

FYTN11, ht14

Respondents: 10
Answer Count: 9
Answer Frequency: 90,00 %

General opinion

Give your opinion in the scale 1-5.

1 = very negative

2 = negative

3 = neutral

4 = positive

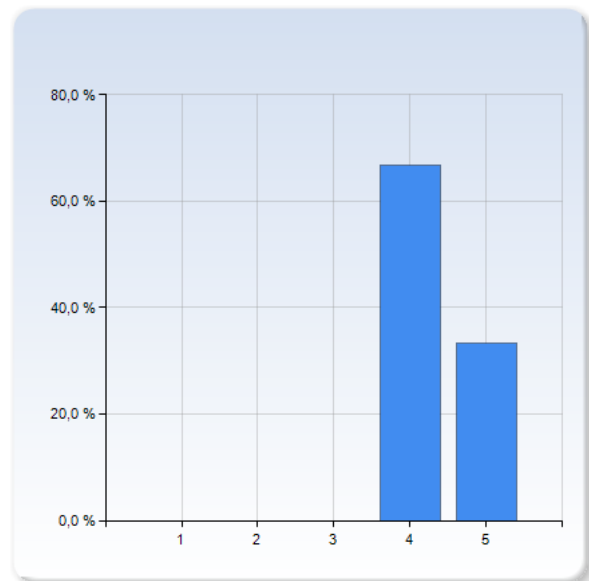
5 = very positive

Personal comments will be appreciated!

What is your general opinion of...

the course?

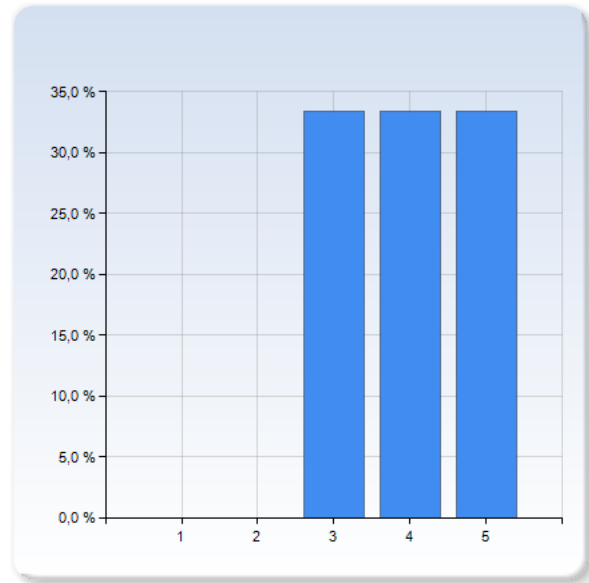
the course?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	6 (66,7%)
5	3 (33,3%)
Total	9 (100,0%)



the course?	Mean	Standard Deviation
	4,3	0,5

the information about the course when it started?

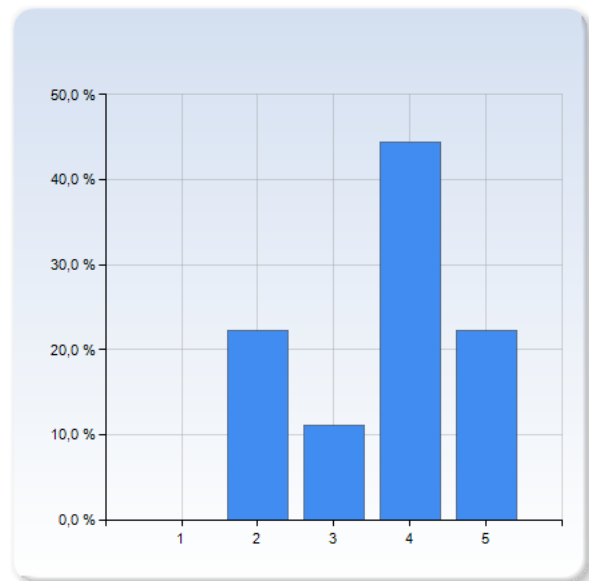
the information about the course when it started?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	3 (33,3%)
4	3 (33,3%)
5	3 (33,3%)
Total	9 (100,0%)



the information about the course when it started?	Mean	Standard Deviation
	4,0	0,9

the information about what was expected of you?

