

Implementation decree on Doctoral Regulations **2014**



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This executive decision clarifies a number of articles of the TU Delft Doctoral Regulations 2014 and provides guidelines on protocol and practice for their implementation and enforcement, as mentioned in article 22 and other articles of the Doctoral Regulations, accepted by the Board for Doctorates on 30 June 2014.

- A. Procedure for exemption from admission requirements (article 2.3 Doctoral Regulations)
- B. Joint doctorate (article 3 Doctoral Regulations)
- C. Further explanation of DE Programme (article 6 Doctoral Regulations)
- D. Requirements and format of dissertation (article 5, 9.3 and 22 Doctoral Regulations)
- E. Requirements for the propositions (article 9.5 Doctoral Regulations)
- F. Preparation for and procedures during the doctoral defence ceremony and the awarding of the degree of doctor (article 15, 16, 17 and 18 Doctoral Regulations)
- G. Arbitration Committee (article 19.3 Doctoral Regulations)

- Appendix I. Further explanation of the propositions
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A. Procedure for exemption from admission requirements (article 2.3 Doctoral Regulations)

1. Any individual who does not meet the educational requirements specified in article 2.2 paragraph a of the TU Delft Doctorate Regulations may submit a request for exemption from these requirements:
 - a. if he can prove that he is in possession of a diploma that is comparable to the Dutch Master level;
 - b. If 1.a does not apply: on the basis of a reasoned request from the intended promotor for exemption from these requirements.

2. The following procedure must be observed:
 - a. The applicant, in accordance with article 4.1 of the Doctorate Regulations, has reached an agreement with the most appropriate professor.
 - b. The applicant registers at the University Graduate School by submitting:
 - a certified copy of the highest-level certificate of education obtained by him; the transcript of records pertaining to these certificates;
 - if the certificate and the transcript of records are not written in Dutch, English, French or German, certified translations of these documents into Dutch or English should also be included;
 - a curriculum vitae;
 - a valid passport or ID card;
 - If 1.b applies: a reasoned request from the promotor explaining why he feels the candidate should be admitted to the Doctoral Programme. Existing expertise and relevant work experience in the field should also be described in detail.
 - c. On behalf of the Board for Doctorates, the University Graduate School will verify the documents and the validity of the passport or ID card.
 - d. The Board for Doctorates will decide on the basis of the documents submitted whether the applicant will be allowed to start the Doctoral Programme.
 - e. The University Graduate School will notify the applicant of the decision taken by the Board for Doctorates as soon as possible. The Board for Doctorates may impose additional requirements for the Doctoral Education Programme to be followed by the candidate. The candidate and the proposed promotor will be informed of these.

B. Joint doctorate (article 3 Doctoral Regulations)

1. The following criteria are used in the evaluation by the Board for Doctorates (although others may be added) in addition to the academic criteria that apply to every doctorate:
 - a. the strategic importance to TU Delft of the collaboration;
 - b. the reputation (ranking) of the partner institution;
 - c. the practicability of cooperation;
 - d. the financial consequences resulting from the cooperation.
2. The following variants are possible for joint doctorates:

- a. **One diploma**

A joint doctorate leading to one (joint) diploma, as defined in article 3.1 paragraph a of the Doctorate Regulations, is possible only in exceptional cases and only with the explicit consent and cooperation of the Board for Doctorates and after consultation with the Executive Board.

- b. **A joint doctorate degree leading to one coherent diploma per institution**

A joint doctorate leading to one coherent (dual) diploma from each institution, as defined in article 3.1.b of the Doctorate Regulations, is possible under the following conditions:

- There is the prospect of a (long-term) collaboration between the partner institutions, as evidenced by a cooperation agreement between them, in accordance with the model given in the 'Guidelines for drawing up contracts for joint doctoral supervision and dual degrees' of August 2014 (hereinafter: Guidelines);
- Several doctoral candidates should be involved in this collaboration under the supervision of both institutions and for whom both have a shared responsibility (guideline: at least 10 doctoral candidates);
- For the joint responsibility of providing supervision to the doctoral candidate, an agreement shall be made regarding the mutually applicable quality standards for the Doctoral Programme and the dissertation in accordance with the model set out in the Guidelines. This agreement is signed by the Rector Magnificus, as chairperson of the Board for Doctorates;
- The agreement made for the joint doctoral research and Doctoral Education will contain agreements made with the partner institutions, the supervisors and the candidate in accordance with the model set out in the Guidelines.

3. The stipulations in the Doctoral Regulations shall apply to the joint doctorate, unless a departure or departures from these stipulations are authorised by the Board for Doctorates. The following requirements from the Doctoral Regulations and additional requirements are always applicable in principle:
 - a. Successful completion of the DE programme (article 6 Doctoral Regulations);
 - b. Composition of the doctoral committee (article 12 Doctoral Regulations) Additional requirement: the doctoral committee must include both a professor from TU Delft and a professor from the partner institution;
 - c. Requirements for the dissertation (art. 9 and 14 Doctoral Regulations, Executive Decision parts D and E). Additional requirement: supervision by partner institution to be mentioned on reverse side of the title page;
 - d. The doctoral defence ceremony must be held at TU Delft (Executive Decision part F);
 - e. Any doctorate issued on behalf of TU Delft cannot include the designation 'cum laude'.
Exemption from a. to e. is possible only in special circumstances with the consent of the Board for Doctorates.

Unless otherwise agreed, one diploma will be issued, in accordance with the guidelines of TU Delft, and a single defence will also be held in accordance with the Doctoral Regulations of TU Delft.

4. For the diploma to be issued, the following will apply:
 - a. On the diploma, in addition to the usual text, the following words are to be included:

*'This is a dual diploma together with the following partner
institute for higher education:
... [name, city, country] ...,
stipulated in the diploma supplement and approved by the
Board for Doctorates.'*

- b. A supplement will be added to the diploma, which states:
 - the name of the research groups and supervisors who were involved in the realization of the dissertation;
 - the subject of the research;
 - the education and training courses completed, if these are not stated elsewhere, e.g. on the Doctoral Education Certificate;
 - the conferences at which the candidate has presented his work;
 - the publications to which the candidate has made a significant contribution, as evidenced by (co)authorship.

