

BSc-Thesis assignment

MODULE 12 – Civil Engineering

Manual for Civil Engineering Students

Contents

Preface.....	4
Introduction.....	5
1. General information Bachelor Thesis Assignment	6
1.1 Introduction.....	6
1.2 The BSc Thesis Assignment in short	6
1.3 Intended learning outcomes of the BSc Thesis Assignment	6
1.4 Prerequisites to start with the BSc Thesis Assignment	6
1.5 Kinds of BSc Thesis Assignments	8
1.5.1 <i>Difference company/organisation</i>	8
1.5.2 <i>Differences between an assignment in the Netherlands and an assignment abroad</i>	8
1.6 When is the BSc Thesis Assignment offered?	9
1.7 Study load	9
1.8 Definitions	9
2 Preparation on the BSc Thesis Assignment	10
2.1 Information session	10
2.2 Workshop finding a BSc Thesis Assignment and interviewing	10
2.3 Application BSc Thesis Assignment and the start of looking for one	10
2.4 An offer.....	12
2.5 Preliminary Discussion with the UT supervisor	13
2.6 Preliminary discussion with the UT supervisor and the external supervisor	13
2.7 Writing the proposal (module 11)	13
2.8 Enrolment in Osiris for module 12	13
3 The execution of the BSc Thesis Assignment	14
3.1 Meeting the company	14
3.2 Supervision	14
3.2.1 <i>Supervision by the company</i>	14
3.2.2 <i>Supervision by the UT supervisor</i>	14
3.3 The Proposal Form	15
3.4 Evaluation (part of module 12)	15
3.5 Questions or problems during the assignment.....	15

4	Completion of the BSc Thesis Assignment	16
4.1	Writing the final report	16
4.1.1.	<i>Writing support</i>	17
4.2	Assessment of the BSc Thesis Assignment	17
4.2.1	<i>The examination session</i>	17
4.2.2	<i>Insufficient assessment</i>	18
5	Complementary regulations	19
5.1	Compensation	19
5.2	Funding for assignments abroad	19
5.3	Insurance	20
	Appendix 1: Student Timeline for modules 11 and 12	21
	Appendix 2: Assessment BSc Thesis Assignment	24

Preface

This manual regarding the BSc Thesis Assignment is meant for students of the bachelor programme Civil Engineering at the University of Twente. The manual contains the most relevant information. For more information please also check the programme website: www.utwente.nl/en/ce/bachelor-programme/bachelor_thesis. During your BSc Thesis Assignment you will be kept up to date via the Canvas site of module 12.

For questions to which you do not find the answers in either the manual, on the website or on Canvas, please contact Elke Vinke-Dinius or Peter Jansen, see contact details beneath.

We wish you a successful assignment.

Coordinators BSc Thesis Assignment

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Introduction

With the BSc Thesis Assignment you will round up your Civil Engineering Bachelor Programme. This manual will help you understand what doing this assignment contains.

Before you even start your actual assignment you need to spend time and effort to prepare yourself.

For assignments performed in the Netherlands you should start preparing 4 – 6 months in advance. For assignments abroad, you should reserve some more time. This manual will help you organise and execute your BSc Thesis Assignment as well as possible.

Chapter 1 describes what the BSc Thesis Assignment entails, after which Chapter 2 elaborates on the preparation of the assignment. Chapter 3 provides information on everything during the assignment, followed by Chapter 4 which helps you to finish your assignment. Chapter 5 contains information about funding and insurance. In appendix 1 you will find a timeline regarding preparation and execution and registration of the assignment. Appendix 2 provides the BSc-thesis rubric for assessing the BSc-thesis project.

1. General information Bachelor Thesis Assignment

1.1 Introduction

Below you will find general information about the execution of the BSc Thesis Assignment; about the goal of your assignment, the enrolment criteria and the different kinds of assignments.

1.2 The BSc Thesis Assignment in short

During your (at least) 10-week assignment you will proof to have enough content knowledge but also proof your capability to work systematically and report your work. You will execute your assignment within in a Civil Engineering company/institution; this hands-on experience is the only way to link your obtained knowledge and skills with practice.

The supervisor at the company you execute your assignment at, will supervise your daily work, whereas the supervisor at the UT will monitor the progression with regards to writing the thesis. The product you hand in at the end of the assignment, contains (among other things) a report in which the execution and results are described. The BSc Thesis Assignment is executed in English. If another language is preferred, this is in consultation with the supervisor and the company, however, the clear preference is English. In case the BSc Thesis Assignment is executed in another language than English, you have to add an executive summary in English in the final report.

1.3 Intended learning outcomes of the BSc Thesis Assignment

The Civil Engineering programme has the following intended learning outcomes for the BSc Thesis Assignment:

- the student is able to integrate and apply knowledge in a subfield of Civil Engineering and if necessary is able to broaden and/or deepen this knowledge independently;
- the student is able to work methodically and plan his/her work;
- the student is able to communicate effectively about his/her work both written/oral and formal/informal;
- the student is able to work independently on a project of limited complexity;
- the student is able to make effective use of input and feedback from supervisors and/or colleagues;
- the student shows that he/she is able to work effectively in the professional civil engineering context.

1.4 Prerequisites to start with the BSc Thesis Assignment

In the period towards the BSc Thesis Assignment there are three Go or No Go moments, which determine whether or not you can proceed and/or start with your assignment:

Go / No Go 1 Enrolment criteria: modules 1 – 8 are completed

When: Before the start of module 11

Exemption: When you want to start module 11 in February, it is possible to do a maximum of 4 EC out of module 3 or 7 simultaneously with module 11. In case you want to start module 11 in September, you can do a maximum of 4 EC out of module 1 or 5 simultaneously with module 11. In case you have to retake any courses in M2, M4, M6 or M8, please contact your study advisor (Gijs Medendorp), and he can see if you have any chance for a successful request at the examination board for exemption of the entrance requirements (examinationboard-ce@utwente.nl). Without an approval by examination board, you are not allowed to start with the graduation semester in case you have study units open in Modules 2, 4, 6 or 8. After meeting the requirements you can start with module 11.

Participation in module 12 is solely allowed when you have completed module 1 through module 8 completely (year 1 and 2 of the BSc programme). On top of that, you need to participate in module 11, as preparation on the BSc Thesis Assignment. Modules 11 and 12 are intertwined in what is called '*the graduation-semester*'.

Go / No Go 2 Approval of the assignment

When: with great preference at the start of module 11

The intended assignment has to be approved by the BSc-thesis coordinator of the department of the chosen specialisation:

- Water: Martijn Booij (m.j.booij@utwente.nl)
- Traffic: Oskar Eikenbroek (o.a.l.eikenbroek@utwente.nl)
- Construction: Marc van Buiten (m.vanbuiten@utwente.nl)

Approval means that the assignment (at least) complies with the criteria of the programme:

- The assignment will be performed within an organisation in the work field of Civil Engineering;
- The external supervision is (or expected to be) of sufficient level and range;
- The initial content of the assignment is clear enough to start with the preparation report;
- The (intended) execution of the assignment is in line with university-wide research ethics policy¹.

