Master's thesis in the Data Science, Statistics and Decision Analysis program

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This is a document about the thesis process for the Data Science, Statistics and Decision Analysis program, written specifically for supervisors at the Statistics department. Large portions have been copied and sometimes slightly modified from the documents at DSVs thesis info pages. The current document is work in progress.

General comments

- The master thesis is 30 hp.
- The thesis is formally in the subject Computer and System Sciences, and the course is "owned" by DSV.
- Students can **write alone or in pairs**. We currently encourage them to write in pairs due to shortage of supervisors. Supervisors can announce project ideas that explicitly says that the project is particularly suitable for two students.
- **The program has three main areas**: Data Science, Statistics and Decision Analysis. Students can write a thesis in any of these three areas. Combining any two or even all three of the areas is not mandatory, but is considered a plus when the thesis is graded. A very good thesis purely in statistics can still be given an A, however.

SciPro - an online system for the thesis process

- The thesis process is managed through the SciPro system developed in-house at DSV.
- SciPro has many features, the most important is the list of Milestones.

! SciPro account

- Supervisors from the Statistics department need to get a SciPro account. Send an email to thesissupport@dsv.su.se and tell them that you are supervising a master thesis in the Data Science, Statistics and Decision Analysis program and need access to SciPro.

Creating a new project and the matching process

- Both students and supervisors can propose projects in SciPro.
- Students can choose (match with) a supervisor's project in SciPro. Likewise, a supervisor can choose (match with) a project proposed by a student.
- To create a new project (idea):
  - Log into SciPro at https://scipro.dsv.su.se/
  - Click on the **Ideas** tab.
  - Click on the green button: **Create new idea for specialisation**.
  - Choose *SDSBO* (which is the acronym for the program) in the drop-down menu **Specialisation**.
  - Fill in the project details.
  - Click **Submit Idea** button.
- If the project idea comes from industry (private companies), the public sector or other external partners, the project still needs to be proposed by the student in SciPro. These *external projects* should then have a clear indication of the industrial partner and typically with input/ideas from the partner. Note that external master thesis projects need to have an academic supervisor that have accepted/matched with project.

⚠ Warning

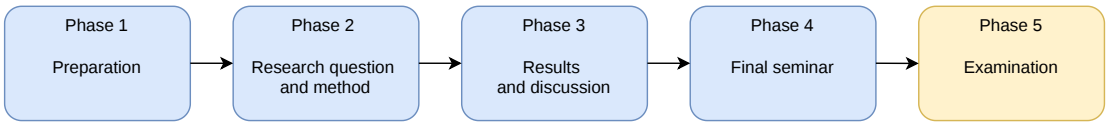
- Important: once a student chooses a supervisors project, that project is considered taken and will no longer be visible to other students (or at least be marked as taken). If you want to select a student that is suitable for the project, the recommendation is to side-step this by adding a text under Prerequisites saying something like:

IMPORTANT: Do not choose this idea unless you have an OK from the supervisor to write a thesis on the topic.
Contact:

If you are interested in the project, email the supervisor at your.name@stat.su.se with:

- a short CV
- a list with grades for relevant course taken outside of the program (the courses in the program are visible in Ladok). This includes also bachelor courses in statistics and mathematics.
- a motivation for why you want to work with this project.

Phases and action points



Note

The words *author* and *student* are used interchangeably in this document and both refer to the student writing the master thesis.

Phase 1 - Preparations

The goal of this phase is to develop a proposal for the thesis topic.

Actions points for the author:

1. The author submits a proposal for the thesis topic, or matches with a project proposed by a supervisor.
2. The author is assigned a supervisor for the thesis.
3. The author registers for the course.
4. First meeting (max a week after course start)
5. Project plan approved

Phase 2 - Research question and method

The goal of this phase is to produce a draft of parts I, II, and III of the thesis.

Actions points:

1. The following parts of the thesis should be written:
    - Part I - Introduction
    - Part II - Extended background
    - Part III - Methods (the selection of methods is enough at this stage)
2. The student hands in the above parts of thesis to the supervisor for review and feedback.
3. (Peer review 1). The student arranges for the thesis to be reviewed by a peer student in SciPro.

> **Peer review**
>
> Peer reviews are being carried out under the tab `Peer` in SciPro by each thesis student. The student has to request a peer review of their own thesis. After that they will be given the opportunity to make a peer review of someone else's thesis. Each student needs to do two Peer reviews each.

Phase 3 - Result and discussion

The goal of this phase is to produce a draft of parts I – V of the thesis.

Actions points:

1. The author submits a draft of parts I – V of the thesis to the supervisor. The draft should be of sufficient quality for the originality and significance of the contributions to be assessed.
2. The supervisor provides feedback on the draft to the author.
3. (Peer review 2). The student arranges for the thesis to be reviewed by a peer student in SciPro.
4. The supervisor approves the submitted thesis to pass to Phase 4. In some cases, Steps 1 and 2 may need to be repeated several times before the thesis is approved.

Phase 4 – Final Seminar

The goal of this phase is to complete the thesis and conduct a final seminar.

Action points:

1. The author submits a draft of the entire thesis to the supervisor; the draft should use the thesis template and include an abstract.
2. The supervisor checks that the proposal is of sufficient quality to be approved by the examiner.
3. The supervisor schedules a final seminar according to the timeline for the current semester
4. The author submits the thesis so that other students have access to it according to the timeline for the current semester.
5. The opponent submits their opponent report.
6. A final seminar is held, in which the author, supervisor, opponent, and other students participate.
7. The author and the supervisor agree on the revisions needed before the final thesis is submitted to the examiner in Phase 5.

In some cases, steps 1 and 2 may need to be repeated several times before the proposal is approved.

Phase 5 – Examination

The goal of this phase is to finalize the grade for the thesis.

Actions points:

1. The author submits the revised thesis.
2. The supervisor submits their documentation according to the timeline for each semester. This is done in SciPro is a rather formalized way.
3. The examiner grades the thesis according to the timeline for each semester. *If the thesis was not approved in Step 3*:
    - The supervisor sends the examination report and other comments to the author, who then submits a revised thesis to the supervisor along with an update report.
    - The supervisor submits the revised thesis and an update report to the examiner. The update report describes how each comment in the examination report has been addressed in the revised thesis.

4. Return to Step 3.

> **Grade boundaries**
>
> - 37 – 35: A
> - 34 – 32: B
> - 31 – 28: C
> - 27 – 25: D
> - 24 – 23: E