

# **Graduation guide for thesis work within the track Water Management, MSc in Civil Engineering**

## **Introduction**

The final educational activity when doing an MSc in Civil Engineering is the graduation project, resulting in an MSc thesis. The graduation project is 40 EC. Graduation projects can be conducted entirely within the university or with an external host organisation, such as a consultancy, a research institute or a water management body. The MSc thesis should in principle be in English. Under some circumstances, e.g. if the host organisation so demands, it can be in Dutch, subject to permission by the Board of Examiners. In any event, there must be a summary in English.

There are a number of administrative requirements for the graduation project. Failure to meet these requirements may result in unnecessary delays in obtaining your degree! The most important requirements can be found in the ‘Regulations and Guidelines of the Board of Examiners’ (RGE) and the Teaching and Examination Regulations’ (TER) of the Master of Science Civil Engineering. The TER deals with the composition of the study programme and start + assessment of the thesis project. In the RGE regulations for the composition of the assessment committee and rules for the working method of the assessment committee can be found. Both regulations are located at the TUDelft website under the studentportal : <https://www.tudelft.nl/en/student/faculties/ceg-student-portal/education/education-information/educational-rules-and-regulations/> . Moreover, you should check form CIE-0 on <https://www.tudelft.nl/en/student/faculties/ceg-student-portal/education/master/forms-master/> for important procedures.

Please note that the TER and RGE can be adapted every year. Generally, the TER of the year of start of the MSc applies and the RGE of the year of starting the MSc thesis.

This graduation guide does not replace the TER and the RGE. What you can expect in this guide is an overview of the graduation process for the track Water Management at the Department of Water Management. The administrative procedures are summarized in a checklist for the Section of Water Resources and a checklist for the Section of Sanitary Engineering. These also mention the different forms that have to be filled in and give some additional requirements, so read these!

## **Beginning the graduation process**

You may start work on your graduation project only when you have gained at least 65 credits in the MSc programme. The Department recommends at least 70 credits. If you intend to start work on your graduation project, you must complete the form CIE-1(see further the checklist).

The overall graduation process for the thesis work can be divided into the following phases:

- A. Orientation
- B. Start
- C. Execution
- D. Completion

## **A. Orientation**

You should start thinking about the topic of your master graduation project well in time. To get ideas, you can look at MSc theses produced by former students on the central library's repository or the water management website [www.watermanagement.tudelft.nl](http://www.watermanagement.tudelft.nl). Almost all available topics are presented twice a year on a "Thesis Market" organized and announced by the department and the dispuut W&E. These topics are listed on the Brightspace page for the "Master Programme Civil Engineering and Geosciences" under MSC AES & CE /track Water Management" <https://brightspace.tudelft.nl/d2l/le/content/43049/Home> Sometimes external organisations propose interesting topics. However, the topic of your master graduation project must be approved by the chair of your thesis committee, so you should not make any firm agreements before the topic has been formally approved.

### *The thesis committee*

During the graduation process you will be guided and assessed by a thesis committee.

### **Composition of assessment committee Master's thesis project**

For the academic year 2020-2021 the rules for composition are described in the articles 23 of the Rules and Guidelines of the Board of Examiners.

In practice, students first get into contact with a potential thesis supervisor, and he or she will then help with the composition of the thesis committee.

### *Completing your graduation project with a host organisation*

If you wish to complete your graduation project at an external host organisation, you must obtain permission of the chair of your thesis committee. Furthermore, follow the instructions as described on <https://www.tudelft.nl/en/student/faculties/ceg-student-portal/education/master/forms-master/>

### *Completing your master's thesis project abroad*

It is possible to complete your thesis project with a host organisation abroad. A master thesis project abroad requires careful preparation and often takes more time to complete than a project in the Netherlands. In this case too your thesis will be assessed by the thesis committee of the MSc Civil Engineering programme, acting under the overall responsibility of the Board of Examiners of Civil Engineering. It is obvious that one or more of the experts who supervise your project should be included on the thesis committee as external examiners.

