

Rules, Guidelines and Requirements for Master's Degree Projects in Signal Processing/Communication Theory

The rules and requirements presented on this page are for you who have a project (internal or external) within the Signal Processing group or the Communication Theory group.

Please first read the following general information on Master's degree projects at the school of Electrical Engineering, since the following information just adds to these general guidelines.

Examination and Requirements

The following four tasks have to be carried out in an adequate manner in order to pass the course. The grade for the course will be based on the performance throughout the full project, see below.

1. Written Report

The written presentation of the results as well as the oral presentation play an important role in a master thesis project. The written report has to fulfill the structure, of technical/scientific reports and articles, used in the respective area. In the evaluation, requirements are set on the pedagogical presentation, the content as well as the language quality.

2. Oral Presentation

The thesis work has to be presented and defended in a public seminar at KTH. This presentation should, in principle, also be subject to the same criteria as the written report. The oral presentation will be evaluated and graded by the Examiner or the person replacing him. If the presentation is judged unsatisfactory by the Examiner, the student will be invited to redo the oral presentation of the thesis in a new occasion. The presentation should be about 15-20 minutes.

3. Opposition

To widen the student knowledge and give additional training in oral and written presentation, he/she should critically review another master thesis project ("Opposition"). The opposition is evaluated and graded by the examiner of the reviewed thesis or the person replacing him/her. If the opposition is judged unsatisfactory by the examiner, the student will be asked to redo the opposition report and/or be ready for a new oral opposition. See further details below.

4. Attending Other Oral Presentations

Besides his/her own presentation and opposition, the master student should attend at least two other master thesis presentations. This can even be done in other departments. It is the obligation of the

student to bring a written certificate, from the Examiner of that master thesis, showing that he/she has attended.

Grading

The degree project is graded using the same A-F scale as all other courses. The grading is based on the three criteria - process, contents.

Work Plan - Master Thesis Proposal

Within 6-8 weeks after the start of the master thesis project, a master thesis proposal should be ready. The plan should contain the following:

- A specific problem definition.
- A description of goal, methods to be used, and limitations.
- A time plan with measurable milestones.
- A proposal for the thesis outline.

The aim of the work plan is to guarantee that the master student understood the problem correctly, the problem and the proposed methods are carefully specified, and that stopping conditions have been put to limit the work effort to a reasonable volume with relation to the total duration of the master thesis work. Typical outline of a Thesis Proposal:

1. Introduction

General background, the problem in general, motivation, previous work.

2. Problem Definition

The specifics of your problem. What question are asked - what conclusions are sought/expected ? What question are not asked ? What models can be taken for granted? What algorithms are to be investigated etc.

3. Research Approach

What models & assumptions are introduced ? What solution method is chosen? Pros & cons of the methods ? Reliability of the results?

4. Expected Results

Which are the numerical/experimental results (or similar) that need to be derived (measured, simulated) to provide evidence for the conclusions sought ? Which graphs, tables etc will be used ? (Sketch!)

5. Thesis Outline

The expected thesis outline with all the chapters, sections, subsections, ...

6. Time Plan

A well detailed time plan for the thesis work that should include the different milestones and the expected output for each.

Details on Opposition

The opposition consists of two parts:

1. Opposition report (review)

Should touch at least the following points:

- Organization and structure of the report (aim, goal, models, methods, results, conclusions, etc...)
- Consideration of previous work in the report (literature review).
- Used methods.
- Relevance and meanings of conclusions drawn in the report.
- The language and graphical presentation of the results.

The opposition report should not exceed more than 2 A4-pages. Detailed linguistic, simple formula or typo should not be included in the report but can be appended separately in a form of "List of Typos". The opposition report has to be handed to the examiner at least one day before the seminar.

2. Oral opposition at the seminar

After the oral presentation of the candidate the opponent makes a short oral presentation summarizing his/her review. The opponent then asks questions and leads a constructive technical discussion with the candidate around the methods used, the purpose, results, and conclusions in the presented thesis work.