

Guide for Doctoral Candidates and Supervisors

TU Delft Graduate School





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Introduction

TU Delft Graduate School aims to stimulate the personal and professional development of doctoral candidates at Delft University of Technology (TU Delft), to streamline the doctoral studies and to minimize dropouts. The Graduate School Guide has been drawn up in consultation with our university's academic community. It builds on existing rules and regulations at TU Delft, notably the Doctoral Regulations (DR), the Implementation Decree and the Code of Ethics. These regulations are leading, whereas the GS Guide is intended as a point of reference that should be taken into account by all those involved. Furthermore the Guide aims to contribute to high quality and completion within the nominal period of the doctoral project and reduce withdrawal from doctoral programmes.

The most important regulations and provisions are available at the website www.graduateschool.tudelft.nl and www.tudelft.nl. The Faculty Graduate School can draw up specific and additional measures to adapt the work flow to the local organisation.

Selecting the right doctoral candidate is an important first step in a successful PhD programme. The PhD selection guide written by the Human Resources department aims at providing supervisors with the knowledge and tools needed to select the right doctoral candidate. Please refer to the HR website for an up to date version of this guide.



Establishing an effective supervisory relationship

Doctoral candidates can expect regular advice and support from their supervisors; both reactive and proactive advice will be given. Appropriate supervision and a readiness to grow are vital to the successful completion of a Doctoral Programme. This partnership is based on (scientific) integrity and mutual respect which is beneficial to the research and careers of both the doctoral candidates and their supervisors.

Successful partnership requires both doctoral candidates and their supervisors to fulfil certain roles and responsibilities.

As members of TU Delft's research community, both should adhere to the university's core values: Respect, Integrity, Expertise, Involvement, Transparency and Avoidance of Conflicts of Interest as well as the generally agreed norms and principles of research conduct.

2.1 THE DOCTORAL CANDIDATE

The **doctoral candidate** is the most important actor in the PhD process.

He or she is expected:

TO TAKE the lead and show ownership of the design, organisation and execution of the research work;

TO DELIVER agreed work packages on time;

TO CONDUCT the research with care and at or above the professional academic standard of the field. Reporting must be complete, clear and results must be well documented. Research data must be well managed and shared according to the requirements set by TU Delft and the funding parties of the research. Research data originating from technical sciences in the Netherlands can be deposited in 4TU.ResearchData;

TO STUDY the relevant work of others and

TO PROPERLY acknowledge this work and NEVER present work done by others as one's own work;

TO MAINTAIN the customary academic contacts with their fellow scientists;

TO CONDUCT research and disseminate results in accordance with all applicable codes and regulations,

including those regarding e.g. experiments with humans and animals, hazardous materials and substances, and (if any) agreements made with the funding parties of the research;

TO WRITE a dissertation that shows the candidate's ability to; conduct independent scientific research (not biased towards an outcome in the interest of the funding party), to master the topic, to reflect on own methodology and results, and to discuss further research and/or applications;

TO CONTACT the mentor or Faculty Graduate School if difficulties occur in the relationship with supervisors and seek professional assistance in case personal problems appear.

2.2. THE SUPERVISOR(S)

The **supervisors** are expected:

TO MAKE sure that there is a commitment for 4 years (with possible termination);

TO STIMULATE and support the doctoral candidates in conducting their research and to guide them towards becoming an independent junior scientist;

TO HELP the candidate to develop a critical attitude, to be able to handle critical comments, and to initiate effective communication;

TO PROVIDE prompt feedback and assist the candidate at regular meetings to define short- and medium-term goals, to reflect on the progress with the candidate, and to help plan his or her doctoral training and research;

TO INTRODUCE and guide the candidate into the relevant academic communities;

TO STAY up to date with TU Delft's policy with regard to doctoral supervision, regulations and quality assessment;

Faculty Graduate School

Supports the doctoral process at the faculty level. This includes: advising doctoral candidates and supervisors on GS guidelines and services (e.g. Doctoral Education (DE) programme, Yearly Progress Meetings) monitoring doctoral candidates, checking of the DE programmes and processing forms of doctoral candidates.

