



Universiteit Utrecht

Quality assurance plan

Doctoral education

Graduate School of Life Sciences

Utrecht University / University Medical Center Utrecht

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PREFACE

This is the quality assurance plan for the Doctoral Education at the Graduate School of Life Sciences (GS-LS) of Utrecht University. The main goal of doctoral education is to facilitate the development of the PhD candidate into an independent scientist by training and coaching as well as by providing the most optimal environment in which the candidate can develop scientific skills and other competences. This implies that at the end of the doctoral education at the GS-LS we graduate a person with specific academic skills and competences rather than merely delivering a thesis.

This quality assurance plan describes the different aspects of doctoral education at GS-LS such as training, research, supervision, thesis content, responsibilities, monitoring and evaluation. This quality assurance plan should be used in addition to the relevant principles, procedures and regulations of Utrecht University regarding doctoral education (see <https://www.uu.nl/en/organisation/phd-programmes>), especially:

- the doctoral degree regulations,
- the Utrecht University minimum requirements for the quality assurance system for doctoral programmes, and
- the Utrecht University regulations on use of 'ius promovendi'

More detailed elaborations of elements of this quality assurance plan are available from the School's website (<https://www.uu.nl/en/education/graduate-school-of-life-sciences/phd-programmes>) to further guide PhD candidates and PhD supervisors and will be updated whenever necessary.

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on behalf of the Graduate School of Life Sciences
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CONTENTS

PREFACE.....	2
1. INTRODUCTION	5
1.1. Life Sciences at Utrecht University	5
1.2. Mission and strategic goals of the GS-LS	6
1.3. Organisational structure of the GS-LS.....	7
2. DOCTORAL EDUCATION AT THE GS-LS	9
2.1. PhD candidates of the GS-LS.....	9
2.1.1. Selection, admission and registration of PhD candidates in the GS-LS.....	9
2.2. Research conducted by the GS-LS PhD candidate	10
2.3. Training at the GS-LS	11
3. THE GS-LS PHD TRAINING PROGRAMME.....	12
3.1. Objectives of the PhD training programme	12
3.2. Learning outcomes for PhD candidates	12
3.3. Training and Supervision Agreement (TSA)	13
3.4. PhD Training Portfolio and GS-LS Training certificate.....	13
3.5. The Research and Training Community	13
4. SUPERVISION OF PHD CANDIDATES AT GS-LS	14
4.1. PhD competence model	14
4.2. GS-LS Supervision philosophy.....	15
4.3. Quality assurance of PhD supervision	15
4.3.1. Basic training for PhD supervisors	15
4.3.2. Periodic performance evaluation of PhD supervisors.....	15
5. THE PHD THESIS.....	16
6. ASPECTS OF THE QUALITY OF DOCTORAL EDUCATION AT GS-LS	18
6.1. Quality of the PhD thesis and the conducted research	18
6.2. Progress evaluation	18
6.3. Quality of training.....	19
6.4. Quality of supervision.....	19
7. MONITORING AND REPORTING	20
7.1. The PhD candidate, the supervisory team and the independent advisor(s)	20
7.2. The PhD programme management	20
7.3. The management team of the GS-LS	20
7.4. The Life Sciences faculties	21
8. RESPONSIBILITIES AND ROLES REGARDING DOCTORAL EDUCATION AT GS-LS	22
8.1. Life Sciences Deans and director of doctoral education	22
8.2. Management team GS-LS and Board of Studies	22
8.3. The GS-LS PhD Course Centre	22

8.4.	PhD programme management	22
8.5.	The PhD candidate.....	23
8.6.	PhD Supervisory team	24
8.7.	Independent advisor(s).....	24
8.8.	PhD council	24
8.9.	Mental support and confidential PhD Advisors	25
APPENDIX		26

1. INTRODUCTION

This quality assurance plan should be used in addition to the relevant principles, procedures, and regulations of Utrecht University regarding doctoral education, such as the Doctoral Degree Regulations (see <https://www.uu.nl/en/organisation/phd-programmes>).

