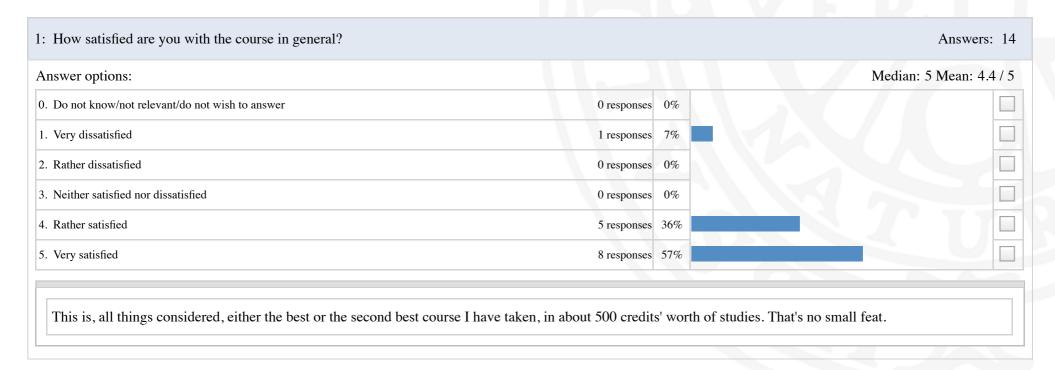
Modelling for Combinatorial Optimisation, 5.0 c

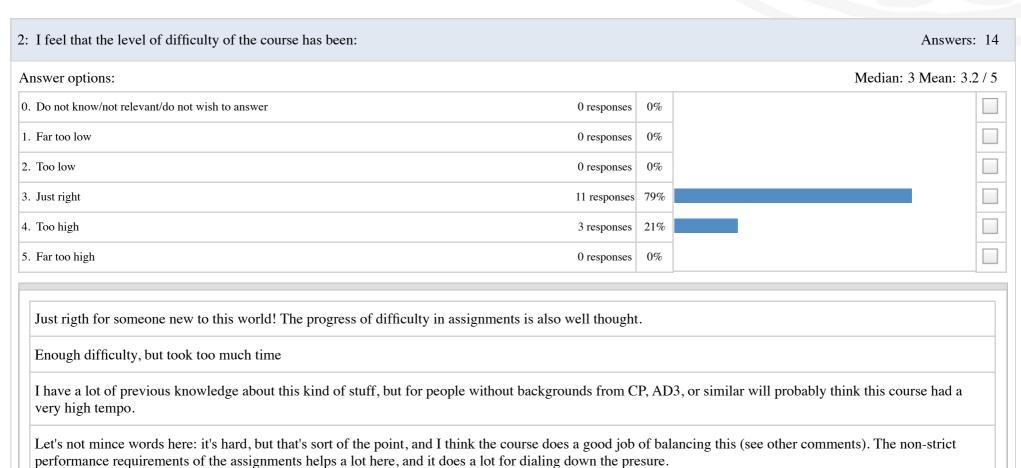
Course code: 1DL448, Report code: 61004, 33%, DAG, NML, week: 03 - 11 Semester: Spring 2018

Result

This evaluation is answered by 74% (14/19) of the respondents.

Below are statistics on single- and multiple-choice answers and freeform text. Additionally, the summaries for freeform text responses that students will see are also shown.





3: This has been especially good about the course:

Answers: 10

I know the bases of computer sciences and I am not so bad in some languages but I do not follow mainly IT courses. This course was perfectly adapted for people having my level and made it possible for me to discover a new field of information technology. I really enjoyed working on concrete examples from the beginning.

The assignments, it was really rewarding to see our models improving step by step

The lectures are wonderful and Pierre's commitment to teaching shows, best lecturer I've had. The course goals are very clear, and the solution sessions were a lot of fun.

Learning a new language, a new way of programming and thinking

Really liked assignment 2. Also having all the grading scheme clear from day one is always appreciated.

I appreciate the combination of playful tone (planning spaceships etc) with the grave seriousness. The balance is important here; too much lightheartedness and it becomes silly, too little and it becomes intimidating, and I think -- all things considered -- that the course is very close at an optimal balance.

