# Course information

The course will be given in English. It is given in period 4 every even year. (See also the Master version of the course EQ2820.)

The intention is that the course should be suitable as one of the first postgraduate courses in the PhD program. We will refresh and extend the basic knowledge in linear algebra from previous courses in the undergraduate program. Matrix algebra is of fundamental importance for scientists and engineers in many disciplines. In this course we will have a slight focus on topics that are of particular interest in Electrical Engineering.

The course requires a large amount of self-study and homework problems will be handed out every week and will be due the following week. It assumes some familiarity with basic concepts from linear algebra, as can be expected by good knowledge from undergraduate studies.

## General Information

- There will be 9 lectures and 9 sets of written homework assignments. A peer grading procedure will be applied. At the end of the course the participants will be asked to present a relevant topic extending the curriculum of the course.
- The first part (9 lectures) of the course coincides with the MSc level course **EQ2820 Matrix Algebra, 7.5 cr (https://www.kth.se/social/course/EQ2820/)** .
- Examiner and Course responsible:Magnus Jansson
- Lectures will be held by Mats Bengtsson and Magnus Jansson
- Course literature: "Matrix Analysis 2nd ed" by R.A. Horn and C. R. Johnson. We will also use some parts of "Topics in Matrix Analysis" by the same authors, but it should not be strictly necessary to buy this book (it is available online) + lecture slides
- Grading: Pass/Fail
- Number of credits: 10 ECTS

## Course requirements

- Weekly homework assignment, to be solved and reported individually according to schedule. Each problem is graded according to 0 points (0-40% correct), 1 p (40-60% correct), 2p (60-80% correct), 3 p (80-100% correct). A total of at least 80% of max score on the total of all sets is required (written or oral exam if homework is not satisfactorily solved).
- Peer grading of assigned problem sets
- Oral presentation of assigned topic and active participation during other students presentations (see further info below)

## Lecture schedule

The nine lectures are given jointly with the MSc level course EQ2820 Matrix Algebra. The official schedule is linked **here. (https://canvas.kth.se/courses/22177/modules/items/208104)**

The topics and schedule for final student presentations will be determined during the course. (We will think of how this part of the course will be executed in the present corona situation.)

**Due to the special times due to the covid-19 virus we have decided to cancel the part involving student presentations.**