When and if these criteria are met, in other words when the department BSc-thesis coordinator gives the 'GO 2', a UT supervisor will be assigned. In consultation with the UT supervisor and the external supervisor the assignment will be defined in more detail. With this 'GO' you could also start rounding up a contract, arrange accommodation or a visa (if necessary) and you can fill in the proposal form in Mobility Online.

Progress check: Sufficient progression in preparation and direction of the assignment.

When: at the very last in week 6 of module 11

The internal supervisor, the external supervisor and the student, discuss a draft of the proposal in week 6 of module 11 at the latest, the so-called Progress Check. During this meeting it will be decided whether the assignment is suitable or needs to be adjusted and whether the student's progress enables him/her to start according to the intended date at the external organisation, the regular schedule is a start in week 9 of module 11. For the start-up assignment in module 11, the student will write a short report based on the feedback received during the progress check and hands it in via Canvas.

When the progress check shows that the proposal at that moment is sufficient there will be a final GO/NO GO 3 moment planned between supervisor(s) and student right before week 9 (the start of the BSc thesis) in which the student gets the final approval to start on the estimated date.

When the progress checks shows that the proposal at that moment is insufficient then the student will be given two weeks to upgrade the thesis proposal. The student must adjust the planning of his assignment because the final GO/NO GO 3 moment will be delayed for 2 weeks and therefore the start of his assignment at the external organization. There will be a final GO/NO GO 3 moment planned between supervisor(s) in week 1 or 2 of module 12. Please note that in this case the final mark of the proposal cannot be more than a 6.

If the thesis proposal at the final GO/NO GO 3 moment is still insufficient, module 12 has to be terminated and the student has to find another assignment.

In short:

- Progress Check: Thesis proposal (module 11) sufficient -> Final GO/NO GO 3 moment can be planned
- Progress Check: Thesis proposal (module 11) insufficient -> Opportunity to upgrade the thesis proposal within a period of two weeks, maximum grade after update is 6.0. Meanwhile, the student is allowed to continue with module 12. If after two weeks the thesis proposal continuously is insufficient: module 12 has to be terminated and the student has to find another assignment.

¹ Ethical review of research involving human subjects and/or personal data is considered as common practice and mandatory. For other types of research, it is recommended to identify the existence of possible ethical issues related to for instance the environment, dual-use aspects, low-income countries or artificial intelligence. If you are not sure if an ethical review is needed or if you need to conduct an ethical review, contact your supervisor for further information.

Go / No Go 3 Start Bachelor Thesis Assignment

When: week 9 of module 11

A positive verdict of the UT supervisor means that you are on track to start the BSc Thesis Assignment at the very moment that is scheduled in the timeline (week 9 of module 11). A negative verdict means that, without extra effort, you risk a significant delay or even cancellation of your BSc Thesis Assignment. In the case of an insufficient assessment, it is important to include some improve points/action points in your report. In case these needed action points have an influence on the date that you start with your assignment, your planning has to be updated too. In case you are unsuccessful or when there is no other assignment possible within the company, the process starts from scratch and you have to talk to the BSc-thesis coordinator of the department of the chosen specialisation about a new assignment.

Important: please start thinking about and searching for your BSc Thesis Assignment long before you even start module 11 (you will be guided in this during module 8 as well). All the prerequisites mentioned above are still relevant, but you are free and encouraged to start searching before the semester actually starts. Especially if you want to go abroad, it is highly recommended to start the search process in time.

1.5 Kinds of BSc Thesis Assignments

Obviously there is a variety of companies and organisations, in the Netherlands and abroad, where you could execute your BSc Thesis Assignment. This paragraph elaborates on these differences.

1.5.1 *Difference company/organisation*

Different types of companies and organisations:

- Contractors
- Engineering- and consultancy organisations
- Governments: national, regional, local and water authorities (also: Rijkswaterstaat)
- Research institutes (for instance universities, TNO, Deltares)

These companies/organisations each have their own specific set of characteristics. More information on the different kinds of companies will be provided during the workshop '*Searching for a Bachelor Assignment and interviewing*' within module 8.

1.5.2 *Differences between an assignment in the Netherlands and an assignment abroad*

It is your own decision to do the BSc Thesis Assignment either in the Netherlands or abroad. Below are some issues you may want to take into consideration:

In the Netherlands

- Communication is simpler (especially for Dutch students)
- Relatively cheap (also because of possible internship-wages)
- Familiar culture (especially for Dutch students; but possibly also for foreign students who have been here for almost three years)
- The capabilities of the student are more apparent, because the organisation knows the programme or possibly had a student from the programme before.

Abroad

- Communication could be harder and less frequent
- Intercultural challenges
- Takes more preparation (vaccinations, visa, tickets)
- Costs are higher (sometimes no wages – however there are funding possibilities)
- Learn to deal with a different climate
- Learn to work in an international environment/different culture.

1.6 When is the BSc Thesis Assignment offered?

The BSc Thesis Assignment is offered twice a year. For students who study the normal programme, modules 11 and 12 will take place in quartile 3 and 4 of their third Bachelor year. Students experiencing a delay have the possibility to take module 11 and 12 in quartile 1 and 2. Please take into consideration that the moment at which you can start your assignment is dependent on the demands from paragraph 1.4.

1.7 Study load

Overall the study load of the BSc Thesis Assignment in module 12 is equal to 420 hours of work, which is equal to 15 EC. This study load excludes the work on the thesis proposal (embedded in module 11) and the evaluation (part of module 12). The EC for module 12 will be awarded when you comply with all the demands of the BSc Thesis Assignment (see Appendix 2).

It is not possible to get extra EC for your BSc Thesis Assignment when you put more time into your assignment. There are 10 weeks to complete and one week extra to process feedback if necessary.

1.8 Definitions

- The BSc Thesis Assignment is an individual assignment that completes the Bachelor Programme Civil Engineering, in which a student works on the assignment at an external organisation under supervision of an external supervisor.
- The external organisation is a company, government body or a research institution where you execute your assignment. The external organisation needs to be operating within the Civil Engineering discipline.
- The external supervisor is the person that guides you daily within the external organisation.
- The UT supervisor is a member of the UT scientific staff who guides and assesses you in terms of content.
- The second assessor is a member of the scientific staff of a different department than the department you are doing your assignment at. He/she will assess your report and is present at the final examination.
- The mobility coordinator (Elke Vinke-Dinius) is the person that checks your registration and is available for all peripheral matters. Next to that, when you are experiencing problems, you can contact her. The mobility coordinator also arranges practical and organisational factors surrounding the BSc Thesis Assignment and advises regarding funding, insurance and visa. In addition she is in close contact with the module coordinator, the department coordinators, the UT supervisors and the external supervisors.
- The module coordinator (Peter Jansen) is responsible for overseeing the entire module and monitoring progress. Whenever there are severe issues, or when you experience issues with your planning, you can contact the module coordinator. Next to that, most of the direct contact runs via the mobility coordinator. The mobility coordinator can redirect you to the module coordinator if this seems necessary. Behind the scenes the module coordinator is in touch with the department coordinators, the mobility coordinator and the second assessors.
- The department coordinator is the first contact person from the specialisation you have chosen and whom you will have a meeting with to determine what your exact assignment will be. Next to that the department coordinator will help you find your UT supervisor. The UT supervisor will be assigned when your department coordinator gives you a 'GO' on your assignment idea.