the information about what was expected of you?	Number of Responses
1	0 (0,0%)
2	2 (22,2%)
3	1 (11,1%)
4	4 (44,4%)
5	2 (22,2%)
Total	9 (100,0%)



the information about what was expected of you?	Mean	Standard Deviation
	3,7	1,1

Comment (*help us interpret your grades!*)

I don't think we got enough information about how much time we would need to spend on this course and at what level the exam problems would be.

Did not know what was expected from me at the oral exam.

Teaching and examination

Give your opinion in the scale 1-5.

1 = very negative

2 = negative

3 = neutral

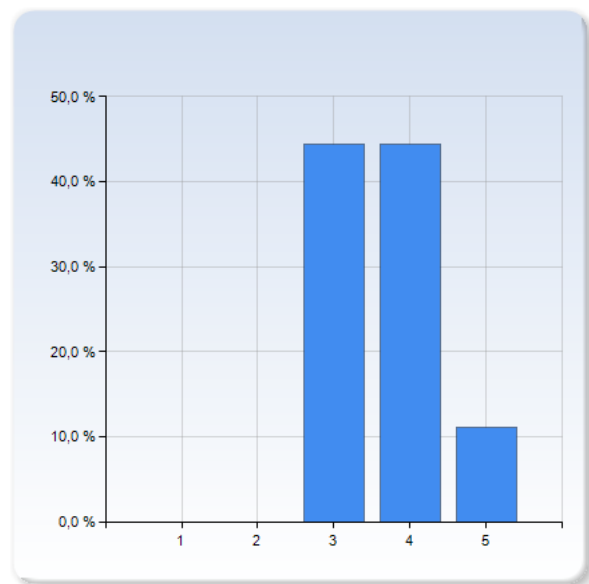
4 = positive

5 = very positive

What is your opinion of...

Rubakov's book?

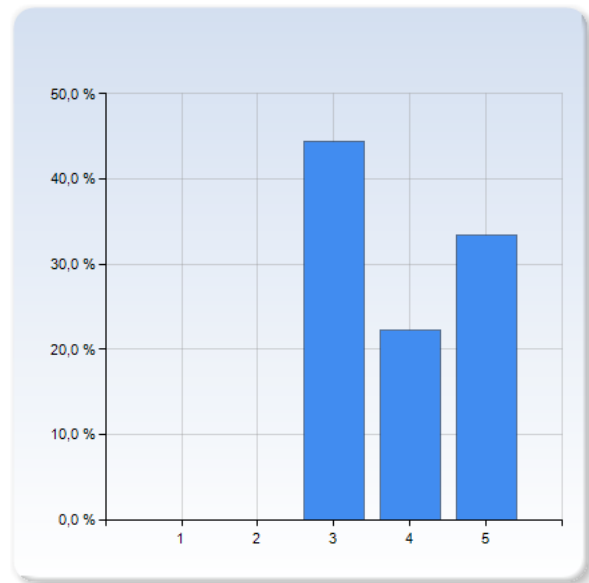
Rubakov's book?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	4 (44,4%)
4	4 (44,4%)
5	1 (11,1%)
Total	9 (100,0%)



	Mean	Standard Deviation
Rubakov's book?	3,7	0,7

the lectures with Roman Pasechnik?

