

UMCG PhD Thesis Requirements



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Introduction

Exactly which requirements does a thesis have to meet? This is a question that often arises when conducting – and especially completing – a PhD research project. There are questions as to length and quality, whether parts have to be published, and at what level. According to the law a thesis is ‘*proof of ability to conduct independent academic research*’, but how ‘*proof of ability*’ should be interpreted remains a difficult question, to which different answers are given. The aim of this document is to provide a framework on how to deal with the requirements for a thesis. A PhD programme is nowadays regarded – based partly on the Bologna Declaration¹ – more as a training programme, or the third step in a student’s training following the Bachelor’s and Master’s degrees. That training aspect naturally affects how we deal with the requirements and the way a thesis is formed.

We expect we can reduce the uncertainties regarding the criteria for a thesis by a good description and consensus.

Board of the Graduate School of Medical Sciences

¹ Joint declaration of the European Ministers of Education - The Bologna Declaration of 19 June 1999, where 29 countries expressed their willingness to commit to enhance the competitiveness of the European Higher Education Area.
<http://www.ehea.info/page-ministerial-conference-bologna-1999>



Context and the evolution of requirements

Here in the Netherlands, the quality of PhD research is very high, these are often longer than in other countries, and include a relatively large amount of published work. There are not only differences with other countries, but also between universities and faculties – and even within faculties – with regards to the criteria applied, which often relate to different academic cultures in subject areas. All this is difficult to deal with, for both PhD candidates and their supervisors. This leads to a great deal of uncertainty and confusion, in turn causing friction in the collaboration between PhD candidate and supervisor. Our aim is to avoid this.

The background against which the requirements need to be examined is subject to various developments: an important one is the report on ‘healthy doctoral practice’² and the Rathenau report on the awarding of PhDs at University Medical Centers,³ which shows that the supervision of candidates gives rise to not inconsiderable tensions. In addition, the position paper *Room for everyone’s talent: towards a new balance in the recognition and rewards of academics*⁴, provides a fresh perspective on that recognition and rewarding, which in turn affects how we deal with our candidates. Lastly, in the new Standard Evaluation Protocol⁵, PhD policy and training is listed as one of the four basic aspects⁶ that need to be considered in the evaluation.

² VSNU (2019). Healthy working conditions in the Dutch PhD system. <https://www.vsnu.nl/files/documenten/Domeinen/Onderzoek/Healthy%20working%20conditions%20in%20the%20Dutch%20PhD%20system.pdf>

³ Tijdink, J., C.A. Maclaine Pont & J.F.M. de Jonge (2015). Publicatiedruk bij medisch-wetenschappelijk onderzoek. The Hague, Rathenau Institute.

⁴ VSNU, NFU, KNAW, NOW, ZonMW (2019). Room for everyone’s talent: towards a new balance in the recognition and rewards of academics. <https://www.vsnu.nl/recognitionandrewards/wp-content/uploads/2019/11/Position-paper-Room-for-everyone%E2%80%99s-talent.pdf>

⁵ CSNU, KNAW NWO (2020). Strategy Evaluation Protocol, 2021-2027. https://www.vsnu.nl/files/documenten/Domeinen/Onderzoek/SEP_2021-2027.pdf

⁶ The other aspects are open science, academic culture, and talent policy and diversity.

Not only have we come to regard the PhD trajectory more as a training trajectory, we are also paying more attention to diversity in the purpose of PhD programmes: in other words we are no longer seeing them solely as preparation for an academic career. A significant development in the emphasis on training has been the founding of Graduate Schools in the Netherlands, which provides a better guarantee for the training of independent researchers. Providing courses and a wider range of skills training makes PhD candidates better equipped for their work in and around research. Additionally, the knowledge and skills offered also make it easier to excel in professional roles other than a researcher. In conclusion, we are now considering various career options for which a doctorate is a major prerequisite.

For quite a while, PhD programmes took up more than the allocated time—especially in the pre-clinical setting—where much time was devoted to research over a number of years. At the same time we have seen standards rising, and the PhD thesis itself has went through transitions and developments. Not so long ago, many theses contained no articles and they were often in Dutch. Ongoing developments are resulting in changed views. Regarding the length and types of PhD trajectories, we are now seeing a much wider range than before. In addition to the ‘standard’ four-year trajectory we have three-year trajectories, MD/PhD trajectories (two-year extensions of the Master’s phase of the MD programme), 2x2 trajectories (where PhD candidates do research partly in their own countries with two years in Groningen), clinicians who combine research with their clinical work, and part-time four-year PhD tracks (alongside a teaching role at a university of applied sciences or in the candidate’s spare time).

It is well known that completing PhD programmes takes more on average than the four years originally set aside for them, a situation that persists in spite of various measures that have been implemented. The aspiration now is to actually reduce the time it takes and have far fewer candidates still needing to complete their PhD projects beyond the agreed contract period. This, of course, places demands on project planning and the choices that need to be made during a project, especially in the case of PhD trajectories for which less than the standard four years is available. A further complication is the increase in PhD projects compared with twenty years ago (the number has quadrupled), whereas the university staff has certainly not grown proportionately. All this is also putting far more pressure on supervisors (shorter project duration and far more supervisions).