2 Preparation on the BSc Thesis Assignment

The preparation of the BSc Thesis Assignment in the Netherlands will take approximately 4-6 months. A foreign assignment might take even longer to prepare for. Therefore it is important to start on time. What the preparations actually entail is described below in chronological order.

2.1 Information session

In Block 2B, second year Bachelor students will be informed about the third year of the Bachelor during an information session. As soon as you have visited the information session and it is clear when you want to execute your BSc Thesis Assignment you can fill out your application form in Mobility Online (see paragraph 2.3 and appendix 1). Please check the Bachelor Thesis Canvas site for the checklist of Mobility Online.

2.2 Workshop finding a BSc Thesis Assignment and interviewing

In preparation on the BSc Thesis Assignment you will be provided with a workshop within Module 8 (part of Professional Skills). In this workshop you will learn how to search for an assignment, how to write an application letter, and how to conduct a job interview. The workshop entails three dayparts and an assignment. The workshop is mandatory for students who are going to do the BSc Thesis Assignment. You will participate in some form of self-analysis: what are your best qualities and what are your weaknesses, what is of importance to you, what do you like? Additionally, we will zoom in on the job market within the discipline of Civil Engineering and you have to prepare your own CV and application letter. Finally the most important features of an application letter for a job, and important features for your curriculum vitae will be discussed. In the end you will practice having a job interview.

2.3 Application BSc Thesis Assignment and the start of looking for one

Every student has to perform an individual assignment and there are multiple opportunities during the year to start module 11. So to keep track of everyone, there is a web application that is used to register and monitor your start and progression: [Mobility Online](#). You can find this application in the Student Portal under Educational systems for students. Choose the Graduation Registration and after that the Registration Extended.

You need to register yourself when you start searching for your assignment (preferably as early as possible) by filling out the '*Application Form*' (see figure 1). This way all involved know that you are looking for and will probably soon (within a year) start your assignment. So you can register as early as module 8.

On the application form you will fill out all the information as thoroughly as possible. You will indicate in which department of Civil Engineering you want to execute your BSc Thesis Assignment (Traffic, Water or Construction) in the field 'preferred research chair'. After filling out the application form you will get a confirmation per e-mail. This e-mail also contains an assignment in preparation for your conversation with the department coordinator. If you have a hard time choosing your 'preferred research chair', feel free to make an appointment with the Mobility Coordinator (Elke Vinke-Dinius). Once your application has been handed in via Mobility Online and you have completed the preparatory assignment you will be invited to a meeting with the department coordinator within a number of weeks. You can access your Mobility Online account via the Login-button to check, adjust or add to what you have already filled out. Later on in the process you will also have to fill out the proposal form and the notification form. It is wise to check the Mobility Online checklist at the Canvas site for the BSc Thesis Assignment to make sure you do not miss any crucial steps.

The screenshot shows a web browser window with the URL <https://www.service4mobility.com/europe/BewerbungServlet?sessionId=3BCD3ED1C898FE7BA3D745E9A811CFF21worker?>. The browser's address bar and tabs are visible at the top. The form itself is titled "Study details (at the time you will start your mobility)". It contains several sections with input fields and dropdown menus. The "Nationality" section has a dropdown for "Nationality" (set to "Germany"), a dropdown for "Nationality (second)" (set to "<-- No choice -->"), and a text field for "E-Mail address" (set to "v.demostudent151@student.utwente.nl"). The "Study details" section has a dropdown for "Country of the home institution" (set to "Netherlands"), a dropdown for "Home institution" (set to "ENSCHED01 - UNIVERSITEIT TWENTE"), a dropdown for "Faculty" (set to "ET - Faculty of Engineering Technology"), a dropdown for "Study level" (set to "BSc"), a dropdown for "Study field" (set to "Civil Engineering"), and a text field for "Number of completed higher education study years" (set to "2,00"). The "Additional information" section has text fields for "Approximate start date", "Approximate end date", "Preferred country/countries", "Organization name (if applicable)", and "Remarks". The "Preferred research chair" section has a text field for "(Preferred) research chair". At the bottom of the form, there are three buttons: "Cancel application", "MOBILITY-ONLINE powered by", and "Send Application".

Figure 1: Web application form Mobility Online

During the intake with the department coordinator you will determine what research you could perform at which company. Depending on your wishes and demands, it could either be a ready-made assignment, but it could also mean that you will go looking for an assignment yourself (with or without help from the department coordinator).

About four months before you start your BSc Thesis Assignment, you will start sending out applications (in case you choose to find your own assignment). If the company is interested, they will most likely invite you for an interview.

When you are invited for an interview, it is important to prepare yourself well. It is also important to bring some documents to the interview:

- Your CV
- Your application letter
- Information for the company (flyer for external supervisors, to be found on the Module 12 Canvas page)

Furthermore you will learn how to and what to prepare for a job interview during the workshop which we offer in module 8 (part of Professional Skills).

When you want to execute your BSc Thesis Assignment abroad you will have to start this process a few months earlier. Students who want to travel to a country with a different culture than ours, could consider aligning their assignment with the minor Crossing Borders. This combination, however, requires more preparation. If you are interested in doing this, please contact the study adviser (Ir. J. Roos-Krabbenbos).

2.4 An offer

Once you have found the company at which you want to execute your BSc Thesis Assignment at, a provisional assignment description needs to be formulated. A prerequisite is that the organisation is operating in the Civil Engineering field, and the assignment needs to fulfil (or be able to fulfil) the intended learning outcomes of the BSc Thesis Assignment. On top of that, the company needs to be able to provide sufficient supervision - this will be determined by the department coordinator. The department coordinator will make an estimation based on these criteria whether or not the BSc Thesis Assignment lives up to the standards (GO/NO GO 2: for more details about the prerequisites to get started check paragraph 1.4) and will help you if necessary.

If your proposed assignment meets the requirements, a UT supervisor will be assigned. In consultation with your UT supervisor and the external supervisor the details of the assignment will be determined. When the assignment is approved by all parties, the contract can be arranged and possible housing and tickets/visa as well.

Keep in mind that it is not allowed to start without the approval of the department coordinator, before an UT supervisor is assigned and before the assignment is approved by your UT supervisor and the external supervisor.

Arrangements with the company

As soon as you have found your assignment and when you are assigned a UT supervisor, you will fill out the '**Proposal form**' in Mobility Online. The form does not need to be printed or signed by the supervisor.