TO HELP monitor the progress (using the Doctoral Monitoring Application), to provide administrative input and to adhere to work flow schemes;

TO AIM for completion of the (draft) dissertations within 4 years;

TO CONTACT the mentor or Faculty Graduate School about non-conformances and concerns.

2.3. THE SUPERVISORY TEAM

The support of the doctoral candidate is mostly done by a **supervisory team** consisting of the supervisor and a daily supervisor and/or additional members of the scientific community. The supervisor is the academic promotor: the person that has the legal right to supervise (*ius promovendi*) and in that capacity to confer the Doctors degree on behalf of the Board for Doctorates.

The supervisor is responsible for the proper guidance given by each supervisory team member, who should be an expert in the field of research and have experience with coaching doctoral candidates or students. Team members may be affiliated with other organisations for Higher Education than TU Delft. At least one (daily) supervisor should be affiliated with TU Delft.

2.4. THE MENTOR

Every doctoral candidate is appointed a **mentor**, belonging to the scientific staff.

The mentor works at a different research group, preferably at the same faculty.

The mentor is a senior scientist, much respected and experienced supervisor, and may support several doctoral candidates at different departments.

The mentor supports and advises the doctoral candidate on issues related to the organisation and planning of the research and doctoral education.

Mentors function as a sounding board and can anticipate possible bottlenecks and, if necessary, refer the doctoral candidate to relevant persons in the organisation.

In the unfortunate case that the doctoral candidate experiences doubts or problems regarding the progress of his or her Doctoral Programme the mentor will inquire into the interpersonal relation with the promotor and daily supervisor, and will encourage and help the doctoral candidate to take ownership of the problem.

The mentor should never be involved with the doctoral candidate's research work.

The doctoral candidate and mentor meet at least twice during the first year, and at least once a year in the following years.

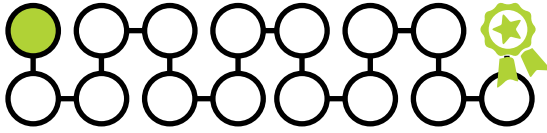
Research department

Doctoral peers: Fellow doctoral candidates.

Daily Supervisor (sometimes copromotor): Usually an Assistant or Associate Professor. His or her role is to interact on a frequent basis in the research design, provide frequent guidance, training and feedback, monitor research progress and to make sure that sufficient academic research quality is reached by the candidate

Promotor: A supervisor with the *Ius Promovendi* (the right to act as promotor). At least one promotor is employed at TU Delft. This supervisor is responsible for the Doctoral Programme

Scientific staff: This includes professors, assistant professors, associate professors, researchers, postdocs and doctoral candidates.



about the work-culture at TU Delft and to discuss the expectations and critical success factors for a PhD project completed in time;

3.1. GETTING OFF TO A GOOD START (0 – 3 MONTHS)

The **supervisors** ensure careful selection of a doctoral candidate. When the desired candidate is found and has accepted the invitation to do a PhD project at the TU Delft, the **supervisors**, with the help of the department's secretariat:

NOTIFY the Human Resources department and the Faculty Graduate School so practical arrangements can be made;

WELCOME the first-year doctoral candidate and introduce him or her to the faculty GS;

ENSURE that the first-year doctoral candidates comply with the formal requirements for registration with the University Graduate School;

HAVE A MEETING with the doctoral candidate and, in case the project is subject to a research agreement with a third party, provide a comprehensive and specific project description, including the assignment and funding conditions. Funding agreements may apply and prescribe the research topic and general research plan. It may never affect the results and independent and critical attitude of the research team, including the doctoral candidate;

MAKE WORK agreements with the candidate, and to record these in the PhD agreement Form (include clear expectations, a Doctoral Education plan and work packages);

TAKE the cultural background of the doctoral candidate into account in setting up the proper supervision form. It is appropriate to inform the candidates, in particular those not having a study or work experience in the Netherlands,

INTRODUCE the candidate to the supervisory team.

In case the supervision is done jointly with another, (foreign), institution for higher education, the supervisor informs the candidate about the agreement made between the partner institutions. The candidate should formally acknowledge (sign) the addendum of the agreement, which contains requirements for the Doctoral Education and other project conditions agreed between the partners.

