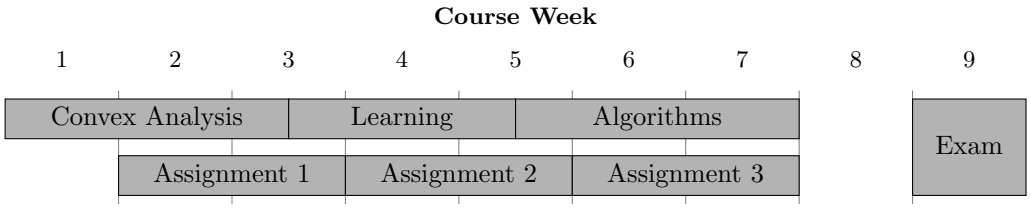
FRTN50 - Optimization for Learning

Course Program Autumn 2021

Lecturer and Course Responsible: Pontus Giselsson
TAs: Hamed Sadeghi and Manu Upadhyaya

Overview



The course is roughly divided into three blocks covering fundamental convex analysis, supervised learning, and optimization algorithms. The course work consists of graded assignments, ungraded exercises, and with a final written exam. All course material along with reading instructions will be posted on `Canvas`.

Covid-19

Due to the current restrictions, lectures will be online. We will offer two physical on-site exercise sessions and two online exercise sessions every week.

Course Material

The course does not have an official course book and the course content is meant to be covered fully by the lectures, videos, and slides. Videos and slides will be available on `Canvas` along with a compendium of exercise material. It may be updated with exercises that cover the lecture topics at least one week in advance. Consult the `Canvas` page for up-to-date versions. An overview of the weekly lecture topics and suggested exercises will also be available on `Canvas`.

Lectures, Exercises, and Discussion Board

Lectures. All lectures will be held online. Some lectures will be pre-recorded and some will be held live via `Zoom`. For the pre-recorded lectures, we will offer a summary/discussion session via `Zoom`. It is assumed that you have watched the pre-recorded lecture before this session.

Exercises. We will have two online (via `Zoom`) and two on-site exercise sessions every week. You can use these sessions to ask questions directly to the teaching staff.

Discussion Board. You can post questions publicly on the discussion board on Canvas. The teaching staff will spend time answering questions and we encourage student to participate in the discussions as well.

Examination

The examination consists of mandatory assignments and a written exam. A passing grade on the exam and all assignments are required to pass the course. The final grade is based on the score of the exam.

Assignments. There are three mandatory assignments. They require access to a computer and will be available on Canvas roughly two weeks before their respective deadline.

The assignments are done in groups of 2 and are graded with a pass/fail. Submissions are done via Canvas. Two re-submissions are allowed for the first assignment. One re-submission is allowed for the other two assignments. Late submissions count as re-submissions. Re-submission deadline is 10 days after the previous submission has been graded.

Written exam. The written exam will be graded with a point score between 0-25. The preliminary limits for the grades are:

3 – 12 points.
4 – 17 points.
5 – 22 points.

Schedule

The nominal schedule is given below. There is a total of 14 online lectures. There are four exercise sessions per week, two on-site and two online. The times and attending teachers for the different sessions are given below. There will be some changes to this schedule. These changes will be posted on the Canvas page. We will also send out a weekly announcement that details the planning for the upcoming week. The invite links to the Zoom calls can be found on Canvas.

Lectures:

Mondays	13.15–15.00	Pontus Giselsson	Zoom
Wednesdays	13.15–15.00	Pontus Giselsson	Zoom

Exercises:

Tuesdays	08.15–10.00	Hamed Sadeghi	Zoom
Tuesdays	15.15–17.00	Manu Upadhyaya	KC:M M1
Thursdays	08.15–10.00	Hamed Sadeghi	KC:M M1
Thursdays	15.15–17.00	Manu Upadhyaya	Zoom

Note that the physical sessions in the timeedit schedule are only used for the Tuesday afternoon and Thursday morning exercise sessions.

The graded course work have the following deadlines.

Graded Tasks:

Assignment 1	Week 3 - Sunday	Sep 19
Assignment 2	Week 5 - Sunday	Oct 3
Assignment 3	Week 7 - Sunday	Oct 17
Exam	Week 9 - Tuesday	Oct 26

Contact Information

The department offices are located at Kemicentrum at the third floor of building 4.

Phone and Addresses

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For more information about the department see http://www.control.lth.se