Doctoral education has -according to the EU Bologna process- been defined as the third cycle in higher education, i.e., the cycle following the Bachelor and Master phases. The main goal of doctoral education is to facilitate the development of the PhD candidate into an independent scientist by training and coaching as well as by providing the most optimal environment in which the candidate can develop research skills and other competences. Future Life Sciences academics require knowledge and expertise in a specific field of science as well as a critical academic attitude. At the same time, insight and experience in other disciplines are relevant to be able to work in an interdisciplinary setting. This implies that at the end of the doctoral education at the GS-LS we graduate a person with specific academic skills and competences rather than merely delivering a thesis. The PhD candidate will not only grow during his/her doctoral education in terms of research skills and knowledge, but will also develop other relevant personal and professional competences (see www.phdcompetencemodel.nl). Science is teamwork and the PhD candidate is part of and supervised by a research team and also an active member of a broader community of researchers in a certain thematic area.

1.1. Life Sciences at Utrecht University

Life Sciences is one of the four strategic themes of Utrecht University. Life Sciences research in Utrecht is diverse and aims to drive innovations in human and veterinary health care, with careful consideration of the environment. The research is interdisciplinary by nature and combines fundamental, clinical, translational, and applied research. It ranges from molecule to man, from organism to population, and from bench to bedside.

There are four focus areas of research within Life Sciences Utrecht: Regenerative Medicine & Stem Cells, One Health, Personalized Medicine & Health, and Science for Life. In addition, the four corresponding Life Sciences hubs aim to bring researchers from different disciplines together to work on societally relevant issues and potential scientific breakthroughs within the framework of the Life Sciences. These hubs aim to stimulate productive and long-lasting multidisciplinary collaborations with public and/or private stakeholders thereby creating shared value and, hence, societal and economic benefit.

Master's and doctoral education is organised at Utrecht University in Graduate Schools. The Graduate School of Life Science (GS-LS) is responsible for the organisation and the quality of Master's and doctoral education in the Life Sciences. The GS-LS is the collective responsibility of the deans of the faculty of Medicine (UMC Utrecht), the faculty of Science and Veterinary Medicine (Utrecht University): collectively the Life Sciences deans. In addition, there is close collaboration with the following non-university/non-UMC research

institutes located at the Utrecht Science Park: the Westerdijk Institute, the Hubrecht Institute, and the Princess Máxima Center, all.

The GS-LS trains Master students and PhD candidates so that they are capable of doing independent research in the multidisciplinary setting of Life Sciences. Therefore, the GS-LS bundles the research expertise and facilities of all partners for the benefit of this training. For an extensive description of the GS-LS and associated Master's and PhD programmes, the reader is referred to the [School's website](#).

1.2. Mission and strategic goals of the GS-LS

The mission of the GS-LS is to improve life by providing an inspiring and innovative academic environment that enables our graduates to thrive in the dynamics of life sciences and society.

The strategic goals of the GS-LS are to:

- Develop and maintain Master's and PhD programmes tailored to the needs of science and society, based on Utrecht Life Sciences' research themes and according to the prevailing (inter)national standards;
- Provide an invigorating academic environment for students that fosters the development of professional competences with a distinct profile and tailored to the student's needs and talents;
- Offer inspiring and state-of-the-art teaching and supervision by a qualified team that actively and effectively facilitates academic and personal growth.

In the end, a GS-LS graduate:

- Is an interdisciplinary critical thinker and worker
- Creates impact in the dynamics of science and society
- Demonstrates integrity towards science and society
- Shows leadership
- Is a team player
- Is a life long learner

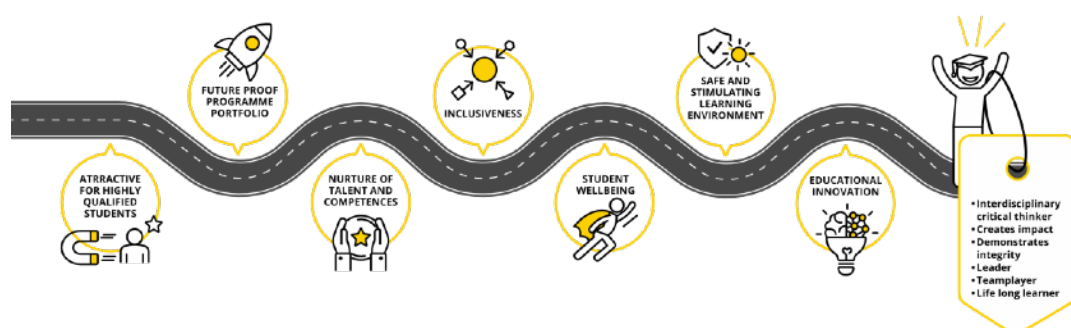


Figure: Graphical presentation of the student journey at GS-LS.

