

# DM515 - Introduction to Linear and Integer Programming

## Handling plan after students' evaluations

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The course was taught by me for the first time. There were 34 students enrolled at the beginning, 25 handed in the two obligatory assignments during the course, and 24 took part to the final written exam. Of these 20 passed the exam and 4 did not. There were 19 students who compiled the evaluation form.

The main comments and my planned reactions are listed below<sup>1</sup>.

- The distribution of topics among several sources and the different way in which the content is presented in each of these sources was a main topic of concern. The use of an all-inclusive text book or lecture notes is highly desired. Moreover, more numerical examples are suggested for the part on network algorithms.

In my experience, a course like this could live on the notes taken during classes and references could be used only for double checking and deepening. However, students nowadays, or in Denmark, often do not take notes in class, hence my approach does not work in this context and has to be changed. My intention for the next time is then to prepare lecture notes before the course starts.

- The pedagogical competencies of the teacher were judged unsatisfactory by 68% of the students. Lectures were perceived as disordered.

While continuing reflecting and reading around pedagogical aspects I will also keep in mind some of the suggestions appeared in the evaluation form concerning mainly how to deliver the subject-matter at the black board: writing important concepts on the board in full sentences instead of only mentioning them orally, using titles, introducing and giving anticipation for the content that will come.

- There has been throughout the entire course several mistakes spread around in lectures, exercises and even at the exam.

This is of course unfortunate. Mistakes there will always be. I hope that in the future, mastering better the subject, I can be more careful and commit less errors.

- The Chvatal dictionary representation of the simplex algorithm seems to be easier to grasp than the Dantzig tableau representation and hence perhaps pedagogically more suitable.

It was only one student who mentioned this in the form, however it might be worth giving it a try in the next edition. After all, this is the way the algorithm was explained in the previous years and in most text books. The Dantzig tableau representation is instead more rare in text books and this puzzles students.

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<sup>1</sup>At the moment of writing I do not know whether I will be teaching again this course the next year.

- The level of the course was perhaps too high. This is indicated directly by some comments, by the fact that about 50% of the students felt that the content of the course could not be thoroughly comprehended and that some found there was too little time to understand the things learned in this course.

This calls for a replanning of the content, in order to spot possible topics to be removed. The part on matching algorithms is a candidate if this topic is treated in due depth in some other course. Some simplification in the network part could also help. I also should try to increase my awareness in class on the level of understanding reached.

- The exercises in the written exam were perceived as difficult. This is due both to the content, but also to the formulation. Some were lacking of clarity, other contained several questions rather than a single direct one. There was also too much content for four hours.

My intention was to propose an “non-trivial” exam, given that all aid-tools except computers are allowed in the exam. Following my reasoning, I proposed 50% of the exam text that was just basic exercises, and the rest focused on some topic that were only marginally discussed in the lectures and whose solution would have required a certain degree of mastering of the subject-matter. The fact that 3 students got 12 seems to indicate that the content was ok. I agree instead on the problem of the formulation. Questions should be more clear and focused. It certainly created a lot of trouble the fact that there was a mistake in the input data of one of the problems.

On the positive side, the two obligatory assignments with hands on and applied content were appreciated. The course was perceived as intellectually stimulating, and it has increased interest in the field of study.

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