All **doctoral candidates**:

ENSURE that all personal formalities (registration, visa, permits, etc.) are in order (international doctoral candidates can contact the Central International Office for support);

HAVE A FORMAL INTAKE with TU Delft Graduate School where their original diploma and transcript are checked and information on the Graduate School is provided;

University Graduate School (UGS)

Coordinates, develops and organises transferable DE courses and supports the doctoral process on university level. This includes: advising and developing policy on doctoral matters, the intake and registration of all new doctoral candidates, the central DE administration and production of DE certificates and preparation for and admittance to the defence ceremony. Furthermore, UGS offers special services such as short term psychology support for all kinds of personal issues or experienced difficulties in the doctoral research process, as well as personal counselling and advice on different career-related issues and workshops on professional development.

HAVE an introductory welcome at the Faculty Graduate School;

STUDY AND COMPLY with the Code of Ethics and information received during the intake;

GAIN ACCESS to the Doctoral Monitoring Application (DMA) and prepare a DE Programme proposal;

COMPLETE the PhD agreement Form (see below);

PARTICIPATE at the introductory course for doctoral candidates: the PhD Start-Up.

3.1.1. The PhD Agreement

The PhD agreement is a comprehensive project plan and framework for supervision. For all first-year doctoral candidates the PhD Agreement is a prerequisite. The agreements are made between the doctoral candidate and the supervisors. The PhD Agreement form should be submitted at the Faculty Graduate School.

The PhD Agreement Form contains the following elements:

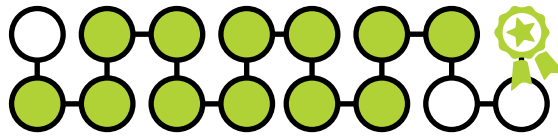
- Working title of the research
- Name of supervisor(s) and members of supervisory team
- Research description and planning
- The supervisors and the first-year doctoral candidates agree on a reasonable and acceptable project plan and framework for supervision. Timeframes and milestones help create a useful structure for the four-year horizon: the first-year doctoral candidates and the supervisors clearly describe the research subject, progress criteria (Go/No go) and the responsibilities of all those involved in the PhD Agreement. If the project receives external funding, the agreements made with the funding agency should be recorded in the research plan.
- Publication plan (number and timing of anticipated publications)
- Doctoral Education planning: skills and competences to be gained and developed and courses to be followed for Transferable, Research and Discipline-related skills.
- Agreements on supervision with supervisory team: frequency and nature of supervision and meetings
- The supervisors agree to the division of specific responsibilities. They ensure that the project's aims, content and planning for the next 4 years are in realistic balance. They establish the right organisational and logistical working conditions for their doctoral candidates.
- Agreements concerning educational, financial support to attend conference meetings, participation in various research communities and other non-research activities.
- It is to be expected that the candidate receives financial support from the department or research budget, to travel and present his or her work at international scientific conferences.
- Teaching activities are part of the doctoral candidates' work and/or education.
- Supervisors inform their doctoral candidates of the amount of time they are expected to spend on teaching and other activities. Doctoral candidates can expect to be asked to spend about 10 to 15% of their time on educational or other activities not directly related to their own project. The planning in time of these activities should be done in such a manner that the resulting delay in the research progress of the PhD candidate is minimised.
- If applicable: arrangements due to the personal situation of the candidate.

3.1.2. The Doctoral Education Programme and DMA

Each doctoral candidate is metaphorically speaking a 'student' of TU Delft Graduate School: the **Doctoral Education Programme** supports the candidates' development. Doctoral candidates take courses to develop Transferable, Discipline-related and Research skills (minimum of 15 GS credits per category). Some credits can be earned through so-called Learning on-the-Job activities, such as presenting, publishing and teaching. The *first-year doctoral candidates* should consider which skills to develop in consultation with their supervisors.

