

COURSE REPORT
MODEL THEORY 7.5 HEC
LOG211, 2022

- Instructor and examiner: Fredrik Engström

REGISTRATIONS AND RESULTS

- 12 students (10 programme, one re-registration and one Erasmus student) registered for the course.
- 11 students handed in the first set of problems and 6 students passed the first exam, 3 with G and 3 with VG.
- Another three students passed the resit exam and thus 9 students in total passed the course.
- The student completion rate (“genomströmningen”) was 75 %.

INTRODUCTORY REMARKS

The course is given both as part of the first semester of the Master Programme in Logic as well as a free standing course. This was the fourth time the course was given, but only the second time based on the new course syllabus.

The course was lectured by the instructor using Hodges: A shorter model theory as the main book and with a chapter on Lindström’s theorem from the Open Logic Textbook project. The lectures (19 á 2 hours) were complemented with exercise sessions (5 á 2 hours).

The exam was a closed book sit down exam with five problems chosen from a total of 64 recommended problems from the textbook.

STUDENTS’ ASSESSMENTS

The quantitative analysis of the student questionnaire is included. Some comments (or parts of comments) are listed below:

- Not enough exercises [...]
- The proofs were very hand wavy and sometimes omitted.
- [...] it would make lot of sense to finish assignment 3 before the exam.
- [It] should have been one written exam in the middle of the course and later an assignment on the more advanced things at the end of the course.
- I would have appreciated more emphasis on examples.
- The course content was difficult and [...] The amount of teaching hours was not enough given the level of [the] material.
- I think the teaching was very good, it helped me in order to pass the course.
- I infinitely appreciate the learnings from this course (and from the master in general).
- I needed to spend a lot of time in order to understand the content.
- Most difficult course I’ve ever taken.

Date: October 31, 2022.

- the format of the exam was really stressful and required remembering by heart a lot of material
- Excellent book.
- The book was quite difficult to get through.
- I find the literature hard to read and understand.
- the book is very badly written.
- The exam should not consist only of recommended exercises. Doing things this way incentivises the memorisation of the recommended exercises.
- Change the book
- Lectures should be planned out more carefully.

In summary:

- (1) The book is a watershed; some like it a lot and others can't stand it.
- (2) The content of the course is hard.
- (3) The exam format wasn't good.

SUGGESTIONS FOR CHANGES

My conclusion is that we need to rework the course. The textbook is great for mathematicians, but not for students coming from other subject areas. There are some books that might be better suited for this course, but they all have some drawbacks (price, not including enough material, etc.) and we need to think hard about which book to choose.

I also think that the course should be divided into two parts, one mathematical and theoretical that covers the basics of model theory, and the other based on project work that could be chosen in accordance with the individual student's background and interest in mind. The idea is to examine the first part of the course with hand-ins or a sit-down exam and the second part with a presentation (in writing or orally) of a model theoretic specialization. That specialization could be chosen to be mathematical (similar to the present content of the course), philosophical applications (see for example *Philosophy and Model Theory* by Button and Walsh) or computer science applications (like quantifier elimination).

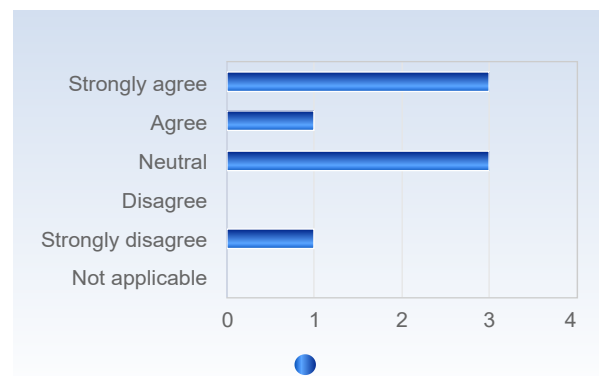


LOG211 V22 Modellteori

Respondents: 12
Answer Count: 8
Answer Frequency: 66.67%

With the course's intended learning outcomes in mind (see the Canvas page), I found that teaching during the course was helpful to fulfill the course objectives.

