

# Graduation Manual

## Master Geomatics

Academic year 2021–2022



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## Introduction

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This manual is based on the official regulations of the graduation process for students in the Master Geomatics of the Faculty of Architecture and the Built Environment, and is meant for students, mentors, co-readers, delegates of the Board of Examiners and others who are involved in the graduation process. This manual contains important information about the structure and regulations of the graduation process.

This manual is part of the official regulations and is sent at the start of the semester to all students who enrolled for GEO2011 in 2021 and in GEO2010 for earlier started graduation students.

Section 1 provides a scheme of the setup of the evaluations and a scheme explaining the responsibilities of everyone involved per evaluation.

Section 2 contains information about the quorum and the appraisal

Section 3 provides information on the 'cum laude' and 'honorable mention' regulations.

The appendices contain more detailed information on several aspects, a.o.: details on the subjects to be assessed, graduation plan, reflection requirements, an example of a graduation contract and the references to official regulations which this manual is part of.

A digital graduation registration is used. All involved teachers have access to the information in the Share-Point application that is used for this registration. The registration includes personal information of the student, the composition of the mentor team, registration for the P2 and P5 and the registration of all assessments. Each semester Education and Student Affairs adds the names of the new enrolled GEO2011 students to this digital registration.

The involved coordinators, mentors and delegates of the board of examiners can add additional information and notes to the file of each student. For all graduates, the first mentor is responsible for completing the digital assessment registration.

## 1.0 Graduation process

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### 1.1 Admission

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Students who enter the graduation programme should have completed at least nine of the ten 5 EC core courses. You start the graduation programme with registration (P1).

Students will only be admitted to P2 (evaluation 2) if, at the final registration date according to the graduation calendar, they have obtained all credits from the first year with the exception of 1 course (5 EC).

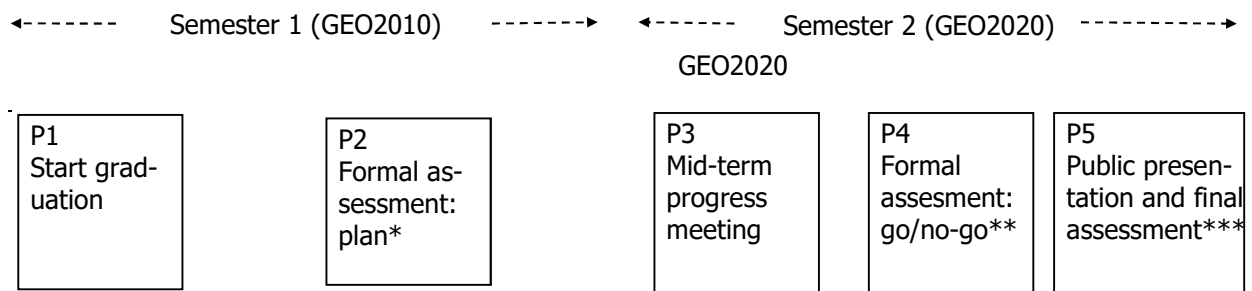
### 1.2 Evaluations

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During three formal assessments (P2, P4 and P5) your mentors will evaluate your progress in the presence of a delegate of the Board of Examiners. The evaluations take place within the assigned periods, indicated in the academic graduation calendar. The P2, P4 and P5 have to take place within the venue of the Faculty of Architecture and the Built Environment, or will be held online if due to Covid-19 measures this is necessary.

Time Schedule		
What	When	Responsible
<b>P1: Registration of topics/mentors</b> <ul style="list-style-type: none"> <li>- <i>Product: topic, mentors, summary of problem to solve and objectives</i></li> </ul>	9-10 weeks after official start semester	<i>Graduation Coordinator</i>
<i>Submit final graduation plan to both mentors and the delegate of the Board of Examiners</i>	<i>1 week before P2</i>	<i>Student</i>
<b>P2: Graduation plan (formal assessment)</b> <ul style="list-style-type: none"> <li>- <i>Presentation: 15 minutes</i></li> <li>- <i>Questions : 15 minutes</i></li> <li>- <i>Closed Appraisal: 15 minutes</i></li> <li>- <i>Committee informs student about result assessment: passed, failed, or retake</i></li> </ul>	9-10 weeks after P1	<i>Graduation Coordinator</i>
<b>P3: Midterm progress meeting</b> <ul style="list-style-type: none"> <li>- <i>Free-form, to be decided by mentors and student</i></li> </ul>	~7-8 weeks after P2	<i>First Mentor</i>
<i>Submit draft thesis to both mentors, the co-reader, and delegate of the Board of Examiners</i>	<i>1 week before P4</i>	<i>Student</i>
<b>P4: Go/no-go (formal assessment)</b> <ul style="list-style-type: none"> <li>- <i>Assessment meeting with mentors, student, and delegate of Board of Examiners</i></li> <li>- <i>45 minute meeting where decision is made whether student can defend within 1 month</i></li> <li>- <i>Student is informed about result assessment: go, or no-go</i></li> </ul>	~7-8 weeks after P3	<i>Student, first Mentor</i>

