MSc Chemical Science & Engineering
Faculty of Science and Technology
Office for Educational Affairs (BOZ TNW)
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UNIVERSITY OF TWENTE.

Student name		Student number	
Research group		Track + cohort	
Date of presentation			
Thesis Title			

Course code general aspects:	Course code scientific aspects:	Course code DD Parma:
Overall grade general aspects:	**Overall grade scientific aspects:**	**Overall Grade Parma:**
Course code MESD:	**Overall grade MESD:**	

Please read 'how to use this form' on page 2 and 3 and the rubric on page 4 of this document. After reading, fill out the table on page 5 to assess the different aspects to be included in the grades. At the right side of the table, remarks (compliments and suggestions) can be added. Subsequently fill in the two grades on page 1. After filling in the table and the two grades, page 1 has to be signed by the chairperson of the MSc committee and the other committee members. Make a copy for the student and the research chair and send the original to the office of Education Affairs mentioned below.

Check on plagiarism

☐ The final report has been checked on plagiarism. The tutor and/or supervisor have discussed the outcome of the plagiarism check with the student. No plagiarism has been found.[1]

Assessment Committee

Name		Signature
Chair		
Tutor		
Member from other CSE group		
Other members		

[1] The check can be done by the student themselves using the assignment on the Canvas site of the MSc assignment.

How to use this form

This form can be filled in digitally!

- fill in (in advance) the text boxes concerning name, number, title, EC's, research group and date,
- for each aspect of assessment, fill in the weakest and strongest points; the form is used as explanation of the overall grade and as feedback to the student,
- use the comments and the rubric on page 5 and 6 to derive two grades: one for research contents and one for reporting,
- sign the form: fill in the names of the committee members with their signatures,
- make a copy of the form for the student and research group archive, and send the filled in form to BOZ-CSE.

Learning objectives

A detailed list of the learning objectives of the MSc-programme is defined in the Education & Exam Regulation (can be found on the website). Attention is required for: the formulation of the research problem, acquirement and selection of the information, phasing of the research, selection of methods and experiments, required level of detail, accuracy and reliability of the results.

<table>
<tr><th>Aspects of assessment</th><th>Learning objectives</th></tr>
<tr><td>Research process
• Problem formulation embedded in context
• Systematic collection, analysis and processing of relevant scientific information
• Research plan (sound methodology and experimental set-up)
• Results (appropriate detail, accuracy, abstraction level)
• Analysis and discussion of data and results
• Conclusion and recommendations
• Usefulness of results (e.g. degree of publishability)
• Attention for the context of the results</td><td rowspan="2">During the MSc assignment the student should learn to find and apply a suitable research methodology independently on a research subject with a relative high complexity. He has the skill and the attitude to apply these methods independently in the context of more advanced ideas or applications.
The student is able to acquire information independently also from outside the discipline and can take a critical point of view.
In the master phase the student has to develop independently the required model and reasoning and chooses the right level of abstraction. The student is able to deal with uncertainty and considers the way data have been established.
The student has to plan and organize the tasks independently. In the master phase there is strong emphasize on attitude. The student can integrate the consequences of scientific thinking and acting as well as the ethical aspects in scientific work.</td></tr>
<tr><td>Research skills
• Skills: theoretical, experimental and organizational skills
• Scientific approach: systematic working, logical reasoning, use of models
• Scientific attitude: creative, curious, motivated, constructive, critical self-reflection
• Cooperation: interaction with supervisor and colleagues
• Project work: planning and time management</td></tr>
</table>

Aspects of assessment	Learning objectives
Report design and lay-out • Appropriate abstract • Appropriate report structure andcoherence • Appropriate report lay-out • Use and quality of scientificlanguage& writing skills • Use and quality of figures and tables • Use of citations and references • Appropriate length	The report should reflect a structured research approach and is written at a high degree of independency. The target group is colleague experts. The report in English should have an appropriate length.
Presentation and discussion • Clarity of explaining problem, methods, results and conclusions • Style of presenting and use of audio-video support tools • Connection to public • Discussion and response toquestions	The presentation in English should be understandable for experts.
Motivation of the grade (only in case the average grade is a 6 or a 9). Since master assignments with a final grade of 6, 9 or 10 are the ones usually looked at in most detail by the visitation committee, please give a motivation for this low/high grade. If applicable also indicate between which grades you needed to decide.	

The table below is called a rubric. A rubric suggests a grade (left column) for certain behavior (right column). This rubric has been made in collaboration with the Examination Board of Chemical Engineering to provide assessors with indications for grades related to certain type of behavior.

Grade	Research process and research skills
<5:	Unclear research question; almost no link with academic literature; unsystematic/unclear research methods; analysis of data unclear/inadequate; vague conclusions not based on reported findings; no contextual aspects of research. Rather dependent, poor demonstration of professional skills. Student did not pick up the feedback from the supervisors
6:	Broadly formulated research question; limited explanation of literature for embedding and justifying the research approach; clear analysis of data; however limited explanations; conclusions not based on reported findings. Significant guidance has been necessary, student lacked initiative.
7:	Clear and specific research question; adequate explanation of academic literature for embedding and justifying the research approach; adequate explanations of data, very clear analysis, link with prior research; conclusions based on reported findings, appropriate recommendations. Guidance was necessary and sought by the student
8:	Clear, specific, well defined research question; well explained, and elaborate evaluation of the latest literature for embedding and justifying the research approach; very clear analysis of data, link with prior research, results well presented; conclusions clearly articulated and firmly based on the reported findings; valuable recommendations. Students showed quite some initiative, was able to adjust own schedule, figured out most practical issues themselves.
9:	Original research question; well explained, and elaborate and critical evaluation of the latest literature for embedding and justifying the research approach; potentially worth journal publication; very clear analysis of data, a clear relation to prior research; excellent and critical evaluation of available research methods; profound conclusions, original recommendations. Students were for the most part independent e.g., in involving others in their project to find out how a method works, how to analyze their data or how to prepare a scientific discussion
10:	Excellent, submitted for publication. Students were independent (see 9) and learnt their supervisors new scientific insights

Grade	Communication in report and presentation
<5:	Poor writing style, illogical structure of the report; first version of report was not acceptable; Presentation badly structured;
6:	Clear style, consistent structure of the report – several iterations of the first version; Presentation sometimes difficult to follow;
7:	Clear style, consistent structure, first version needed quite some revisions resulting in a good report. Presentation was a valid representation of the work. However, here and there superficial scientific reasoning.
8:	Clear style, consistent structure; required changes of first version were mainly on text, formulations/charts. Presentation was enjoyable for both experts and others. Can provide detailed answers to questions.
9:	First version of report was very readable and only minor corrections were needed. Presentation gave new insight for both experts and non-experts. Able to communicate about shortcomings in own work in relation to critical questions.
10:	First version of the report was already fine. Presentation was entertaining, everybody learned a lot.

Aspects of assessment	Comments and Feedback
Research process *Assessment committee*	Compliments: Suggestions for improvement:
Research skills *Tutor & supervisor*	Compliments: Suggestions of improvement:
Report design and lay-out *Assessment committee*	Compliments: Suggestions of improvement:
Presentation and discussion *Assessment committee*	Compliments: Suggestions of improvement:
In case of a final grade of 6 or 9 or 10, give a clear motivation for the chosen grade	

Please note: the assessment form should clearly reflect/support the final grade (e.g. if the assessment form contains only compliments, and no suggestions for improvement, it would be strange if the final grade would be a 6). Also please indicate in case of a 6, why the assignment has been finished with a passing grade.