- c. The promoters will draft the text for the supplement and may propose adding relevant information relating to the research and the education of the candidate. The University Graduate School is responsible for producing the supplement, which will bear the seal of TU Delft. The diploma supplement will be signed by the Rector Magnificus of TU Delft.
 - d. The diploma and the diploma supplement will be written in English.
 - e. If the doctoral defence ceremony takes place at a partner institution, after the handing over of the statement mentioned in article 5 paragraph 5, a diploma will be issued in which it is confirmed that the degree of Doctor of TU Delft has been awarded. On the basis of this statement, the doctoral defence ceremony is also recorded in the Register, including the special circumstances such as the location of the doctoral defence ceremony.
5. For each doctoral defence ceremony taking place at a university a statement will be prepared:
- a. TU Delft will draft a formal statement for the benefit of the partner institution detailing which formal procedures relating to the evaluation of the dissertation, its doctoral defence, and the awarding of the degree of doctor have taken place at TU Delft. The statement will be signed by the Rector Magnificus together with the diploma.
 - b. The partner institution will draft a formal statement for the benefit of TU Delft detailing which formal procedures relating to the evaluation of the dissertation, its doctoral defence, and the awarding of the degree of doctor have taken place at the partner institution. The statement must be signed by a person at the partner institution whose position is of equal status to the Rector Magnificus.

C. Further explanation of DE Programme (article 6 Doctoral Regulations)

1. The DE program consists of the following three categories: transferable, research-related and discipline-related skills . For each category, a candidate must obtain 15 GS credits, making a total of 45 GS credits. 1 GS credit equals 12 hours of Doctoral Education which includes up to four hours of self-study.
2. The Board for Doctorates oversees the quality of the programme's contents and can impose further quality requirements and/or reject courses that do not conform to the overall quality requirements. In addition, the Board for Doctorates may require certain courses to be completed, such as an introductory course or a career development course.
3. An exemption request is a request to the Board for Doctorates to be exempted from part of the DE programme; an exemption request must involve at least 5 GS credits and may involve more than one course. The following rules shall apply in the case of an exemption request:
 - a. The application must be supplemented by a reasoned request written entirely by the candidate;
 - b. The promotor and the FGS support the request before it is sent to the Board for Doctorates via the UGS;
 - c. An exemption request must be submitted within one year after the start date of the Doctoral Programme;
 - d. No exemption will be granted for learning on-the-job activities.
 - e. The granting of the dispensation implies that no DE certificate will be issued.
4. A dispensation is a request to the Board for Doctorates to be exempted from the full DE programme. A dispensation is granted only in exceptional circumstances, for example to very experienced doctoral candidates who can demonstrate that they already have all the required skills at a high level. The promotor and the doctoral candidate believe that there are valid reasons to request a full dispensation. A request for dispensation must be submitted within the first 3 months from the start date of the Doctoral Programme. The granting of the dispensation implies that no DE certificate will be issued.

D. Requirements and format of dissertation (article 5, 9.3 and 23 Doctoral Regulations)

1. Contents

- 1.1. The subject of the dissertation must relate to the academic fields into which at least one chair at the university is conducting research.
- 1.2. The dissertation must clearly demonstrate the ability of the candidate to practise science in an independent manner. It shall consist of a scientific treatise, or a collection of articles previously published by the candidate, or a combination of both of these.
- 1.3. If one or more articles have been written by multiple authors, only articles written predominantly by the doctoral candidate will be accepted as doctoral articles. The doctoral candidate and the promotor are responsible for ensuring that the other authors of articles included in the dissertation have given their consent for this in writing.
- 1.4. The dissertation must be free of plagiarism. The promotor is responsible for ensuring that this is the case and is to make a statement to this effect upon approving the draft dissertation. TU Delft requires the promotor and doctoral candidate to submit a digital version of the draft dissertation for a plagiarism scan using the service designated by TU Delft.
- 1.5. The dissertation, particularly any foreword and/or epilogue, may include a brief word of thanks expressed in an appropriate form of language and in consultation with the promotor. An acknowledgments section is also permitted, as is common practice in international literature. These sections shall not be considered as proof of aptitude for the independent practice of science. With the exception of these sections, the dissertation shall not include any expressions of beliefs (religious or otherwise), advertisements or other writing that does not relate directly to the dissertation. To the extent that such elements are contained in the text, they will be very limited in size, and shall not be offensive or contrary to public order or common decency, and shall comply with article 5.2 of the Doctorate Regulations.
- 1.6. The dissertation should also state which flow of funds was used to (partly) finance the research, whereby the following distinctions are to be made:
 - a. first flow of funds: funds allocated by the Ministry of Education, Culture and Science to the university, including research, policy and education incentive funds, etc.;
 - b. second flow of funds: funds allocated by the Ministry of Education, Culture and Science via the Netherlands Organisation for Scientific Research (NWO) and its foundations such as FOM, STW and SON;

- c. third flow of funds: funds from industry, institutions or organisations, but also from the Royal Netherlands Academy of Arts and Sciences (KNAW), IOP (even if FOM or STW act as administrative secretary), the EU, or the Ministries of Economic Affairs and Education, Culture and Science themselves;
- d. fourth flow of funds: from other sources, such as self-acquired grants or scholarships, donations, awards, interest, profits from projects, etc..

2. Structure

The dissertation is to be structured as follows:

- a. a title page;
- b. a table of contents;
- c. a summary in Dutch and English;
- d. a foreword (optional);
- e. an introductory chapter, which explains the substantive coherence of the issues addressed in the subsequent chapters;
- f. chapters containing treatises about the research and/or the design, either based on prior publications by the candidate or not;
- g. a concluding chapter explaining the scientific and technical implications for society of the research findings in considerable detail;
- h. an epilogue (optional);
- i. an acknowledgements section (optional);
- j. curriculum vitae and a list of the doctoral candidate's publications.

The propositions are to be added to the dissertation on a separate sheet (Executive Decision Part E).

Re: a. title page

The title page consists of two sides.

On the front of the title page, the following text must be included (in Dutch):

[... Title of dissertation...]
 Dissertation
 for the purpose of obtaining the degree of doctor
 at Delft University of Technology
 by the authority of the Rector Magnificus Professor *[titles, name];*
 Chair of the Board for Doctorates
 to be defended publicly on
[date: weekday (word) day (number), month (word) year (number)] at
[hh:mm (number)] o'clock

by
[first names in full and SURNAME in upper case]
[full title] born in [town/city, country of birth]

[....Titel proefschrift...]