What	When	Responsible
<i>Submit final thesis to both mentors, the co-reader, and the delegate of the Board of Examiners</i>	<i>1 week before P5</i>	<i>Student</i>
<b>P5: Public presentation and final assessment (formal assessment)</b> <ul style="list-style-type: none"> <li>- <i>Public presentation: 30 minutes</i></li> <li>- <i>Questions: 15 minutes</i></li> <li>- <i>Closed appraisal: 15 minutes</i></li> <li>- <i>Result and graduation ceremony: 15 minutes</i></li> </ul>	4-5 weeks after P4	<i>Student, FirstMentor</i>



- \*            P2: Formal assessment of the Graduation Plan, admission to GEO2020.
- \*\*          P4: Formal assessment of draft thesis.
- \*\*\*        P5: Formal assessment of final thesis and presentation.

### 1.3 Mentors and graduation team

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#### **First Mentor (Daily mentor)**

The first mentor is a scientific staff member of one of the groups involved in the MSc Geomatics programme.

They are responsible for the overall graduation project and are an expert in the field of the graduation project. They are involved in all evaluations and take care of the registration of all assessments in Sharepoint (the registration system).

#### **Second mentor**

The second mentor is a scientific staff member of the TU Delft whose expertise complements that of the first mentor. If the first mentor does not hold a PhD, then it is mandatory that the second mentor holds one. The second mentor must participate in P2, P4 and P5.

#### **Co-reader**

The co-reader is a scientific staff member of the TU Delft or employee of another university, who is an expert in the field of the graduation project. Their first task is to assess the quality of the student's work in an unbiased way. The co-reader contributes to the final mark given to the student (at P5), and can help improve the final thesis by providing feedback at the P4. Preferably, they are not part of the same group(s) as the first and second mentors belong to. The co-reader is chosen by the mentors in collaboration with the student.

#### **Delegate of the Board of Examiners (BE)**

The delegate of Board of Examiners participates as chairperson during the P2, P4 and P5, and is appointed by the Board of Examiners after admission to the P2.

## 1.4 Detailed scheme per evaluation

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### Evaluation 1 P1- Progress review Graduation plan

<i>Goal</i>	Ensure that the student has picked a topic, two mentors, and has an overview of what will need to be carried out.
<i>Structure</i>	Registration of necessary text in the system of GEO2020 website.

P1 responsibilities		
Part	Action	Responsible
<i>Task</i>	Setup the system to register the topics and summaries	Graduation coordinator
	Register asked information before the deadline	Student

**Evaluation 2    P2 – Formal assessment: Graduation plan**

<i>Goal</i>	The P2 assessment is essential to get admission to GEO2020. Mentors assess whether the student can graduate with the topic within 6 months.
<i>Where</i>	Reserved room by Scheduling BK or online meeting if due to covid-19 measures no activities at BK allowed.
<i>When</i>	During the fixed weeks according to the academic graduation calendar.
<i>Admission conditions</i>	The enrollment for the P2 evaluation is only possible if the student has obtained all credits (EC) of the first year with the exception of 1 course (5 EC) maximum.
<i>Structure</i>	For the student 15 minutes preparation is scheduled, followed by: 15 minutes presentation; 15 minutes questions; 15 minutes for appraisal and communicating the result to the student.
<i>Quorum</i>	First and second mentors Delegate of the Board of Examiners
<i>Chairperson</i>	Delegate of the Board of Examiners
<i>Assessors (all required)</i>	First and second mentor
<i>Subjects of assessment</i>	Research, Presentation, and Process (see Appendix 1)
<i>Method of assessment</i>	Assessment is based on the P2 assessment criteria. The mentors give the student a good (+), sufficient (0) or negative (-) indication per aspect; the first 2 are a "pass", the last one a "fail". The mentors give the student a final conclusion: passed, failed, or retake.
<i>Method of assessment registration</i>	The assessment and the result are registered in the P2 assessment form in Sharepoint by the first mentor.
<i>Consequence of assessment</i>	Result "Passed" means the student is able to finish the graduation project within 6 months, and gets registered for GEO2020. The result "Passed" is an interim examination result with a validity of one year. Result "Failed" means the student does the P2 again, in the next P2 period at the earliest (new registration required). Result "Retake" means the student does again P2 within two weeks.
<i>Retake</i>	In case of a "Retake" the assessors are convinced that a realistic chance exists the student will be able to pass in 2 weeks. Specific improvement points are described in the assessment form. The first mentor and the delegate of the Board of Examiners must agree on a date and time for the retake with the student. If the mentors and delegate are not satisfied with the results after the retake, a "Failed" is given.