Very good assignments. Good size and possibility for clever solutions. Also good coverage of relevant topics in the field (scheduling, binpacking etc). Also very good and enthusiastic teachers. Demo-report and experiment-script was really nice to avoid overhead.

The sinergy from the lectures and the assignments was great.

The project.

Se övriga kommentarer.

4: This could be improved in the course: (Make your suggestions as constructive as possible.)

Answers: 9

There was a long time lapse between assignment 1 and 2 but a time lapse a bit short between assignment 3 and the project. Is it possible to adapt the time line?

I've never taken a 5 credit course that has taken up so much of my time. I understand the math behind the schedule but I'm not sure it would be feasible to have 3 courses like this in parallel and survive. Maybe the assignments are too demanding for the amount of time allotted to them. There are no clear end-goals for the assignments. This was especially noticeable when *all* students got a 5 on assignment 2, this could be a signal, not that all the students are geniuses, but that the goal of the assignment was so fuzzy that everyone overshot with a margin.

It is really hard to make a suggestion in this, the issue I personally felt is that every assignment took really a lot of time because of experiments and because of the nature of the problem. Maybe ask less experiments or easier problem with more experiments. It was really hard to try to finish in time, with a good solution and also with different search annotations, etc...

I think assignment 1 could probably just be graded pass/fail, as people are still learning, and there are a lot of model to write chances of someone messing up a model are quite big. Also there is nothing in assignment 1 that really seems to be worth a getting a 5 for.

The toolchain needs a lot of polish, but much of that is out of your hands. However, putting some time into properly tweaking the run-solvers script might be a good idea, and maybe providing a few example Makefiles to build report tables automatically (I'd be happy to provide ours!), in the interest of reducing the amount of janitorial work required.

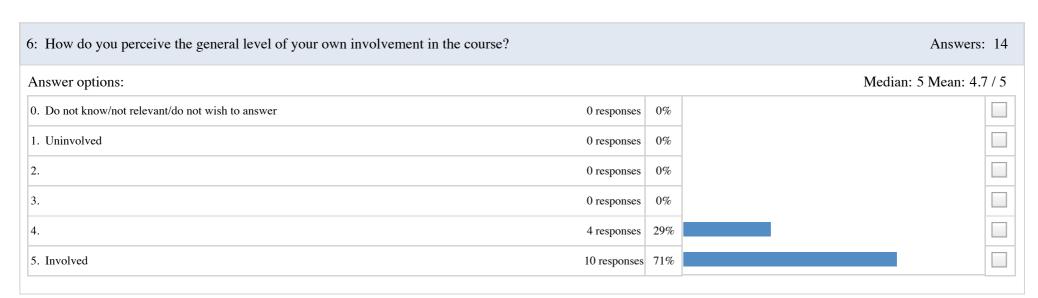
A bit more time for the project would have been nice. I would also have liked the technology-specific lectures.

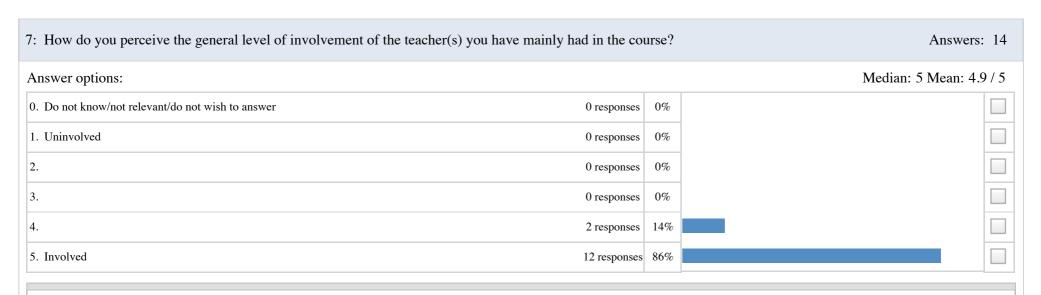
A lower learning curve is needed, i didn't have so much issues with this but if you want to be able to teach other people not in the computer science field, you will have to touch some basics subjects before jumping in to the "good" stuff.