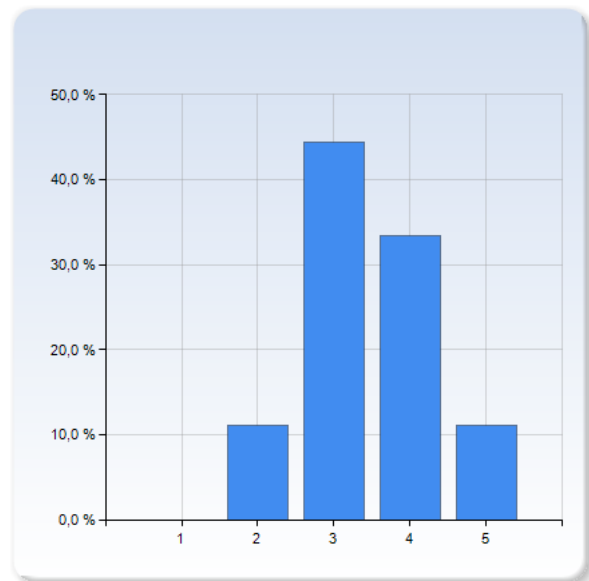
the lectures with Roman Pasechnik?	Number of Responses
1	0 (0,0%)
2	0 (0,0%)
3	4 (44,4%)
4	2 (22,2%)
5	3 (33,3%)
Total	9 (100,0%)



the lectures with Roman Pasechnik?	Mean	Standard Deviation
	3,9	0,9

the problem solving sessions?

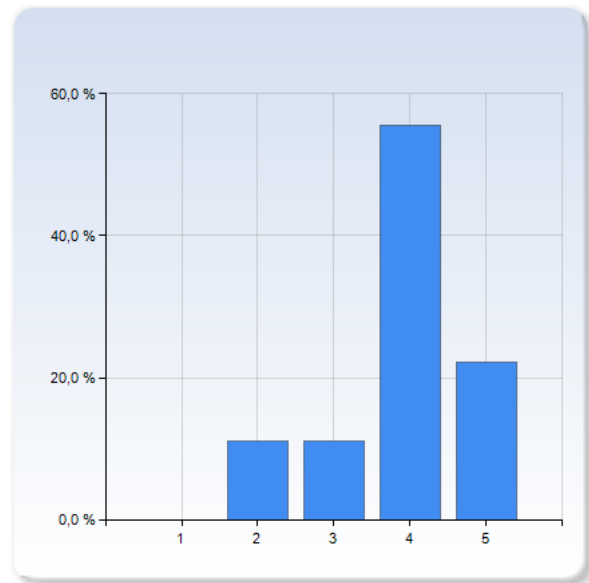
the problem solving sessions?	Number of Responses
1	0 (0,0%)
2	1 (11,1%)
3	4 (44,4%)
4	3 (33,3%)
5	1 (11,1%)
Total	9 (100,0%)



the problem solving sessions?	Mean	Standard Deviation
	3,4	0,9

the balance between lectures and problem-solving sessions?

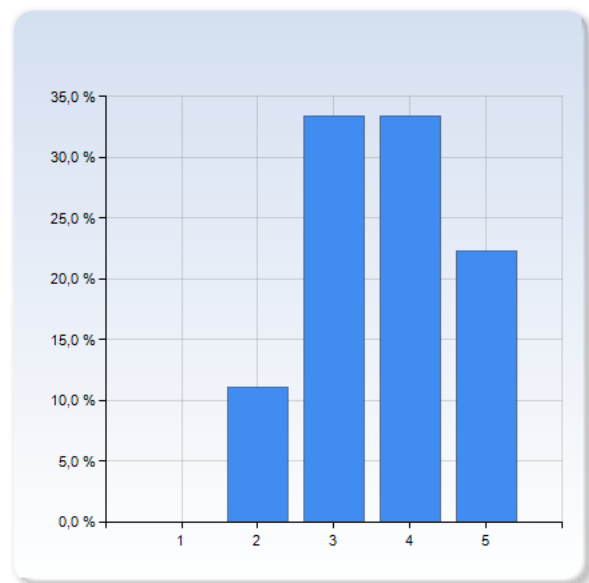
the balance between lectures and problem-solving sessions?	Number of Responses
1	0 (0,0%)
2	1 (11,1%)
3	1 (11,1%)
4	5 (55,6%)
5	2 (22,2%)
Total	9 (100,0%)



	Mean	Standard Deviation
the balance between lectures and problem-solving sessions?	3,9	0,9

the hand-in exercises?