P2 responsibilities		
Part	Action	Responsible
<i>Preparation</i>	Schedule day and time and inform student, first mentor and second mentor.	Graduation coordinator
	Register P2 request in Sharepoint.	Graduation coordinator
	Register second mentor. One month before P2 at the latest.	Graduation coordinator
	Check whether student meets the admission requirements and register in Sharepoint.	Student Administration (SPA-BK)
	Inform student by E-mail on result admission assessment.	Board of Examiners
	Allocate delegate of the Board of Examiners and register in Sharepoint.	Secretary Education and Student Affairs (authorized by the board of examiners)
	Write a Graduation Plan (use template, see Appendix 2).	Student
	Schedule P2 for admitted students; scheduled presentations will be part of the course BK-P2 and also the individual Staff Members timetables on My Timetable	Scheduling department
	Hand in the graduation plan to the mentors and to the Secretariat of the Board of Examiners (Examencommissie-BK@tudelft.nl) at least one week before P2.	Student
	Read and assess the graduation plan.	Mentors and Delegate of the Board of Examiners
15 minutes before session, ensure computer and slides are working.	Student	
<i>At the evaluation</i>	Chairperson.	Delegate of the Board of Examiners
	Present graduation plan, draft research results and draft of graduation project.	Student (See appendix 1 and 2 for exact products for this evaluation)
	Ask questions.	Both mentors
	Evaluate academic level of student's presentation and the answers to the mentors' questions.	Both mentors
<i>At the closed appraisal</i>	Act as chairperson	Delegate of the Board of Examiners
	Determine final decision	All mentors
	Document the assessment and conclusion on the P2 Assessment form in SharePoint	First mentor

P2 responsibilities		
Part	Action	Responsible
<i>Completion</i>	Inform the student of final decision. Make arrangements for retake if applicable.	First mentor
	Complete assessment form with own notes within two workings days	Second mentor and Delegate of the Board of Examiners.
	Check P2 assessment form on completeness and send it to the student by E-mail, using the button on the Assessment form within five workings days.	First mentor
	Check whether forms are all present and filled in correctly. Undertake action if items are missing; register completion.	Education and Student Affairs
	Register P2 completion date in Osiris.	Student Administration (SPA-BK)

**Evaluation 3 P3 – Progress meeting**

<i>Goal</i>	Determine whether the student’s progress indicates they should be able to meet on time the requirements for the P4.
<i>Where</i>	Reserved room by first mentor or online if meetings at BK are not allowed due to Covid 19 measures.
<i>Structure</i>	Meeting
<i>Assessors</i>	First mentor, and second mentor is optional.
<i>Subjects of assessment</i>	Research, Presentation and Process (see Appendix 1).
<i>Method of assessment</i>	The first mentor gives the student a positive or negative indication concerning their progress.
<i>Method of assessment registration</i>	The assessment and conclusions are documented on the P3 assessment form in Sharepoint by the first mentor.
<i>Consequence of assessment</i>	This is not a formal assessment, it is used as an indicator for the student to know if they are on track. Regardless of the outcome of the assessment, the student proceeds. If necessary, the first mentor advises the student about possible improvements.

<b>P3 responsibilities</b>		
<b>Part</b>	<b>Action</b>	<b>Responsible</b>
<i>Preparation</i>	Schedule day, time and location and inform student and second mentor.	First mentor
	Register scheduled date in digital graduation registration.	First mentor
<i>At the meeting</i>	Give feedback on students’ progress by first mentor and ask for specific feedback by student.	First mentor, student
<i>Completion</i>	Fill in the P3 assessment form (Sharepoint). Determine conclusion: On schedule or Not on schedule.	First mentor
	Inform the student of assessment; advice on progress.	First mentor
	Send the digital assessment form to the student, within 2 days after P3. Register P4 date, preferred time (morning, afternoon, evening) in the Student Progress Overview in the Graduation Registration (Sharepoint).	First mentor
	Before registering the P4 date check availability of second mentor and delegate Board of Examiners.	First mentor