More time for the project and at least one help session for the project. Even though we were allowed to work with the project alongside the other assignments I do not think that is fair or manageable, we already have a lot of things to do. Also, it would have been amazing to be able to discuss the project and get some inputs and ideas from Gustav. Even though we had some opportunity for this during the presentations this was way too stressful to actually feel safe to ask the questions I wanted to ask.

Se övriga kommentarer.

E: Was the time spent on any topic of the course too long or too short? If yes, then please comment on which topic and why. Answer				
Answer options:				
0. Do not know/not relevant/do not wish to answer	5 responses	36%		
1. Yes	1 responses	7%		
2. No	8 responses	57%		
The lectures were perfect.				
Over-all, I think the balance is good, but it's very unfortunate that some subjects (notably the table and regular constraints, as well as subcircuit and any other graph-related constraints) do not get the attention they would have deserved. Given the need to fit the course within its time budget, I think dropping these topics was a good idea, and probably the right trade-off.				
I believe the amount of information provided by the course was enough since the rest had to be acquired by us doing some research on the minizinc front (those blue predicates!)				
Creating a working model always took very long for me. I think the creation process is very dependent on each individual person and how his/her brain works (how much the brain is trained for these tasks). That's why it is a very good idea to let the students work in teams.				
Jag förstår inte alls frågan.				

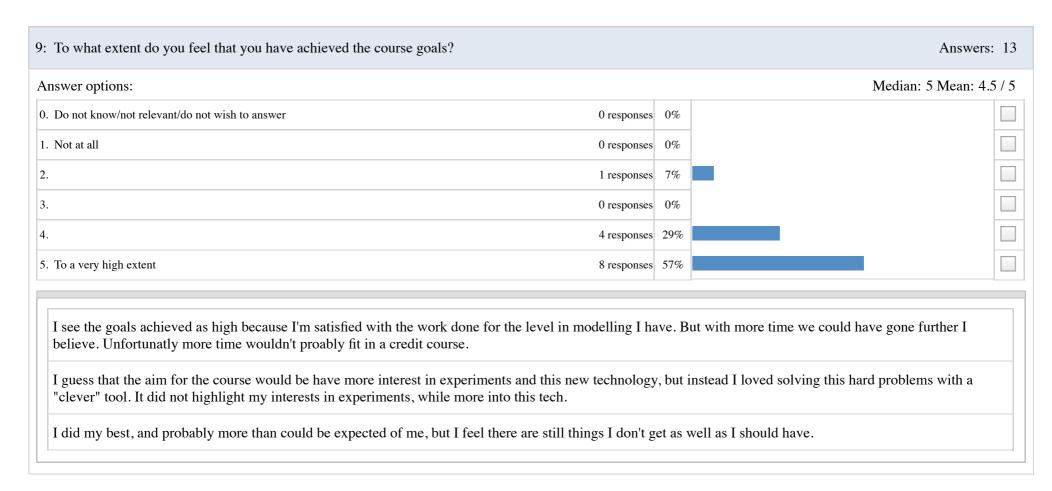


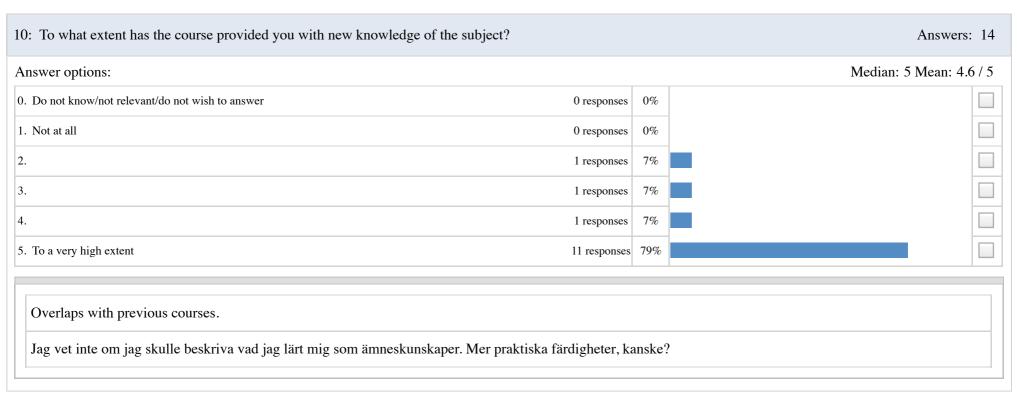


On this course in particular, I think that the interest of the teachers came through very clearly and consistently, though this might also have been an effect of the small student group creating a slightly more intimate atmosphere. That said, the clear and well thought-out structure and the high confidence in the students combined with high expectations are two consistent features across all courses I have taken for Pierre, and is the reason why I keep taking them. In many senses, they constitute my benchmark for a well-planned course.