Proefschrift

ter verkrijging van de graad van doctor
aan de Technische Universiteit Delft,
op gezag van de Rector Magnificus prof. *[titels, naam]*;
voorzitter van het College voor Promoties,
in het openbaar te verdedigen op
[datum: dag, maand, jaar] om [uu:mm] uur
door
[voornamen voluit en ACHTERNAAM in hoofdletters]
[titel voluit] geboren te [plaats, geboorteland]

On the reverse of the title page, the following text must be included (in Dutch or English):

This dissertation has been approved by the
promotor[s]: Prof. *[titles name] [and]*
[copromotor: Dr. titles name]

Composition of the doctoral committee:

Rector Magnificus,	chairperson
Prof. <i>[titles name]</i>	promotor
<i>[Dr. titles name]</i>	<i>[copromotor]</i>

Independent members:

Prof. <i>[titles name]</i>	<i>[faculty], TU Delft</i>
Prof. <i>[titles name]</i>	<i>[affiliation]</i>
Prof. <i>[titles name]</i>	<i>[affiliation]</i>
<i>[titles name]</i>	<i>[affiliation]</i>

Also to be added to this, where applicable:

- a second promotor and / or copromotor;
- other members of the doctoral committee;
- a substitute member;
- an explanation about any significant contributions to the preparation of the dissertation by any member of the committee: 'i>[titles name] [affiliation] has, as supervisor, contributed significantly to the preparation of this dissertation.';
- If you did not graduate in the Netherlands, state the academic title as awarded in the country where you completed your studies followed by the name of the university and the country.

If the doctoral candidate has received substantial assistance or support in preparing his doctoral dissertation from another member of TU Delft

academic staff than the (co)promotor, or by a member of academic staff from an external institute for scientific research, the name of that staff member can also be mentioned on the title page, provided the promotor consents to this.

Organisations or persons who have sponsored or made a financial contribution to the realization of the dissertation and/or the related research must be mentioned on the reverse side of the title page. See D.1.6.

In the case of a joint diploma, as referred to in article 3 of the Doctoral Regulations, this fact must be mentioned on the reverse side of the title page.

The title page, front and reverse, will be submitted to the Graduate School Office for review and approval on behalf of the Board for Doctorates.

Re: b. table of contents

With the table of contents, it is possible to include a list to explain any abbreviations and symbols, figures and tables.

Re: c. summary

The summary must in any case contain the following:

- the research question,
- a concise description of the research and/or design methods,
- a concise description of the results obtained,
- conclusions and possible applications and implications.

The dissertation must in any case include a summary in Dutch and in English.

The doctoral candidate will be offered the opportunity to have a summary of his dissertation published in 'Dissertation Abstracts International - Section C' (European Abstract).

Re: d. chapters containing treatises about the research and/or the design, either based on prior publications by the candidate or not

If the dissertation consists wholly or in part of previously published papers, the following applies:

- a. they must have been published in, or have been accepted for publication by – preferably –reputable, international scientific journals;
- b. they must be consistent with the latest scientific knowledge at the time when the dissertation is submitted, or must be made consistent by means of editing or additional comments;

- c. they must demonstrate substantive coherence in terms of the subjects addressed.

If the treatises relate to a doctoral design (article 1.4 of the Doctoral Regulations), the chosen design methods, the design choices and the (interim) results in the chapters must be described, documented and discussed in a scientifically sound manner.

Careful references must be made to the literature consulted, either after each individual chapter or after the final chapter for the entire dissertation.

Re: e. curriculum vitae and a list of the doctoral candidate's publications

At the end of the dissertation, a (concise) curriculum vitae of the doctoral candidate must be included, stating:

- a. date and place of birth;
- b. which pre-university or comparable education he underwent, including relevant dates;
- c. the nature of education undergone in preparation for the final Master's examination and relevant dates;
- d. any qualifications obtained with the diplomas;
- e. if applicable, details of any professional practice after completing the Master's degree;
- f. the name of the institution at which the research was conducted.

3. Language

The dissertation is to be written in Dutch or in English, with English being the preferred language. In those exceptional cases in which the candidate wishes to use another language, a request must be submitted to the Board for Doctorates before the draft dissertation is submitted to the promotor. The request is to be accompanied by the written consent of the promotor. The Board for Doctorates will communicate its decision concerning this request in writing to the doctoral candidate, and will also send a copy to the promotor.

4. Form of the dissertation

The dissertation shall be in book form. When it comes to distributing copies of the dissertation, a digital version may suffice. The doctoral committee must have access to the book form of the dissertation.

The doctoral candidate is responsible for the further design of the dissertation, according to the conventions prevailing in the Netherlands in the academic field in question.

5. Costs and distribution of the dissertation

- a. The cost of printing and distributing the dissertation shall in principle be borne by the doctoral candidate.
- b. The number of copies of the dissertation to be produced for the faculty will be determined in consultation with the promotor. The dean of the promotor's faculty can provide information about any (partial) reimbursement for costs resulting from this. The faculty office must be contacted in good time to arrange this.
- c. The doctoral candidate is required to make a digital version of the dissertation (as a PDF file, or in some other agreed format) available to the University Library for inclusion in the TU Delft Repository.

6. Communications with the media

It is sometimes appropriate to draw the attention of selected media to the content of a doctoral dissertation by means of a press release, or in some other way. In some cases, the university's Press and Science Information Office will issue a press release, either at the instigation of the promotor or the doctoral candidate or not. The promotor and candidate will in any case receive a copy of the press release in good time. For the purpose of this press release, the doctoral candidate will provide the university's Science Information Officer with a brief written explanation of the key results and the possible applications of the doctoral research. The Science Information Officer can provide further information on the structure and content of the press release. The promotor may, after consultation with and with the consent of the Rector Magnificus, request that an embargo be enforced on the press release and/or press interviews with the doctoral candidate until after the doctoral defence ceremony has taken place.