## **B. Start**

In this phase, you are expected to deliver the first actual product: the work plan. You will draw up your work plan in close consultation with your thesis supervisor. Your work plan should include at least:

- a problem statement, including the societal and scientific relevance of your research
- a research question or questions
- the planned activities to answer the research questions ("methods")
- a realistic time schedule with firm deadlines that makes allowance for holidays, examination periods, etc.

The Start Meeting is the first official meeting of the thesis committee. This should ideally be attended by all members. At this meeting, you will present your work plan for the committee's approval. Please note that major changes to the work plan in later stages will need to be approved by the committee.

Once the topic of your thesis project has been established, your MSc examination programme needs to be approved. This will require you to complete form CIE-2. If the full thesis committee is not yet established, this can be done in a later stage through a CIE-2a form, but before the green light meeting.

### **C. Execution**

In this phase you actually execute the planned activities listed in your work plan. The faculty can provide you, upon request, with various facilities to assist you in doing so.

During this phase there will be at least one and usually more interim meetings with the thesis committee to discuss progress. Unless otherwise agreed, it is your responsibility to submit the documents to be discussed at least one week in advance to each committee member – as a hard copy if so requested - and to write up a report of the meeting afterwards. This report should be e-mailed to each committee member for approval.

The meetings and further supervision you receive may take different forms. When you graduate at the water resources section, you will be asked to present your research at the Thursday afternoon colloquia.

In case of any disagreement with the thesis committee that cannot be resolved amicably, you should contact your academic counsellor, who will attempt to find a solution. If he or she is unable to do so, the matter will be referred to the Board of Examiners. The board will first attempt to mediate but if this also fails, the board will issue a binding ruling.

If your graduation project takes *longer than one year*, the thesis coordinator is required to investigate the causes for this delay. He will contact both you and the chair of your thesis committee. If it seems likely that the delay will be further protracted, the thesis coordinator will notify the Board of Examiners accordingly. The Board will then require you and the chair of your thesis committee to provide a written explanation. In exceptional cases, the board may rule that the work to date must be assessed immediately as it is. If found insufficient, you will be required to find a new thesis topic and repeat the graduation process.

Note: for the official text also read the relevant articles of the TER (for the year 2020-2021 the articles 24 and 25 of the Annex) and the RGE (the articles 23-25)

### **D. Completion**

#### *Green light meeting*

The final phase of the graduation process begins with the so-called 'green light meeting'. Prior to the meeting, you must submit a complete draft of your thesis, including a summary and the conclusions, to each member of the thesis committee. The exact date of submission is agreed with the committee members, but is usually at least a week prior to the meeting. At the meeting, the committee will decide whether you can submit the final version of your thesis for assessment. If so, a date will be set for the final presentation and assessment. Moreover, the committee will decide on any changes that should be made to the draft thesis.

## *Graduation*

It is only possible to graduate if you have fulfilled all other obligations for graduation! You must have completed all your courses successfully. If you take an exam shortly before the final presentation and you fail, the graduation date has to be postponed. You have to apply for graduation in time: see the checklist.

Graduation consists of the final presentation and the final assessment, usually directly after the final presentation. The final presentation is public. It is given to an audience made up of your family and friends, professionals from the field and TU Delft staff and students. It should be understandable for an (intelligent) lay person, but should also be interesting for the experts. You should reserve a room for the final presentation (see the checklist).

The final assessment is made by the thesis committee behind closed doors. You must ensure that all members of the committee have a hard copy of the final version of your thesis well in advance. In addition, you should also upload your thesis onto the repository of the TU Delft library. The only exception is if the host organisation requests an embargo on publication, for example because the thesis contains confidential business information. In such cases, a period is agreed after which the thesis can be published.

Article 28 of the Board of Examiners' Regulations and Guidelines contains the official criteria on which you will be assessed. In practice, you are assessed using the following five criteria:

- Scientific approach (25%)
- Quality of result (25%)
- Behavioural skills, such as independence, initiative and communication (20%)
- Quality of written presentation (15%)
- Quality of oral presentation and defence (15%)

The final mark is expressed as a score out of ten. (Half-marks are possible.)

When the final mark is a 6 or more, you will get your diploma immediately after the final assessment. The Diploma Supplement with all the marks will be sent to you within 20 working days.