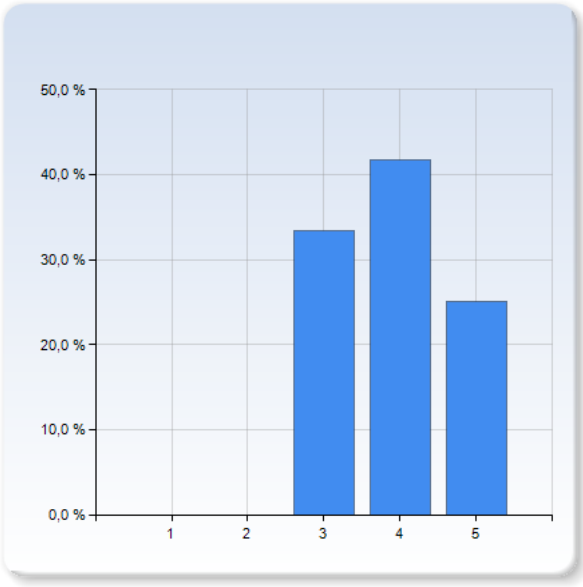
the written exam?	Number of Responses
1	1 (8,3%)
2	1 (8,3%)
3	1 (8,3%)
4	9 (75,0%)
5	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
the written exam?	3,5	1,0

the information about the course when it started?

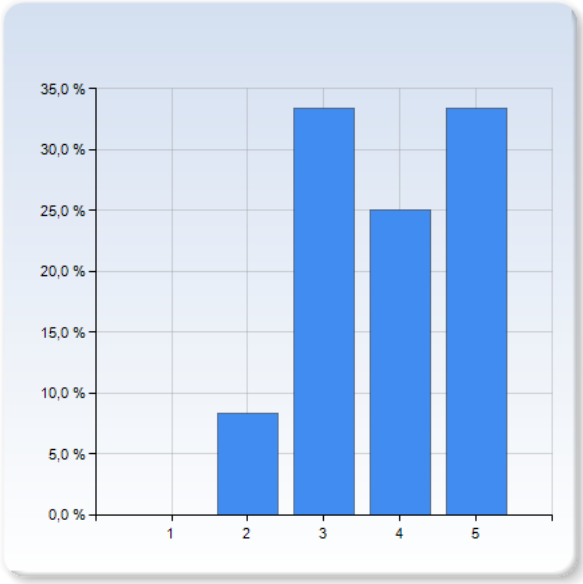
the information about the course when it started?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	4 (33,3%)
4	5 (41,7%)
5	3 (25,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
the information about the course when it started?	3,9	0,8

the information about what was expected of you?

the information about what was expected of you?	Number of Responses
1	0 (0,0%)
2	1 (8,3%)
3	4 (33,3%)
4	3 (25,0%)
5	4 (33,3%)
Total	12 (100,0%)