E. Requirements for the propositions (article 9.5 Doctoral Regulations)

1. The propositions are to be added to the dissertation, and at least six of these shall not relate to the subject of the dissertation. As a guideline, the total number of propositions should not exceed ten. All the propositions must be scientifically grounded, and it must be possible to take a position for or against their veracity. The promotor should approve the propositions on this basis, and the sheet on which the propositions are printed should include the following text:

These propositions are regarded as opposable and defensible, and have been approved as such by the promotor(s) [name (co)promotor(s)]

2. A maximum of two of the propositions may be somewhat playful in nature.
3. The propositions should demonstrate that the doctoral candidate has a broad base of scientific knowledge that is not limited to the subject of the dissertation. Possible subjects could include:
 - a. new perspectives created by the dissertation;
 - b. results of incidental interest, which are not included in the dissertation;
 - c. (critical) comments on the literature relating to technical sciences;
 - d. comments on related disciplines and/or the methods used;
 - e. speculative statements about future developments, which cannot yet be definitively verified. The propositions should preferably include literature references and/or sources.
4. The propositions are to be submitted together with the draft dissertation.
5. The propositions are to be written in Dutch or in English, with English being the preferred language, or where applicable in the language in which the dissertation is written. Appendix I contains further considerations relating to the quality of the propositions.

F. Preparation for and procedures during the doctoral defence ceremony and the awarding of the degree of doctor (article 15, 16, 17 and 18 Doctoral Regulations)

1. Doctoral defence ceremony (general)

- 1.1. The doctoral defence ceremony takes place in public in the presence of the Board for Doctorates or a doctoral committee that has been appointed by the Board for Doctorates. The Rector Magnificus chairs the doctoral defence ceremony. However, generally, he is represented by a member of the Doctoral Examination Working Committee. Members of the Board for Doctorates may also take the place of the Rector Magnificus and are in fact part of the Working Committee.
- 1.2. Once the date of the doctoral defence ceremony is known, a chairperson is to be appointed from among the members of the Doctoral Examination Working Committee. Until such time as a chairperson is appointed, the Rector Magnificus shall act as chairperson and deal with any matters that need immediate attention.
- 1.3. In exceptional cases, the Board for Doctorates may permit (a part of) the opposition and the defence , , to be conducted in a language other than Dutch or English. For this purpose, a request must be submitted to the chairperson of the doctoral committee by the promotor (via the Graduate School Office) no later than two weeks before the the doctoral defence date. The chairperson of the doctoral committee shall take a decision on this within one week and shall then inform the advisors and members of the doctoral committee and all others involved.
- 1.4. The doctoral defence ceremony usually takes place in the Senate Hall of the university. If there is a joint doctorate, it may be agreed that the ceremony will take place at the partner institution according to the rules and protocol applicable there, and in accordance with the cooperation agreement (see August 2014 Guidelines).
- 1.5. The chairperson may limit access to the hall if there are issues of (fire) safety or public order due to the capacity of the location. Children under the age of four years and (domestic) animals with the exception of guide dogs are not allowed into the defence ceremony. The chairperson may also deny access to the ceremony to any persons who cause disruption.
- 1.6. During the defence of the dissertation and the propositions, the doctoral candidate can be supported by one or two assistants, the so-called 'paranymphs'. The paranymphs may assist by reading out propositions or presenting (parts of) the dissertation or the doctoral design.

- 1.7. If during the doctoral defence ceremony circumstances arise which, in the opinion of the chairperson, impede the normal course of proceedings, the chairperson shall decide how to proceed further. If the chairperson decides to suspend the proceedings prematurely, the Rector Magnificus will be notified as soon as possible, after which he will take appropriate action.
- 1.8. All those in attendance shall demonstrate the appropriate respect for the academic ceremony that is taking place and for the members of the doctoral committee by standing when instructed to do so by the beadle - namely when the chairperson stands or enters the hall.
- 1.9. The doctoral committee shall meet to deliberate 30 minutes before the start of the doctoral defence ceremony or, if a 'cum laude' designation has been proposed, 45 minutes before. Regarding the attendance of the members of the doctoral committee, the following rules shall apply:
 - a. If the chairperson is unable to attend for any reason, the beadle will report this situation immediately to the Vice-Rector, or (if he is absent) to another member of the Working Committee for Doctorates, who will take the action that he deems fit.
 - b. If a member of the committee is unable to attend for any reason, the chairperson will be informed of this immediately and he will take the action that he deems fit, taking into account the fact that the doctoral defence ceremony can only proceed if, in accordance with the Doctoral Regulations, the minimum number of professors is in attendance and, in the opinion of the chairperson, there are enough independent examiners.
 - c. The chairperson will determine the order of the examiners, in consultation with the other members of the committee.
- 1.10. If other persons who are not members of the doctoral committee wish to examine the candidate, a written request to this effect must be submitted in writing at the latest two weeks before the agreed defence ceremony date to the Rector Magnificus, who will make a decision on whether to honour the request within one week. An examiner of this type must hold a doctorate or be authorised to act as a promotor.
- 1.11. It is highly recommended that, prior to the doctoral defence ceremony, the doctoral candidate prepares an explanation of the essence of his dissertation, the results obtained and the possible applications, that is comprehensible to non-experts. This should be arranged with the University Graduate School in time. As a rule, the explanation begins 30 minutes before the doctoral defence ceremony and is completed no later than 10 minutes before the start of the doctoral defence ceremony.

- 1.12. The permission of the Rector Magnificus is required before making any recordings for radio or television during the doctoral defence ceremony. This permission must be obtained at least two weeks in advance of the doctoral defence ceremony. Making audio and video recordings or streaming a live video feed is permitted for personal use, e.g. so that family members abroad can also witness the proceedings.
- 1.13. The use of video links or other tools to enable examiners to participate remotely is not permitted, as this limits the ability of the examiner to participate in the proceedings and the deliberations before, during and after the defence ceremony. This can negatively affect the quality of the discussion with the candidate and the assessment of the candidate.

