DM582, Spring 2025
comments on the course evaluation

Kim Skak Larsen

April 25, 2025

On April 23, 2025, we conducted a course evaluation of DM582, Advanced Algorithms, taught by Kim Skak Larsen.

The evaluation consisted of a multiple-choice questionnaire with some occasional free-text options (attached at the end).

Overall Brief Summary

Some overall impressions.

- The course is judged to be hard, but at the same time that it is interesting and taught well.

- The one-lecture review of discrete probability theory was well received – if anything, one could add a little more.

- In 2024, students felt unprepared by earlier courses, but adding the one-lecture review helped a lot with that this year.

In Greater Detail

The questionnaire asked about how interesting and hard different topics were perceived. Using 4 for most interesting or hard and 1 for least, the following table summarizes the responses.

Topic	Interest	Hardness
Network Flows	3.29	2.56
Randomized Algorithms	3.14	3.42
Amortized Analysis	3.15	3.40
String Matching	2.96	2.63
Online Algorithms	3.13	3.48
Lower Bounds	2.43	3.49

My conclusion is that topics are generally perceived as interesting, though lower bounds did not spark the same enthusiasm as the other topics. There's some work to be done there to explain why that's also really interesting. ☺

With the exception of network flows and string matching, topics were generally perceived as quit hard.

Reactions to Free-Text Comments

I am not remarking on all but only some selected or representative comments. In particular, I'm not remarking on the positive comments but I do appreciate them!

- *Definitely would have wished for some extra notes for formulas, as it is hard to understand why some numbers are there or why it is written that way.*

  I included that comment because there were a number of these that went in that direction, i.e., while preferring blackboard teaching, it would be nice with some extra notes/slides. I'm currently undecided on that one, but I have made a note of this being a point shared by some students.

- *The e-lesson questions; or at the very least provide some understanding thereof. The TA attempted this but it's hard to try and prepare for the e-lessons when you don't know where to start*

  I included this comment because this also seems to be representative to some extend, i.e., that even if one mostly understands the lecture, it's hard to get started on the exercises. I'm thinking about adding a

little extra text to the exercises from the different books to try to make a stronger connection.

- *Careful with standing directly in front of the blackboard.*

  I have *never* had that problem or heard that comment before, but I think it's due to U43. The blackboard is placed right up against the wall, so it's impossible to step aside completely – in particular if you write with your right hand. I'll consider requesting another lecture room in the future.

Concluding Remarks

Thank you for participating in the evaluation. I appreciate all the comments, also the ones I haven't addressed in the above. They are all relevant for thinking about how to shape the course in the future.
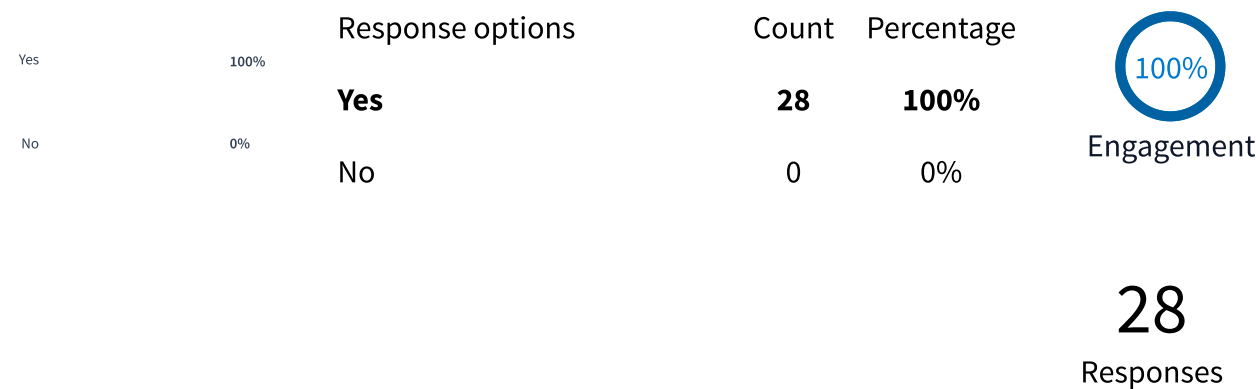
The Questionnaire

DM582, Spring 2025, Evaluation

Presented by: Kim Skak Larsen

Current run (last updated Apr 23, 2025 10:25am)

28
Activities

28
Participants

23
Average responses

83%
Average engagement

Have you passed all courses recommended for taking this course?

Yes	100%
No	0%

Response options	Count	Percentage
Yes	**28**	**100%**
No	0	0%

100%
Engagement

28
Responses

How do you feel the recommended courses have prepared you for this course?

