The MSc graduation policy is written under the authority of the Board of Examiners and aims to harmonise the different graduation practices at the 5 EEMCS Master programmes.

This policy documents the definitions, objectives, procedures, starting requirements and the assessment criteria of a Master thesis. It is written firstly for the use by students, but is also meant for other users:

- for the student and thesis advisor: to get an answer on the what, when and how questions;
- for the members of the thesis committee: to know which criteria are to be used in order to grade the thesis;
- for the members of Board of Examiners: to monitor thesis grades and procedures, in order to guarantee that final qualifications are met in a reliable and valid way.

This policy and all necessary documents are published on the EEMCS website:
http://studenten.tudelft.nl/en/eemcs/ > Graduation

To promote the usability of this policy document, all actions are turned into checklists for different users. These checklists are published for the thesis advisor, the thesis committee and the Board of Examiners on the https://blackboard.tudelft.nl Organisation: “Docenten EWI” / MSc graduation

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1 SCOPE AND APPLICABILITY OF MSc GRADUATION POLICY

The MSc graduation policy concerns the preparation and examination of the master thesis and defines a further specification of the articles 12, 26 – 29 of the 'Rules and Guidelines (RG)² laid down by the Board of Examiners of all EEMCS masters’ degree programmes. These procedures comply with the Teaching and Examination Regulations (TER)³ and the Implementation Regulations (IR)⁴, both issued by the dean of the faculty and approved by the Executive Board of the University, July 2012.

2 DEFINITIONS

Student, candidate    Student taking part in master programme
Master's Thesis Project    Research or design assignment that forms the final part of the EEMCS master’s degree programme
Thesis report    Written text that documents the results of the Master’s Thesis Project
Thesis defense    Formal presentation and examination of the thesis (afstudeervoordracht)
Specialisation    Direction within variant or track of the master programme covering a specific area or topic
Thesis advisor    Staff member (UD, UHD, or HL⁵) responsible for students’ guidance
Thesis tutor (daily supervisor)    Staff member (e.g., PhD student or postdoc) or external expert from company, responsible for students’ daily guidance
MSc coordinator    Staff member responsible for student intake in master programme, and for study advice (e.g., composing the individual study programme)
Thesis committee    Committee assessing the thesis
Board of Examiners    Committee responsible for monitoring the examination regulations and execution. See TER
IEP    Individual Examination Programme (keuzevakkenlijst)
TEP    Thesis Entrance Permit
Graduation Ceremony    Formal graduation session, where the student receives the master’s degree diploma

² RG = Regulations and Guidelines = Regels en Richtlijnen van de examencommissie (art. 7.12 WHW)
³ TER = Teaching and Examination Regulations = Onderwijs en Examenregeling (art.7.13 WHW)
⁴ IR= Implementation Regulations = Uitvoeringsregeling (art.7.13 WHW)
⁵ UD = assistant professor, UHD = associate professor, HL = full professor
3 FORMAL PROCEDURES

1. The Master’s Thesis Project is the final part of the EEMCS master’s degree programmes and aims to show that the student has acquired the academic competences for the degree ‘Master of Science’.

2. The Master’s Thesis Project comprises 40 - 45 ECTS and should take a maximum of nine months of work. In the programme Microelectronics explicit prototyping and field testing the period may be longer and is the project extended to 60 ECTS, i.e. a year.

3. The student can only start with his Master’s Thesis Project when he/she has an approved IEP. The IEP should be completed within 12 EC (but no more than 3 outstanding courses). In order to show that the student meets the criteria, he or she should hand in a TEP to the thesis advisor before starting the master thesis assignment.

4. Procedure requesting TEP (Thesis Entrance Permit)
   - Student sends an email to osa-ewi@tudelft.nl requesting a Thesis Entrance Permit. Please state clearly that it concerns a TEP application and state your name and student number.
   - OSA checks if the student fulfils the requirements, given below, for obtaining a TEP
     
     a. Approved study programme
     b. Maximum of 12 ECTS open (maximum of 3 courses)
   - If the requirements are fulfilled, OSA sends the student a TEP and registers the date the TEP is issued in a free field in OSIRIS. Please note that if a student does not fulfil the requirements for a TEP, he/she will be notified by email.