1.3. Organisational structure of the GS-LS

The GS-LS is a large, multidisciplinary organisation with currently over 1,500 Master students and approximately 1,800 PhD candidates. The GS-LS covers the Master's degree courses Biomedical Sciences, Neuroscience & Cognition, Health Sciences, Biosciences, and Science & Business.

The doctoral education of GS-LS is organised in currently 14 programmes most of which are connected to corresponding Master's programmes and that are embedded in the strategic research theme Life Sciences of Utrecht University and the thematic research programme of UMC Utrecht.

Characteristics of the GS-LS PhD programmes:

- Each PhD programme is rooted in one of the research themes of Utrecht University or UMC Utrecht and covers a specific discipline within the domain of the Life Sciences.
- Each PhD programme is sufficiently distinct from other programmes and meets a clear demand. As a rule, each programme contains 50-200 PhD candidates. In specific instances, the Life Sciences deans may allow smaller or larger programmes.
- Each PhD programme has specific objectives and offers well-defined, high quality, in-depth thematic training. Training offered by the PhD programmes may include courses, seminars, presentations at conferences, PhD candidate retreats, journal clubs, and teaching of Master students.
- Each PhD programme maintains an active and inspirational PhD community.

Each PhD programme is led by a PhD programme director, a PhD programme coordinator, and a programme committee. Each PhD programme committee has at least one PhD representative. The PhD representatives from the different programmes form the PhD council of the GS-LS.

In addition, the GS-LS maintains a PhD Course Centre that organizes trainings on general skills and competences for PhD candidates at GS-LS.