	Mean	Standard Deviation
the information about what was expected of you?	3,8	1,0

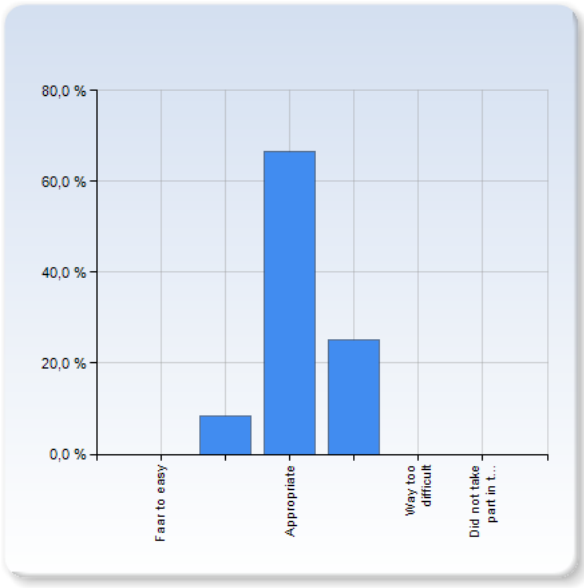
Comments (help us interpret your grades!)
Malin was a great lecturer, I really enjoyed my classes.
I would have liked the lectures to highlight the important points instead of going through everything that is already explained in the book. The lectures were too packed with information too much to take in. I would have liked them being slower and with more teacher-students interaction.
The Lagrangian part of the book was good, everything was clearly described and I enjoyed the small anecdotes. It was harder to follow during the relativity part, but Malin knew that and did the relativity without the book, which was good. With these excelent lecture notes, it was almost possible to do the course without the book. The lectures were good and she knew well in wich tempo to go and when to slow down. I don't know really what we were supposed to learn from the normal mode lab. The equipment was not very good which made the systematical errors of the measurements so great that the data hardly meant anything.
The hand in exercises and the problems on "räknestugan" were a bit too easy compared to the exam. They're usually good for practice, so a little harder would be good.
The course has been really great. The only remark I have is that I would rather skip one of the more technical problems, like the three body problem, and use that lecure for Hamilton's equations
Good lectures, overall balanced course. The lab was not adapted to so many students.
The problem solving classes represented the course's content very well. Bengtsson's book was brilliant, but had too difficult exercises, at least the classical mechanics part, without answers.
The written exam was poorly written, left alot of room for missunderstandings. The book used is really fun to read, but very bad if you trying to lern something you know little about. And almost most important i think its abit to little time, 20h/week is expected of us, we get 5h/week (in avg) as lecture time. I dont see how it whould be hard to have one more 2h lecture/problem solving a week. I dotn mean to cram more material in the course! I mean to have more time to work with the material we have so we lern it better.
The literature is rich of errors and includes to many "fuzzy" explanations to problems. The physics can be explained in a much simpler way without all that blahbiness. I recommend that you choose another book for the course. The exercises in the book are often too hard. There should be alot more problem-solving classes. Until more time is added here, no improvements can be made.

Level of difficulty

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

Lectures

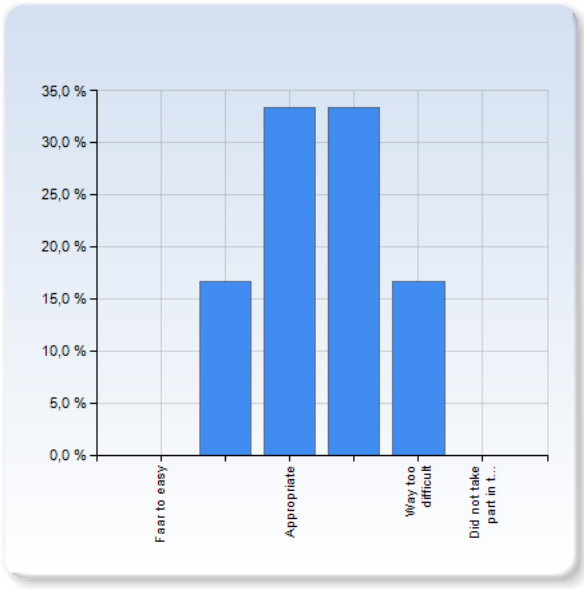
Lectures	Number of Responses
Faar to easy	0 (0,0%)
	1 (8,3%)
Appropriate	8 (66,7%)
	3 (25,0%)
Way too difficult	0 (0,0%)
Did not take part in this module	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
Lectures	3,2	0,6

Litterature

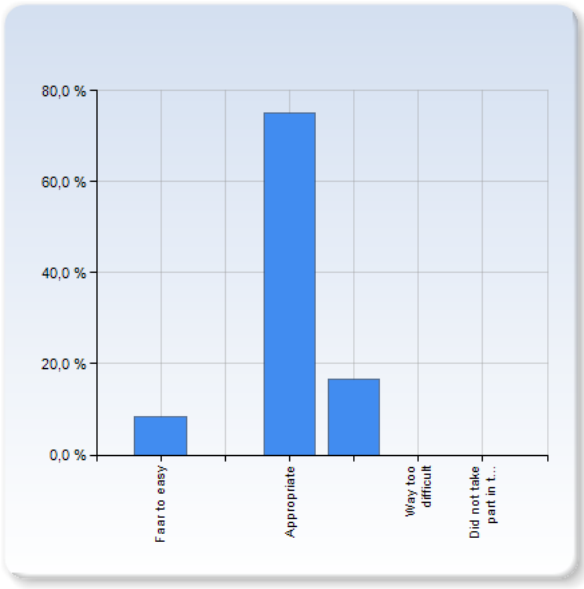
Litterature	Number of Responses
Faar to easy	0 (0,0%)
	2 (16,7%)
Appropriate	4 (33,3%)
	4 (33,3%)
Way too difficult	2 (16,7%)
Did not take part in this module	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
Litterature	3,5	1,0