Progress and assessment of the PhD thesis

We have set out some principles underlying the guidelines for the work of PhD candidates and supervisors. It goes without saying that the thesis is a very important outcome of a PhD programme, but it is by no means the only aim. Supervisors should take this into account when assessing thesis quality and presenting it to the assessment committee.

- It goes without saying that the thesis is a very important outcome of a PhD programme, but it is by no means the only aim. -

Candidates need to demonstrate that they are capable researchers, reflecting both in their work and their thesis. The criterion is not that there must be exceptional results, but that the thesis reflects well-designed research and provides a good report of that research. This means that for 'null findings' and 'failures' – which are also results, often important ones – it must be possible to be presented. We know that candidates and supervisors often regard 'null findings' as highly unsatisfactory, but they can be the result of well-designed research that has been properly conducted. A candidate should therefore not be put off by the fact that the team considers the results disappointing, and that more research is needed while the research was of good quality.

- We would like at least one other expert from outside the team to be involved in monitoring the project. -

Candidates and supervisors are expected to set goals together, based on a realistic timeline that takes the project duration into account, and to keep monitoring them. Monitoring the project well, with possibly adjusting the final outcome, is vital. We would like at least one other expert from outside the team to be involved in monitoring the project. The outside expert should be consulted at a minimum of two times (the go/no go point after nine months, and a year before completion of the project),

but ideally this should be done every year. During these meetings, the progress and current state of the project should be discussed. If necessary, goals should be readjusted in line with our requirements, while ensuring feasibility and sufficient quality. A note that the expert outside the team has been consulted and what their advice is can be included on a revised Results and Development (R&O) form used for the evaluation discussions. Examples and ways of doing this together should be exchanged, so that it is compatible with the particular research setting and has the maximum chance of being put into practice. While candidates do talk about planning and progress with a coach and fellow students in the Managing your PhD (MyPhD) course, the emphasis there is far more on peer support from other candidates and process evaluation.

Obviously, we welcome it when a candidate displays high ambitions and automatically receives the full support of supervisors. Nevertheless, the thesis must be completed within the time limit: ambitions must not result in overrun.

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Guidelines

The criterion for a good thesis remains what the law says about it; supervisors or co-supervisors will decide whether it is of sufficient quality to be presented to the assessment committee. They must, however, take full account of the following points:

Quality is more important than quantity. If the candidate has demonstrated by a number of empirical chapters plus an introduction and discussion that he/she is a competent researcher, he/she should not aim to produce more content when the term of the contract expires. However, the candidate should in principle always be the first (shared) author (this applies in any event to the introduction and discussion, but also to the chapters). Very occasionally it will be appropriate to add another chapter because the student played a very important role in it, or because it helps to complement the content of the thesis or make it easier to understand. This can be appropriate in certain fields or situations, for example in research fields such as genetics involving large consortiums and a paper to which the candidate contributed as co-author is an important link, or in the case of a protocol paper on an intervention, on which the candidate based a number of sub-studies.

No obligation to have published chapters. While it is naturally in line with a candidate's ambition to have the work published, it cannot and must not be a precondition for sending the thesis to the assessment committee. If chapters will be published, the journal must be chosen based on the appropriate fit with the data and not based on impact or position in the field (Q indicator).

The importance of the introduction and discussion. A good general introduction and discussion will decidedly become more important. It is a great way of judging what a candidate is actually capable of with regards to the reporting of and the reflection on the work. Whereas it is standard practice for other members of the team to contribute to the writing and editing of drafts this should not be done in the case of the introduction and discussion: the candidate is by definition the sole author of these. The introduction can consider the current situation in the field and explain theories. The discussion can place more emphasis – than is often currently the case – on considering the candidate's findings in the context of the broader literature, and how research in that field could develop. A good deal of attention can of course also be paid to clinical and/or policy implications, and this could partly coincide with the candidate's desired career. A candidate who wishes to continue with the same kind of research, for example, could

place more emphasis on writing a research agenda. A clinician could focus more on the clinical implications or desirable new research from that point of view. Lastly, a candidate who envisions more of a policy-making role after gaining a PhD could focus on the social aspects of the research, or research in a broader sense.

Realistic planning. The time that is available for a trajectory is a vital aspect when it comes to making a time planning for the thesis. Candidates and supervisors need to look at what is feasible within that time: facilities and budgets are important factors. Planning and ambitions regarding the design and execution of the research project must therefore be realistic, allowing sufficient time to set up a good-quality research project and write a good-quality report (the thesis). This applies to the process of developing into an independent researcher.

Guaranteeing good planning. See above: guaranteeing good planning by bringing in an expert from outside the team to give an opinion at the go/no go point (after nine months) and a year before the completion of the PhD project.



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