5. The Master’s Thesis Project consists of a research or design assignment. The Master’s Thesis Project will be assessed on basis of a written report, an oral presentation and defense. The assessment will be done by a thesis committee.

6. The Board of Examiners appoints the thesis committee. The professor responsible for graduation proposes a thesis committee more than 3 months before defense.(See R&G. art.27.2) (Use form: “Application form Members of MSc Thesis Committee”)

7. At least 3 months before defense, the thesis committee is installed by the Board of Examiners. The thesis committee is nominated by the responsible professor in whose area the Master’s Thesis Project has taken place.

8. A thesis committee will be appointed by or on behalf of the Board of Examiners for the supervision and assessment of Master’s Thesis Project. This committee will consist of a core of three members: 1) the chair (a full professor or associate professor of the faculty), 2) a full professor, associate or assistant professor of the faculty, 3) a full professor, associate or assistant professor or an external expert. One of the core members must be from a different field and is a full professor, associate or assistant professor of an university. There may be additional members from the ranks of researchers, PhD students and internal and external experts. The core members, appointed by the Board of Examiners, determine the thesis grade. (See also R&G art. 27.1)

9. Students can present and defend their final thesis work only after they have finished all courses as stated in their approved IEP.

10. The defense consists of a public session. During this session the student will give a presentation on the Master’s Thesis Project and will be questioned by the thesis committee, after which the thesis committee determines the grade.

11. Thirty working days before the defense (See R&G art. 12.1), the student applies for the final examination by the Board of Examiners by submitting the form “EEMCS MSc Final Examination” at the Service desk.
12. At least five working days before the defense the student uploads a pdf of the final version of the thesis report in the electronic TU Delft repository. (http://www.library.tudelft.nl/collecties/tu-delft-repository/)

13. The Board of Examiners assesses whether the student has completed all parts of his master programme and may enter the final graduation ceremony.

14. At the graduation ceremony the student receives the Master diploma and has to sign it.

4 GETTING STARTED

1. Ultimately three months before starting the actual thesis work, the student should decide upon a specialisation. To start, the student shows his IEP and TEP to the thesis advisor. In consultation with the thesis advisor, the student will select a thesis topic. In addition, a daily supervisor (tutor) or an advisor, from the company where the thesis research is conducted, may be assigned. The thesis topic should comply with the research area of the thesis advisor.

2. The Master’s Thesis Project may be done within a research programme of the university, or within another suitable context, e.g. a research institute or enterprise. Companies should be aware that the Master’s Thesis Project may require some freedom for academic work which may not directly contribute to the company’s own business process.

3. The thesis should have sufficient academic depth. The project, being either a research or design project should be performed by following a systematic approach, and the assignment should cover all phases of a research/design project including an explicit modelling/implementation/building phase, and a validation/evaluation of the results.

4. Within the first month after the start of the project, the student should write a short proposal with objectives and a planning of deliverables and milestones. (Use: "EEMCS Master’s Thesis Project Proposal Guidelines: Milestones, Deliverables and Phasing"). The thesis advisor assesses the proposal on feasibility and academic depth, and may suggest modifications.

5. The student should indicate in advance whether he is available fulltime. If not, he has to make provisions with the research group or company to do the assignment part time.

5 GUIDANCE

1. The student should carry out the project autonomously under guidance of a thesis advisor. Each student carries out his or her own Master’s Thesis Project., even in case of a complex project carried out by a team of students.

2. The student and the thesis advisor (and the daily supervisor) meet on a two-weekly or three-weekly basis to discuss the progress. The student should provide an agenda and a written progress report for the meetings describing the progress and the main discussion items. In between the meetings the student may ask the daily supervisor for technical assistance.