The first-year **doctoral candidates** should investigate which courses are available and prepare a proposal to obtain at least 45 GS credits, preferably spreading the Doctoral Education activities evenly over the first 3 years. They should read the 'Requirements, Conditions and Costs' document and make agreements regarding available budgets with the supervisors. Doctoral candidates will be asked to evaluate the quality of the Doctoral Programme.

DMA, the **Doctoral Monitoring Application**, is a web-based tool used by the doctoral candidates, the supervisors and the Graduate School organization. The doctoral candidates use DMA to record their DE programme planning, and to keep track of their course progress by uploading DE course certificates. The supervisors use DMA to monitor the progress of their doctoral candidates.



3.2 THE RESEARCH PHASE (MONTH 4 – 42)

Good supervision is a critical success factor. At least once a year, *each doctoral candidate* will have a formal progress and performance meeting with their **supervisors** for yearly evaluation and assessment. In addition, first-year **doctoral candidates** and their **supervisors** should have regularly meetings discussing the progress of the research, the DE programme and the overall planning towards finishing the doctoral dissertation in time. It goes without saying that supervisors and doctoral candidates come to these meetings well-prepared and that supervisors reserve ample time for guidance and supervision.

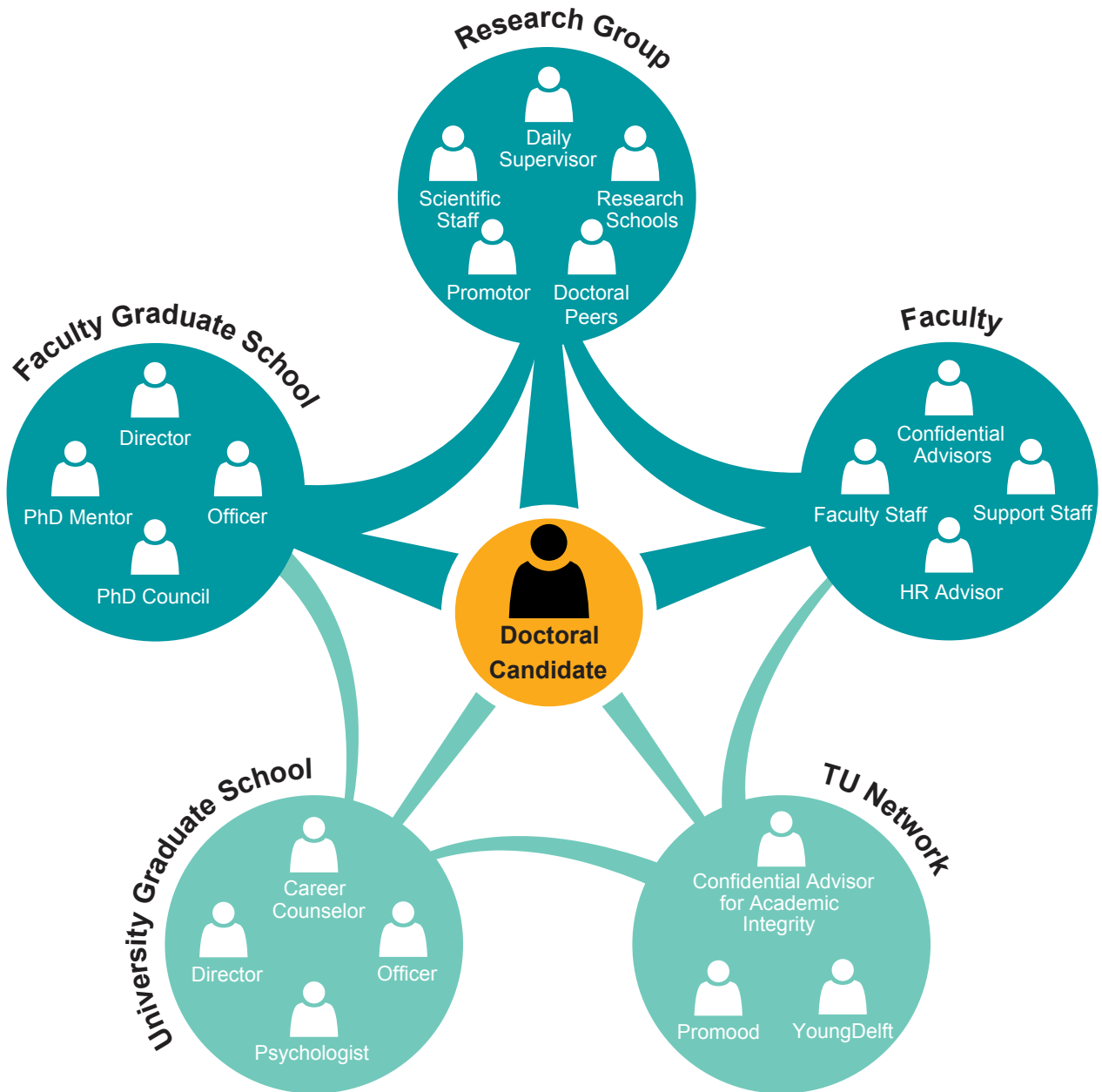
6 - 9 MONTHS MEETING



Preferably six to nine months after the start of the Doctoral Programme the supervisors and the doctoral candidate have a meeting to discuss the at least following:

- feedback on progress, results, effort and performance;
- expectations for Go/No Go decision ("don't worry"/ "some issues should be addressed and there is doubt"/ "big concern"). If there are reservations about continuation, explicit agreements on necessary improvements should be made in a 'SMART' format, meaning the agreements are Specific, Measurable, Acceptable, Realistic and Time-bound. A 'No Go' decision should not come as a surprise.
- how to prepare for the Go/No Go, e.g. required documents, presentation.

You are in the centre



Please refer to the Graduate School website.

Some faculties have formalised the '6-9 months meeting'. Feedback and agreements are recorded on a special form and submitted to the Faculty GS.



9 – 12 MONTHS: THE GO/NO GO DECISION