The company will often make arrangements regarding the assignment, like working hours, reimbursement, how to handle information and will probably want you to sign a contract or an agreement. We prefer that you use our own assignment agreement www.utwente.nl/en/et/student-mobility/documents/#assignment-agreement-opdrachtovereenkomst. When the company insists on using their own agreement (most of the time a three-party contract), the Managing Director of ET also needs to sign it. In order to get this signature, you should contact Astrid Oppers-Van den Berg (a.j.vandenberg@utwente.nl).

There are several things you need to take into consideration when signing a contract, especially when the contract is a two-party contract:

- Does the contract say anything about confidentiality? Check the implications of confidentiality before signing the contract via www.utwente.nl/en/et/student-mobility/documents/assignment-agreement-information-students.pdf
- Is there anything in the contract about supervision provided by the company?
If not, please talk about this with the company and make sure it is added to the contract.
- Is it clear in the contract that you will get access to the data you need to perform your research, and other facilities you may need (workplace, computer)?
If not, please consult with the company and make sure it is put in the contract.
- Does the contract say anything about an accident or disability insurance? If not, ask if you are covered by the organisation's insurance.

Every now and then, a company may want you to sign a confidentiality agreement to make sure the results of the research will be confidential. Our advice, again, is to use the confidentiality agreement provided by the Faculty Engineering Technology: www.utwente.nl/en/et/student-mobility/documents/#assignment-agreement-opdrachtovereenkomst.

2.5 Preliminary Discussion with the UT supervisor

Based on the content of your assignment the department coordinator will assign a UT supervisor. You have to make an appointment with this supervisor to discuss the preparation of your assignment and to make arrangements regarding your supervision. The UT supervisor may have some pointers on how to prepare yourself in terms of content. He or she will also guide you during the preparation, execution and examination.

2.6 Preliminary discussion with the UT supervisor and the external supervisor

Next to the preliminary discussion with the UT supervisor, you are supposed to keep in touch with the external supervisor to shape your BSc Thesis Assignment. Subsequently you have a conversation with your UT supervisor and your external supervisor – to discuss and fine-tune the draft version of your proposal. The UT supervisor determines, based on the conversation and the contents of the proposal, whether or not there is sufficient progress and whether or not the assignment is suitable. This judgement (named: progress check) by the UT supervisor may have consequences for your planning or the contents of the BSc Thesis Assignment (see paragraph 1.4 for more information on the progress check).

2.7 Writing the proposal (module 11)

Before executing your assignment you have to write your proposal in preparation on the assignment. You do this in Module 11. In the proposal you describe both a research plan and your planning. Once you have actually started at the external organisation, after the GO/NO GO 3 moment, you will have two more weeks until the submission deadline of the final proposal, to give you the opportunity to fine tune some last issues within the external organisation before a grade is awarded to the proposal.

There are three options to complete your proposal:

- You have found a BSc Thesis Assignment at the beginning of module 11, you start working on your proposal during module 11, the proposal will be assessed by the UT supervisor;
- You have not found a BSc Thesis Assignment at the beginning of module 11, you start working on a practice case during module 11. As soon as you have found an actual assignment, you will switch from the practice case to proposal of the actual BSc Thesis Assignment, the proposal will be assessed by the UT supervisor;
- You have not found a BSc Thesis Assignment before or during module 11 and you keep working on the practice case that will be judged with a pass or fail by the coordinator of module 11. When you have found an actual BSc Thesis Assignment, you will write a new proposal with the help of your UT supervisor, and he/she will also assess the proposal.

Further guidelines and assessment criteria for writing your proposal will be provided in the manual for module 11, which you can retrieve from the Canvas page for module 11.

There is a possibility that during the execution of your assignment, there are some changes in your research method or in your initial planning. For example, because the information or data you needed cannot be retrieved, or because the assignment appears to be too big to complete within the set timeline. These changes will be discussed with both of your supervisors (external and UT supervisor). On top of that, you will describe these changes in your final thesis.

2.8 Enrolment in Osiris for module 12

With your enrolment in Osiris, you also get access to the Canvas page for Module 12. On this Canvas page, all relevant documents, procedures, and announcements will be shared with you. You can enrol yourself in Osiris from the start of module 11. In that way, you'll get access to all the needed documents before you start your actual assignment.

3 The execution of the BSc Thesis Assignment

Executing your BSc Thesis Assignment within a company or organisation is completely different than taking classes and studying. You will be expected to be present during the office hours of the organisation. So what to expect during the assignment? And what is expected from you? This information is provided in the paragraphs below.

3.1 Meeting the company

During the entire assignment it is very important to be open to your new colleagues and surroundings, and it is equally important to gather as much information as possible about the organisation. Please make sure that you:

- Introduce yourself to your colleagues and tell them what you are there for;
- Behave and act as a regular employee as much as possible;
- Be critical about the information you are provided with;
- Be sensitive to possible sore points within the organisation.

3.2 Supervision

3.2.1 Supervision by the company

The first task of your external supervisor is to make sure you are being properly introduced to the company. This means introducing you to the employees and showing you around. Additionally the external supervisor will provide you with your daily guidance. When you have questions regarding (the content of) your assignment, the external supervisor is the first person to approach. That is why it is really important that your external supervisor has read your proposal. You should meet with the external supervisor approximately once a week to discuss the progress of your assignment. It is wise to plan these progress meetings at the start of your assignment. At the end of your assignment you discuss the draft report with the external supervisor, and you will evaluate your functioning within the company. Your external supervisor will receive an evaluation form around about two weeks before your assignment ends. This form needs to be filled out by the external supervisor, as soon as the results of your research are clear.

3.2.2 Supervision by the UT supervisor

When you stay in the Netherlands, you will have progress meetings with your UT supervisor. Next to that, you will be in touch via e-mail and/or phone. Students who go abroad for their thesis keep in touch via Teams, telephone or e-mail. You are the one to initiate contact. During the assignment you have to hand in a draft report, most of the time, twice. Usually you will hand in the first draft report somewhere before week 6, with both your UT supervisor and external supervisor. You discuss the exact moment of handing it in with your supervisors, but the final draft report needs to be handed in, in week 8 of module 12 in Canvas (of course, when there is a change in your entire planning, this handing in moment will be adjusted too). A plagiarism check in Canvas is part of the assessment of your draft report.

And then, in week 10 of Module 12 you hand in the final version you will hand in the final BSc Thesis Assignment with your UT supervisor and your external supervisor and you will make an appointment for your final feedback conversation.

Besides the aforementioned feedback moments, it is recommended to discuss your drafts and progress on a regular basis, to make sure you are on the right path. If there are any changes in your research questions, methodology or planning, you have the opportunity to talk this through with your UT supervisor. The feedback from your supervisors can be used for the final report and the evaluation report.

