TAOP18 Supply Chain Optimization, 6 hp

ORGANIZATION

The course is organized around three comprehensive projects, where the students work with problem analysis, modelling and solving the problems. The topics of the 7 lectures are examples of optimization problems that arise in industry, production and supply chain flows, theory and how to solve the optimization problems.

COURSE CONTENTS

The course focus is on modelling and solving optimization problems in production planning and transport planning. The projects deal with optimal scheduling, routing and supply chain optimization.

COURSE LITERATURE

Lecture notes for the course will be provided. Reference to literature will also be available on some of the lecture slides.

PREREQUISITES

A first course in Mathematical Optimization, or Operations Research, is absolutely necessary, and a second course is highly recommended. Good knowledge about mathematical modelling will be very useful, and basic programming skills (no specific language) are required.

TAOP07 Introduction to Optimization (in Swedish)
TAOP24 Optimization, advanced course (in Swedish)
TAOP62 Operations research, extended course (in Swedish)
TAOP88 Engineering Optimization (in Swedish)

or corresponding courses.

TEACHER AND EXAMINER

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HOMEPAGE

All relevant information will be posted on LISAM.

EXAMINATION

The course is examined through 3 projects that are to be made in groups of two students.

Project	Available	Due date
1	Nov 3rd	Nov 18th
2	Nov 16th	Dec 2nd
3	Dec 1st	Dec 16th

A written report for each of the projects together with one oral presentation for one of them (at the choice of the students). The oral presentations are scheduled a few days after each deadline.

GRADING

Projects: Each project is graded from 0–40 points. Correct answers to specific questions will give you 30 points. At most 10 points is given for the general structure of the report, presentation of results, discussion, relevant references, etc. (The points for the report is limited to 1/3 of the received points from questions.)

Course grade: To pass the course, you need at least 15 points/project.

Grade limits: Grade $3 : > 50$ points. Grade $4 : > 70$ points. Grade $5 : > 90$ points.

To get grade 4, at least two of the projects must receive 25 points or more.
To get grade 5, at least two of the projects must receive 30 points or more.

Oral Presentation: The oral presentation is only Pass or Fail, but mandatory. It might also improve your grade in borderline cases (grade 3/4 or grade 4/5).

Individual grades: The projects are to be solved in pairs. However, the examiner still has the possibility to differentiate grades between group members. (For example, if the efforts and contributions of the group members differ significantly.)

TIMEPLAN

2