

Master Thesis Project Grading Criteria

The course plan DT7001 states that the student after finishing the course should with regard to:

Knowledge and understanding be able to

- discuss the international research and development within the area of the chosen specialization

Skills and abilities be able to

- identify important problems and be able to formulate related and feasible research questions
- design and within given time frames perform scientific investigations and experiments
- evaluate and refer to scientific papers
- use analysis, simulation and synthesis methods suitable for the study direction
- in written text and orally present and argue for the research questions, hypothesis, methods and results

Judgement and approach be able to

- relate own work to international research within the area
- based on own experience, assess and evaluate the research and development subject from technical as well as social aspects

To also consider the students' performance during the project course the following grading guidelines have been assembled. 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.

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 and knows which references are important and which are less important for the project
- Relates the own project to important references
- Summarize 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 the own work

2 Understanding and refinement of 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 essential

Grade 5

- Identifies methods needed to investigate the problem and answer the questions

3 Method and setup of study and experiments to get and evaluate results

Grade 3

- Understands how to investigate the problem and questions and what methods that are needed to get data or make a meaningful experiment that test a solution approach or hypothesis solving the problem or answering the questions, but needs help from the supervisor to get it right

Grade 4

- Understands the relation between experiments made and the significance of results and can do the above without much help

Grade 5

- Defines enough tests/measurements to get sufficient results and evidence for conclusions made

4 Solution of problem or answer of question(s) and other results

Grade 3

- Solves minor problems and get results underway, without supervision
- Results are acceptable but the supervisor can point at things that would improve it
- Can identify and formulate significant strong and weak points in the result

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
- 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 analyse the quality of results
- Results are excellent (publishable or patentable)
- Can, without supervision, evaluate and comment the results in relation to other work done in the field

5 Initiative, creativity, ambition, planning and organization

Grade 3

- Takes active part in meetings, have prepared questions and make notes during supervision
- Has produced a realistic 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
- 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 been busy so that things don't pile up at the end

Grade 5

- Ask for and use 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: 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
- 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

Grade 5

- Gives an excellent presentation engaging the audience and generating interesting questions
- Discusses and answers all questions in a relevant way

7 Final report

Grade 3

- The report is complete and writing consistent (incl. 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 well 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 used for support/exemplification in 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.

Calculating the grade

Students are individually graded. The grading is calculated and signed by student, supervisor and examiner using a grading template.