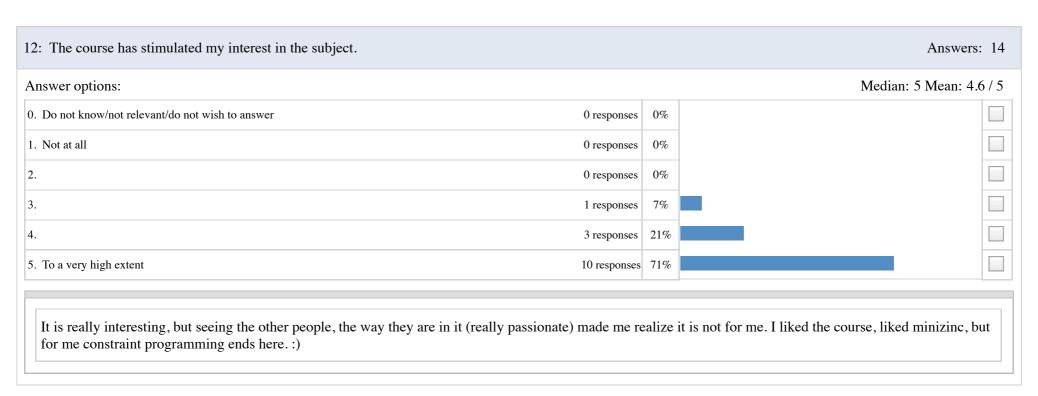
8: How do you perceive the general level of involvement of other students in the course?			Answers: 14
Answer options:			Median: 5 Mean: 4.8 / 5
0. Do not know/not relevant/do not wish to answer	0 responses	0%	
1. Uninvolved	0 responses	0%	
2.	0 responses	0%	
3.	0 responses	0%	
4.	3 responses	21%	
5. Involved	11 responses	79%	
Varying, of course, but much, much higher than on an average course, which is very, very	nice. I don't	under	stand how, but the group seems to have been entirely

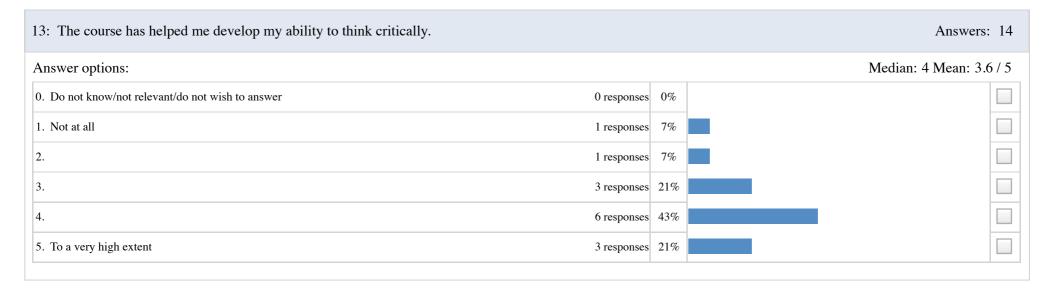
Varying, of course, but much, much higher than on an average course, which is very, very nice. I don't understand how, but the group seems to have been entirely or almost entirely without slackers, something I have never seen on any course before. Something you should consider is to collect patterns and anti-patterns in group work, and compile a set of hints for what has worked well for previous teams. Doing modelling in pairs is HARD, as modelling involves fitting an entire problem into your head, which becomes much harder if there's two of them, with only partial synchronisation.