Problem solving exercises

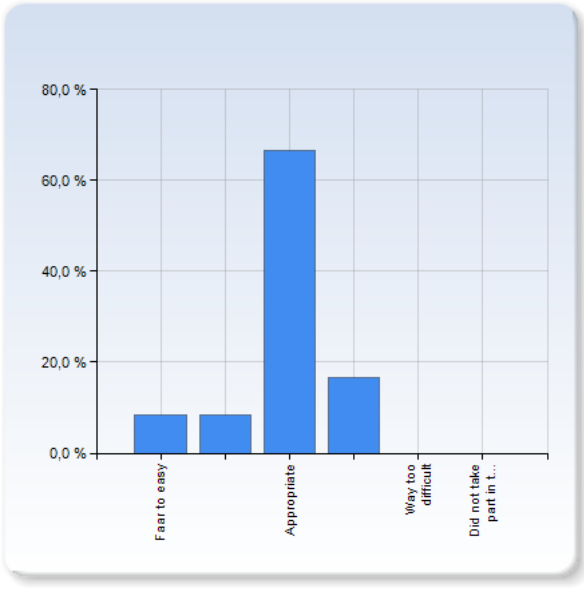
Problem solving exercises	Number of Responses
Faar to easy	1 (8,3%)
	0 (0,0%)
Appropriate	9 (75,0%)
	2 (16,7%)
Way too difficult	0 (0,0%)
Did not take part in this module	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
Problem solving exercises	3,0	0,7

Hand-in exercises

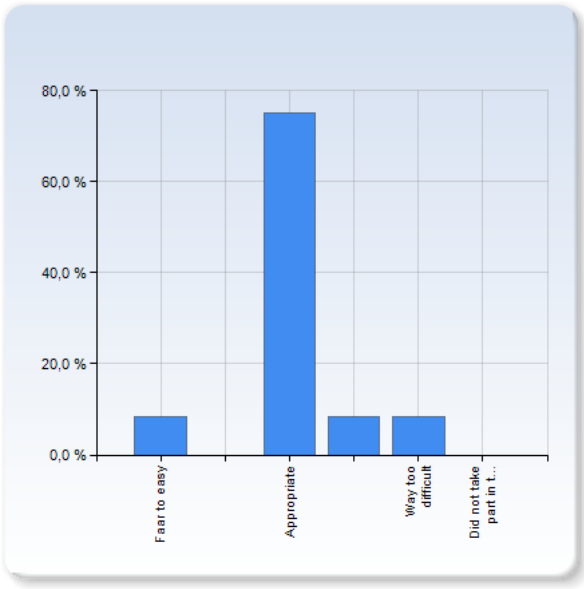
Hand-in exercises	Number of Responses
Faar to easy	1 (8,3%)
	1 (8,3%)
Appropriate	8 (66,7%)
	2 (16,7%)
Way too difficult	0 (0,0%)
Did not take part in this module	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
Hand-in exercises	2,9	0,8

Laboratory exercise "normal modes"

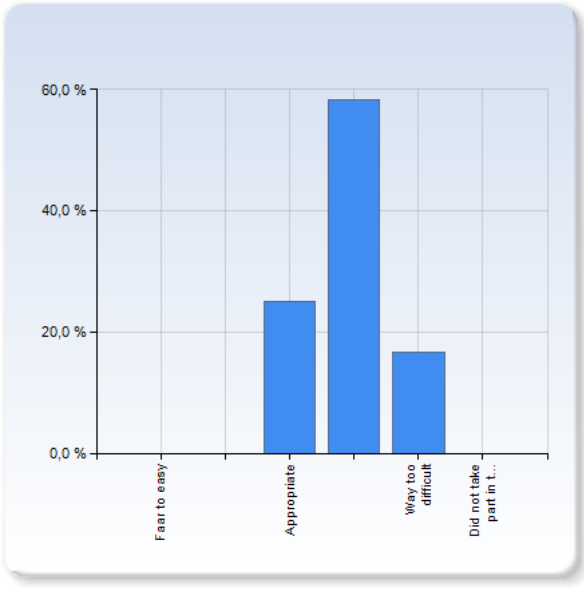
Laboratory exercise "normal modes"	Number of Responses
Faar to easy	1 (8,3%)
	0 (0,0%)
Appropriate	9 (75,0%)
	1 (8,3%)
Way too difficult	1 (8,3%)
Did not take part in this module	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
Laboratory exercise "normal modes"	3,1	0,9