## Evaluation 4 P4 - Go/no-go (formal assesement)

<i>Goal</i>	Determine whether the content of the research meets the requirements to admit the student to the final public presentation (P5).
<i>Where</i>	Reserved room by Scheduling BK or online if this activity at BK is not allowed due to Covid 19 measures.
<i>When</i>	During fixed weeks according to the academic graduation calendar.
<i>Admission requirements</i>	Student has obtained all educational components of the Master Geomatics programme with exception from GEO2020.
<i>Structure</i>	Meeting with mentors and student, delegate is present to chair the meeting. The co-reader does deliver feedback on the report before the P4 to the main mentor who can bring this forward in the meeting with the student. If the student has agreed on beforehand with the first mentor a presentation of 10 minutes is allowed. <ul style="list-style-type: none"> <li>• 30 minutes discussion with and asking questions to the student by the mentors on the draft thesis;</li> <li>• 15 minutes closed appraisal by committee and committee informs student on the result: GO / No-go.</li> </ul>
<i>Quorum</i>	First mentor Second mentor Delegate of the Board of Examiners
<i>Chairperson</i>	Delegate of the Board of Examiners.
<i>Assessors</i>	First mentor Second mentor
<i>Subjects of assessment</i>	Research, Presentation, Process and Project (see Appendix 1 and 5).
<i>Method of assessment</i>	Assessment is based on the P4 assessment criteria The mentors give the student a good (+), sufficient (0) or negative (-) indication for each aspect. Finally, the mentors give the student a positive (Go) or negative (No-go) judgement on the graduation project.
<i>How is the assessment registered</i>	The assessment and final decisions are registered in Sharepoint.
<i>Consequence of Assessment</i>	With a "Go" the student proceeds to P5. With a "No-go" the student has to register for a new P4 in the next period (retake P4).
<i>Retake</i>	At result "No-go" the retake will be held in the next P4 period. An appointment must be made with the first mentor. If the retake also results in "No-go", an appointment with the study councellors needs to be made.

P4 responsibilities		
Part	Action	Responsible
<i>Preparation</i>	Fill in the P4 application form and collect signatures from the two mentors and the delegate. P4 application form can be handed in digital and instead of signatures also E-mail confirmations from delegate and mentors are sufficient.	Student
	Deliver P4 form to Secretariat Education and Student Affairs or digital to <a href="mailto:BoardofExaminers-BK@tudelft.nl">BoardofExaminers-BK@tudelft.nl</a>	Student
	Determine who will be the co-reader and register in graduation administration.	Graduation coordinator
	Register the P4 applications in the digital graduation registration.	Secretary Education and Student Affairs
	Check whether student meets the admission requirements.	Education & Student Administration
	Inform the student on the result of the admission check.	Student Administration (SPA-BK) on behalf of the Board of Examiners
	Schedule P4 day, time and location. Scheduled meetings will be part of the course BK-P4 and also the individual Staff Members timetables on My Timetable	Scheduling BK
	Upload thesis in Brightspace course "plagiarism check" and send draft thesis to mentors, delegate and co-reader.	Student
	Deliver written feedback on the thesis before the P4 to the main mentor.	Co-reader
	Assess result of Turn-it In similarity report in Brightspace on students' thesis.	First mentor
<i>At the evaluation</i>	Chairperson	Delegate of the Board of Examiners
	Defend and explain the results, choices and proces in discussion between mentors and the student.	Student and mentors (See Appendix 1 for exact description of the products for this evaluation)
<i>At the closed appraisal</i>	Chairperson	Delegate of Board of Examiners
	Determine final assessment.	Both mentors
	Determine if the student must be advised to consult an academic counsellor.	Both mentors and delegate of Board of Examiners
	Document the assessment and conclusion in SharePoint.	First mentor

P4 responsibilities		
Part	Action	Responsible
<i>Completion</i>	Process graduation document within five working days (Sharepoint) and send it to student by E-mail, using the button on the assessment form.	First mentor
	Check whether forms are filled in correctly. Undertake action if items are missing.	Education & Student Affairs
	Register P4 completion in Osiris.	Student Administration (SPA-BK)

**Evaluation 5 P5 - Public presentation and final assessment (formal assessment)**

<i>Goal</i>	Public presentation and final assessment.
<i>Where</i>	Reserved room by Scheduling BK.
<i>When</i>	During fixed weeks according to the academic graduation calendar.
<i>Structure</i>	For the student 15 minutes preparation is scheduled, followed by: 30 minutes presentation; 15 minutes questions; 15 minutes closed appraisal; 15 minutes announcing the results and graduation ceremony.
<i>Quorum</i>	First mentor Second mentor Co-reader Delegate of the Board of Examiners.
<i>Chairperson</i>	Delegate of the Board of Examiners.
<i>Assessors</i>	First mentor Second mentor Co-reader
<i>Subjects of assessment</i>	Subjects of assessment are specified in the GM master thesis Rubric (see Appendix 5).
<i>Method of assessment</i>	For the assessment of the research four components are assessed (see Appendix 1 Evaluation criteria). The components and their weights are: 1. Research (50%); 2. Presentation and and answers on questions (20%); 3. Project (15%); 4. Process (15%). Both mentors give a mark for all components. The co-reader only gives a mark for the 'Research' and 'Presentation and questions' components. All criteria should be awarded with at least 6,0 and also the final mark is at least a 6,0.
<i>How the assessment is registered</i>	The assessment and conclusions are registered on the <u>P5 assessment form</u> in the digital Graduation Registration (Sharepoint).
<i>Consequence of assessment</i>	Student graduates and receives subsequently their Master's degree diploma.

