

**Bachelor Assignment Chemical Science & Engineering  
(201500466 / 202000763) Assessment form**

Final grade

Student name

Student number

Research group

Date of presentation

Title thesis

**How to use this form:**

- Fill out page 1 and the tables on pages 2-4 to assess the different aspects to be included in the grade. Conclude with three sub grades and calculate the final grade. Please add remarks (compliments and suggestions) and discuss this feedback with the student.
- Fill out the final grade on page 1, and have this page signed by the chair of the BSc committee and the other committee members. Make a copy for the student and the research chair. Send the original form to the office of Education Affairs (boz-cse@utwente.nl).
- Tick the check box on plagiarism below.

**Check on overlap with other documents**

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The final report has been checked on plagiarism. The tutor and/or supervisor have discussed the outcome of the plagiarism check with the student taking into account the assessment by the information specialist. No plagiarism has been found.

**Assessment committee**

	Name	Signature
Chair		
Head supervisor		
Daily supervisor 1		
Daily supervisor 2 (optional)		

## Rubric for the bachelor assignment

- **Three aspects: Scientific quality (60%), Communication (20%) and Organization (20%).**
- For each aspect you see the learning outcomes, criteria and rubric with the grades.

Learning objectives <b>Scientific Quality</b>	Criteria to be included
1. Is able to formulate a research problem and to define the research goals.	<b>Research process</b> <ul style="list-style-type: none"> <li>• Problem formulation embedded in context</li> <li>• Systematic collection, analysis and processing of relevant scientific information</li> <li>• Research plan (sound methodology and experimental set-up)</li> <li>• Results (appropriate detail, accuracy, abstraction level)</li> <li>• Analysis and discussion of data and results</li> <li>• Conclusion and recommendations</li> <li>• Usefulness of results (e.g. degree of publishability)</li> <li>• Attention for the context of the results</li> </ul> <b>Research skills</b> <ul style="list-style-type: none"> <li>• Skills: theoretical, experimental and organisational skills</li> <li>• Scientific approach: systematic working, logical reasoning, use of models</li> <li>• Scientific attitude: creative, curious, motivated, constructive, critical self-reflection</li> </ul>
2. Is able to define the theoretical and experimental research plan.	
3. Has the theoretical and experimental skills to execute research, works systematically and makes well founded choices.	
4. Is able to analyze the results, draw conclusions and to link the results to the problem definition and research goals.	
5. Has a scientific approach and possesses intellectual skills (can handle complexity).	
6. Is able to reflect on the contextual aspects of the research (social context, safety and environmental consequences, scientific and ethical aspects).	

<b>Scientific quality</b>	Compliments	<b>Grade (weight = 60%)</b>
	Suggestions for improvement	

Grade	Research quality
<5	No understanding of research steps and how to relate these to one another. The research question was not clear. Theory is missing or not really used, no substantiation of methods used. No new relevant findings from the project.
6	Most of the research steps are applied correctly at the right moment – outcomes of one step are used as input for the next step. Research question is sufficiently clear, somewhat linked to theory from one discipline. Some explanation of why methods are used. Some minor new insight follow from the project.
7	All research steps are applied correctly and explained appropriately. Research question is clear and linked with theoretical framework. Chosen methods are explained and substantiated. Some new insight for practice follow from the project.
8	All research steps are applied very well and explained in detail, showing good comprehension of the research methodology. Research question is very clear and based in a well elaborated theoretical framework. Critical view of on literature and appropriate research methods, including substantiated adaptation to own situation. Some new insights for theory follow from the project.
9	Some research steps are beyond bachelor level. Deviations from the standard procedure are explained well. Research question is very clear and based in a well-elaborated theoretical framework that goes beyond the level of bachelor courses. Critical view of on literature and appropriate research methods, including substantiated adaptation to own situation. Some new insights for theory follow from the project. Results and methods are almost suitable for publication.
10	Students approached all steps critically, substantiating very well why alterations had to be made and proposals for adaptation of theory or models. Research question is very clear and based in an extensively elaborated theoretical framework that goes beyond the level of bachelor courses. Relevant findings for practice and new insights for theory follow from the project. The results and methods are suitable for publication in a(n) (inter)national journal.