3. For the specified milestones (Use: "EEMCS Master’s Thesis Project Proposal Guidelines: Milestones, Deliverables and Phasing"), the student submits a progress report (a preliminary chapter of the thesis report) and describes (or demonstrates) the intermediate results and findings. The supervisors will give feedback on the results and will indicate whether the project is still on track. In all cases, the student is assumed to take initiative and to guard the progress of the project.

4. The student should participate in the colloquia of the chosen specialisation. Halfway through the project, the student should give a midterm presentation on the project e.g. at a colloquium, in presence of his advisors.
5. During the project, and in particular near the end, the student should start writing the thesis report and should hand in chapters for reviewing to the thesis advisor and daily supervisor. The thesis advisor should give feedback within reasonable time (within two weeks).

6. Forty working days before the planned defense, the student should hand in a final version of the thesis report for approval by the thesis advisor.

7. Thirty working days before the planned defense the thesis advisor gives approval ("green light") to the student. With the green light the student can apply for the final examination. Use form: "EEMCS MSc Final examination".
6 THESIS REPORT

1. The thesis report documents the results of the Master’s Thesis Project (Use: "Guidelines for writing a report"). It contains an account of the work, the followed procedure, intermediate milestones and the decisions taken.

2. The thesis report must be written in English.

3. The thesis report has a title page which contains the title of the thesis, the date of the thesis defense, the name and student number, the chosen specialisation, the master programme, the faculty EEMCS, and TU Delft.

4. The thesis report contains a preface that explains the topic of the thesis, the context (institute or company), the main findings in a few lines and the names of the members of the thesis committee. The preface may end with a few acknowledgements, and completed with name and date.

5. The thesis report contains an introduction chapter that introduces the main research themes and gives an overview of the report.

6. The thesis report contains a chapter with prior art that describes previous work and scientific publications relevant for the topic. This chapter reformulates the research questions in a form that complies with the state of the art in the field.

7. The thesis report contains several chapters that describe the performed work.

8. The thesis report concludes with a concluding chapter with a discussion of the results, and recommendations and suggestions for future research.

9. The thesis report may contain a scientific paper about the work, often written together with the thesis advisor, added as an appendix.

10. The thesis report will be made public after the assessment by the thesis committee, unless the organisation in which the Master’s Thesis Project has taken place considers that its publication would harm its interests (e.g. patents, knowledge, market figures). The organisation or the thesis advisor can submit a request concerning confidentiality for some parts to the Board of Examiners. The members of the thesis committee, however, should have access to the full report.

11. At least five working days before the defense the student uploads a pdf of the final version of the thesis report in the electronic TU Delft repository. (http://www.library.tudelft.nl/collecties/tu-delft-repository/)

7 DEFENSE

1. At the same moment of approval of the thesis report by the thesis advisor, the so called "green light", a date for the defense is set (Use form: "EEMCS MSc Final examination" and count thirty working days for administration). The student will make a reservation for a room/lecture hall.

2. At least twenty working days before the date of the thesis defense the student will supply a digital or printed copy of the final thesis report to the members of the Thesis Committee. Exceptions can be made upon agreement with the thesis advisor.

3. Ultimately after ten working days the thesis committee sends her reaction and eventually her request for completion to the student and thesis advisor. The student has five working days to incorporate the remarks into the report.

4. Ten working days before the defense the student sends a clear announcement of the thesis defense to the committee members, to the staff of the department of the chosen specialisation with the title of the thesis, the place of the defense, the date and time, the committee, and the abstract of his project (250 words). If the student desires, he or she may also invite family and friends.
5. Prior to the session, the student checks the room and the equipment (portable, beamer). After the session the student takes care that the room is brought back in order.

6. The public session starts with a short introduction by the chair of the thesis committee, introducing the candidate, the topic of the project, the members of the thesis committee and the examination procedure.

7. The student gives a 30-40 minutes presentation on the project. This should cover all aspects and phases of the project, starting with a clear problem definition and ending with conclusions. The presentation should be on a level that addresses the colleague students, i.e. it is not intended as a layman’s presentation. After the presentation 10 minutes are reserved for questions from the audience.