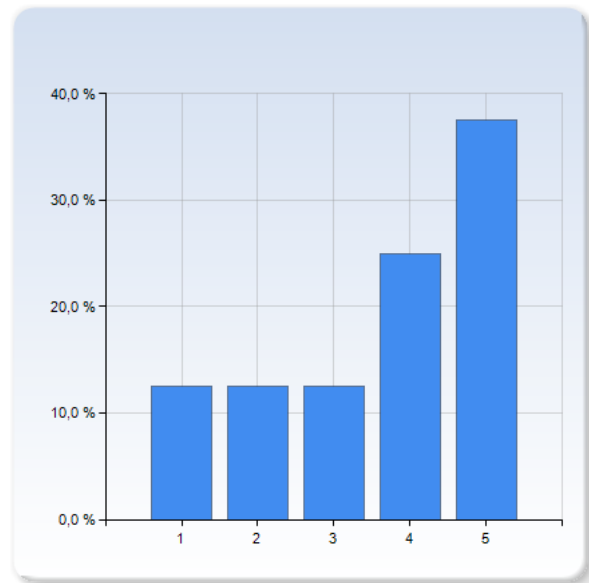
the hand-in exercises?	Number of Responses
1	0 (0,0%)
2	1 (11,1%)
3	3 (33,3%)
4	3 (33,3%)
5	2 (22,2%)
Total	9 (100,0%)



	Mean	Standard Deviation
the hand-in exercises?	3,7	1,0

the seminar assignment?

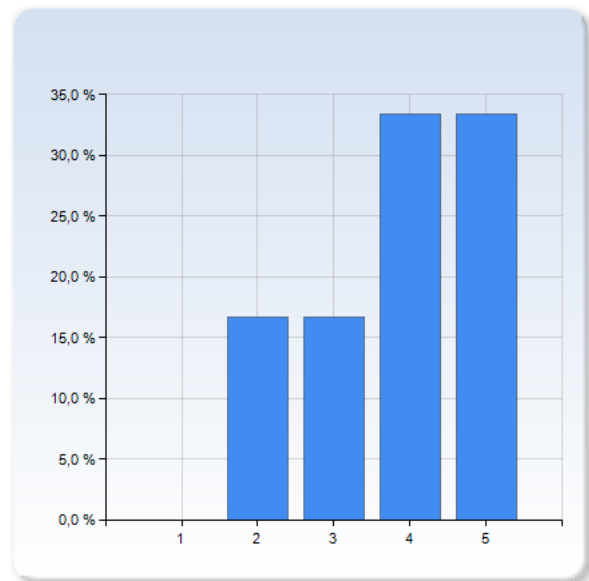
the seminar assignment?	Number of Responses
1	1 (12,5%)
2	1 (12,5%)
3	1 (12,5%)
4	2 (25,0%)
5	3 (37,5%)
Total	8 (100,0%)



the seminar assignment?	Mean	Standard Deviation
	3,6	1,5

the oral exam?

the oral exam?	Number of Responses
1	0 (0,0%)
2	1 (16,7%)
3	1 (16,7%)
4	2 (33,3%)
5	2 (33,3%)
Total	6 (100,0%)



the oral exam?	Mean	Standard Deviation
	3,8	1,2

Comment (*help us interpret your grades!*)

I was unprepared of the amount of detail that was required in the oral exam.

Roman's script could be more structured respectively the way he writes it on the board. Mostly there was too little time to discuss all exercises during the problem solving sessions. Therefore it would be nice, if Roman could hand out sample solutions. This also would make it possible to understand what the other groups did. The home-exam questions were sometimes not clearly formulated in the way that it was not clear which assumptions can be made.

