

To
The IMADA Education Committee
University of Southern Denmark

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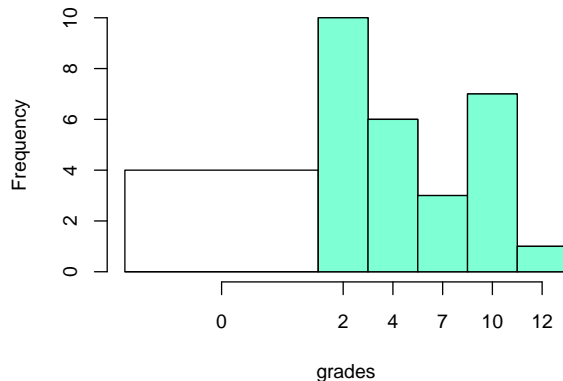
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DM515 - Introduction to Linear and Integer Programming Action plan after students' evaluations

The course was taught by Marco Chiarandini after Jørgen Bang-Jensen has taught it in the previous year. It was the second time that Marco taught this course.

At the beginning of the course the number of students registered in the BlackBoard system was 37. There were 32 students who handed in the first obligatory assignment and 31 who handed in the second obligatory assignment. The students admitted to the written exam were 30. At the written exam 31 students were present (two students had the obligatory assignments approved in the previous edition of the course and one student could not attend because of illness). The distribution of grades is shown below.



The percentage of students who failed the exam is 12.9%. After the exam 20 students filled the evaluation scheme.

A high number of the students (9) declared that they worked less than 10

hours per week in this course. Students have in average three courses per quarter and hence the expected working load per course should be 11-15 hours. Moreover, this course had two obligatory assignments plus weekly exercises to engage students actively in the time when the course is taught. Hence the result is somehow surprising. However the working load is perceived as in line or slightly more than for other courses.

The organization of the course is perceived in general as appropriate with the context.

The main criticisms received by the course are the following:

- The distribution of topics among several sources and the different way in which the content is presented in each of these sources makes it hard for the students to study the subject. The use of an all-inclusive text book or lecture notes is highly desired.
- The use of different notation in class and in the books adds unnecessary confusion to the presentation of the subject.
- The pedagogical competencies of the teacher are not satisfactory to 75% of the students. Comments seem to indicate two reasons for this assessment: the fact that often in the lectures verbal explanation is not followed by written text on the black board, and the presence of errors in the calculations spread out in examples and exercises.
- The working load is considered too high to thoroughly comprehend the things to learn in the course.

In the next edition, slides will be developed as an aiding means for communication at lectures. Slides should help in decreasing the number of mistakes in the calculations during the lectures, and they can be used as lecture notes for revising at home, thus reducing the problems caused by too many different sources and notations. Electronic text from different sources in the syllabus of the course will be bound in a single document in the fashion of a dispense that students can print if they wish. Mistakes in exercises and assignments have been corrected this year and they will not be present in the next edition. Less exercises will be posted with the aim of removing a feeling of overwhelming load and thus stimulating the students to solving the exercises before coming to the discussion.

Finally, it was the first time that the written exam for this course had to be digital. Students had to draw graphs, write simplex tableau and mathematical formulas in their answers and hand in PDF files. Students were not prepared in doing all these things and they had to learn during the course. The policy has been to let them free to choose among the means they felt more comfortable with and to allow everything at the exam. A pre-exam was set up as rehearsal 12 days before the exam. This activity was found useful by the majority of the students and by the teacher as well.

Some concern was expressed about the right time for this activity, which should not be too close to the real exam but neither too far. Beside being a way to experiment with the digital tools it was perceived also as a way to learn what will be the content of the exam. On this regard some concern was expressed about the different hardness of the two exams.

In the light of these comments the pre-exam will be maintained also in the next edition but discussed with the students how they prefer to structure the activity in order to get the most out of it. More advices will be added in the exercises about the tools to use in order to draw networks and write simplex tableau digitally.

Overall the digital exam went well (apart from some logistic issues that have been discussed with the head of department) but the digitalization of the answers implied some extra work. With respect to previous editions of this course, under the same time constraints, at least one exercise had to be discounted this year in the grading phase. A duration of four hours for an exam is already considerable and cannot be further increased, hence less content has to be included in the exam in future editions.

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