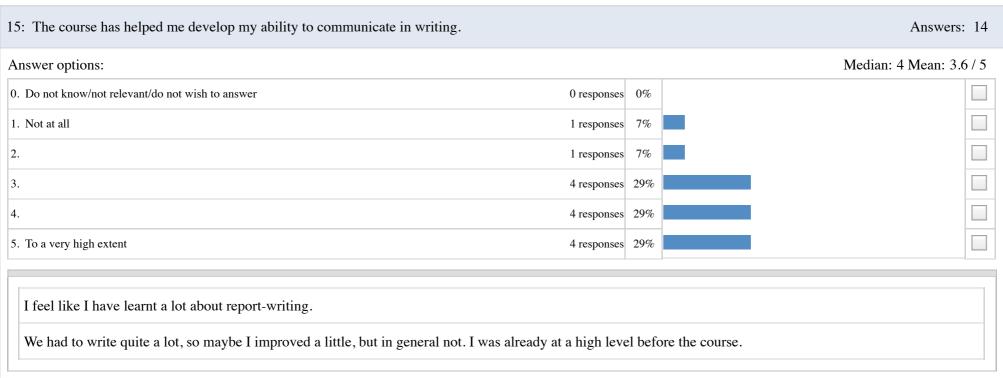


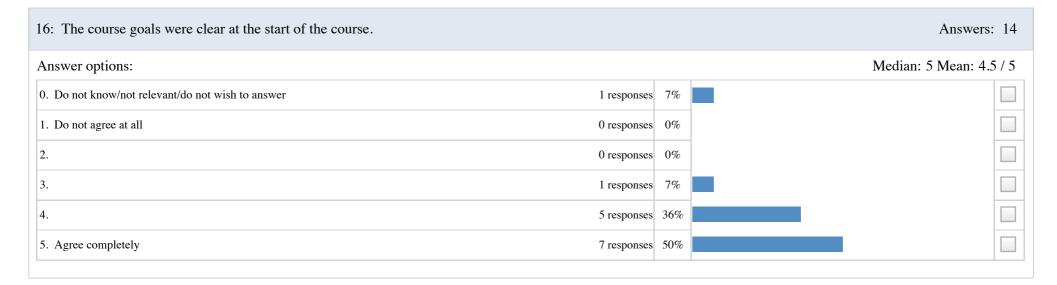
11: To what extent has the course provided insight into current research in the	field?		Answers:	14
Answer options:			Median: 4 Mean: 3.6 /	5
0. Do not know/not relevant/do not wish to answer	1 responses	7%		
1. Not at all	0 responses	0%		
2.	2 responses	14%		
3.	3 responses	21%		
4.	6 responses	43%		
5. To a very high extent	2 responses	14%		
As we didn't went inside the solvers and algo used I cannot say I know a lot As well as can be expected under the circumstances (limited time budget etc I don't feel the course <i>should</i> give a lot of insight into research, so good job. AD3:an gjorde ett mycket bättre jobb för det.	e)!			

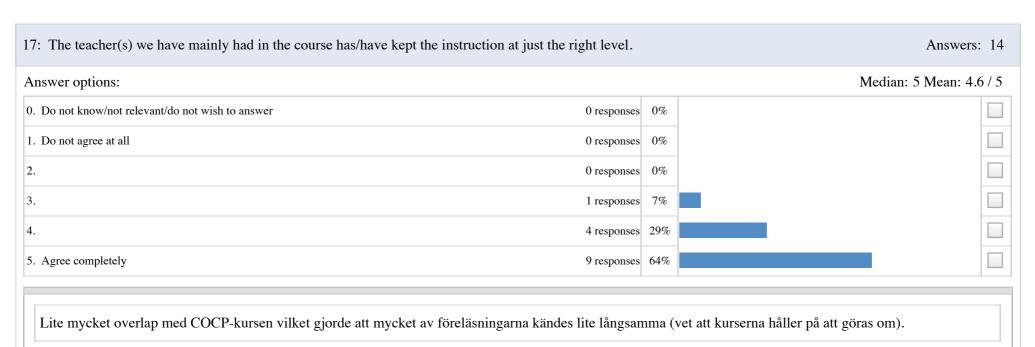




14: The course has helped me develop my ability to communicate orally.			Answers: 14
Answer options:			Median: 3 Mean: 3.1 / 5
0. Do not know/not relevant/do not wish to answer	0 responses	0%	
1. Not at all	1 responses	7%	
2.	2 responses	14%	
3.	6 responses	43%	
4.	4 responses	29%	
5. To a very high extent	1 responses	7%	
I would put my self on a high level for this before the course, so just making an oral pres not the focus on the course. "Bidragit till att utveckla" kräver inte mycket. Jag skulle vilja säga att det är näst intill or			