8. After the presentation and discussion, the thesis committee examines the candidate about the thesis. This will take a maximum of one hour and each committee member must have the opportunity to discuss the work in detail with the candidate.

9. After the examination, the committee withdraws to make their conclusion upon the grade.

8 ASSESSMENT
1. The thesis committee assesses the thesis and the defense on the following criteria:
   - Quality of work: novelty, volume, grasp, methodology, publishable (40%)
   - Personal performance: autonomy, planning, creativity, attitude (30%)
   - Quality of thesis report: clarity, organisation, argumentation (20%)
   - Oral presentation and defense: clarity, focus, relevance, discussion (10%)

   These criteria are published in the study guide and should be known to the student beforehand. (Use "Thesis evaluation form").

2. The voting members of the thesis committee determine the final grade. The grade should reflect a weighted average of the four scores above, but need not to be an exact arithmetical mean. The final mark starts from 5 up to and 10. Marks ending in .5 may also be used.

3. If the student shows excellence (is nominated for a 10) the chair of the thesis committee should consult the chair of the Board of Examiners, at least five working days in advance of the defense. The chair may advice to add an extra member to the thesis committee.

4. The motivation for the grade at each of the four criteria as listed above is summarized on a form (Use: "Thesis evaluation form") and signed by the chairman of the thesis committee. The candidate is given a short account of the assessment, either in private or in front of the audience.

9 DISPUTES
1. In case of disputes between the student and the daily supervisor or/and the thesis advisor, the student may consult the MSc coordinator. If this does not lead to a solution, disputes can be brought before the Board of Examiners.

2. The student may make an appeal against decisions of, and the treatment by the Thesis Committee, at the TUD’s Examinations Appeals Board, on the basis of article 7.60 of the WHW. However, there can be no discussion on the grade.
10 SUMMARY of PROCEDURE

1. After the start of the MSc programme and before the start of the Master’s Thesis Project, the student should get acquainted with the different specialisations within the master programme.

2. Before the start of the Master’s Thesis Project, the student shows his IEP and TEP to the thesis advisor and selects a thesis topic.

3. One month after the start of the project, the student writes a short proposal for thesis research with objectives, milestones and deliverables. The thesis advisor checks the proposal at: feasibility in time, academic level, research question, research methodology, suitable to the student.

4. Four months after start, the student should give a midterm presentation at a colloquium of the chosen specialisation.

5. Three months before the planned defense, the responsible professor compiles a thesis committee and sends it for approval to the Board of Examiners

6. Forty working days before the planned defense the student hands in the draft version of the thesis report to the thesis advisor.

7. Thirty working days before the thesis defense, the student should get “green light” from the thesis advisor and sets the date for the defense.

8. Thirty working days before the thesis defense the student submits the examination application. The Board of Examiners checks fulfillment of all requirements.

9. Twenty working days before the thesis defense the student sends the final report to the members of the thesis committee. He also sends an invitation to all people involved.

10. Ten working days before the thesis defense the thesis committee sends her remarks to the student and the thesis advisor.

11. Ten working days before the thesis defense the student sends a clear announcement of the defense.

12. Five working days before the thesis defense the student has incorporated the remarks into the report.

13. At least five working days before the defense the student uploads a pdf of the final version of the thesis report in the electronic TU Delft repository.

14. At the defense the student gives a 40 minutes presentation and answers the questions of the thesis committee. The thesis committee determines the final grade.