2. Dress

- 2.1. During the doctoral defence ceremony, the chairperson, the promotor, the other members of the committee as well as the candidate and any paronymphs, are to dress as follows, as prescribed by protocol:
 - a. Male professors are to wear the ceremonial dress associated with the academic traditions relating to doctoral defence ceremonies at the institution that they belong to (cap and gown), or wear a gown and other paraphernalia leant by TU Delft. In such cases, they are also to wear a dark-coloured suit, a white shirt, a grey tie, and black shoes.
 - b. Female professors are to wear a cap and gown, a white blouse, a black, dark blue or dark grey suit and black shoes.
 - c. Delft professors are to wear a sash over their gowns and the chairperson of the doctoral committee is to wear the chain of office of the Rector Magnificus.
 - d. Other male members of the committee are to wear a black morning coat with a white shirt, a grey waistcoat, a grey tie and black shoes. Female members are to wear a white blouse, a black, dark blue or dark grey suit and black shoes.
 - e. The doctoral candidate and male paronymphs are to wear a white tie suit with a white waistcoat, white bow tie and black shoes. Female doctoral candidates and paronymphs are to wear matching suitable attire consisting of a white blouse, a black, dark blue or dark grey suit and black shoes.
 - f. The beadle is to wear a dark-coloured suit, white shirt, grey tie, black shoes, cap, gown with sash and the beadle's staff. The female beadle is to wear appropriate matching attire and cap, gown with sash and the beadle's staff.
- 2.2. Professors are to wear their cap while examining and after the resumption of the doctoral defence ceremony; the chairperson is to wear his cap for the duration of the ceremony.

- 2.3. The beadle will ensure that the clothing is worn appropriately and in a manner that befits the dignity of an academic ceremony.
- 2.4. If the doctoral candidate wishes to depart from the ceremonial dress described above and wear ceremonial dress associated with a foreign academic culture or tradition, he must seek the permission of the Board for Doctorates at least two weeks before the doctoral defence ceremony.
- 2.5. In special cases, the Rector Magnificus may, after receiving a written request from the candidate and consulting with the promotor, grant a dispensation from the requirements relating to ceremonial clothing for the doctoral defence ceremony.

3. Doctoral defence ceremony, first part

- 3.1. The dissertation and the propositions will be defended by the doctoral candidate for one hour in the face of the reservations of the doctoral committee, as well as those of any other person given permission in accordance with the Doctorate Regulations.
- 3.2. The chairperson opens the doctoral defence ceremony and invites the candidate to take up a position behind the lectern (and the paranymp(s) to be seated in the appropriate places). He introduces the committee members and then gives the floor to the first examiner, according to the order agreed beforehand. The examiner will express his reservations one by one and the candidate will be given the opportunity to respond to each. A lively debate may arise and the chairperson will ensure that this is conducted fairly, and that the candidate has an adequate opportunity to defend himself.
- 3.3. Examiners are to remain seated while their reservations are heard. With regard to the order in which the examiners speak, the following rules apply.
 - a. If there are reservations from the hall, these will be heard first, with a limit of five minutes for the reservations to be expressed and answers to be given.
 - b. Of the members of the doctoral committee, the independent members from outside TU Delft will have the first opportunity to express their reservations. Generally, the independent members together will have at least 45 minutes to examine the candidate. The remaining members will subsequently be given the opportunity to examine, with the promotor examining last of all. It may occur that not all members have the opportunity to examine.
 - c. A copromotor will speak before the promotor. The committee members will all be given the opportunity to speak if possible, although the chairperson will usually refrain from examining the candidate.

- 3.4. The members of the doctoral committee (and any individuals wishing to speak from the audience) shall address the candidate as 'waarde promovendus' or 'waarde promovenda' ('worthy doctoral candidate'). The candidate shall use the following forms of address for the members of the doctoral committee.

Chairperson: 'mijnheer/mevrouw de rector' ('Mr/Madam Rector').

Promotor: 'hooggeachte promotor' ('esteemed promotor').

Copromotor: 'zeergeleerde promotor' ('learned promotor'), if not a holder of a doctorate: 'geachte promotor' ('honourable promotor').

Professors: 'hooggeleerde opponent' ('most learned opponent').

Doctorate-holding members: 'zeergeleerde opponent' ('learned opponent').

Non-doctorate-holding members: 'geachte opponent' ('honourable opponent').

- 3.5. Any individuals from the audience wishing to express reservations shall be addressed by the doctoral candidate as 'zeergeleerde opponent', or (if it is a professor) as 'hooggeleerde opponent'. These forms of address (as stated in 3.4 and 3.5) are also to be used even if the ceremony takes place wholly or partly in a language other than Dutch.
- 3.6. The ceremony shall, unless otherwise decided by the chairperson, last for sixty minutes before being adjourned. The beadle will announce that the academic hour has passed with the words 'hora est'. Thereafter the chairperson shall ask the doctoral candidate (and the paranympths) to take their seats in the hall and indicate that the doctoral committee will retire for further deliberation.

4. Doctoral defence ceremony, *second part*

- 4.1. If, following the deliberations of the committee as referred to in article 17.1 of the Doctorate Regulations, they decide that a doctorate is to be awarded, after the public meeting is reconvened the chairperson will invite the doctoral candidate (and his paranympths) to stand before the committee and he will announce to the candidate in the manner prescribed by protocol that the doctoral committee has decided to award the doctorate on behalf of the Board for Doctorates.
- 4.2. If, following the deliberations of the committee as referred to in article 17.1 of the Doctorate Regulations, they decide that a doctorate is not to be awarded, the chairperson will invite the doctoral candidate to join the meeting of the committee in accordance with article 17.3 of the Doctorate Regulations.
- 4.3. If the designation 'cum laude' is also to be awarded, this will also be announced. Then, the promotor, at the request of the chairperson, will bestow the the degree onto the doctoral

- candidate using the prescribed wording, after which he will present the candidate with the signed diploma. The words of the chairperson are pronounced in Dutch while all those present stand.
- 4.4. When granting the doctorate (cum laude), the chairperson shall use the following wording (in Dutch):

Het College voor Promoties van de Technische Universiteit Delft; vertegenwoordigd door de hier aanwezige commissie; heeft, na kennis te hebben genomen van uw proefschrift met stellingen en na uw verdediging daarvan te hebben gehoord; met inachtneming van het bepaalde in de Wet op het hoger onderwijs en wetenschappelijk onderzoek; besloten u de graad te verlenen van doctor (en wel cum laude). Ik verzoek de promotor door het College voor Promoties als zodanig aangewezen; zich wel van de hem opgedragen taak te kwijten.