There could had been better information about which kinds of derivations we should be able to do during the oral exam. I don't think the instructions for all of the hand-in problems were very clear and sometimes spent a lot of time to find out what we actually should do. In particular, there were often some assumptions which were not given explicitly (i.e., the meaning of γ_{ij} in spherical coordinates, or that you were supposed to modify the potential itself in the thin-wall approximation, before you do the calculations). Therefore, I don't find it a very good idea to pick the assignments directly from the book.

I felt stupid on my oral exam.

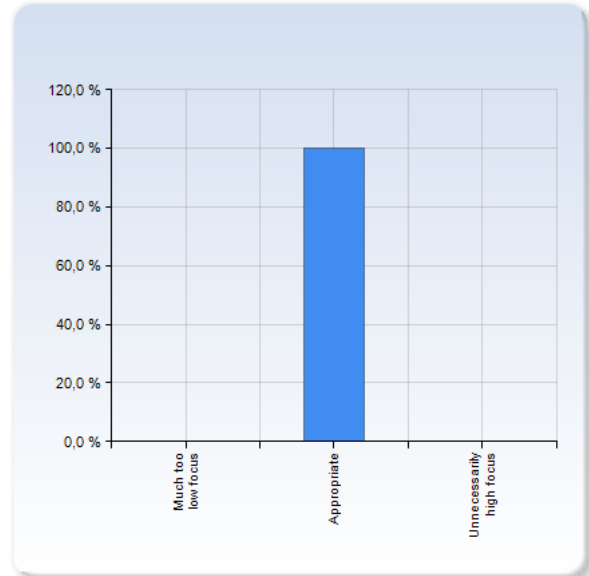
The focus of the course.

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.

"After completed course, the student..."

can explain the dynamics of cosmological expansion in the framework of Standard Cosmological Model, identify basic stages of the Universe evolution, their characteristics.

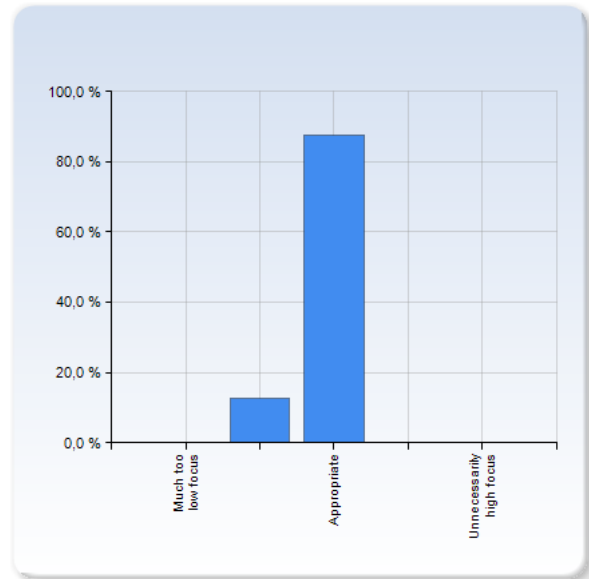
can explain the dynamics of cosmological expansion in the framework of Standard Cosmological Model, identify basic stages of the Universe evolution, their characteristics.	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	8 (100,0%)
Unnecessarily high focus	0 (0,0%)
Total	8 (100,0%)



	Mean	Standard Deviation
can explain the dynamics of cosmological expansion in the framework of Standard Cosmological Model, identify basic stages of the Universe evolution, their characteristics.	3,0	0,0

can describe the properties and composition of the modern Universe, the basic features and dynamics of baryon matter, dark matter and dark energy.