18: The teacher(s) we have mainly had in the course has/have given rewarding feedback on my achievements during the course. Answer			
Answer options:			Median: 5 Mean: 4.7 / 5
0. Do not know/not relevant/do not wish to answer	0 responses	0%	
1. Do not agree at all	0 responses	0%	
2.	0 responses	0%	
3.	0 responses	0%	
4.	4 responses	29%	
5. Agree completely	10 responses	71%	
			' '

19: We students were given ample opportunity to be be active during	Answers: 14		
Answer options:			Median: 5 Mean: 4.9 / 5
0. Do not know/not relevant/do not wish to answer	1 responses 7	7%	
Do not agree at all	0 responses	0%	
2.	0 responses	0%	
3.	0 responses	0%	
4.	1 responses	7%	
5. Agree completely	12 responses 8	86%	

e.) has functioned well through	ut.	Answers: 14
		Median: 5 Mean: 4.9 / 5
0 responses 0	%	
1 responses 7	%	
13 responses 93	%	
	0 responses 000 0 responses 000 0 responses 000 0 responses 000 1 responses 00	0 responses 0% 0 responses 0% 0 responses 0%

I cannot stress this enough: this course gets the administration right. It's DONE. Just export it to every other course, and three-quarters of my problems would be over (not knowing when a deadline is, being unable to plan for unknown future assignments, not having the right material to study, what to do for a given grade, etc etc). I complain about this in literally every course evaluation for every course I take, and nothing ever improves.

21: How do you feel about the course literature?

Answers: 6

Well the Minizinc stands library, cheet sheet and all the links were more than quite useful

I would not recommend trying to make anyone read a book. Good thing you didn't try, thanks.

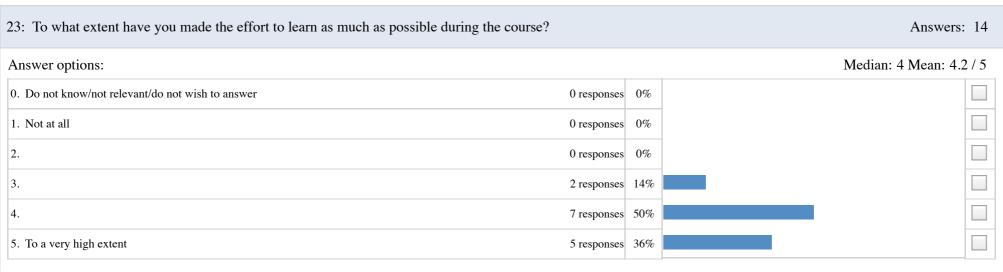
The MiniZinc tutorial is hard to navigate, which is aggravated by the fact that the table of contents is broken (both the PDF metadata and the links). The manual is clearly in a growth phase (read: not entirely up to speed), and lacks many things, and so does the official API documentation. However, this is outside of the control of the course administration, so it's very unfair to expect it to be ship-shape.

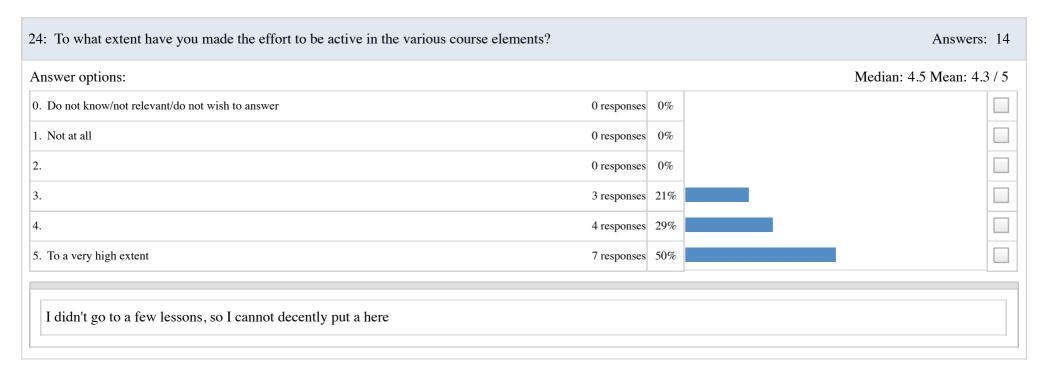
Bra (Minizinc dokumentation?)