	Number of responses
Strongly agree	3 (37.5%)
Agree	1 (12.5%)
Neutral	3 (37.5%)
Disagree	0 (0.0%)
Strongly disagree	1 (12.5%)
Not applicable	0 (0.0%)
Total	8 (100.0%)

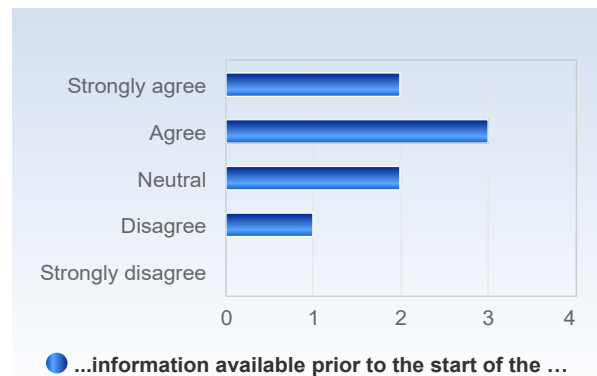


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
	2.4	1.4	59.3 %	1.0	1.0	2.5	3.0	5.0

Administration during the course functioned well in terms of...

...information available prior to the start of the course.

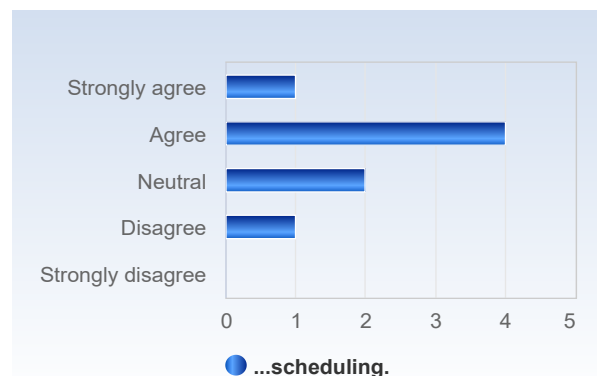
...information available prior to the start of the course.	Number of responses
Strongly agree	2 (25.0%)
Agree	3 (37.5%)
Neutral	2 (25.0%)
Disagree	1 (12.5%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...information available prior to the start of the course.	2.2	1.0	46.0 %	1.0	1.5	2.0	3.0	4.0

...scheduling.

...scheduling.	Number of responses
Strongly agree	1 (12.5%)
Agree	4 (50.0%)
Neutral	2 (25.0%)
Disagree	1 (12.5%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)

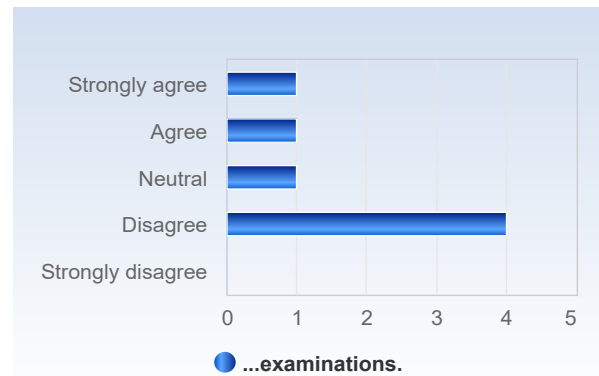


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...scheduling.	2.4	0.9	38.6 %	1.0	2.0	2.0	3.0	4.0



...examinations.

...examinations.	Number of responses
Strongly agree	1 (14.3%)
Agree	1 (14.3%)
Neutral	1 (14.3%)
Disagree	4 (57.1%)
Strongly disagree	0 (0.0%)
Total	7 (100.0%)

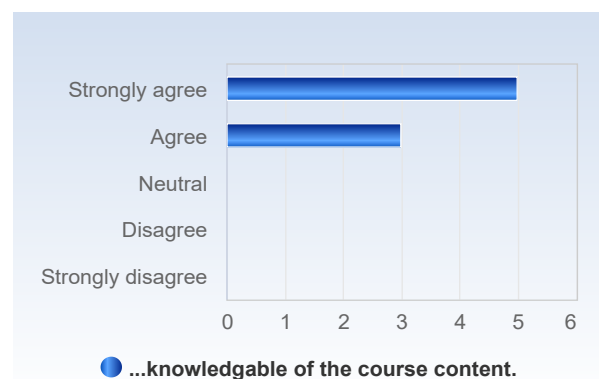


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...examinations.	3.1	1.2	38.7 %	1.0	2.5	4.0	4.0	4.0

Course teachers were...

...knowledgable of the course content.

...knowledgable of the course content.	Number of responses
Strongly agree	5 (62.5%)
Agree	3 (37.5%)
Neutral	0 (0.0%)
Disagree	0 (0.0%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...knowledgable of the course content.	1.4	0.5	37.6 %	1.0	1.0	1.0	2.0	2.0

...good at providing feedback.

