

## Master Thesis Project Grading Criteria

These grading criteria are guided by the learning outcomes from course syllabus. A major part of the statements below should be true to achieve a certain grade. Grade 4 requires grade 3 statements to be fulfilled, and grade 5 requires grade 3 and 4 statements to be fulfilled.

Students are individually graded. The grade is decided by the examiner based on input from the supervisors. Students are expected to discuss the grade (using these criteria) with supervisors, and in case of disagreement, also with the examiners.

### 1. Overview, understanding of needs and related work in the problem area

#### Grade 3

- Has searched and got a satisfactory list of relevant references
- Has read the referenced work and knows which references are the most important and which are less important for the project
- Relates own project to the most important references
- Summarizes the most important related work and uses references properly to cite related work

#### Grade 4

- Relates the references also to each other
- Uses information from references to support own argumentation and to draw conclusions
- Uses the references to limit the project scope and concentrate on an important problem

#### Grade 5

- Highlights weak and strong parts in referenced works and how it differs from own work

### 2. Understanding and refinement of the problem and research questions

#### Grade 3

- Can define the problem and interesting research questions to investigate

#### Grade 4

- Identifies the core of the problem and limits the research question(s) to the essentials
- Comes up with methods that are applicable to the problem posed

#### Grade 5

- Identifies the gap in existing knowledge, and formulates the problem to fill this gap
- Pinpoints methods needed to investigate the problem and answers the questions posed

### 3. Method and setup of study/experiments to get and evaluate results

#### Grade 3

- Understands how to investigate the problem and answer questions
- Develops methods to make a meaningful experiment that tests a solution/approach/hypothesis solving the problem or answering the questions, but needs help from the supervisor to get it right

#### Grade 4

- Develops methods to make a meaningful experiment that tests a solution/approach/hypothesis solving the problem or answering the questions independently
- Understands the relation between experiments made and the significance of results

#### Grade 5

- Defines the right tests/measurements to get sufficient results and evidence to draw interesting conclusions

### 4. Solution to the problem or answer to the question(s) and other results

#### Grade 3

- Regularly solves minor problems and gets the results underway, without supervision
- Is able to solve larger issues with overall guidance from the supervisor
- Requires detailed instructions from the supervisor only for most complex issues
- Results are acceptable but the supervisor can point out things that would improve them
- Can identify and formulate significant strong and weak points in the results

#### Grade 4

- Can, with some supervision, solve realistic problems and get adequate results
- Results are good and only a few things could have been done better or are missing
- Results could be published (generally in weaker venues)
- Can, with minor supervision, tell how the result could have been improved
- Can, with minor supervision, formulate interesting future directions for the project

#### Grade 5

- Can, without supervision, solve hard problems and create feasible solutions
- Can evaluate whether a solution is feasible or not and analyze the quality of results
- Results are excellent (publishable in good venues, or patentable)
- Can, without supervision, evaluate and comment on the results in relation to other work that has been done in the field

### 5. Initiative, creativity, ambition, planning and organization

#### Grade 3

- Takes active part in meetings, have prepared questions and makes notes during supervision
- Has produced a quality project plan, including also a realistic time plan
- Would not have been able to get the work done in time without push from the supervisor

#### Grade 4

- Shows initiative and takes decisions that drive the project forward
- Comes up with own ideas that become a noticeable part of the project
- Keeps the supervisor informed and updates the project plan or time plan if necessary
- Can put in an extra effort when necessary
- Has followed the time plan and worked regularly so that things do not pile up at the end

#### Grade 5

- Asks for and uses feedback from the supervisor for reflection, rather than asking for solutions
- Has done the work well beyond the minimum requirement, like extensive simulations to prove a point; following up “loose ends”; improving the code; polishing the report’s language, figures and diagrams
- Writes a conference paper or a patent application based on the work
- Comes up with an own original idea which becomes a substantial part of the project
- Needs very little supervision to keep the time plan and be ready in time

### 6. Final oral presentation

#### Grade 3

- Presents the problem, the methods used and the proposed solution hypothesis in a clear way
- Presents a clear analysis of the problem, the questions and the results
- Is able to describe basic conclusions from the work/results
- Can answer simple questions from the audience on the subject

#### Grade 4

- Presents the project in an attractive way with suitable illustrations
- Can discuss different aspects of the problem and answer also more complex questions
- Is able to present convincing conclusions drawn from the work/results

#### Grade 5

- Gives an excellent presentation engaging the audience and generating interesting questions
- Discusses and answers all questions in a relevant way
- Is able to draw deep conclusions and present non-trivial future work

### 7. Final report

#### Grade 3

- Report is complete, understandable, and consistent (including title, abstract, introduction, background, problem, questions, research method, solution, results, conclusions, etc.)
- The work is related to societal needs, ethical or sustainability considerations where relevant

#### Grade 4

- The report is well written, and the work motivated also in a system, application and societal context
- The English is correct, and the text has a good structure and flows smoothly
- Figures, tables and diagrams are relevant, referred to and support/exemplify the text
- The results and the conclusions are clearly stated

#### Grade 5

- The report is, with minor supervision, very well written
- The report is publishable, in a shorter version, provided the result is good enough

### 8. Timeliness

Timeliness is part of the grade evaluation (unless delays are caused by external factors). Delayed finishing and submission of final report for examination influence the grade strongly, see the grading template.