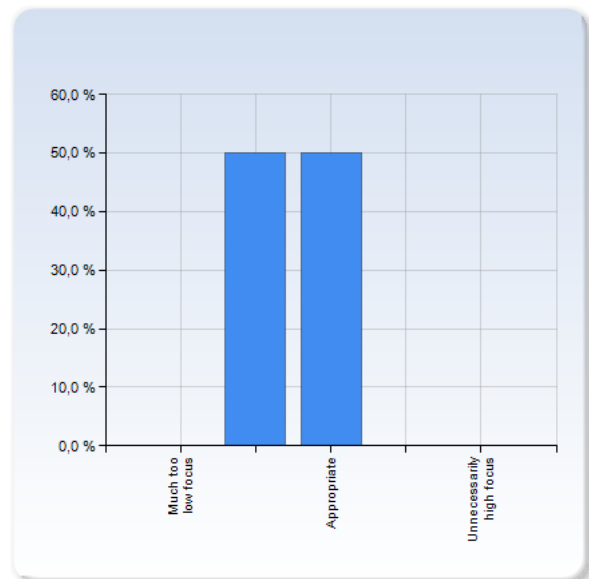
can describe the properties and composition of the modern Universe, the basic features and dynamics of baryon matter, dark matter and dark energy.	Number of Responses
Much too low focus	0 (0,0%)
	1 (12,5%)
Appropriate	7 (87,5%)
	0 (0,0%)
Unnecessarily high focus	0 (0,0%)
Total	8 (100,0%)



	Mean	Standard Deviation
can describe the properties and composition of the modern Universe, the basic features and dynamics of baryon matter, dark matter and dark energy.	2,9	0,4

can describe the connection between cosmology and high energy particle physics, and relate their properties to each other, in examples covered by the course content.

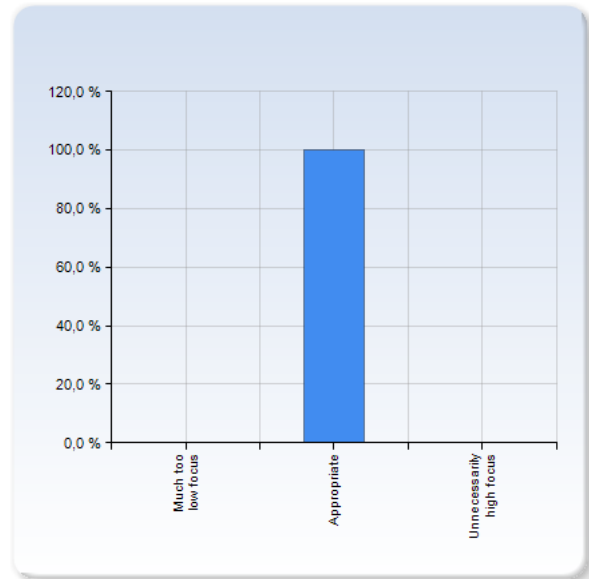
can describe the connection between cosmology and high energy particle physics, and relate their properties to each other, in examples covered by the course content.	Number of Responses
Much too low focus	0 (0,0%)
	4 (50,0%)
Appropriate	4 (50,0%)
	0 (0,0%)
Unnecessarily high focus	0 (0,0%)
Total	8 (100,0%)



	Mean	Standard Deviation
can describe the connection between cosmology and high energy particle physics, and relate their properties to each other, in examples covered by the course content.	2,5	0,5

can derive evolution equations of the Universe and cosmological solutions relevant for the course contents.

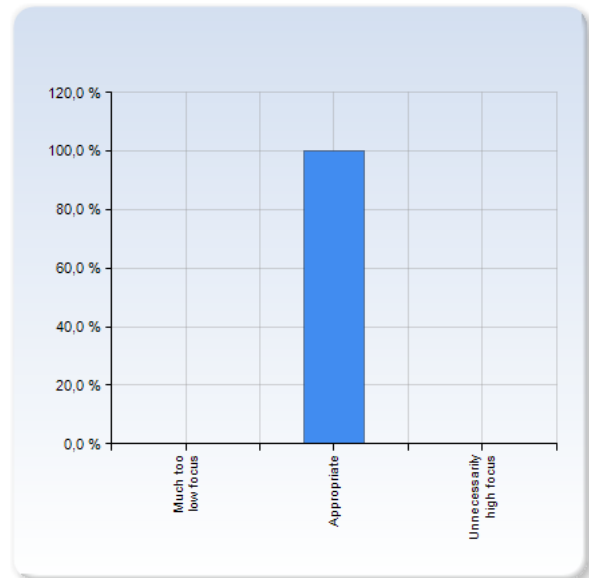
can derive evolution equations of the Universe and cosmological solutions relevant for the course contents.	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	8 (100,0%)
Unnecessarily high focus	0 (0,0%)
Total	8 (100,0%)