P5 responsibilities		
Part	Action	Responsible
<i>Preparation</i>	Register a preferred P5 date, in the P5 period according to the graduation calendar, in the digital registration (at P4 assessment form).	First mentor
	Check whether student meets the admission requirements. If yes deliver diploma to Education- & Student Affairs BK.	Education and Student Administration and Central Student Administration.
	Inform student on admission, procedure and P5 obligations.	Secretary Education and Studentaffairs
	Schedule P5.	Scheduling BK
	Print student's blank P5 mark list.	Secretary Education and Studentaffairs
	Collect the diploma and blank mark list at Education- & Student Affairs on P5 day, if P5 is NOT online.	Delegate of Board of Examiners
	Send a PDF of the final thesis to the 2 mentors, the co-reader, and the delegate.	Student
	Check thesis for plagiarism by uploading thesis in available Brightspace course. See Appendix 3	Student
	Check outcome of plagiarism check on students graduation report	First mentor
	15 minutes before start evaluation, prepare session.	Student (See Appendix 1 for exact definition for required products for this evaluation)
<i>At the evaluation</i>	Act as chairperson.	Delegate of Board of Examiners
	Present research results.	Student (See appendix 1 for exact definition for required products for this evaluation)
	Ask questions.	In that order: (1) co-reader; (2) 2 <sup>nd</sup> mentor; (3) 1 <sup>st</sup> mentor.
	Assess questions of examiners.	Delegate of Board of Examiners



P5 responsibilities		
Part	Action	Responsible
<i>At the closed appraisal</i>	Act as chairperson	Delegate of the Board of Examiners
	Give a mark for the 'Research' and 'Presentation and questions' components.	Co-reader.
	Determine the marks for all 4 criteria (see rubric) and the end mark. Each assessor must mark individually and the average of those marks per criteria is the final mark for that criteria.	First mentor, second mentor
	The final end mark is the weighed average of the 4 criteria marks (see rubric)	Mentor team with approval of delegate of Board of Examiners
	Register all marks on the P5 assessment form in Sharepoint and on the printed P5 mark form.	First mentor
	Open diploma envelop and check if student meets cum laude criteria.	Delegate of Board of Examiners
	Invite student to appraisal and inform student on the marks given. Ask student if result should be announced at ceremony.	First mentor
	<i>Completion</i>	Welcome student and public to diploma ceremony and explain procedure.
	Inform the student and audience about the final result. If agreed on also make marks public and explain why.	First mentor
	Hand out P5 mark list to student	First mentor
	Hand out diploma.	Delegate of Board of Examiners
	Sign diploma (both sides).	Student
	Process graduation file within five workings days (Sharepoint).	First mentor
	Maximum one day after P5, upload the final thesis (PDF) and final presentation slides (PDF) to the TU Delft repository. Be aware: the education programme should be "Geomatics"	Student
	Check whether assessment forms are filled in correctly. Undertake action if items are missing; register completion P5.	Education and Student Affairs

P5 responsibilities		
Part	Action	Responsible
<i>Completion</i>	Unsubscribe as TU Delft student, via Studielink Remember to unsubscribe from TU Delft via Studielink in the month of your graduation. You will be unenrolled from the 1st of the next month. If you do not unenrol in time you are required to pay tuition fees for another month. Unenrolling retroactively is not possible. Tuition fee refunds Under certain circumstances the tuition fee can be partly refunded. See website <a href="#">Contact Centre</a>	Student
	Register P5 result in Osiris.	Student Administration (SPA-BK)
	Check uploaded files in TU Delft repository	Graduation coordinator GM
	Send diploma supplement to student address.	Student Administration (SPA-BK)

## 2.0 Particular circumstances

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### ***Quorum at evaluations***

A quorum is required for the graduation evaluation to be valid.

- Quorum for P2: First mentor, second mentor, and delegate of the Board of Examiners.
- Quorum for P4: First mentor, second mentor, and delegate of the Board of Examiners
- Quorum for P5: First mentor, second mentor, co-reader, and delegate of the Board of Examiners.

### *Absence of the Delegate of the Board of Examiners*

The Board of examiners appoints delegates of the Board of Examiners and deputy delegates for all evaluations. If the Delegate of Board of Examiners is unable to attend an evaluation, they ask the deputy delegate of the Board of Examiners to replace them. The deputy delegate of the Board of Examiners is registered in the digital graduation registration by the Secretary of the Education and Student Affairs.