Written exam

Written exam	Number of Responses
Faar to easy	0 (0,0%)
	0 (0,0%)
Appropriate	3 (25,0%)
	7 (58,3%)
Way too difficult	2 (16,7%)
Did not take part in this module	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
Written exam	3,9	0,7

Kommentar
Exercises generally easier than book and exam
Good
Litteraturen var fantastisk läsning, men den var hemsk att försöka hämta information ur. H. U Bengtsson var lite för utsvävsnde i sina beskrivningar ibland.
The normal modes laboratory didnt give anything in my opinion. Yes it is fun to see the physics "in action". But that could have been shown in 30-60min in a class. And i whould be possitive to that.

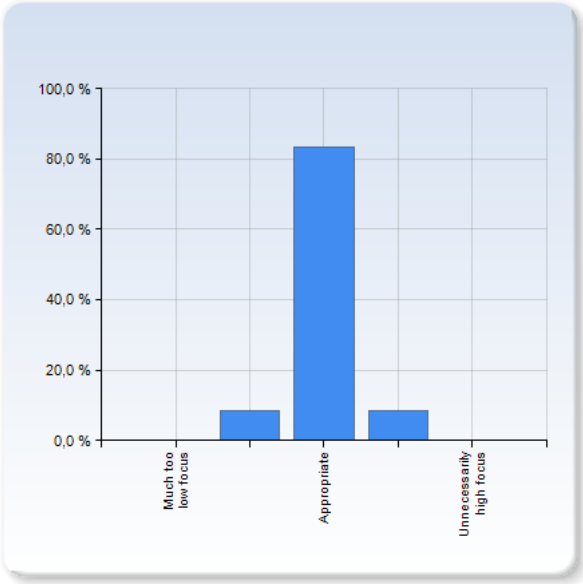
The focus of the course.

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

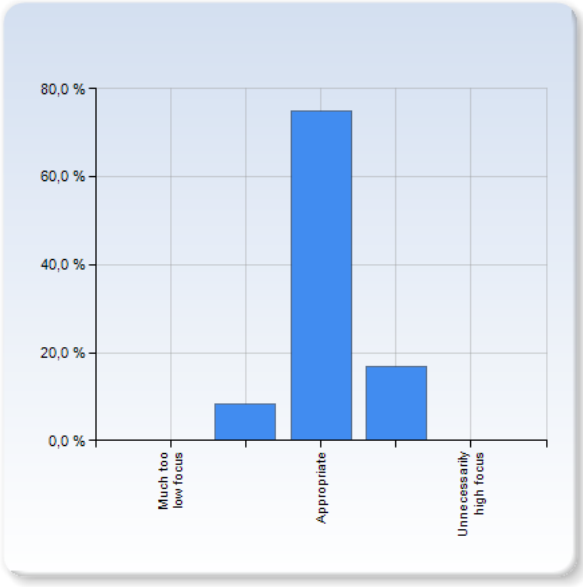
is familiar with the use of generalised coordinates for a given mechanical system and how the the Lagrange equations follow from the principle of least action	Number of Responses
Much too low focus	0 (0,0%)
	1 (8,3%)
Appropriate	10 (83,3%)
	1 (8,3%)
Unnecessarily high focus	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
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	3,0	0,4

understands how conservations laws arise from different symmetries

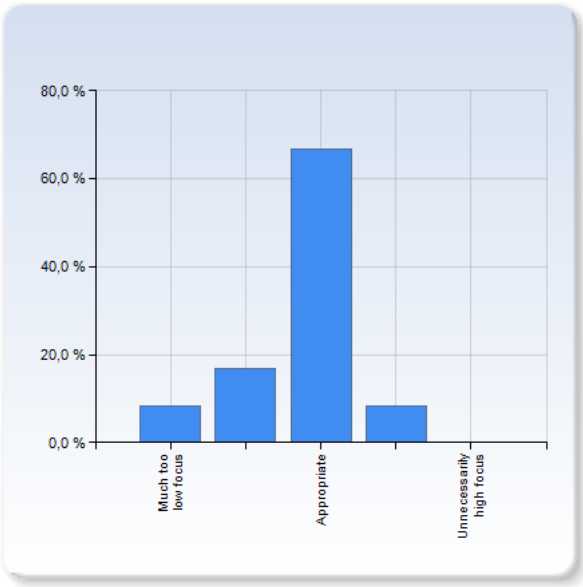
understands how conservations laws arise from different symmetries	Number of Responses
Much too low focus	0 (0,0%)
	1 (8,3%)
Appropriate	9 (75,0%)
	2 (16,7%)
Unnecessarily high focus	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
understands how conservations laws arise from different symmetries	3,1	0,5