Within 9 to 12 months a formal Go/No Go decision should be made by the promotor based on the doctoral candidate's progress and the quality of the developed research proposal.

The supervisor arranges a meeting at which the doctoral candidate presents his research and plans. At the meeting at least the supervisory team members and one or two independent members of the scientific staff are present. All have received the appropriate documentation and the latter give an advice to the supervisor with regard to the candidate's performance and progress. The supervisor takes the advice into account when making his or her decision for a 'Go' or 'No Go'. During this meeting, the PhD Agreement is discussed and usually revised/adapted.

Doctoral candidates who fail to pass this milestone (and receive a decision 'No Go') will have to leave the TU Delft Doctoral Programme. In case of doubt the promotor may decide to postpone the decision and require extra work from the candidate (this will be recorded on the Go/No go form). A new meeting should be arranged after which the decision is taken. In this case the decision should come within 15 months after the start of the PhD Programme.

It should also be made clear that the 'Go' decision is an indication that the supervisory team is of the opinion that the candidate has shown enough progress to believe that obtaining the Doctorate is possible within the allotted time. Despite a positive outcome at this meeting if progress falls behind during the coming years a decision to end the Doctoral Programme can still be taken.

In that unfortunate case, a sequence of well documented steps should be taken. Doctoral candidates are timely informed and are given support to raise their standard.

The Faculty Graduate School provides more information about this important milestone [online](#). The local HR department can also be asked for advice.



AT 24 AND 36 MONTHS: YEARLY PROGRESS MEETINGS

Typically 24 and 36 months after the start of the Doctoral Programme, **Yearly progress meetings** are held with the doctoral candidate and the supervisory team to discuss the progress of the research, the production of articles, the planning of the draft dissertation, and the status of the Doctoral Education. The meeting held after 36 months focusses on the schedule for completing the dissertation and the DE programme. The doctoral candidate's next career step is also discussed.



MEETING WITH PEERS AND JOINING THE PHD COMMUNITY

The research group and the fellow doctoral candidates in the Faculty Graduate School create the doctoral candidates' peer-environment.