### *Absence of a mentor*

#### Known in advance

If it is known in advance that a mentor or the co-reader will be unable to attend, a presentation must be held for that assessor prior to the evaluation. The assessment and signature of the assessor concerned must be written down with comments and feedback. This letter must be given to the delegate of the Board of Examiners in a closed envelope, or sent by E-mail. At the appraisal, this assessment will be taken into account by the other mentors for determining the final assessment.

#### Unexpected absence

In case of an unexpected absence there, a replacement must be sought. The Secretariat of the Board of Examiners is also informed by the delegate of the Board of Examiners about this absence. The evaluation should preferably be continued and the final assessment should be determined after he absent mentor has been contacted.

The determination for a Go / No-go (P4) or the registration of the marks on the final mark lists (P5) only takes place after consulting the absent assessor. If this isn't possible, final judgement at the P4 is postponed. At the P5 a "pass" is registered for the involved academic field. In both cases a meeting with the absent First mentor takes place on the shortest possible term, to determine a final conclusion. At doubt or on request of the student, it may be decided that an extra presentation must be held.

### ***Difficulties at the appraisal***

It may occur that the appraisal does not lead to an assessment. The delegate of Board of Examiners informs the student on this situation and explains the applied procedure and the corresponding terms. Subsequently, they collect the presented products and present the problem to the chairperson of the Board of examiners.

The chairman of the Board of examiners will reconvene the assessor team and the delegate of Board of Examiners for a reappraisal, which they will chair, in which they will attempt to achieve consensus. In case of failing the chairman of the Board of Examiners will make a final decision.

## 2.1

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### Special qualifications

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#### **Cum Laude<sup>1</sup>**

A student can receive the predicate “cum laude” for the Master’s degree audit if the Board of Examiners decides to grant this distinction and the following requirements have been met:

1. the weighted average of the results of the courses not including the Master final Project is at least 8,0; passes (v) and exemptions (vr) will not be taken into consideration
2. the number of credits for the courses for which a pass (v) has been earned or for which an exemption (vr) has been granted may not exceed 20,0 credits in total
3. the result for the Master final Project is at least 8,5
4. the study duration of the Master does not exceeded the nominal period of study plus one semester, taking into account study-delays based on the “Regeling Afstudeersteun Studenten” (Student financial support) is acknowledged.

<sup>1</sup>The complete system is described in Article 2.31 of the Rules and Regulations of the Board of Examiners,, Master Geomatics.

#### **Honourable mention<sup>2</sup>**

On intercession of the mentor and approval of the delegate of the Board of Examiners the predicate Honourable Mention may be attached to the examination result. The condition for this is that the examinee achieved some outstanding result within the graduation phase or the student has delivered a special or exceptional performance.

Already at the P4 the graduation committee of the students determines if the student is nominated for an honourable mention. Within a week after the P4 the main mentor hands in the text for the honourable mention at the secretariat of the Board of Examiners. After the text is printed on the TU Delft paper the main mentor and secretary of the Board of Examiners will sign the honourable mention.

The student will only be informed on the Honourable Mention at the diploma ceremony. The written Honourable Mention will be handed over to the student together with the P5 mark list.

In case of particular circumstances or exceptional characteristic an Honourable Mention is only possible after agreement from the Board of Examiners.

<sup>2</sup>The complete system is described in Article 2.32 of the Rules and Regulations of the Board of Examiners,, Master Geomatics.

## Appendix 1

### Evaluation criteria

Note: consult your first mentor for the exact interpretation of the requirements.