About eleven working weeks after the start of your assignment with the organisation, you need to hand in the final report. The final grade will be awarded on average one week after handing in the report during the examination session. The UT supervisor is the one to grade your report, but will take the advice of the external supervisor and the second assessor. More information on the final assessment and the criteria can be found in appendix 2. More information on finishing the assignment is provided in chapter 4.

3.3 The Proposal Form

When a UT supervisor has been assigned by the department coordinator, please fill out the 'Proposal Form' in Mobility Online Based on this form we will make sure that you will also be assigned a second assessor. Please indicate the language in which you are writing your report so that we can make sure that the second assessor has the right language requirements.

3.4 Evaluation (part of module 12)

After the execution of your assignment, we ask you to reflect on (the process of) the assignment, the organisation/context and on your personal performance. The goal of the BSc Thesis Assignment is that you learn to use your knowledge and skills in the real world. Further instructions on the evaluation report are provided during module 11 and can also be found on the Canvas page of module 12.

3.5 Questions or problems during the assignment

Below you will find information on who to contact in case the following situations occur:

- Is there insufficient guidance from your external supervisor, please contact your UT supervisor;
- Is there insufficient guidance from your UT supervisor, please contact your department coordinator or the module/mobility coordinator;
- Are there any problems on a personal level and you feel like your supervisors can not help you, please contact the module/mobility coordinator and/or study advisor.

4 Completion of the BSc Thesis Assignment

To finish the BSc Thesis Assignment and to obtain 15 EC you have to fulfil the following requirements:

- You have worked in the company/organisation for at least 10 weeks;
- You have digitally handed in the report with both your UT supervisor, your external supervisor and your second assessor;
- A final examination session took place, and you were awarded a final sufficient grade;
- You handed in a Pdf version of your report via Bachelorassignment-ce@utwente.nl
- You digitally filled out the evaluation forms, links will be sent to you at the end of your assignment;
- You have digitally handed in the evaluation report for which you were instructed during module 11. The requirements for the evaluation report are to be found on the module 12 Canvas page where the evaluation report must also be submitted.

4.1 Writing the final report

The final report contains the process and results of your research. A good report consists of the following at least:

1. A title page, with the title of the report, the name of the author, the name of the company and the assignment period.
2. A preface, in which you indicate what the direct cause for writing the report was. You can also use it to thank persons that were important and helpful to you during the execution of your assignment.
3. A table of contents, from which the reader can distract a clear report structure.
4. A summary, in which the goal, research questions, results and the main conclusions are presented (1-2 pages)
5. An introduction, in which you mention the company you execute your research at, what the background is, what the cause is and what the goal of your research is. You will also elaborate on the research questions and the methodology. You will explain what the structure of your report is and what topics you will address in which chapter.
6. The core of your report, in which you work out your assignment.
7. A discussion, in which you critically reflect on the results of your research, describe possible limitations and remarkable findings and link them to the results of your research.
8. A conclusion, which describes the result of your research and provides answers to your research questions.
9. Recommendations, that give usable advice to your client(s) and provide suggestions for further research.
10. Possible appendices, which provide additional information to your report, for example extensive calculations or theories. In the actual report you will use the results and for more information you will refer to the appendices. The main text of the report should be readable and comprehensible.

The complete report needs to be between 15-30 pages, excluding appendices. The BSc-Thesis Assignment is executed in English. If another language is preferred, this is in consultation with the supervisor and the company, however, the clear preference is English. In case the BSc-thesis is executed in another language than English, you are obliged to provide an executive summary in the final report in English. Please realise, that since your Bachelor programme was in English, it may be hard to switch to Dutch (you have not had any practice in scientific writing in Dutch). Consider this before you make your choice. Sometimes a company will only want to give you an assignment when they can have the final product in Dutch. If you choose that assignment, the consequence is to write the thesis in Dutch.

Tips for writing the report (also check out section E of the book 'Skill Sheets' by Rob van Tulder, ISBN: 9789043023139):

- Writing a report is a creative process which will take a good amount of time. Start writing at an early stage of the assignment. The later you start, the harder it will be to finish the concept report on time.
- Consult your supervisor about the setup of your report in due time and show a rough version of several chapters. To stimulate this process you need to hand in a draft report in week 6. It is easier to process feedback at the beginning of the writing process as opposed to later on.
- Think about your audience; what previous knowledge do they have. Your external supervisor may know everything about the company, but not about the Civil Engineering programme, and vice versa for the UT supervisor.
- Do not write the report in one session. Write something, then leave it for a couple of days. This way, you can detach from it for a bit and be critical again. Be critical about what you have written: is it actually necessary for the report?
- Keep in mind that the report will be available through the library of the University of Twente and that there is Open Access to everyone.

4.1.1. Writing support

The [UT Language Center \(UTLC\)](#) is there to support BSc-students with their writing. The Writing Center (part of UTLC) provides free one-on-one help with any writing task at any stage of the writing process. They are trained to help you to identify and correct issues related to structure and language. They can teach strategies for improving writing and guide you through useful print and digital resources.

You can come to the weekly drop-in hours to speak one-on-one with a writing tutor about your text. No need to make an appointment. Support is available in English and Dutch. Amongst others, the UT Language Center can provide help with the following writing support:

- **Courses and workshops** at the Writing Center (such as Academic Writing Skills, Thesis Boost): www.utwente.nl/en/ces/language-centre/courses/?domain=writing-centre
- **Personal writing support:** <https://www.utwente.nl/en/ces/language-centre/writingcentre/>
- **Graduation group:** if you are really get stuck in your thesis, you can register for this. This group has a meeting every week and discusses topics such as strategies for overcoming difficult stages in graduation, avoiding pitfalls and dealing with tutors and assessors: www.utwente.nl/en/courses/969892/graduation-support-group/

4.2 Assessment of the BSc Thesis Assignment

The final grade for the BSc Thesis Assignment is determined based on the final report and the final presentation. The process of getting to the final report will also been taken into consideration in your grade, together with your functioning and demeanour at the external company. The BSc rubric description is presented in appendix 2.

4.2.1 The examination session

The final report will be discussed in a private examination session (+/- 1 hour).

The general format of the examination is as follows:

1. Presentation by the student about the BSc Thesis Assignment (+/- 10 minutes)
2. Questions to student + discussion with student by committee (+/- 30 minutes)
3. Assessment and grading by the committee (+/- 10 minutes)
4. Feedback to the student and announcement final mark (+/- 10 minutes)

The supervisors privately discuss your grade without your presence. After that they will invite you in to present and explain the final grade for your BSc Thesis Assignment.

In consultation with your UT supervisor you can organise a presentation to present and share your results with other students or employees. This presentation should be separate and is not a replacement for the examination session – and has no role in the assessment.

4.2.2 *Insufficient assessment*

An insufficient assessment could be awarded in the following situations:

- When both the UT supervisor and the external supervisor feel like you have not achieved a sufficient final result.
- When the UT supervisor thinks that the (final) draft report is of such quality that it is not feasible to finish before the deadline
- When the final report is of questionable quality combined with a weak performance during the examination session
- When the report is handed in too late

In case of an insufficient grade the coordinators will be consulted to determine whether or not an extra assignment would suffice or whether an entire new BSc Thesis Assignment needs to be executed.