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

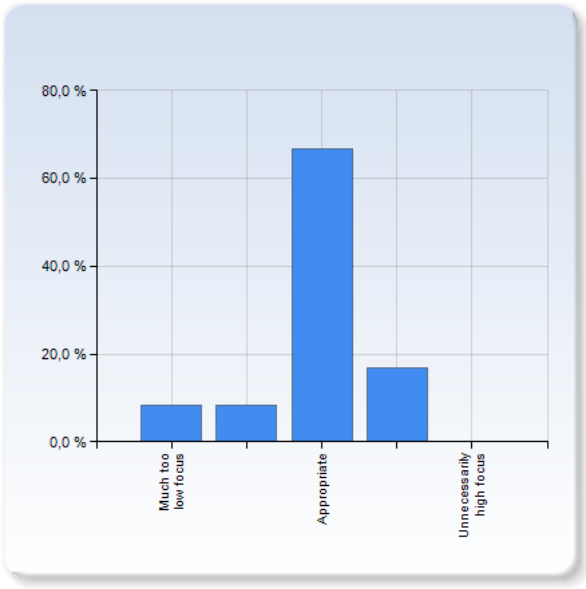
can choose suitable generalized coordinates for a given mechanical system and use these to describe the time evolution of the system	Number of Responses
Much too low focus	1 (8,3%)
	2 (16,7%)
Appropriate	8 (66,7%)
	1 (8,3%)
Unnecessarily high focus	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
can choose suitable generalized coordinates for a given mechanical system and use these to describe the time evolution of the system	2,8	0,8

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

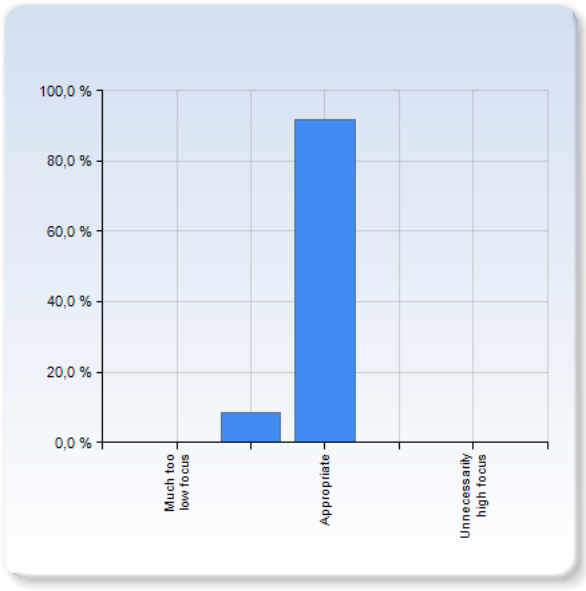
can find stationary solutions and analyse the normal modes for small oscillations around these	Number of Responses
Much too low focus	1 (8,3%)
	1 (8,3%)
Appropriate	8 (66,7%)
	2 (16,7%)
Unnecessarily high focus	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
can find stationary solutions and analyse the normal modes for small oscillations around these	2,9	0,8

is familiar with common four-vectors and other tensors

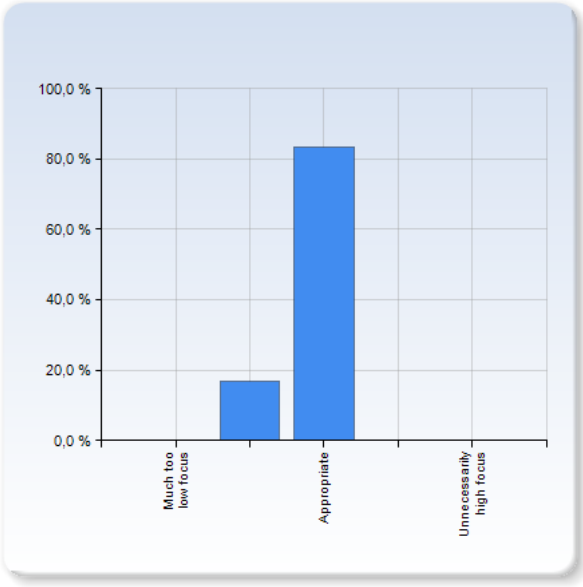
is familiar with common four-vectors and other tensors	Number of Responses
Much too low focus	0 (0,0%)
	1 (8,3%)
Appropriate	11 (91,7%)
	0 (0,0%)
Unnecessarily high focus	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
is familiar with common four-vectors and other tensors	2,9	0,3