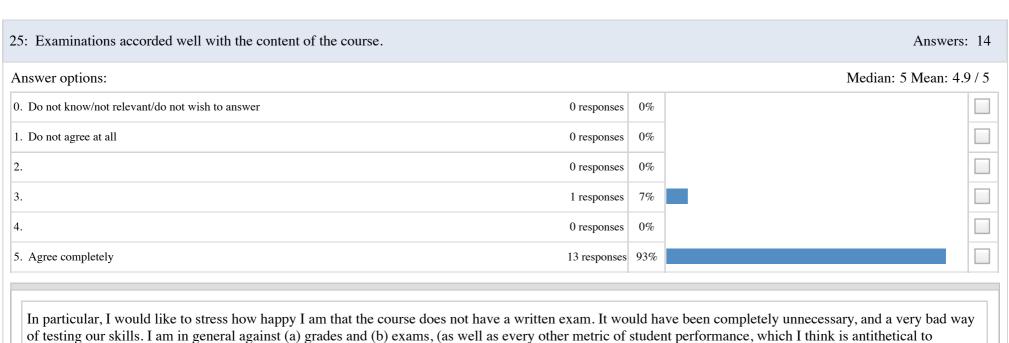
I pretty much only used slides and Minizinc documentation. This worked well.

Vilken kurslitteratur? Från studieplanen: Litteraturlista Gäller från: vecka 30, 2017 Kursen har ingen kursbok.

22: How many hours/week have you devoted to the course (including	g scheduled instruction)?			Answers: 14
Answer options:				
0. Do not know/not relevant/do not wish to answer	4 responses	29%		
1. 0-14h	2 responses	14%		
2. 15-24h	2 responses	14%		
3. 25-34h	3 responses	21%		
4. 35-44h	0 responses	0%		
5. 45h or more	3 responses	21%		
I honestly don't know because I had to stop working on a clock as to have time for this course, and I am almost certain I am at least a Väldigt många. Vem räknar?		me, bu	ut I literally dropped 25%	of my other credits in order



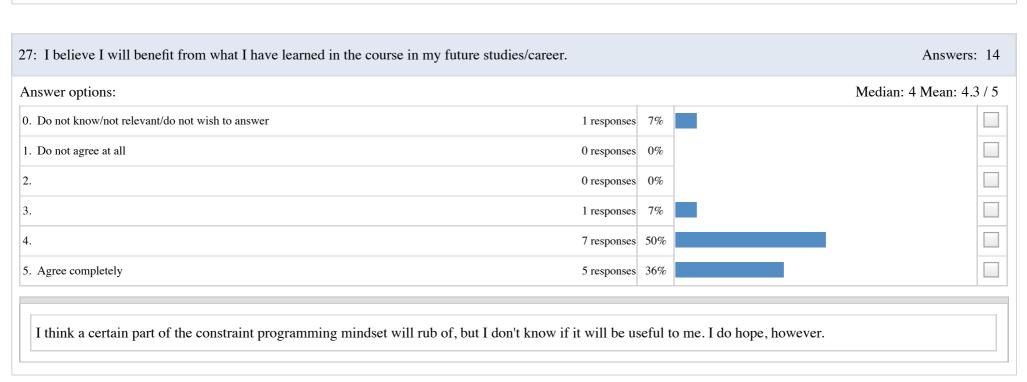




learning, and assumes bad faith on the part of the examiner, much like the airport security checkout always makes me feel like a terrorist suspect), but for this

course in particular this was a good decision.