P1	P2	P3	P4	P5
<b>Product:</b> <i>Preliminary graduation plan</i>	<b>Product:</b> <i>Final graduation plan</i>	<b>Product:</b> <i>Preliminary products proposed in P2</i>	<b>Product</b> <i>Master's thesis report</i>	<b>Product</b> <i>Final master's thesis report</i>
<b>Research</b> <ul style="list-style-type: none"> <li>▪ motivation/problem field/ relevance</li> <li>▪ problem statement</li> <li>▪ objectives</li> <li>▪ research questions</li> <li>▪ theoretical framework</li> <li>▪ methodology</li> <li>▪ preliminary project and results</li> <li>▪ preliminary choice of case</li> </ul>	<b>Research</b> <ul style="list-style-type: none"> <li>▪ motivation / problem field /relevance</li> <li>▪ position in the academic and professional debate</li> <li>▪ problem statement, objectives, research questions,</li> <li>▪ approach, theoretical framework, methodology</li> <li>▪ references</li> <li>▪ preliminary project set up and results</li> </ul>	<b>Research</b> <ul style="list-style-type: none"> <li>▪ methodology</li> <li>▪ link theory-design &amp; planning</li> <li>▪ preliminary conclusions</li> </ul>	<b>Research</b> <ul style="list-style-type: none"> <li>▪ motivation / problem field / relevance</li> <li>▪ theoretical framework</li> <li>▪ methodological framework</li> <li>▪ analyses, research results</li> <li>▪ conclusions / recommendations</li> <li>▪ references</li> </ul>	<b>Research</b> <ul style="list-style-type: none"> <li>▪ motivation / problem field / relevance</li> <li>▪ theoretical framework</li> <li>▪ methodological framework</li> <li>▪ analyses, research results</li> <li>▪ conclusions / recommendations</li> <li>▪ references</li> </ul>
	<b>Presentation</b> <ul style="list-style-type: none"> <li>▪ written, oral, graphics and demo</li> </ul>	<b>Presentation</b> <ul style="list-style-type: none"> <li>▪ written, oral, graphics and demo</li> </ul>	<b>Presentation</b> <ul style="list-style-type: none"> <li>▪ written, oral, graphics and demo</li> </ul>	<b>Presentation</b> <ul style="list-style-type: none"> <li>▪ written, oral, graphics and demo</li> </ul>
<b>Process</b> <ul style="list-style-type: none"> <li>▪ planning</li> </ul>	<b>Process</b> <ul style="list-style-type: none"> <li>▪ academic attitude: evidence based, logical, critical</li> <li>▪ planning</li> </ul>	<b>Process</b> <ul style="list-style-type: none"> <li>▪ academic attitude: evidence based, logical, critical</li> <li>▪ planning</li> </ul>	<b>Process</b> <ul style="list-style-type: none"> <li>▪ academic attitude: evidence based, logical, critical</li> <li>▪ planning</li> </ul>	<b>Process</b> <ul style="list-style-type: none"> <li>▪ academic attitude: evidence based, logical, critical</li> </ul>
			<b>Project</b> <ul style="list-style-type: none"> <li>▪ originality and scientific level</li> <li>▪ professional significance</li> <li>▪ independence and own initiative</li> <li>▪ planning and compliance with planning</li> <li>▪ conducting research</li> <li>▪ controlling the subject</li> <li>▪ being able to make assessment</li> </ul>	<b>Project</b> <ul style="list-style-type: none"> <li>▪ originality and scientific level</li> <li>▪ professional significance</li> <li>▪ independence and own initiative</li> <li>▪ planning and compliance with planning</li> <li>▪ conducting research</li> <li>▪ controlling the subject</li> <li>▪ being able to make assessment</li> <li>▪ reflection on the value of the graduation research in the larger social and scientific framework</li> </ul>

## Appendix 2

### Format Graduation plan

#### Front page Graduation Plan

<p style="text-align: center;"><b>Title graduation project</b> YOUR NAME student #123456 <a href="mailto:y.name@tudelft.nl">y.name@tudelft.nl</a></p> <p style="text-align: center;">1st mentor: Jan Smit 2nd mentor: Gerard Joling Date P2: 2019-09-23</p>
---

#### Content Graduation Plan

##### 1 Introduction

An introduction in which the relevance of the project and its place in the context of geomatics is described, along with a clearly-defined problem statement.

##### 2 Related work

A related work section in which the relevant literature is presented and linked to the project.

##### 3 Research questions

The research questions are clearly defined, along with the scope (ie what you will not be doing).

##### 4 Methodology

Overview of the methodology to be used.

##### 5 Time planning

Having a Gantt chart is probably a better idea than just a list.

##### 6 Tools and datasets used

Since specific data and tools have to be used, it's good to present these concretely, so that the mentors know that you have a grasp of all aspects of the project.

Link to the digital version: <https://gist.github.com/hugoledoux/d16d5a4d397858ac745e38f9e8561657>

## Appendix 3

### Plagiarism scan P4 and P5

The Plagiarism Scan has been integrated in Brightspace (see: <https://brightspace.tudelft.nl/d2l/home/47493>) and is used to guarantee the authenticity of student's graduation work at the Faculty of Architecture and the Built Environment. The Ouriginal tool in Brightspace is used for this purpose. The tool will make it easier for the student and mentors to check the work of a student on originality and plagiarism. It is the responsibility of the main mentor to discuss the Ouriginal Plagiarism report of his/her student at his/her P4.

Each student will upload his or her Master thesis report at latest one week before the P4 meeting and also before the P5 presentation. The mentors and delegates will be enrolled by Education and Student Affairs in the Plagiarism Brightspace course.

The student has the possibility to upload provisional versions of his document as often as he/she wants for plagiarism feedback. This feedback is only meant for the student. The submissions and results in the 'Provisional Version' folder are there just for the student to try things out.

The final version of the P4 and P5 document will be submitted in the final version folder of the plagiarism scan. The final submission folder will only allow one submission for each student and the plagiarism feedback will only be visible for mentors. The student will not be able to see his/her score.

After admission to the P4 the student receives detailed instructions by E-mail about how does the Plagiarism Scan works.