A few scenarios can be distinguished in which an insufficient result for the thesis proposal (module 11) and/or BSc Thesis Assignment (module 12) occurs:

- Thesis proposal (module 11) insufficient: you will have the opportunity to upgrade the thesis proposal within a period of 2 weeks, with maximum grade after update is 6.0. Meanwhile, you are allowed to continue with module 12 but may need to adjust the planning. If the thesis proposal continuously is insufficient: module 12 has to be terminated and you have to find another assignment.
- Thesis proposal (module 11) is sufficient, but the result of module 12 is insufficient: one improvement of the thesis with a fixed deadline is allowed. Another option is an additional assignment, formulated through consultation between the UT supervisor and the coordinators of module 12.

If the result is still insufficient, there will be an examination session anyway in the presence of all participants. You have to give a short presentation followed by a discussion. This meeting should be understood as a feedback session including making a plan how to finalise the revised thesis. This examination session is the final moment in which the external supervisor is involved (unless agreed otherwise).

The plan to finalise the thesis must be worked out by you and must contain clear deadlines (indication of the extension: 1 month). The internal supervisor will terminate the supervision because there is limitation to the amount of supervision. After revision of the thesis, the internal supervisor will assess the revised final report together with the second assessor. In case of a conflict, the supervisor can be changed, while you keep the same assignment. The result can't be more than a 6 unless there are special circumstances. If you do not meet the agreements made in the plan, a new BSc-thesis project has to be carried out. This requires writing a new thesis proposal, but different rules apply. Since you already passed module 11, the new thesis proposal is not a component of module 11. Instead, the thesis proposal is assessed as a go/no go decision within the start-up period of the new attempt for module 12. This means that no formal grading for the second thesis proposal will be registered.

Please note that module 12 contains 10 weeks (11 at the most). If you exceed this time period, a consequence may be that your assignment is terminated (in case of no valid reason for the delay). You are responsible for communicating your planning to all parties involved (supervisors and module coordinator).

5 Complementary regulations

When you execute your final assignment, a lot of things will be different than the rest of your programme. Especially when you are going abroad, there are a lot of things you have to arrange yourself. For example: what to do with your room in Enschede, learning a new language, etcetera. An assignment will also carry some additional costs in most cases. Below you will find a few UT-regulations that may help you.

5.1 Compensation

Most companies in the Netherlands will offer some form of compensation for the execution of an assignment. When this compensation is (relatively) high and you still fall under the old loan system (before 1 September 2015), it may have influence on your students financing (studiefinanciering), especially when you already had a job during the year. The student counsellors (Vrijhof, third floor, room 311, tel. 2035) have the most recent information on this topic. Please contact them (**in advance**) when you have the feeling your income may be too high, and you may therefore lose your right for financing and the OV-card (public transport card).

5.2 Funding for assignments abroad.

Foreign assignment often comes at a higher cost. Think about taking a language course, visa costs, travel expenses and renting a room. When the compensation of the company is not sufficient, there are possibilities to get some funding.

When you have a shortage in your budget you can ask for funding via Mobility Online. During your entire programme you can ask for funding twice, once during the Bachelor and once during the Master. For an Erasmus grant the same rules apply, but you can apply more often, to a maximum duration of funding of twelve months during each phase.

To limit the amount of fund requests, we highly recommend subletting your room or terminate the rent. In case you want to sublet, do so via the website of the Student Union: <https://su.utwente.nl/kamers/>. This website also provides example contracts for subletting and terminating.

Via Mobility Online you can find the link for the UT travel insurance. You are obligated to make an insurance contract (for free) for every experience abroad, and to register your stay abroad. Since you are obligated the funding provider holds the right to withhold funding if you do not register and insure yourself (also see 5.3 Insurance)

If you have plans for a very expensive stay abroad, you can still have trouble with paying for it, even though you have funding. In that case you can check out if there are any special funds for your situation via the website of the 'Beursopener' provided by Nuffic: www.beursopener.nl

Finally you can end the student registration on your OV-card (for public transportation), which will reimburse you with approximately € 120 per month via DUO. For details please check: <https://www.duo.nl/particulier/ov-vergoeding-buitenland.jsp>. If you want to make use of this, the form needs to be signed by one of the coordinators of the BSc Thesis Assignment.

5.3 Insurance

Some organisations have their own collective insurance for students (mostly liability insurance, and sometimes an accident insurance). However, some companies assume that the UT has accident insurance for their students. This is not the case. Only when the assignment is conducted abroad the UT provides an accident insurance.

The UT does have additional liability insurance. This means that at the working place (both in the Netherlands and abroad) you are insured for liability (for example if you cause any damage to valuable machines or when you inflict bodily harm on someone). You will receive a policy of insurance (Dutch or English). This insurance is valid within working hours and for commuting and is in addition to your own liability insurance.

The insurance for students who go abroad is only valid during the actual period of working on the assignment. So, if you decide to travel before or afterwards the insurance is not valid. The UT insurance can be considered a safety net for your own travel insurance (because normally travelling insurance does not compensate in case of an internship if anything happens). If you make any medical expenses during your stay abroad, the travel insurance is an addition to your primary health insurance. If your own health insurance does not or does not fully reimburse you can rely on the travel insurance of the University of Twente.

As mentioned before, the travel insurance is linked to a registration system. It is of the utmost importance to register when you go abroad. In case of calamities it needs to be clear where students or employees are, in order to be able to provide help.

Appendix 1: Student Timeline for modules 11 and 12

Note that this timeline is more a guideline and not include fixed deadlines. The student should be in the lead making your planning and coordinate this with your supervisor.

Phase 1. Preparation (period: module 8 until start of module 11)

What	Who	When
Attend information session	B2 students	Spring of second Bachelor Year. You will be informed about this via Canvas.
Attention to the searching process of the BSc Thesis Assignment and developing competences to carry out a job interview	Student	During the information session in Module 8 and in the lectures of Professional Skills in Module 8
Registration Mobility Online	Student	Assignment in the Netherlands: at least 6 months before the start of module 11. Assignment abroad: 12 to 9 months before the start of module 11. You will be informed about this in Module 8.
Conversation with department coordinator Water, Traffic or Construction	Student	After registration in Mobility Online you'll receive an assignment in preparation for your conversation with the Department coordinator. After handing in this assignment you will receive an invitation for an intake conversation
Choosing assignment in consultation with department coordinator of Water, Traffic or Construction.	Student Department coordinator	You are urged to have an assignment at the very last in the first week of module 11, but preferably a bit earlier

