

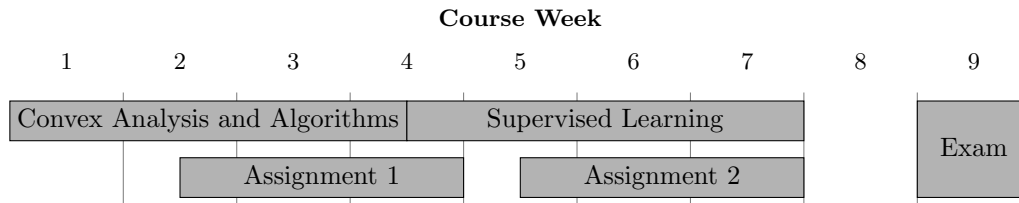
FRTN50 - Optimization for Learning

Course Program Autumn 2022

Lecturer and Course Responsible: Pontus Giselsson

TAs: Manu Upadhyaya and Max Nilsson

Overview



The course is roughly divided into two blocks. The first block focuses on fundamental convex analysis and some optimization algorithms. The second block focuses on optimization theory and algorithms as underpinnings of classical supervised learning as well as deep learning. 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](#).

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 on campus. Most lectures have associated video recordings available via [Canvas](#). It is assumed that you have watched the pre-recorded lecture before the lecture.

Exercises. All exercises are on campus. We will have two exercise sessions per lecture. 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 two mandatory assignments. They require access to a computer and will be available on [Canvas](#) at least 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 second assignment. 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 schedule is available on [timeedit](#) with an overview below. There is a total of 14 lectures. There are four exercise sessions per week. The times and attending teachers for the different sessions are given below. There may 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.

Lectures:

Mondays	13.15–15.00	Pontus Giselsson	Exception: First week 10-12
Wednesdays	13.15–15.00	Pontus Giselsson	

Exercises:

Tuesdays	08.15–10.00	Max Nilsson
Tuesdays	15.15–17.00	Manu Upadhyaya
Thursdays	08.15–10.00	Max Nilsson
Thursdays	15.15–17.00	Manu Upadhyaya

The graded course work have the following deadlines.

Graded Tasks:

Assignment 1	Week 4 - Sunday	Sep 25
Assignment 2	Week 7 - Sunday	Oct 16
Exam	Week 9 - Tuesday	Oct 25

Contact Information

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

Phone and Addresses

Mika Nishimura (Ladok, etc)	222 87 85	mika.nishimura@control.lth.se
Pontus Giselsson		pontusg@control.lth.se
Manu Upadhyaya		manu.upadhyaya@control.lth.se
Max Nilsson		97mani97@gmail.com

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