Unsatisfactorily	0%
To the unsatisfactorily side	25%
To the satisfactorily side	57%
Satisfactorily	18%

Response options	Count	Percentage
Unsatisfactorily	0	0%
To the unsatisfactorily side	7	25%
To the satisfactorily side	**16**	**57%**
Satisfactorily	5	18%

100%
Engagement

28
Responses

Which prerequisites (if any) have you missed?

This course deals a lot with proofs which we haven't worked that much with before.

Responses

This course deals a lot with proofs which we haven't worked that much with before.

None

Nothing really missed

Possibly some deeper understanding of math, or maybe the instinctive understanding of maths, (as opposed to fx. Discrete maths where I feel we've I my ever used what we learnt in the first two lectures of that course) as this is where I fall short, but this could very likely be a me thing

14%
Engagement

4
Responses

The course contained a one-lecture review of probability-related material from Introduction to Machine Learning with a focus on discrete probability theory.

The review was unnecessary — 4%
The one-lecture review was a good amount — 68%
A two-lecture review would have been better — 29%

Response options	Count	Percentage
The review was unnecessary	1	4%
The one-lecture review was a good amount	**19**	**68%**
A two-lecture review would have been better	8	29%

100%
Engagement

28
Responses

What was your outcome of the course?

Low — 7%
To the low side — 32%
To the high side — 57%
High — 4%

Response options	Count	Percentage
Low	2	7%
To the low side	9	32%
To the high side	**16**	**57%**
High	1	4%

100%
Engagement

28
Responses

How do you assess the quality of the lectures?

Response options	Count	Percentage
Low	0	0%
To the low side	2	7%
To the high side	12	43%
High	**14**	**50%**

100%
Engagement

28
Responses

How do you assess the quality of the exercises?

Response options	Count	Percentage
Low	0	0%
To the low side	11	39%
To the high side	**12**	**43%**
High	5	18%

100%
Engagement

28
Responses

How do you assess the quality of the literature?

Response options	Count	Percentage
Low	0	0%
To the low side	4	14%
To the high side	**19**	**68%**
High	5	18%

100%
Engagement

28
Responses

Is there something you would emphasize as an outcome from this course?

Responses

A lot of new concepts and tools. I don't think I will be fully able to utilize the tools myself but I will know that they exist and have an idea of the concepts.

I barely remember the algorithms because of the focus on proofs. The course could just have been named proof of algorithms.

The lectures are great but unfortunately the e-lesson tasks feel difficult to start as there's never been any course in understanding or even beginning to answer those kinds of questions

None

Proofs. Computationally thinking

Gives a very interesting look at the more complex sides of algorithms, something that might not necessarily have been accomplished during a DSA course

21%
Engagement

6
Responses

Network Flows: How interesting did you perceive this topic?

Response options	Count	Percentage
Uninteresting	0	0%
To the uninteresting side	2	7%
To the interesting side	**16**	**57%**
Interesting	10	36%

100%
Engagement

28
Responses

Network Flows: How hard did you perceive this topic?

Response options	Count	Percentage
Easy	1	4%
To the easy side	12	43%
To the hard side	**13**	**46%**
Hard	2	7%

100%
Engagement

28
Responses

Randomized Algorithms: How interesting did you perceive this topic?

Response options	Count	Percentage
Uninteresting	0	0%
To the uninteresting side	3	11%
To the interesting side	**18**	**64%**
Interesting	7	25%

100%
Engagement

28
Responses

Randomized Algorithms: How hard did you perceive this topic?

Response options	Count	Percentage
Easy	1	4%
To the easy side	2	7%
To the hard side	10	36%
Hard	**15**	**54%**

100%
Engagement

28
Responses

Amortized Analysis: How interesting did you perceive this topic?

Response options	Count	Percentage
Uninteresting	0	0%
To the uninteresting side	4	14%
To the interesting side	**16**	**57%**
Interesting	8	29%

100%
Engagement

28
Responses

Amortized Analysis: How hard did you perceive this topic?

Response options	Count	Percentage
Easy	0	0%
To the easy side	6	21%
To the hard side	5	18%
Hard	**17**	**61%**

100%
Engagement

28
Responses

String Matching: How interesting did you perceive this topic?

Response options	Count	Percentage
Uninteresting	0	0%
To the uninteresting side	5	18%
To the interesting side	**19**	**68%**
Interesting	4	14%

100%
Engagement

28
Responses

String Matching: How hard did you perceive this topic?

Response options	Count	Percentage
Easy	3	11%
To the easy side	**10**	**36%**
To the hard side	9	32%
Hard	6	21%

100%
Engagement

28
Responses

Online Algorithms: How interesting did you perceive this topic?