#### Assessment of result

It is the responsibility of the first mentor to determine whether the results of the plagiarism scan in the final folder are an indication of actual plagiarism. In all cases, suspicion of plagiarism or not, the mentor should share the findings with the student, the other mentors and the delegate at the P4 assessment or in case of the P5 before the P5 date.

If there is a suspicion of intentional plagiarism, the mentor should discuss this with the student and notify the Board of Examiners afterwards.

#### About Ouriginal:

Ouriginal has certain limitations concerning the documents which will be uploaded. The students will be informed about the limitations, the meaning of similarity scores and plagiarism in general.

## Appendix 4

### Reflection P5

The reflection is a standard component of a scientific thesis. The reflection is NOT a separate document or a distinct chapter, but integrated in the Introduction and Conclusions of the thesis in the form of text, with diagrams and sketches for purposes of illustration and clarification.

In this reflection the student uses a short substantiated explanation to account for the results of the research in the graduation phase (product, process, planning).

Depending on the research, reflection on a number of the following aspects should be included (you may choose in which order).

Aspect 1

**The relationship between the methodical line of approach of the Master Geomatics and the method chosen by the student in this framework.**

Aspect 2

**The relationship between the conducted research and application of the field geomatics.**

Aspect 3

**The relationship between the project and the wider social context.**



Appendix 5

(the PDF of the rubric is available at <https://3d.bk.tudelft.nl/courses/geo2020/rubric/>)

	10	9	8	7	6
<b>Research</b>					
motivation/problem definition	50%	5%	10%	15%	20%
theoretical framework	5%	10%	15%	20%	25%
analysis, research results	10%	15%	20%	25%	30%
conclusion recommendation	15%	20%	25%	30%	35%
references	5%	10%	15%	20%	25%
<b>Presentation</b>					
written report	5%	10%	15%	20%	25%
oral (answering questions)	10%	15%	20%	25%	30%
graphics and demo presentation	5%	10%	15%	20%	25%
<b>Project</b>					
originality and scientific level	8%	10%	12%	14%	16%
independence and own initiative, planning	7%	9%	11%	13%	15%
<b>Process</b>					
skills, academic attitude	8%	10%	12%	14%	16%
reflection	7%	9%	11%	13%	15%

2018-02-12

## Appendix 6

## Reference to official regulations

Subject	Registered at	Article
Graduation project	<i>Teaching and Examination Regulations, Master of Science Geomatics, 2021-2022.</i>	Article 1.7, subsection 5 and 7
Admission to the graduation phase	<i>Teaching and Examination Regulations, Master of Science Geomatics, 2021-2022.</i>	Article 1.7, subsection 5
Validity of P2 result	<i>Teaching and Examination Regulations, Master of Science Geomatics, 2021-2022.</i>	Article 1.31, subsection 4 and 5
Additional rules governing Master final Project	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.24
Composition of the assessment committee for Master Thesis Project	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.25
Appointment of delegate of the Board of Examiners	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.5, subsection 4
Language graduation	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.7, subsection 3
Working method of the assessment committee	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.26
Plagiarism scan	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.8b
Publication graduation work in TU Delft repository	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.17, subsection 6
Possibility for embargo on work in repository	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.17, subsection 7
Official date of Master final project result	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.27
Pass and fail rules	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.28
Pass and fail rules governing the Honours Program Master	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics, 2021-2022</i>	Article 2.29
Pass and fail rules governing annotations	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics for the Built Environment, academic year 2021-2022</i>	Article 2.30
Conferring the predicate "cum laude"	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics for the Built Environment, academic year 2021-2022</i>	Article 2.31
Honourable mention	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics for the Built Environment, academic year 2021-2022</i>	Article 2.32
Degree certificates, supplement and results achieved	<i>Rules and Guidelines of the Board of Examiners, Master of Science Geomatics for the Built Environment, academic year 2021-2022</i>	Article 2.33 and 2.34

## Appendix 7

### Standard time slots for evaluations (P2, P4 and P5)

#### Timetable P2

08:45 – 09:45  
09:45 – 10:45  
10:45 – 11:45  
11:45 – 12:45

Break

13:45 – 14:45  
14:45 – 15:45  
15:45 – 16:45  
16:45 – 17:45

#### Timetable P4

**(15 minutes extra time at the end is included – only used if needed)**

08:45 – 09:45  
09:45 – 10:45  
10:45 – 11:45  
11:45 – 12:45

Break

13:45 – 14:45  
14:45 – 15:45  
15:45 – 16:45  
16:45 – 17:45

#### Timetable P5

**(first 15 minutes is for the student to prepare)**

08:45 – 10:30  
10:45 – 12:30  
12:45 – 14:30  
14:45 – 16:30  
16:45 – 18:30