15. After a successful defense the graduation ceremony will take place; the student receives the Master diploma and has to sign it.
### Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select thesis advisor and choose topic</td>
<td>3 months before start</td>
</tr>
<tr>
<td>Show IEP and TEP</td>
<td>before start M thesis project</td>
</tr>
<tr>
<td>Start project</td>
<td>[date]</td>
</tr>
<tr>
<td>Write proposal with deliverables + milestones</td>
<td>1 month after start</td>
</tr>
<tr>
<td>Give midterm presentation</td>
<td>4 months after start</td>
</tr>
<tr>
<td>Ask for compilation thesis committee and for approval by the BoE</td>
<td>3 months before defense</td>
</tr>
<tr>
<td>Hand in a final version to thesis advisor</td>
<td>40 working days before defense</td>
</tr>
<tr>
<td>Ask for green light from thesis advisor</td>
<td>30 working days before defense</td>
</tr>
<tr>
<td>Submit application for final examination</td>
<td>30 working days before defense</td>
</tr>
<tr>
<td>Send final report to thesis cie</td>
<td>20 working days before defense</td>
</tr>
<tr>
<td>Receive remarks from thesis committee and send invitations</td>
<td>10 working days before defense</td>
</tr>
<tr>
<td>BoE checks all requirements</td>
<td>at least 5 working days before defense</td>
</tr>
<tr>
<td>Incorporate remarks from thesis cie and upload thesis report in TUD repository</td>
<td>[date]</td>
</tr>
<tr>
<td>Defense and graduation ceremony</td>
<td>[date]</td>
</tr>
</tbody>
</table>
Thesis Project Evaluation Form

The table below shows the thesis evaluation categories and criteria. The main elements of evaluation are quality of work, performance during the Master’s Thesis Project, quality of thesis report and quality of oral presentation and defense. Weights are indicative to each of these categories and may be subjectively decided by the thesis committee. The final grade can be arrived at by averaging out the partial grades allocated by each member of the thesis committee.

<table>
<thead>
<tr>
<th>Quality of Work 40%</th>
<th>Performance during M Thesis Project 30%</th>
<th>Quality of Thesis Report 20%</th>
<th>Oral Presentation and Defense 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume of work</td>
<td>Ability to formulate problem</td>
<td>Quality of report</td>
<td>1. Presentation of thesis to peer audience</td>
</tr>
<tr>
<td>Relevance/Importance of work</td>
<td>Ability to find solution</td>
<td>Organization and structure</td>
<td>Clarity/lucidity of presentation</td>
</tr>
<tr>
<td>Novelty/Originality of work</td>
<td>Scientific methodologies applied</td>
<td>Clarity and readability of report</td>
<td>Coherence of presentation</td>
</tr>
<tr>
<td>Student’s Contribution</td>
<td>Practical methodologies applied</td>
<td>Coherence of content and continuity</td>
<td>Quality of presentation material</td>
</tr>
<tr>
<td>Grasp of subject and problem</td>
<td>Creativity displayed</td>
<td>Language</td>
<td>Focus and relevance of presentation</td>
</tr>
<tr>
<td>Quality of implementation</td>
<td>Student’s autonomy</td>
<td>Quality of literature survey</td>
<td>Ability to understand questions from audience and provide suitable answer</td>
</tr>
<tr>
<td>Publishable</td>
<td>Interaction with peers and superiors</td>
<td>Conclusions and recommendations</td>
<td>2. Defense with committee</td>
</tr>
<tr>
<td>Performance attitude</td>
<td>Quality of implementation</td>
<td>Quality of argumentation and conclusions</td>
<td>Ability to actively participate and contribute towards the discussion</td>
</tr>
<tr>
<td>Performance within time line</td>
<td>Publishable</td>
<td>Quality of implementation</td>
<td></td>
</tr>
</tbody>
</table>

References

The following Master Thesis Evaluation Guides from other universities were consulted and used in the preparation of this document.


[5] Michigan State University, USA, [http://grad.msu.edu/format.htm](http://grad.msu.edu/format.htm)
Forms and documents

Forms and documents are posted at:
https://blackboard.tudelft.nl organisation: “Docenten EWI” / MSc graduation
http://studenten.tudelft.nl/en/eemcs/ >Graduation

1: Application form Members of MSc thesis committee
2: Planning document milestones and deliverables
3: Guidelines for writing a report
4: EEMCS master Final Examination
5: Thesis evaluation form
6: Flow chart of thesis graduation regulations EEMCS (for students)
7: Checklists for thesis advisors, members of Thesis committee and Board of Examiners