Phase 2. Module 11 – 10 weeks

What	Who	When
Entrance requirements check module 11 and 12: GO / NO GO 1 moment	Programme coordinator CE	Before the start of module 11 the entrance requirements are checked per student (passing module 1-8). Students receive an e-mail if the entrance requirements are not met.
Approval BSc Thesis Assignment by department coordinator and allocation of the UT supervisor: GO / NO GO 2 moment	Department coordinator	
Filling out proposal form in Mobility Online	Student	After GO / NO GO 2 and allocation of UT supervisor
Working on proposal. Student has a general idea of the assignment and works on the proposal of the BSc Thesis Assignment with help of the classes of module 11.	Student Coordinator module 11 UT supervisor	Week 2 t/m 5 of module 11
Progress check <u>JOINT</u> consultation between the UT supervisor, the external supervisor and the student about the assignment and the draft version of the thesis proposal. Decision is made whether the student's progress enables him/her to start on time or needs an extra two weeks (see also page 7 and 8 of this manual). Student takes initiative for this consult.	Student UT supervisor External supervisor	Week 6 of module 11
Working on proposal	Student	Week 7 & 8 of module 11
Start Bachelor Thesis Assignment Student will start with the execution of the assignment after the explicit approval of the supervisors. Only after this approval it is allowed to start the assignment: GO/ NO GO 3 moment	Student UT-supervisor External supervisor	Week 9 of module 11
Deadline handing in final proposal	Student	Week 10 of module 11 or week 1 of module 12

Phase 3. Module 12 – 10/11 weeks

What	Who	When
Guarding progress / Planning progress The student keeps in touch with both supervisors and is responsible for planning meetings to guard the progress of the assignment.	Student	During module 12
Handing in final draft report in Canvas (also needed for plagiarism check) BE AWARE: The UT supervisor is free to ask for a draft of the thesis in an earlier stage than week 8	Student	Week 8 of module 12
Schedule a date for the examination session Schedule the date for the examination session in consultation with your UT supervisor, second assessor and external supervisor.	Student	Week 8 of module 12
Receiving second round of feedback on the draft report (including plagiarism check by UT supervisor)	Student Supervisor(s)	Week 9 of module 12
Deadline handing in final version of the thesis report with the UT supervisor, the second assessor and the external supervisor.	Student	Week 10 of module 12 Provide adequate reading time for the report for all supervisors
Examination session	Student UT supervisor External supervisor Second assessor	Week 10 or week 11 of module 12
Deadline handing in BSc-thesis evaluation assignment This evaluation assignment is part of module 12 and needs to be handed in via module 12 on Canvas.	Student	A.s.a.p. after examination session

Appendix 2: Assessment BSc Thesis Assignment

The final grade (rounded to whole or half digits and not to decimals such as 7,3 or 6,2) of the BSc Thesis Assignment, which is determined during the examination session, is based on the quality of the final report, the process (functioning at company) and the performance during the examination session.

Awarding credits

To actually receive credits for the final semester (module 11 and 12), you have to comply with the following:

- You have to have spent at least ten weeks with the external organisation;
- The final report is handed in with the UT supervisors and the external supervisor;
- The examination session has taken place and the final grade is sufficient;
- You digitally filled out the evaluation forms of module 12 and sent them in;
- You have digitally handed in the evaluation report for which you were instructed during module 11.

Below the assessment criteria for module 12 are described. Information on the assessment of the preparation of the BSc Thesis Assignment and the evaluation assignment are provided in the manual of module 11.

A - Report: general structure, language, and formatting

	Missing / not acceptable	Weak	Appropriate	Excellent
A1 Structuring	The main text/appendices does not support the findings in any way. Information is presented both in main text and appendices. The main text can't be understood without the appendices but also not with the appendices. The report lacks direction, with subtopics appearing disjointed. The paper has no organisation, with no logical sequencing or structure.	There is a clear structure when it comes to main text and appendices. However, information that is to be expected in the main text is often included in appendices and vice versa. The main text can't be understood without the appendices. The relevance of appendices is often not clear. The report has a weak organisation, ineffective transitions and does not flow from point to point. Not all sections or paragraphs follow in a natural or logical order. Transitions between paragraphs or sections are often lacking.	There is a clear structure when it comes to main text and appendices. It is not always clear however why information is presented in the main text or in an appendix. The main text can be understood without the appendices. The relevance of some appendices is not clear. There is a basic flow from one section to the next, paragraphs are in a logical order, although transitions between paragraphs or sections are not always clear.	There is a clear structure when it comes to main text and appendices. The main text can be understood very well without the appendices but the appendices add necessary elements to the thesis. The thesis is written with a coherent, clear structure that supports the findings. Transitions tie sections together, as well as adjacent paragraphs.
A2 Writing	It is difficult to understand what the author is trying to express. Misspelled words, incorrect grammar, and improper punctuation are evident. These errors make comprehension almost impossible.	Frequent spelling errors are made or incorrect grammar is used. Writing style is vague or unfocused and therefore the author's message is unclear. Paragraphs often lack a good focus.	Writing is generally clear, but unnecessary words are used. The author's message is sometimes not completely clear. Paragraphs have a good focus, but the structure of sentences is often too repetitive. Minor spelling and grammar errors are made.	Writing is clear, effective and insightful. Paragraphs are well structured and are focused. More or less free of spelling or grammar mistakes. Smooth flow and effective transitions within paragraphs.

A3 Referencing	Does not use APA/Harvard format. Citations for statements included in the report were not present, or references which were included were not found in the text. Style and format standards are not applied. Sources are plagiarised ² .	Reflects incomplete knowledge of APA/Harvard format. Inconsistent style and format. Lacks precision in use of quotations and citation of sources. Citations in the body of the paper do often not correspond with the reference list.	Uses APA/Harvard format with minor violations. Citations within the body of the paper and a corresponding reference list were presented. Some formatting problems exist, or components are missing. Few errors of style and format. Most sources are documented correctly.	Uses APA/Harvard format accurately and consistently. All needed citations were included in the paper. References matched the citations. Standards are consistently applied.
A4 Tables and figures	No tables or figures are used when needed or they are used in a non-clarifying way.	Tables or figures are used when needed, but in a limited clarifying way.	The use of tables and figures are used when needed but can be improved by making them more concise and insightful.	Tables and figures are used when needed. Concise and insightful.

² Note: In case of suspicion of plagiarism: (1) plagiarism in the final thesis needs to be reported to the examination board; (2) assessment needs to be halted, no results may be registered; (3) examination board will take over control.