Answer options:			Median: 5 Mean: 4.5 /
0. Do not know/not relevant/do not wish to answer	0 responses	0%	
1. Do not agree at all	0 responses	0%	
2.	0 responses	0%	
3.	2 responses	14%	
4.	3 responses	21%	
5. Agree completely	9 responses	64%	



28: Other comments: Answers: 8

Keep on the good work!

A wonderful course.

I am really happy of this course, I just want to highlight that too much time was spent on each assignment. But please, check also the other evaluations, because since is my first constraint programming course could be that it is just for me.

I think the lectures are a bit boring and noninteractive. They are not bad by any means, but I think you could do better. Might also be worth looking at flipped classroom teaching techniques, Erik Hagersten teaching advanced computer architecture is using it, and that was probably the best course I have had at uu. His profile at uu: http://www.it.uu.se/katalog/eh

One of the best courses I've taken :-)

It was a great course! Thank you both:)

Great job throughout!

I have taken both AD3 and M4CO in the past period, so I'll begin by making some general remarks about both courses, which will be repeated in both evaluations, and then talk about M4CO specifically. Overall both courses were great, and I really enjoyed attending the lectures. Although it's always hard to pinpoint why some lectures appeal to you, while others do not, I think in this case it boils down to interesting topics, a good balance between generality and detail, a steady pace, as well as a healthy dose of interaction with the audience. I think it's great that you try to find people from industry to give guest lectures, and I really liked what you did in AD3 where you convinced other people from the department to come and talk about their own research areas. The help and solution sessions were also pretty good (albeit a bit hastily prepared sometimes, it seemed). I like the administrative style, in which it is made perfectly clear up front what the students can expect from the teachers and what the teachers are expecting from the students. Having done so, the policy can always be relaxed in exceptional cases, which I think is a lot better than doing it the other way around. I don't understand why the grading criteria need to take several pages to describe, however, and I still never fully understood the formulas for M4CO. As I'm sure you are aware, Pierre, you courses are more demanding than most other courses. This might be motivated as well – maybe most other courses are too lenient, what do I know. I just wanted to tell you that taking two of them at the same time has been rough. I don't think I've worked this hard ever in my life before; not when I studied 150%, and certainly not when I was working a regular job. I've had to do something or other almost every evening, and almost every weekend for the past couple of months. Still, I didn't feel I had enough time to read the course material and solve problems, and I absolutely didn't have enough time over for the third course that I was taking. Of course I know that you have calculated strict time budgets for your courses, but let's be honest: that's not really how things work, especially not when the work is graded. Since there are no hard guarantees regarding grading, the only way I can get a grade I'm hopefully content with is to do my very best, and that is proportional to the size of the problem (or whatever it may be) and not a pre-calculated time budget. The overlap between M4CO and COCP was a bit unfortunate, and I really didn't approve of the system where you were expected to do extra work if you had taken COCP before, but fortunately that won't be a problem anymore. The problems in the assignments were really fun, and that we later learnt that they were real world problems only made it better. I especially liked the fact that you could generally produce a decent model within half an hour or so, but if you though really hard about the problem and tried out your theories, there was almost always a "trick" which could make your model orders of magnitude better. The problems also highlighted the different strengths of different solving technologies (except possibly for SAT/Lingeling which always seemed to perform sub par). I always find it awkward to work in groups where the assignments are too small to effectively split up, though. I don't dislike groups per se – having someone to discuss a problem with can be extremely helpful – but pair programming has never been my gig. And even if it was, just finding time in our schedules to meet and work together has been challenging. This meant that I think I spent a lot more time working on the assignments than my teammate did, buy by no fault of his. I think the project was worth too many points compared to the assignments, judging by how much time I spend on each. I know we were expected to work on the project alongside the assignments, but I think that was a little bit unfair. Since it's normal for us to have three courses running in parallel, if all of them required us to work on two things simultaneously, we would need to juggle six tasks each week, not counting reading course material and solving problems. I don't know about you, but I can manage two, and am struggling with three. I did appreciate that the course had a project instead of an exam, though. An exam for this course wouldn't have made much sense.

Summary of free-text responses/comments for the whole course evaluation