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

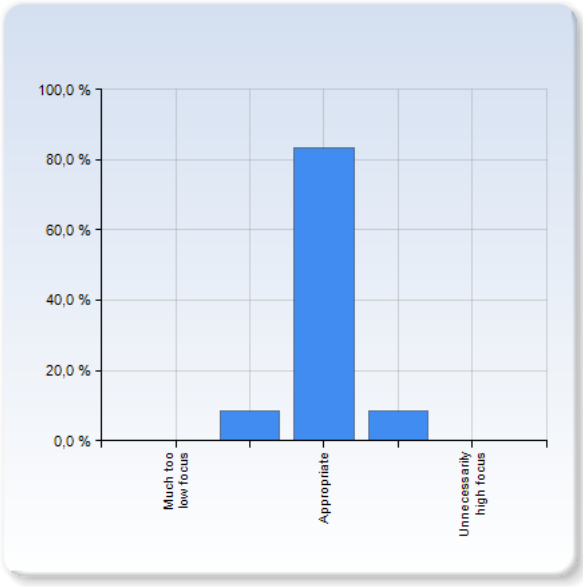
is able to apply Lorentz transformations between two different systems in Minkowski space	Number of Responses
Much too low focus	0 (0,0%)
	2 (16,7%)
Appropriate	10 (83,3%)
	0 (0,0%)
Unnecessarily high focus	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
is able to apply Lorentz transformations between two different systems in Minkowski space	2,8	0,4

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%)
	1 (8,3%)
Appropriate	10 (83,3%)
	1 (8,3%)
Unnecessarily high focus	0 (0,0%)
Total	12 (100,0%)

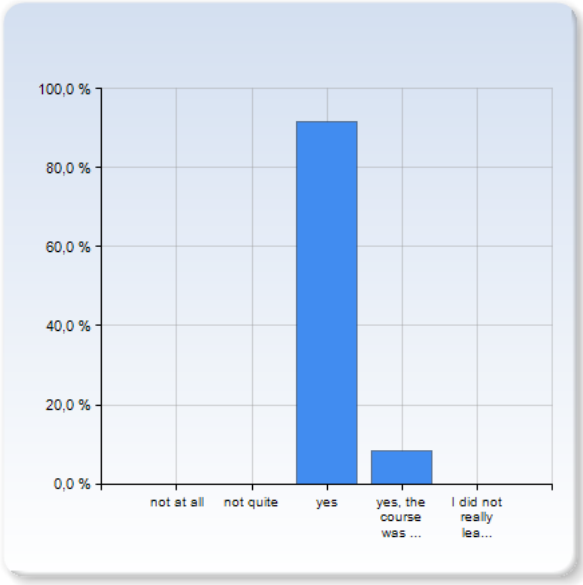


	Mean	Standard Deviation
can use simple relativistic kinematics to analyse simple particle reactions	3,0	0,4

Comments
The grades below "Appropriate" is due to the fact that (as in many courses) only the easiest examples are ever described during the lectures on the respective topic. There is alot more to learn from a well described "hard" example, both mathematically and physically (the physics becomes, perhaps more generalized), than from a simple selfexplained one. The simple case can hopefully also be pointed out as a subcase of the more general.