Response options	Count	Percentage
Uninteresting	1	4%
To the uninteresting side	3	11%
To the interesting side	**16**	**57%**
Interesting	8	29%

100%
Engagement

28
Responses

Online Algorithms: How hard did you perceive this topic?

Response options	Count	Percentage
Easy	0	0%
To the easy side	3	11%
To the hard side	8	30%
Hard	**16**	**59%**

96%
Engagement

27
Responses

Lower Bounds: How interesting did you perceive this topic?

Response options	Count	Percentage
Uninteresting	1	4%
To the uninteresting side	**15**	**56%**
To the interesting side	10	37%
Interesting	1	4%

96%
Engagement

27
Responses

Lower Bounds: How hard did you perceive this topic?

Response options	Count	Percentage
Easy	0	0%
To the easy side	2	7%
To the hard side	10	37%
Hard	**15**	**56%**

96%
Engagement

27
Responses

The lecturer: How good or bad do you perceive his preparation?

Response options	Count	Percentage
Bad	0	0%
To the bad side	1	4%
To the good side	4	14%
Good	**23**	**82%**

100%
Engagement

28
Responses

The lecturer: How good or bad is his ability to explain the material?

Response options	Count	Percentage
Bad	0	0%
To the bad side	2	7%
To the good side	**13**	**46%**
Good	**13**	**46%**

100%
Engagement

28
Responses

The lecturer: How does he react when you ask questions?

Response options	Count	Percentage
Poorly	0	0%
To the bad side	0	0%
To the good side	8	31%
Well	**18**	**69%**

93%
Engagement

26
Responses

Do you want to emphasize anything the lecturer should keep doing?

Responses

The whiteboard explanations work well

Use the chalkboard for illustrations

He seems very human, which ofcourse I assume he is, but some lecturers seem almost impervious / a little un-approachable, so good on him for being only a little bit scary despite his level of intelligence (where some very intelligent people are very scary)

At lave alternative eksempler/forklaringer til forelæsningerne, når bogens ikke er "intuitive" nok.

None

Emphasize most important parts of material and proods

No slides, just nice literature to back up what's said and written on the blackboard

Teaching on blackboard mainly

29%
Engagement

8
Responses

Do you want to emphasize anything the lecturer should change?

Responses

29%
Engagement

9
Responses

Definitely would have wished for some extra notes for formulas, as it is hard to understand why some numbers are there or why it is written that way.

Its impossible to both take satisfactory notes of the proofs and listen well. Some help to review later eg. Slides or lecture notes would be helpful. This didnt happen, but if i had missed a single lecture i would find it difficult to figure out what i missed as well, so a way to remedy this would be good.

The e-lesson questions; or at the very least provide some understanding thereof. The TA attempted this but it's hard to try and prepare for the e-lessons when you don't know where to start

When variables are declared on the blackboard, it is hard to internalize the meaning of them immideately. Make an active effort to reiterate the meaning of the variables - just small sentences as "Remember, this is the probability of ....", or "m, which is the length...". Sometimes this is done but I could miss it more.

The lectures are extremely good and make very difficult material understandable. However, I do not feel that they make me capable of solving the exercises set forth. Two reasons; the exercises are VERY difficult, and there is a disconnect in some topics regarding what we learn in the lectures and the skills required to do the exercises. This has especially been true for the topic of randomized algorithms and amortised analysis.

Bruge tavlen lidt mere til at forklare under Online Algoritmer forelæsningen.

Careful with standing directly infront of the blackboard.

Responses

Provide notes, so one can concentrate on following the lecture instead of keeping up with the notes.

None

If you skipped lectures or exercises frequently, please explain (separately for the two) why this was.

Responses

I prefer solving exercises my self, and arriving at the answer

I skipped exercises since I didn't gain much here. I think the exercises are too difficult. I gain more from reading the solutions.

I have missed some lectures because of commute time (waking up to late to reach the lecture in time)

Work-related

I skipped a few times due to timing of when the lectures where.

Sometimes I have skipped exercise lessons as I sometimes felt that it went too fast when solving the problems, where it was hard to learn anything

N/A

21%
Engagement

7
Responses

Any further remarks?

Responses

:)

I would have preferred fewer topics in return for a greater understanding. The course is very difficult and the speed was too high.

Regarding the CS curriculum, a full course on probability theory would be helpful. Extra courses in calculus and statistics would also be nice. The extra mathematical maturity gained would be more helpful than the useless first-year intro courses and programming courses, and is especially useful for the more math-heavy courses like this one. Furthermore, the lack of math is undermining the curriculum

None

Great course. Nervous for the exam though. Found the MCQ very hard. Mainly because of the short time

18%
Engagement

5
Responses