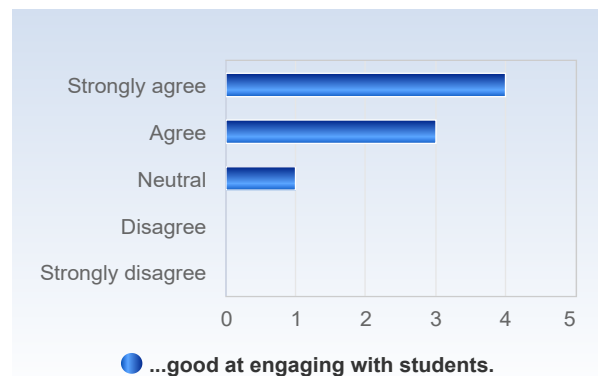
...good at providing feedback.	Number of responses
Strongly agree	4 (50.0%)
Agree	2 (25.0%)
Neutral	1 (12.5%)
Disagree	1 (12.5%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...good at providing feedback.	1.9	1.1	60.1 %	1.0	1.0	1.5	2.5	4.0

...good at engaging with students.

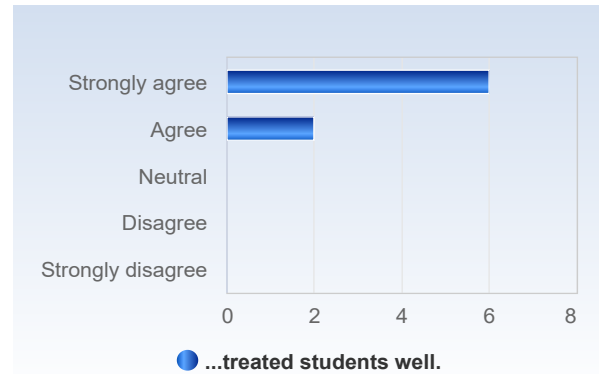
...good at engaging with students.	Number of responses
Strongly agree	4 (50.0%)
Agree	3 (37.5%)
Neutral	1 (12.5%)
Disagree	0 (0.0%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...good at engaging with students.	1.6	0.7	45.8 %	1.0	1.0	1.5	2.0	3.0

...treated students well.

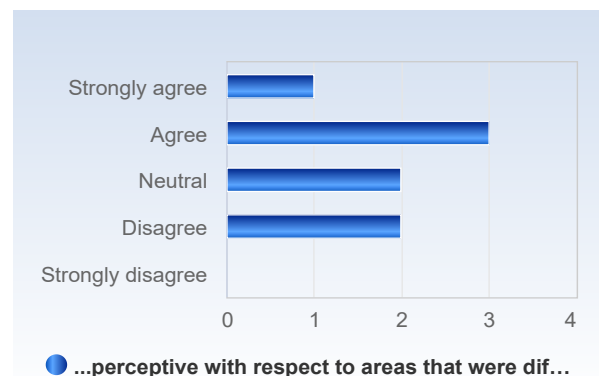
...treated students well.	Number of responses
Strongly agree	6 (75.0%)
Agree	2 (25.0%)
Neutral	0 (0.0%)
Disagree	0 (0.0%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...treated students well.	1.2	0.5	37.0 %	1.0	1.0	1.0	1.5	2.0

...perceptive with respect to areas that were difficult for students to understand.

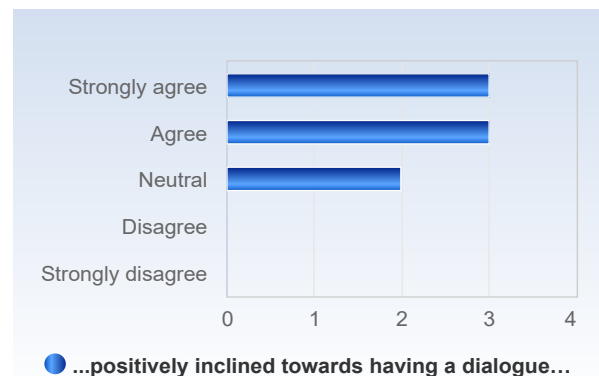
...perceptive with respect to areas that were difficult for students to understand.	Number of responses
Strongly agree	1 (12.5%)
Agree	3 (37.5%)
Neutral	2 (25.0%)
Disagree	2 (25.0%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...perceptive with respect to areas that were difficult for students to understand.	2.6	1.1	40.4 %	1.0	2.0	2.5	3.5	4.0

...positively inclined towards having a dialogue with students.