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	0 (0,0%)
yes	11 (91,7%)
yes, the course was a bit easy	1 (8,3%)
I did not really learn anything new	0 (0,0%)
Total	12 (100,0%)

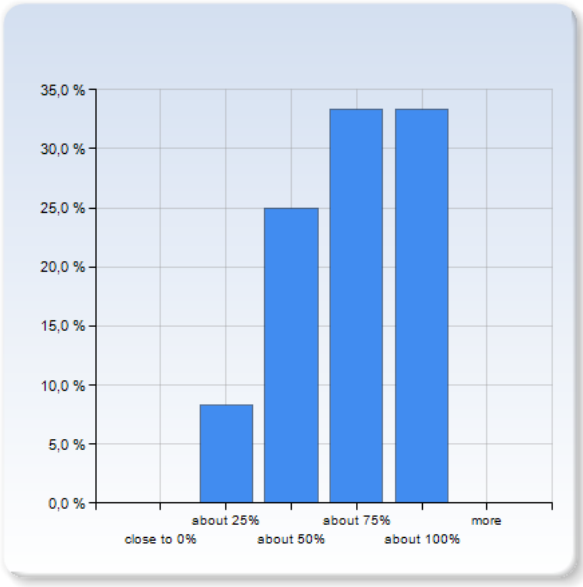


	Mean	Standard Deviation
Did you have enough prior knowledge for this course?	3,1	0,3

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)?
I am a master student of experimental particle physics, 4th year at fysicum.

How much time have you spent on this course? (100% means 9-10 weeks, 20 hours per week, adding up to roughly 25 work-days)

How much time have you spent on this course? (100% means 9-10 weeks, 20 hours per week, adding up to roughly 25 work-days)	Number of Responses
close to 0%	0 (0,0%)
about 25%	1 (8,3%)
about 50%	3 (25,0%)
about 75%	4 (33,3%)
about 100%	4 (33,3%)
more	0 (0,0%)
Total	12 (100,0%)



	Mean	Standard Deviation
How much time have you spent on this course? (100% means 9-10 weeks, 20 hours per week, adding up to roughly 25 work-days)	3,9	1,0

Comment
Due to previous knowledge.
I put most of my time on the statistical counter-course.

A new course module this year was the presentation feedback given by students to students during the problem solving sessions. Please express your opinion about the usefulness of this feedback. (As this format is new, your opinion is especially valuable.)

A new course module this year was the presentation feedback given by students to students during the problem solving sessions. Please express your opinion about the usefulness of this feedback. (As this format is new, your opinion is especially valuable.)
It was helpful. We did it ony a couple of times, but the difference were noticeable. I think that just by telling us to that we would recieve feedback made people shape up and try harder to make a good presentation.
If the purpose is too enchant the students ability too present physics in front of an audience, i think the feedback is unnecessary, it's good to just do it many times. Often you know yourself what was bad/good with the presentation and the reason is usually lack of time to prepare it.
The presentations of problem solving and the feedback really taught you a lot.
I was not present, due to clashing lectures.
When no one had anything to say the little "Any comments?" pause felt rather embarrasing, but the feedback caused one to plan the presentation a bit more.
Feedback is always welcome.
There was usually no time to prepare the presentation so the whole thing seems a bit wierd, since most of the feedback concerns how we behave at the whiteboard when we are to present a problem that meaby wasnt solved properly. The comments should be about how to prepare and make a presentation as clear and efficient as possible. To share the information we claim to have As I see it there is no way to improve the way we present a problem without a frame of reference, which in this case is how we prepare and structure the presentation itself in a way we think is good or "correct", not how we perform as artists at this stage. The comments given tended to the latter case.
I really liked this, both giving and getting feedback was good. Also nice to hear other students feedback to other students, good to get opinions on presentation technique from different angles.

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

What did you particularly like with the course? What in the course do you think could improve?
Weekly hand-ins will be more useful. I really enjoyed how tidy and organized the lectures were.
I really liked the content of the course. What I think would need the most improvement is the lectures. I would have liked a bit more discussion instead of one way communication. It was also way to much information packed into the lectures. Instead of learning the important parts you get a whole lot of information and you forget most of it. I also really liked the normal modes lab, it was very enlightening!
Calculus of variation was completly new but very interesting and the whole concept of analytical mechanics is inspiring, including Noerther's theorem. The big problem for me with this course was that the statistical mechanics-course felt much harder, which made me put too much focus on the other subject. If this exam had been before the statistical mechanics exam, I believe that I would have had a much better result on this course. I passed the exam, but my ambitions were much higher. This was by far the more interesting of the two courses.
It is humbeling to learn the power of the Lagrangian.
The course felt well balanced in time and the problem solving classes complemented the lectures nicely (I would not recommend choosing one over the other). It would have been nice to have the answers to the exercises Hans-Uno's book.
More problem solving classes. Atlest ones a week, not every second.
Nice topics. More problem-solving classes and a new book.