B - Report: project content and results

	Missing / not acceptable	Weak	Appropriate	Excellent
B1 Problem context in general and in the context of the principal	Poor description of client, topic and field. The author demonstrates an inadequate knowledge base to understand the significance or scope of the problem. No references are made to recent developments in (research)field.	Client and topic are introduced, but the author does not distinguish what has and has not been studied before. Topic is not positioned in broader scientific literature. Recent developments in (research)field are only discussed on a very general level.	The reader is made aware of the overall problem, client's position, challenge, or topic of the research. The thesis includes some discussion of broader scientific literature. General developments in the (research)field relevant to the topic are described, making use of scientific or non-scientific sources.	The author critically examines the state of the field. The author describes what has and has not been studied. Furthermore, the topic is well positioned in more general and topic-related developments in the field (of research) as described in scientific and non-scientific sources.
B2 Research aim and question(s)	Research aim and question(s) are not related to the context as described or the research aim and question(s) are missing.	Weakly states how the context contributes to or justifies posing the research aim and question(s). Research questions are missing or do not have a clear relation to the aim	Research aim and question(s) are clearly stated, but the author provides some flaws in regard to context.	Author uses the context description to justify the proposed research as a logical next step. Research aims and questions are clearly stated and questions logically derived from aim.
B3 Methodology	The research methodology that is used is not described or there is no link between the choice of research methodology and the other sections of the research.	The research methodology that is used is described but the author does not make clear enough why specific techniques are chosen to answer specific research questions.	The research techniques chosen result from the literature review/choice of key-concept and/or scope. There is a link between a specific research question and specific research techniques. The choice of research techniques is sufficiently reasoned, but for instance alternatives and limitations are not taken into account.	The research techniques chosen result from the literature review/choice of key-concepts and/or scope. There is a clear link between a specific research question and specific research techniques. The choice of research techniques is well reasoned. In this reasoning alternatives and limitations are taken into account.
B4 Execution of the methodology	The execution of the research techniques is not transparent, the outcomes can't be checked. Verification and validation of result is missing.	The execution of the research techniques is not completely transparent. Limited verification and validation of results.	The execution of the research techniques is transparent. In general a verification and validation of results.	The execution of the research techniques is transparent. A thorough verification and validation of all results.
B5 Analysis and results	Results are presented without critical reflection or interpretation.	There is some reflection on the quality and consistency of the results. Some interpretation of the results, though limited in scope.	A reflection on the quality and consistency of the results. Though not systematic, interpretation of the results in relation with findings in literature.	A systematic reflection on the quality and consistency of the results. Explicit, in depth, interpretation of the results in relation with findings in literature.

B6 Conclusions	There is no indication that the author tried to formulate a conclusion based on the results. No answer to the research question is provided.	The author provides concluding remarks, but these are not fully supported by the results. The conclusions are described are either too general or too specific.	The author provides concluding remarks that show an analysis and synthesis of ideas. Some of the conclusions, however, were not supported by the results.	The author formulates conclusions that are to the point. Conclusions show an analysis and synthesis of ideas and are strongly supported by the results.
B7 Discussion and reflection on the results	There is no evidence of having insights in the limitations of the study. The implications for theory and practice are not connected to the results: they are not related to existing theories or current development. No specific directions for further research are given.	The limitations of the study are not specifically described. The paper incompletely describes the theoretical implications of research findings. Implications for practice are described only in general terms, but specific suggestions for practice are lacking. Directions for further research are barely connected to the results of the research.	The author demonstrates good insight in the limitations of the research. He/she understands the practical and theoretical implications of research findings. Both the practical and theoretical significance of the research are clearly described. Directions for further research are well described on a general level but do not connect to the specific conclusions from the results.	The author has good insights in the limitations of the research. Both the practical and theoretical significance of the review are clearly described and critiqued. Demonstrates thorough understanding of the theoretical implications of research findings. Suggestions for theory and practice are strongly supported throughout the study. Directions for further research are specifically described and connected to the research.

C - Presentation and defence

	Missing / not acceptable	Weak	Appropriate	Excellent
C1 Presentation (structure, pace, message, ...)	Insufficient structured presentation. Research questions and answers are unclear for the audience.	A structured presentation. Research questions and answers are presented though not fully satisfactory. A 'take home' message is missing.	A structured presentation with a pace which fits the audience. The research questions are clear and answered. The need for the research, the contribution to science, the results and its meaning for the principle is handled, but is not fully clear for the audience. A 'take home' message for the audience.	A well-structured with a pace which fits the audience. The research questions are clear and answered. The need for the research, the contribution to science, the results and its meaning for the principle are made clear for the audience. A broad scope on the matter is shown. A convincing 'take home' message as a natural outcome of the presentation.
C2 Use of media Answering questions, discussion (sheets, figures, tables, video, ...)	Media don't support the presentation or confuse the audience.	Media support the presentation, but need explicit explanation in order to understand it.	Media support the presentation without the need for explicit explanation.	Media support the presentation without the need for explicit explanation. A valuable aid for the audience to develop in-depth insight in the research.
C3 Answering questions, discussion	No correct or meaningful answers.	Shows some difficulty in understanding (/interpretation) of the questions. Answers are not always correct. Follow-up questions are necessary to tackle the relationship with the results, the literature and the meaning for the principle.	Shows understanding (/interpretation) of the questions. In general correct answers. For some questions the relationship with the results, the literature and the meaning for the principle is shown.	Shows a true understanding of the matter is shown by not only answering the question as such, but explicit use of the results, addressing relations with literature and the meaning for the principle too.
C4 Reflection	Doesn't show reflection during the colloquium.	Shows reflection during the colloquium at some points (presentation, questions or discussion).	Shows reflection during the colloquium at several points. Shows in-depth reflection on specific issues when asked.	Shows, actively, reflection and a well-developed critical eye throughout presentation, questions and discussion.

D - Planning and communication

	Missing / not acceptable	Weak	Appropriate	Excellent
D1 Preparation of meetings	Fails to plan, prepare and organise meetings. Information is inadequate and/or late. Minutes are missing.	Relies for the planning, preparation and organisation of the meetings to some extent on the supervisors. Information is not always complete or in time. Minutes are missing.	Prepares the planning, preparation and organisation of the meetings. Information is complete and in time. For the supervisors it is not clear if, and where, special attention is requested. Minutes are made.	Shows ownership of his project. Is proactive in planning, preparation and organisation of meetings. All desired information is timely available. Supervisors are guided where to put specific attention to. Meaningful minutes timely available.
D2 Contribution to meetings	Has a passive role in the meeting.	Is adequate in answering questions, but has difficulty in raising project issues.	Is adequate in answering questions and raising project issues.	Shows responsibility as a project owner. Shows overview over the matter in answering questions, raising issues and discussion.
D3 Incorporation of feedback of all stakeholders	Feedback not processed.	Processing of feedback in a narrow scope.	Processing of feedback is adequate. Occasionally the scope is too narrow	Uses feedback actively. Shows incorporation of feedback in a broader scope.
D4 Proactive asking for feedback or support	Feedback is not asked.	Feedback is asked, but the relevance is lacking.	Active asking for feedback, but not always on relevant issues.	Active asking for feedback on relevant issues where contribution of the supervisors is essential.
D5 Acting as problem	Shows no signs of problem ownership.	Shows signs of problem ownership. Relies too much on supervisors.	Takes adequate responsibility as a problem owner. Needs support by supervisors occasionally.	Takes full responsibility as a problem owner. Supervisors can trust the student in this role.