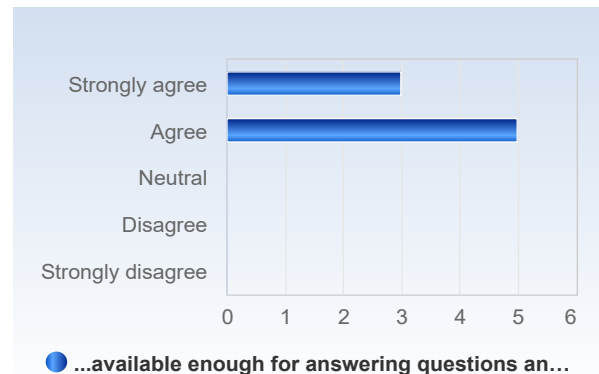
...positively inclined towards having a dialogue with students.	Number of responses
Strongly agree	3 (37.5%)
Agree	3 (37.5%)
Neutral	2 (25.0%)
Disagree	0 (0.0%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...positively inclined towards having a dialogue with students.	1.9	0.8	44.5 %	1.0	1.0	2.0	2.5	3.0

...available enough for answering questions and addressing concerns.

...available enough for answering questions and addressing concerns.	Number of responses
Strongly agree	3 (37.5%)
Agree	5 (62.5%)
Neutral	0 (0.0%)
Disagree	0 (0.0%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)

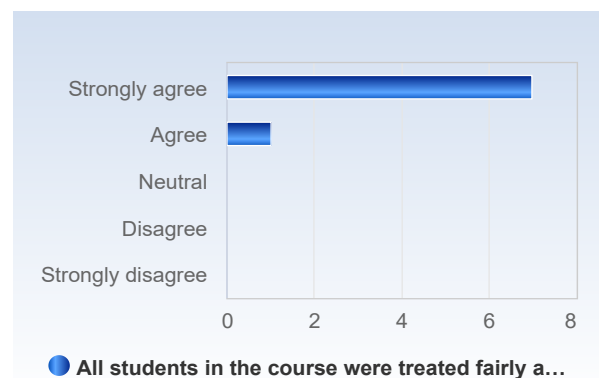


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
...available enough for answering questions and addressing concerns.	1.6	0.5	31.8 %	1.0	1.0	2.0	2.0	2.0

Equal treatment:

All students in the course were treated fairly and equally.

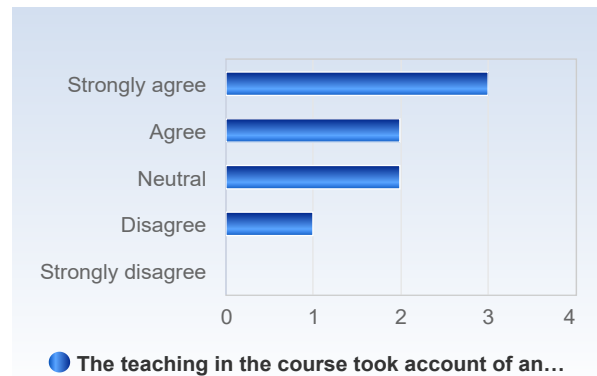
All students in the course were treated fairly and equally.	Number of responses
Strongly agree	7 (87.5%)
Agree	1 (12.5%)
Neutral	0 (0.0%)
Disagree	0 (0.0%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
All students in the course were treated fairly and equally.	1.1	0.4	31.4 %	1.0	1.0	1.0	1.0	2.0

The teaching in the course took account of and valued students' different experiences and perspectives.

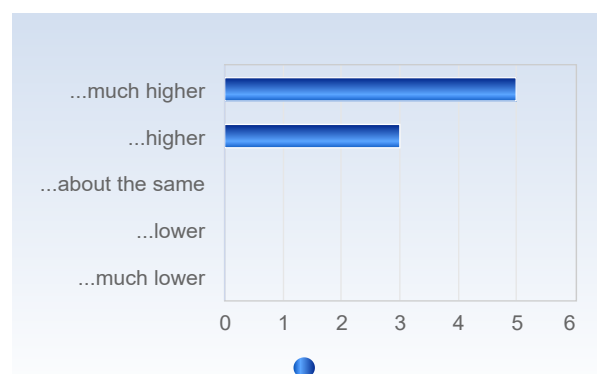
The teaching in the course took account of and valued students' different experiences and perspectives.	Number of responses
Strongly agree	3 (37.5%)
Agree	2 (25.0%)
Neutral	2 (25.0%)
Disagree	1 (12.5%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
The teaching in the course took account of and valued students' different experiences and perspectives.	2.1	1.1	53.0 %	1.0	1.0	2.0	3.0	4.0

In relation to other courses I have taken, the level of difficult in this course was...