Doctoral candidates are given the opportunity to present and discuss their research in the research group or Faculty Graduate School, at peer-review meetings, seminars or colloquia, in order to prepare for public communication about their research findings. Most faculties have a Faculty PhD council or community listed on their website which may help and represent the doctoral candidates at Faculty Graduate School level. The PhD events organised by the

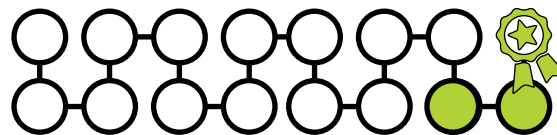
Faculty Graduate School, PhD councils and Promood – the independent university wide body - provide an excellent opportunity for contacts outside the research group.

The **supervisors** encourage interaction with fellow doctoral candidates and active participation in PhD activities at TU Delft and elsewhere.

Dutch national research schools may provide contacts and education within the specific scientific discipline of the doctoral candidate. Contacts within the funding agency or company can serve as a networking platform as well.

Exposure to the international arena is essential to the doctoral candidates' development, network, and future career opportunities. Visits to other universities or research institutes should be encouraged.

Doctoral candidates should reflect on their future career and discuss the possibilities with their supervisors well before the end of the Doctoral Programme. TU Delft Career & Counselling Services supports doctoral candidates who are considering the next step in their career by providing one-on-one talks, workshops and activities.



3.3. PREPARING FOR THE GRAND FINALE (MONTH 42 – 48)

The doctoral dissertation is a professional thesis - arranged according to the prevailing TU Delft guiding principles - which describes the scientific research done by the candidate.

The dissertation may consist of submitted and/or published articles produced by the candidate and written for the appropriate scientific community or may contain a monograph. In both cases a clear introduction and research or design challenge is provided together with ample discussion, reflection and prospects of the results (for details of the layout see Implementation Decree 2014, Article D).

Next to the dissertation the candidate presents his or her propositions. At least six statements do not directly deal with the research work of the candidate but show the individual's quality to reflect on other e.g. scientific, philosophical and/or societal matters. The Implementation Decree contains a detailed description of propositions.

The public defence of the dissertation and propositions is the last exercise. During the defence the candidate is challenged by the defence committee, with regard to the assumptions that are made, the available literature, the methodology that has been used, the conclusions that are drawn and the forecast given.

3.3.1. Preparing a dissertation and defence date

The **doctoral candidate** first prepares a draft dissertation. The draft dissertation needs approval by the supervisory team before it can be sent to the University Graduate School Office (UGS Office: secretariat for the Board for Doctorates). It is important that the candidate adapts the formal requirements for the (draft) dissertation e.g. the mandatory layout of the front and backside of the title page. The candidate should also make sure that the Doctoral Education programme is completed and should request its final check at their Faculty Graduate School.

After approval of the draft dissertation by the promotor, the promotor signs FORM B and proposes independent members for the doctoral defence committee to be appointed by the Board for Doctorates (see Doctoral Regulations, Article 13). The next step is to propose a preliminary date for the defence in negotiation with the members of the doctoral defence committee, the UGS Office, and the supervisory team. There are many stakeholders involved and communication between them needs much attention by the candidate and the promotor.

After a defence date has been set the committee will be invited by the UGS Office to evaluate the dissertation and propositions within 5 weeks. Within this period, reactions by the committee members will be sent via the UGS Office or directly to the candidate and/or promotor. In case serious concerns are raised, the UGS Office will consult the Board for Doctorates about how to proceed.

Normally the defence committee accepts the draft dissertation (after the comments are dealt with properly) and consequently the Board for Doctorates will grant access to the defence ceremony. When the promotor agrees (FORM D) the final dissertation may be printed.

At this point in time also practical arrangements should be made, such as a meeting with the chairperson at the defence and arrangements for the ceremony and the reception (optional) with the UGS Office.

The **supervisors** should ensure that the doctoral candidate follows the timeline for graduation as set out in the **Doctoral Regulations**. They provide ample feedback to the candidate on preliminary versions of the dissertation and should clearly indicate when the draft dissertation is within sight. The evaluation and corrections of the draft dissertation should take place within two months before it is sent to the UGS Office.

The **promotor** is responsible for the plagiarism scan (serviced by the TU Delft library using iThenticate) of the thesis and propositions. The promotor indicates the date of the scan on FORM B and signs for his/her approval the draft dissertation (also FORM B).