The promotor, standing to the right of the chairperson, will say the following (in Dutch):

Uit kracht van de bevoegdheid bij Wet toegekend aan het College voor Promoties; verklaar ik namens dat college; hier vertegenwoordigd door de Rector Magnificus en de overige leden van de commissie; bij deze u [...name....] te bevorderen tot doctor (en wel cum laude) en u alle rechten te verlenen welke aan de doctorstitel zijn verbonden. Ten bewijze hiervan overhandig ik u het diploma dat u het recht geeft de titel "doctor" te voeren; ondertekend door de Rector Magnificus en de promotor(en) en voorzien van het zegel van de Technische Universiteit Delft.

In the case of joint diplomas, the chairperson will speak the following words (in Dutch and English):

'Your diploma is a dual diploma awarded together with the following partner institute of higher education: ... [name, city, country]..., stated in the Diploma Supplement and approved by the Board for Doctorates.'

"Uw diploma is een tweeledig diploma samen met het volgende partnerinstituut voor hoger onderwijs:[naam, plaats, land].... opgenomen in het diplomasupplement en goedgekeurd door het College voor Promoties."

- 4.5. After the members of the doctoral committee and the audience are seated, the promotor or copromotor of the new Doctor will stand and address him and finally wish him good luck. Subsequently, the chairperson will point out the scientific integrity that is explicitly required of all holders of the title of Doctor and congratulate him on behalf of the Board for Doctorates using the following words

(in English, if this was the language used during the defence ceremony):

Learned Dr [...name...],

You have now the right to take the title of Doctor. Your Doctorate means that society can rely on your judgement, that you will act transparently and communicate independently about your results and the social relevance of your work; in other words, your Doctorate implies that you will uphold scientific integrity. I wish you a great deal of wisdom and prosperity with your new degree!

On behalf of the Board for Doctorates of TU Delft, I congratulate you (and your family) on the Doctorate that you have been awarded.

- 4.6. He will then invite the new Doctor (and his paranymphs) to take their places in the hall and will then close the session. After this, all those present will stand and the Committee will leave, following the beadle to the Senate Hall.

5. Diploma

- 5.1. The diploma shall be produced in accordance with the models given in Appendix II.
- 5.2. The diploma will be either in Dutch or, in the case of a dual diploma, in English.
- 5.3. The diploma supplement will be in English.

G. Arbitration Committee (article 19.3 Doctoral Regulations)

1. Appointment

The Board for Doctorates shall appoint a committee to handle disputes, as referred to in article 19 of the Doctoral Regulations; the committee shall be known as the TU Delft Doctoral Arbitration Committee.

2. Composition

1. The Committee shall be composed of a chairperson and a deputy chairperson, who will also be a member, as well as four members.
2. Advice on a dispute will be issued by three members, including the chairperson or the deputy chairperson.
3. Notwithstanding the provisions of article 7:13, third paragraph, of the General Administrative Law Act, hearings can be chaired by the chairperson, the deputy chairperson or a member who is not part of or working for the Board for Doctorates, in the event of the sudden absence of the chairperson, the deputy chairperson or one or more members on the date of the hearing.
4. The chairperson, the deputy chairperson and committee members are appointed by the Board for Doctorates for a maximum period of three years, and they can be reappointed twice.

3. Appointment criteria and requirements for each dispute

1. The chairperson, the deputy chairman and the members must be professors.
2. The chairperson and deputy chairperson must not be part of or responsible to the Executive Board.
3. The members are not directly involved in the dispute or the dissertation and shall not receive instructions from the Board for Doctorates regarding the dispute.

4. Dismissal

1. After hearing the relevant individual, the chairperson, deputy chairperson and committee members may be dismissed by the Board for Doctorates if they are shown to be performing inadequately, or if there are other substantial reasons for doing so in the opinion of the Board for Doctorates.
2. The chairperson, the deputy chairperson and the members may also resign from the committee on their own initiative at any point.

5. Secretariat

1. The Board for Doctorates, in consultation with the Executive Board, will appoint a secretary and one or more deputy secretaries, to assist the committee.
2. The secretary and deputy secretary will not be part of the committee.

APPENDIX I: FURTHER REMARKS ON THE PROPOSITIONS (in English)

Opposability of propositions

Many candidates find it hard, after completion of a prolonged investigation, to go on to formulate propositions that can spark a scientific debate. While their dissertation then demonstrates their ability as a researcher, it gives no evidence that they are able to formulate hypotheses that would serve as a challenge to further investigation. The hypotheses underlying a doctoral study are developed with the necessary guidance, and are no longer explicitly discussed during long periods of investigation. It is precisely the ability to pose scientific questions oneself that is tested by the formulation of bold propositions and their defence in public.

To this end, the propositions appended to a dissertation must not be only positive statements that can be defended within a certain field of science, but must also be challenging. For example, the proposition 'the sun will rise tomorrow' may be defensible but it is not at all challenging in the current intellectual climate and could never trigger a debate of pros and cons capable of advancing the boundaries of science. Hence, the propositions appended to the dissertation must be not only scientifically sound and defensible but also opposable. Propositions might give offence to many people if they are weak and as such they will not contribute to the academic objectives of the graduation ceremony or the good name of our University. To ensure the quality of the propositions, the supervisor is required to sign a statement confirming that the propositions are 'opposable and defensible'.

Decisiveness

The demand that propositions must be opposable as well as defensible adds two requirements: decisiveness and boldness. A proposition may be said to be 'decisive' if, for example, it is true or false (i.e. not a question, exclamation or command) and without tautology or attenuating qualification such as 'often', 'sometimes' or 'to a considerable extent'. Vague quantors cannot be refuted by opponents during the public defence of the dissertation, and must therefore be regarded as 'not opposable'. If necessary, a proposition may contain the qualifier 'generally' or 'usually', since this means literally 'in more than 50% of the cases', but such probabilistic quantors make both opposition and defence impossible when the relevant statistical data are not available during the debate. A proposition with existence quantor (there is a case where ... applies) is only opposable when no example is yet known (e.g. before 1988: 'a proof of Fermat's last theorem exists'). In fact, such propositions are very appropriate for a university of technology, for inventions and designs. They have the general form: "There is a possible method (or technique) to ..."

A generalizing all-quantor (it may be stated in any case that ...) challenges the opposition to present counter-examples. When the proposition does not contain an explicit quantor, an implicit all-quantor may be assumed, though the opponent would do well to ask the candidate "Does this apply in all cases?" before producing his counterexample. Such a debate is scientifically productive when it clarifies the assumptions under which the proposition applies and those under which it does not. If a counterargument is produced, the candidate can reformulate the proposition to "Apart from such and such a case, it may be stated that ..." and invite the opponent to find a further counterexample. If the revised proposition stands up to attack, it has been successfully refined and may be regarded as a 'triumph of science'.