	Mean	Standard Deviation
can derive evolution equations of the Universe and cosmological solutions relevant for the course contents.	3,0	0,0

can calculate properties of the Universe, such as age, horizon size, temperature and entropy density, at specified times during its evolution, assuming realistic conditions.

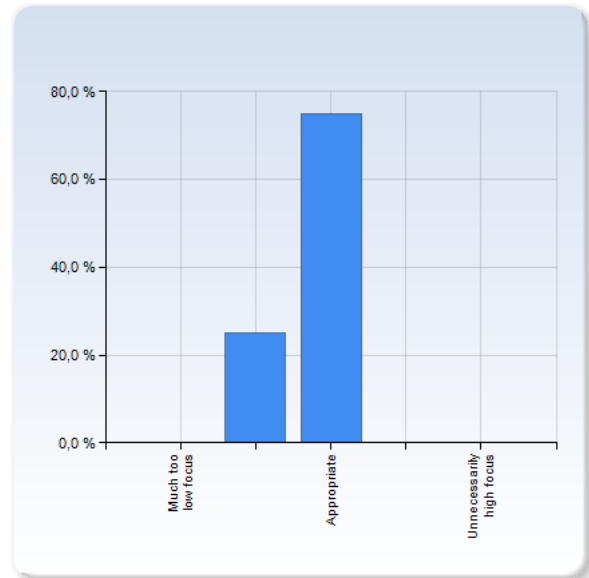
can calculate properties of the Universe, such as age, horizon size, temperature and entropy density, at specified times during its evolution, assuming realistic conditions.	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	8 (100,0%)
Unnecessarily high focus	0 (0,0%)
Total	8 (100,0%)



	Mean	Standard Deviation
can calculate properties of the Universe, such as age, horizon size, temperature and entropy density, at specified times during its evolution, assuming realistic conditions.	3,0	0,0

can derive particle abundances (e.g. neutrino, WIMPs, baryons) and mass bounds based on properties of particle interactions in the hot cosmological plasma in a particular cosmological evolution scenario and current astrophysical data relevant for the course contents

can derive particle abundances (e.g. neutrino, WIMPs, baryons) and mass bounds based on properties of particle interactions in the hot cosmological plasma in a particular cosmological evolution scenario and current astrophysical data relevant for the course contents	Number of Responses
Much too low focus	0 (0,0%)
Appropriate	2 (25,0%)
Unnecessarily high focus	6 (75,0%)
Unnecessarily high focus	0 (0,0%)
Total	8 (100,0%)



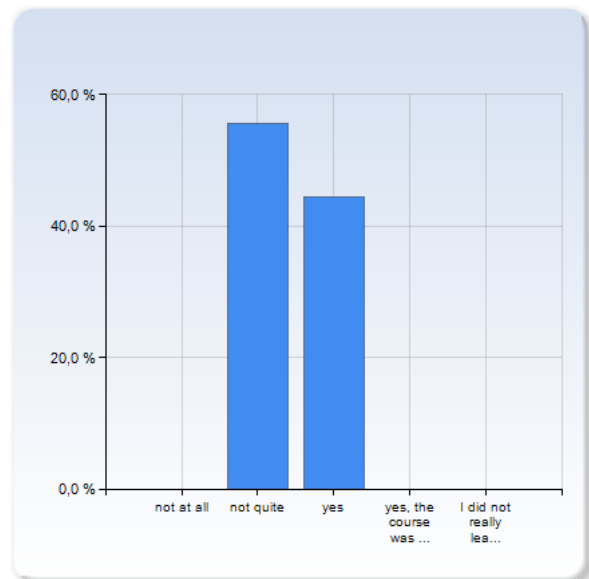
can derive particle abundances (e.g. neutrino, WIMPs, baryons) and mass bounds based on properties of particle interactions in the hot cosmological plasma in a particular cosmological evolution scenario and current astrophysical data relevant for the course contents	Mean	Standard Deviation
	2,8	0,5