The **promotor** informs the doctoral candidate about the intended composition of the Doctoral Committee and submits FORM C to the Board for Doctorates via the UGS Office.

In exceptional cases, the promotor may propose the accolade of Cum Laude (With Distinction), along with detailed supporting arguments. This is a confidential matter between supervisors, members of the defence committee, and the Board for Doctorates. The Cum Laude is reserved for the top 5% of the graduates. The candidate, department, and others are not privy to these proceedings.

3.3.2. The doctoral defence

Hospitality is vital to the success of Doctoral Defence ceremonies and is the responsibility of the **promotor**. He or she should:

MAKE ADVANCE CHECKS to verify whether the full doctoral committee will be able to attend at the designated date and time;

PAY ATTENTION to details in the organisation of the ceremony, e.g. to adherence to the dress code, the information and welcome provided to committee members and other guests etc.;

ENSURE that the quality of the committee is exemplary with regard to academic expertise, norms and values, and that the laudation is strikingly apt.

The UGS Office organises seminars about the ceremonial requirements and practical arrangements for the finalisation of the TU Delft Doctoral Programme intended for the **doctoral candidates**. Topics include:

- the general order of events;
- when and how to schedule a defence date;
- preparations for and procedure during the ceremony;
- forms and documents;
- tips and tricks for the defence.

A mock-defence with supervisors and colleagues may help prepare doctoral candidates for their defence.

Although the dissertation has already been approved at this stage, the Doctorate has not yet been awarded. A strong Doctoral Defence is important: it is the final and public demonstration of the candidate's quality and competences; the corner stone!

3.3.3. After the defence



The Doctoral Education certificate provides a clear overview of the doctoral candidate's competences and skills and may facilitate job applications. Doctoral graduates are valued alumni of the TU Delft - each Doctor represents a new, long-term extension of TU Delft's academic network.

TIPS FOR DOCTORAL CANDIDATES FROM ALUMNUS NOESKA SMIT

STRENGTH LIES IN KNOWING ONESELF:

Before even starting a PhD, ask yourself why you even want to do this. Do the daily tasks you will be doing align with your personal values and skillset? When you lose motivation at some point during the four year process, either due to endless paper rejections, personal circumstances, or things just getting boring, knowing why you are doing this can help you regain your momentum.

PLAN EARLY, AND PLAN OFTEN:

Four years seems like a long time, yet somehow it is over quicker than you might think. For this reason, it's good to have a plan at several levels. Define several major milestones (perhaps these could become the core chapters of your thesis?) and the steps you need to take to achieve them. On a smaller scale, I like starting the day by defining three important, yet manageable tasks I want to complete today, and add them as post-it notes under my screen. Make sure you spent most of your time working on the things that add most value.

SKILLS TO PAY THE BILLS (OR FINISH YOUR PHD AT LEAST):

Your PhD provides an unique opportunity to develop your skills, so try and make the most of this. Don't pick 'easy credit' courses, or pick things you're already good at and enjoy doing, but get out of your comfort zone and work on things that need improving the most.

SHARE YOUR PATH:

Even though a PhD is your path in the end, you do not have to travel it alone. So enjoy some nice coffee breaks with your fellow PhDs, collaborate with cool people you enjoy working with, and make good use of the advice and guidance that your supervisors have to offer you from their experience and knowledge.



Photo by Marieke Roggeveen (TU Delft)



Further Guidance

For further guidance related to PhD supervision, please consult the websites of the TU Delft Graduate School and the Faculty Graduate Schools.

Any interested party who disagrees with a decision of the Board for Doctorates, can lodge an objection within six weeks of that decision by emailing a scanned letter (PDF) to: jz@tudelft.nl, containing: your name and address, date and the reasons for your complaint. Likewise, one can file a complaint with the Board for Doctorates concerning the conduct of another person involved in the Doctoral Programme. The director of the Faculty Graduate School assists the parties involved in reaching an agreement.

There is one exception: Objections to No Go decisions will be handled directly by the Board for Doctorates (graduateschool@tudelft.nl).