Learning objectives <b>Communication skills</b>	Criteria to be included
1. Is able to report adequately about the research in English (report well structured in clear and correct English).	Report design and lay-out <ul style="list-style-type: none"> <li>• Appropriate abstract, report structure and coherence, length of report, referencing</li> </ul>
2. Is able to present and to discuss adequately about the research in English (presentation well-structured, with a clear explanation, supported by tools).	<ul style="list-style-type: none"> <li>• Use and quality of scientific language&amp; writing skills, figures &amp; tables.</li> </ul> Presentation and discussion <ul style="list-style-type: none"> <li>• Clarity of explaining problem, methods, results and conclusions</li> <li>• Style of presenting and use of audio-video support tools</li> <li>• Connection to public</li> <li>• Discussion and response to questions</li> </ul>

<b>Communication skills</b>	Compliments	<b>Grade (weight = 20%)</b>
	Suggestions for improvement	

Grade	Communication skills (Report/presentation)
=<5	Lack of structure in report, non-academic language; lay-out makes it hard to read; references are missing/incorrect; many language errors; Lack of structure in presentation, no clear indication of main topic; response to questions from the audience was incorrect or not clear.
6	Some structure in the report. Language is almost academic. Lay out does not support the message. Some reference is included. Only minor language errors. Reasonable structure in the presentation. Main message was clear for supervisors, less clear for the rest of the audience. Response to questions from the audience was mostly appropriate.
7	Structure and lay out are appropriate for the message. Language is academic. References are according to standard. No language errors. Structure and lay out of the presentation are appropriate for the message. Language is academic. Response to questions from audience was sufficient.
8	Good structure in the report, helps in understanding the main message. Language is appropriate for multiple audiences. Lay out supports the message very well. Referencing is according to standards. Structure and lay out of the presentation are good and support the message. Language is understandable for multiple audiences. Response to questions from audience was good.
9	Very clear structure and lay out in the report, makes it easy to read and understand the main ideas and messages. Language is at good academic level, referencing is according to standards in the field of research. Structure and lay out of the presentation are very good and support the message very well. Language is easy to understand for everybody in the audiences and is entertaining. Response to questions from audience was very good
10	Excellent report, both in structure and lay out. Tone, level and content are appropriate for publication in journal. Structure and lay out of the presentation are excellent. Language is easy to understand for everybody in the audiences, was entertaining and everybody felt involved. Response to questions from audience was excellent, showing an complete understanding of the material.

Learning Objectives <b>Organization &amp; cooperation</b>	Criteria to be included
1. Is able to work with a high degree of independence, creativity, dedication, pace, commitment (the student himself is responsible for the progress, planning and consultation of his supervisors).	<ul style="list-style-type: none"> <li>• Cooperation: interaction with supervisor and colleagues</li> <li>• Project work: planning and time management</li> </ul>
2. Is able to communicate professionally with the supervisor (problem owner), to co-operate with the members of the research group and to communicate with others from inside and outside the community of Chemical Science & Engineering.	

<b>Organization &amp; Cooperation</b>	Compliments	<b>Grade (weight = 20%)</b>
	Suggestions for improvement	

Grade	Organization & cooperation
=<5	The student needed support for almost everything, feedback given was not really used. The student showed (almost) no development in his organisational skills. The student did not take initiative and communicated poorly with the supervisors. Cooperation with others was lacking.
6	The student needed support on important moments, did use some of the feedback. The student took some initiative, and showed some development in his organisational skills. Cooperation with others was mostly sufficient. The student took some initiative, communication with supervisors was mostly sufficient and mostly on time.
7	The student needed some support, and asked for this himself. Feedback given was used. The student took initiative and asked questions, was in control of his project most of the time. Cooperation with others was very sufficient. The student took initiative and asked questions, the communication with the supervisors was sufficient and always on time.
8.	The student needed almost no support and took initiative. Feedback given was incorporated in an appropriate way. The student figured out most practical issues by himself and adapted his own planning when necessary. Cooperation with others was good. The student asked critical questions, took initiative and informed the supervisors good and when necessary in advance.
9	The student worked very independent and informed the supervisors appropriately. The student was able to realize his own planning with almost no adaptation necessary. The student initiated critical issues and discussions in the research, and cooperated very good with others. Communication with supervisors was very good.
10	The student worked very independent and informed the supervisors at all times. The student was in full control of his own project the whole time. The student initiated critical issues and discussions in the research, challenged the supervisors and cooperated excellent with others. Communication with supervisors was excellent

<b>Final grade</b>  In case of final grade 6.0, 8.5, 9.0, 9.5 or 10.0, motivate the grade (see below)	Calculate final grade (half grades, except 5.5) using grades for Scientific quality (60%), Communication (20%) and Organization (20%); <b>copy it also to page 1.</b>
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**Motivation of the grade (only needed in case the grade is a 6.0, 8.5, 9.0, 9.5 or 10.0)**

Since bachelor's assignments grades with a 6 or an 8.5-10 are the ones that are usually looked at in most detail by the visitation committee, please give a motivation for this sufficient/high grade.