The challenging nature of propositions

To state that a proposition is 'challenging' means that there is some doubt about its scientific truth or falsehood, so that arguments pro and contra it can be weighed against one another. If there is absolutely no doubt about the truth of a proposition, it no longer has any relevance for the advancement of science. A proposition assumed by everyone to be true can be defended, but there is no point in investigating it any further. Conversely, a proposition that is clearly false does not come into consideration for further investigation. It only becomes scientifically interesting if some doubt exists as to its truth. A scientific hypothesis (literally sup-position) to be tested by investigation is thus challenging by definition, since otherwise there would be no point in the investigation. The most valuable propositions are those which are generally regarded to be untrue (such as the views put forward by Copernicus in his time) but which, possibly on the basis of new evidence, turn out to be defensible. Such propositions demonstrate the candidate's critical and innovative approach and his or her ability to advance the boundaries of science.

Subsequent propositions may concern matters not dealt with in the thesis, and indeed belong to other scientific disciplines. For example, the candidate may question the validity of the results of other investigations, possibly in fields other than his own, which may be cited in the proposition. A proposition casting new light on our preconceived ideas lends itself very well to a humorous formulation. A joke is characterized by a change in assumptions during the narrative, and the primary task of science is to replace existing assumptions by hypotheses that show empirical reality and its technical potential in a new light. The testing or verification of such hypotheses is its second task.

Defendability

The 'defendability' of a proposition means that while the truth of the proposition is not self-evident (i.e. the proposition is challenging in the sense used above), sound scientific arguments can be advanced in

its favour. The field of science in which these arguments are valid (not necessarily 'reliable') and defensible should be mentioned explicitly in the proposition (e.g. 'in psychology'). This will serve to limit the number of playful propositions and allows the candidate to show that his or her insights extend beyond the boundaries of his or her own domain (*universitas*). In this context, 'defensible' also means 'morally acceptable'.

APPENDIX II: DIPLOMAS

Examples of diplomas

1. Standard diploma

Het College voor Promoties van de Technische Universiteit Delft,

gelet op artikel 9.10 van de Wet op het hoger onderwijs en wetenschappelijk onderzoek (Staatsblad 322 van 1997),
kent de graad van doctor toe
aan _____

geboren op _____ te _____
daar deze heeft blijk gegeven te voldoen aan de eisen, gesteld in artikel 7.18
van genoemde wet en in het promotiereglement van deze universiteit, door
verdediging van een proefschrift getiteld _____

alsmede van stellingen, beide goedgekeurd door de promotor

te Delft, op _____

Namens het College voor Promoties,

Promotor

Rector Magnificus

2. Dual diploma

The Board for Doctorates of Delft University of Technology declares,

under the provisions of art. 9.10 of the Higher Education and Research Act
(July 2nd, 1997; Staatsblad no. 322),

that _____
born on _____, in _____
having presented and successfully defended a dissertation entitled

with attached propositions, supervised by

has been awarded the Degree of DOCTOR.

This is a dual diploma together with the following partner institutes for higher education:

stipulated in the diploma supplement and approved by the Board for Doctorates.

Delft, The Netherlands, _____

On behalf of the Board for Doctorates

Promotor(s)

Rector Magnificus

APPENDIX III: EXAMPLES OF FORMS



Form A

Request for formal admission to the doctoral programme and appointment as supervisor



Having come to a Go decision in accordance with Article 7.4 of the TU Delft Doctoral Regulations, I/we, the undersigned,

Titles, initials and full name:	Professor at the University of:	Signature and date:
1. Prof.		
E-mail address:	(Mobile) phone number:	
Titles, initials and full name:	Professor at the University of:	Signature and date:
2. Prof.		
E-mail address:	(Mobile) phone number:	

Request the Board for Doctorates to: grant formal admission to the doctoral programme for the below-mentioned Doctoral candidate; appoint the aforementioned person(s) as his/her promotor and to appoint the following person(s) as his/her copromotor in accordance with article 8 of the TU Delft Doctoral Regulations.

I, the undersigned, accept the request to act as copromotor for the below-mentioned Doctoral candidate. (Article 8.4).

Titles, initials and full name:	Institute for Higher Education:	Faculty:
1.		
E-mail address:	(Mobile) phone number:	Signature and date:
Titles, initials and full name:	Institute for Higher Education:	Faculty:
2.		
E-mail address:	(Mobile) phone number:	Signature and date:

I, the undersigned, support these requests.

Full name Doctoral candidate	Date of birth:	Signature and date:
E-mail address:	TU// Staff number:	
Research subject:		

We, the aforementioned, declare that we undertake to observe the stipulations of the TU Delft Doctoral Regulations.

Corresponding promotor (Article 9.5)

To be filled out by the Faculty Graduate School.

Datum binnenkomst:

Please submit the form to the University Graduate School.

Volgnummer aanmelding:	Datum binnenkomst:	Paraaf aanmelding UGS:	Datum behandeling in CvP:	Paraaf akkoord namens CvP:





Form B

Supervisory Approval of Draft Dissertation



I, the undersigned,

Titles, initials and full name:	University:	Faculty:
E-mail address:	(Mobile) phone number:	TUD staff number:

having been appointed by the Board for Doctorates as doctoral supervisor of:

Last name(s):	First name(s):
(Mobile) phone:	Email address:
Intended doctoral defence month:	
Definitive title dissertation (Article 11.2):	

and having regard to the stipulations of Article 11 of the Doctoral Regulations, declare on behalf of the supervisors that I have approved of the draft dissertation and propositions and agree that the Doctoral candidate should apply for a provisional doctoral defence date.

Signed on (date):	Signature:
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Please submit the form to the University Graduate School.

University Graduate School draft thesis received by ugs	Datum binnenkomst:	Behoort bij volgnummer:	Date DE approved by FGS:
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Before giving his approval to the draft dissertation, and in addition to the responsibilities described in Articles 6 and 11, the supervisor must read the text presented to him and assess it on the grounds he has determined, with a view to his responsibility for the dissertation, to be the foundation of the doctorate. He must devote particular attention to the criteria described in Article 9.3.