Please refer to Articles 19 and 20 of the Doctoral Regulations for more information.

Doctoral Defence Timeline



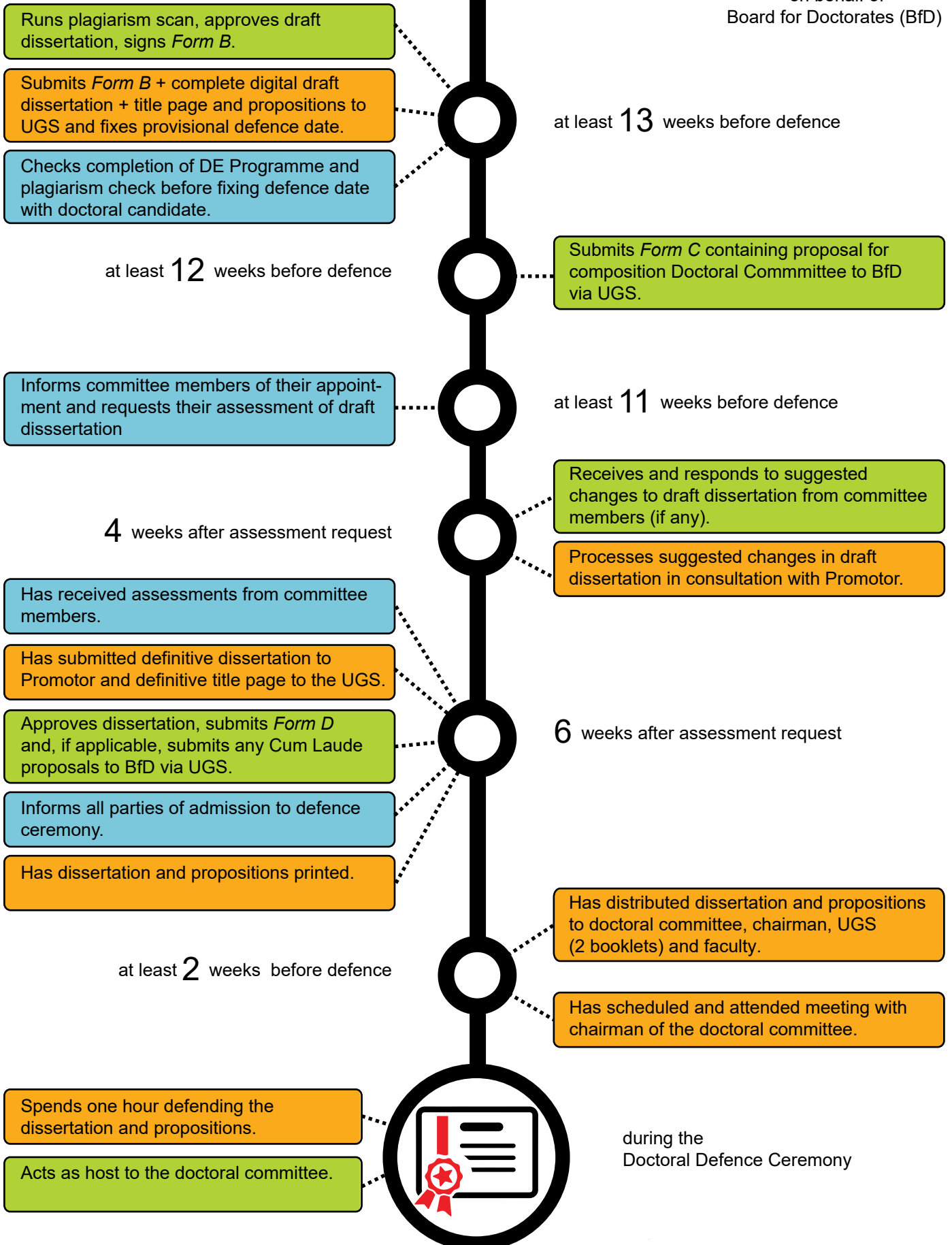
Promotor



Doctoral Candidate



University Graduate School (UGS)
on behalf of
Board for Doctorates (BfD)



Please refer to the Graduate School website.