Comment

For having particle physics as a requirement to take the course, we used very little of this within the course. Therefore, if sticking to this course plan, this requirement should be removed and be changed to a recommended prerequisite. I had more use for my knowledge in general relativity and, in particular, statistical physics, than I had for particle physics.

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	5 (55,6%)
yes	4 (44,4%)
yes, the course was a bit easy	0 (0,0%)
I did not really learn anything new	0 (0,0%)
Total	9 (100,0%)



Did you have enough prior knowledge for this course?	Mean	Standard Deviation
	2,4	0,5

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)?

During the lectures I had sometimes problems to follow the parts based on general relativity (tensors and metrics) and those based on the standard model of particle physics (neutrino oscillations, Lagrange-function), but that was not a big problem for the exam. (Background: exchange student)

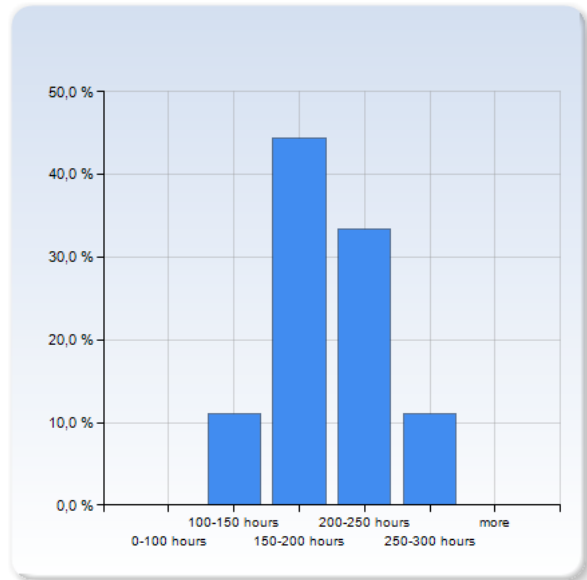
Not enough general relativity and standard model particle physics. This is my fourth year.

It would have been good to take General Relativity before the course. But it is not necessary.

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)

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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
0-100 hours	0 (0,0%)
100-150 hours	1 (11,1%)
150-200 hours	4 (44,4%)
200-250 hours	3 (33,3%)
250-300 hours	1 (11,1%)
more	0 (0,0%)
Total	9 (100,0%)



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)

Mean	Standard Deviation
3,4	0,9

Comment

It felt a lot, but when summing it up, I realise I have spent slightly less than 200 hours on this course.

What did you particularly like with the course?

What did you particularly like with the course?

I really liked the tricky homework assignments. I would like to have more of that. Big calculations were you have to use computational tools and such.

The lectures were really good.

The combination with particle physics in the early universe.

What in the course do you think could improve?

What in the course do you think could improve?

The grading system is really bad. You will probably spend most time in the course on the homework and presentation but neither has any effect on the final grades. And the oral exam is a little bit random, since Roman wants full derivations with details on every question you essentially have to memorize everything in detail otherwise you can be unlucky with the oral exam questions and get some questions where you get stuck and then your grade is out the window since it is 90% for VG. Would be better to test general knowledge than 5 detailed questions. I think a weighted grading system that includes the homework and presentation would be much better.

The written exam questions could be replaced or clarified (see above).

Unnecessary much exotic physics. For example about dark energy.

Other comments (both positive and negative) on the course?