	Number of responses
...much higher	5 (62.5%)
...higher	3 (37.5%)
...about the same	0 (0.0%)
...lower	0 (0.0%)
...much lower	0 (0.0%)
Total	8 (100.0%)

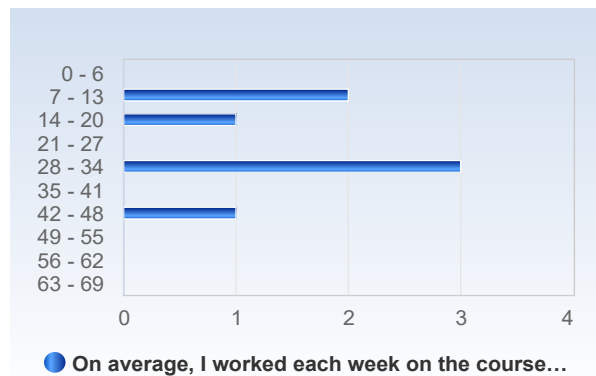




	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
	1.4	0.5	37.6 %	1.0	1.0	1.0	2.0	2.0

On average, I worked each week on the course for...

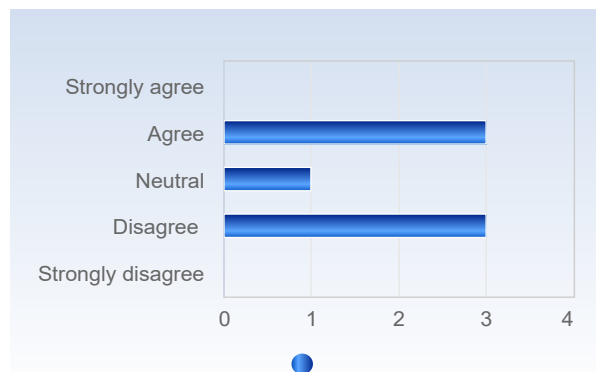
On average, I worked each week on the course for...	Number of responses
0 - 6	0 (0.0%)
7 - 13	2 (28.6%)
14 - 20	1 (14.3%)
21 - 27	0 (0.0%)
28 - 34	3 (42.9%)
35 - 41	0 (0.0%)
42 - 48	1 (14.3%)
49 - 55	0 (0.0%)
56 - 62	0 (0.0%)
63 - 69	0 (0.0%)
Total	7 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
On average, I worked each week on the course for...	24.3	13.0	53.7 %	10.0	12.5	30.0	30.0	45.0

The examination(s) in the course corresponded well to the course content.

	Number of responses
Strongly agree	0 (0.0%)
Agree	3 (42.9%)
Neutral	1 (14.3%)
Disagree	3 (42.9%)
Strongly disagree	0 (0.0%)
Total	7 (100.0%)

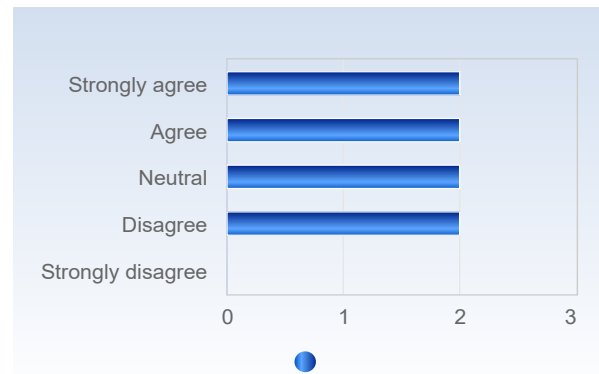


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
	3.0	1.0	33.3 %	2.0	2.0	3.0	4.0	4.0



The literature was relevant to the course content and helped me to achieve the intended learning outcomes.

	Number of responses
Strongly agree	2 (25.0%)
Agree	2 (25.0%)
Neutral	2 (25.0%)
Disagree	2 (25.0%)
Strongly disagree	0 (0.0%)
Total	8 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
	2.5	1.2	47.8 %	1.0	1.5	2.5	3.5	4.0

If I were able to change anything about the course to improve it, I would...