Form C

Composition of Doctoral Committee 1/2



I, the undersigned,

Promotor/corresponding supervisor:	University:

propose that, according to Article 12 of the doctoral regulations, the following persons be appointed as members of the Doctoral Committee of

..... (the Doctoral candidate) whose provisional defence ceremony date is:.....

Other members of the committee (not being promotor or co-promotor as mentioned on Form A):

First member:	
Titles, initials and name:	
Telephone / mobile phone:	
Email:	
University / company (country)	

Second member:	
Titles, initials and name:	
Telephone / mobile phone:	
Email:	
University / company (country)	

Independent members (Article 12.2):

Ius promovendi
(Article 12.5):

Third member (independent):	yes/no
Titles, initials and name:	
Telephone / mobile phone:	
Email:	
University / company (country)	

Fourth member (independent):	yes/no
Titles, initials and name:	
Telephone / mobile phone:	
Email:	
University / company (country)	

Fourth member (independent):	yes/no
Titles, initials and name:	
Telephone / mobile phone:	
Email:	
University / company (country)	



Form C

Composition of Doctoral Committee 2/2



Fifth member (independent):		yes/no
Titles, initials and name:		
Telephone / mobile phone:		
Email:		
University / company (country)		

Sixth member (independent):		yes/no
Titles, initials and name:		
Telephone / mobile phone:		
Email:		
University / company (country)		

Seventh member (independent):		yes/no
Titles, initials and name:		
Telephone / mobile phone:		
Email:		
University / company (country)		

Involved in candidate's research:

If a reserve member is required according to Article 12.7:		yes/no
Titles, initials and name:		
Telephone / mobile phone:		
Email:		
University / company (country)	TU Delft	

Signed on (date):	Signature:

Please submit the form to the University Graduate School.

Volnummer aanmelding:	Datum binnenkomst:	Paraaf aanmelding UGS:	Datum behandeling in CvP:	Paraaf akkoord namens CvP:



Form D

Approval of Dissertation



I, the undersigned,

Promotor:	Faculty, University:

having been appointed by the Board for Doctorates as doctorate supervisor of

Name candidate:	Doctoral defence date:
Email address:	(Mobile) phone:
Definitive title approved dissertation:	

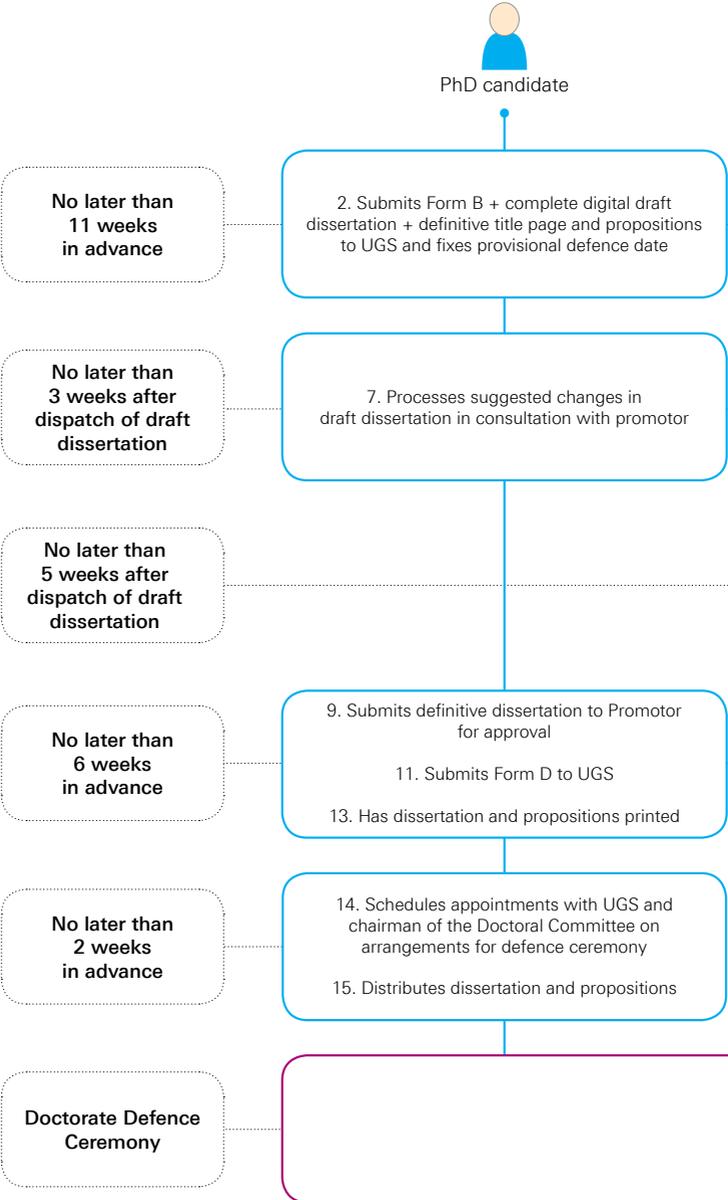
declare on behalf of the supervisors and in accordance with Articles 14.2, 14.3, 14.4 and 14.5 of the Doctoral Regulations, that I/we have approved the above-mentioned Doctoral dissertation.

Signed on (date):	Signature:

Please submit this form to the University Graduate School.

Datum binnenkomst:	Behoort bij volgnummer:

APPENDIX IV: TIMEFRAME FOR SUBMISSION OF DOCTORAL DISSERTATION AND STEPS INVOLVED



UGS= University Graduate School BfD= Board for Doctorates



Promotor



University Graduate School

1. Approves draft dissertation, signs Form B

4. Submits Form C containing composition proposal for a Doctoral Committee to Board for Doctorates (BfD) via UGS

6. Promotor receives suggested changes to draft dissertation from committee members and responds to suggested changes (if any)

10. Approves dissertation with Form D
Submits any cum laude proposals with letters of recommendation to BfD via UGS

3. Checks completion of DE Programme in DMA before fixing defence date with PhD candidate.

5. Informs committee members of date defence ceremony and requests assessments of attached draft dissertation.

8. Has received assessments of committee members

12. Informs PhD candidate and promotor of admission to the defence ceremony

Doctorate Defence Ceremony