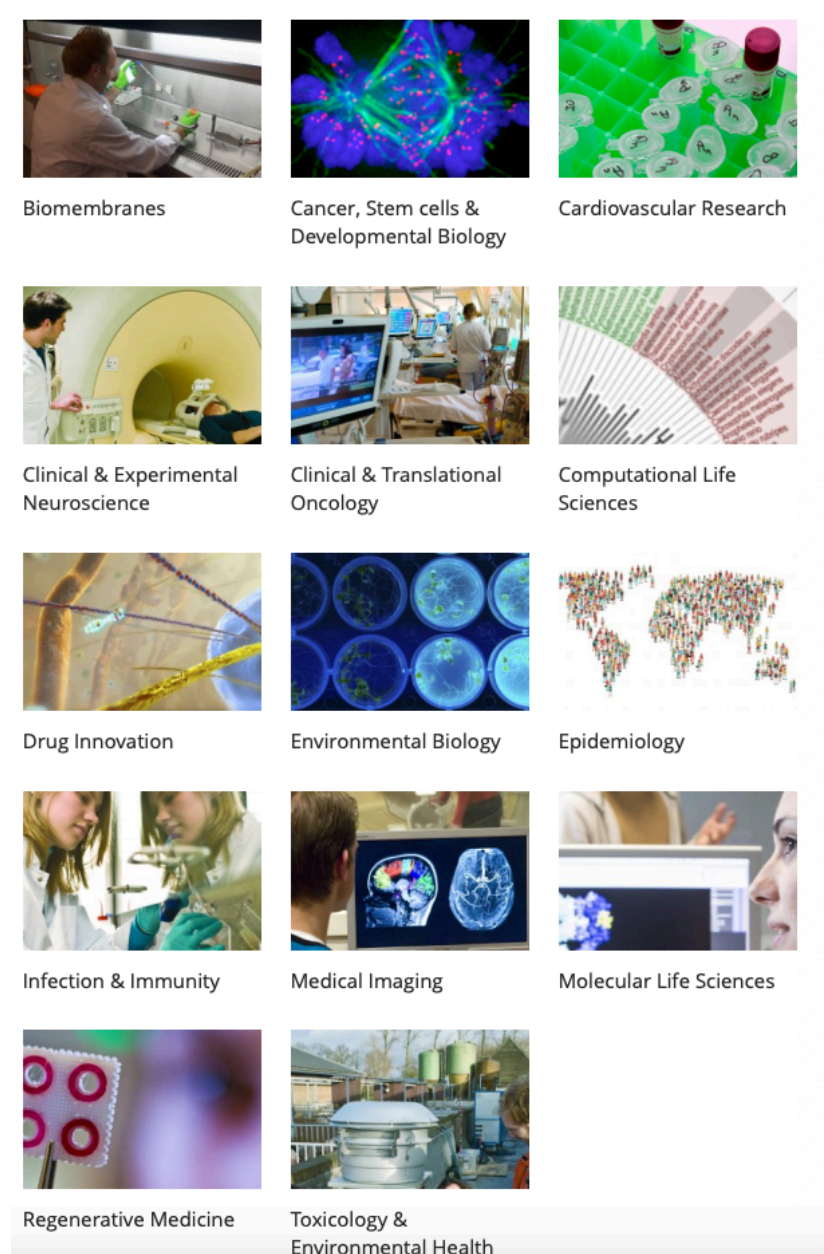


Figure: PhD programmes of the Graduate School of Life Sciences

2. DOCTORAL EDUCATION AT THE GS-LS

Doctoral education is defined as the combined research and education activities of a PhD candidate in a defined time-frame ending with the public defence of a doctoral thesis. Key elements of the doctoral education at GS-LS are: research, training, supervision and community building. The PhD track starts by submission of the request for admission to the doctoral education to the Board for Conferral of Doctoral Degrees and -within three months after start- submission of a Training and Supervision Agreement (TSA) including an Individual Training Plan to the dean of the faculty of affiliation of the first promotor. Approval of the admission automatically renders admission to the GS-LS. The PhD track ends with either the public thesis defence and subsequent conferral of a doctoral degree, or with the premature termination of the research project. The doctoral education itself is a semi-structured programme combining learning research skills under supervision, and a T-shaped training programme consisting of thematic and general training. This educational approach permits the PhD candidate to deepen and broaden knowledge and expertise in a specific scientific area, and to acquire more general academic skills necessary to become an independent scientist. The GS-LS graduate is a critical thinker who shares science according to the principles of open science and is able to cross the bridge between science and society. To achieve this the PhD candidate is part of an inspiring community during the period of doctoral education.

2.1. PhD candidates of the GS-LS

GS-LS PhD candidates perform research under the supervision of at least one promotor and at least one other supervisor (promotor or co-promotor). PhD candidates can only register with the GS-LS if their first promotor is appointed at the faculty of Veterinary Medicine, Science or Medicine of Utrecht University.

PhD candidates are divided into four categories as defined by the VSNU. Most ('regular') PhD candidates have a labour contract as a PhD candidate ('werknemer-promovendus') for a period of, usually, four years at Utrecht University or UMC Utrecht. Others, including many clinicians, have other types of appointments ('promoverende werknemer') at these institutions and combine research with other tasks such as patient care or teaching. There are also Life Sciences PhD candidates that are appointed at institutes outside Utrecht Science Park, either within or outside the Netherlands, but supervised by a promotor of Utrecht University ('buitenpromovendi' and 'contract-promovendi'). They also belong to the GS-LS. This quality assurance plan applies to all PhD candidates of GS-LS irrespective of their position.

2.1.1. Selection, admission and registration of PhD candidates in the GS-LS

- The primary promotor is responsible for assuring that before the start of the PhD track, the necessary resources (financial budget, supervision, facilities) are available for the entire planned duration of the PhD track (at least three years). This is checked by the responsible managerial persons in the division, institute, department and/or faculty whichever appropriate;

- The PhD candidate must have oral and written proficiency in English at an advanced level (same as the UU guidelines for admission to Master's programmes);
- The PhD candidate needs to have a Master's degree or equivalent degree or competences (see doctoral degree regulations Utrecht University);
- At the start of the doctoral education, the PhD candidate submits to the Board for the Conferral of Doctoral Degrees a request for admission via the Utrecht University wide PhD tracking system. The PhD candidate must be registered at the start of the doctoral education and at least three years before the defence of the PhD thesis, that is to say at the start of the supervision (i.e., supervision meetings) and the start of data collection;
- At the start of the doctoral education, at minimum the following information is registered in the Utrecht University wide PhD tracking system. Details can be found on the websites of Utrecht University and that of the School:
 - The starting date of the PhD track:
 - o If there is an employment agreement or other form of contract with the university: the starting date of the contract or agreement
 - o If this is not the case: the date of registration in the Utrecht University wide PhD tracking system
 - The type of PhD candidate according to the VSNU (Association of Universities in the Netherlands)
 - The names of the supervisory team (the promotor(s) and co-promotor(s))
 - The name(s) of the independent advisor(s)
 - The Faculty
 - The name of the Graduate School (in this case the GS-LS) where the doctoral education is followed.
 - The name of the PhD programme of the GS-LS to which the PhD candidate will belong;
- The Board for the Conferral of Doctoral Degrees checks the qualifications of the PhD candidate and of the (co-)promotors and decides about admission to the doctoral education;
- The PhD candidate establishes together with the (co-)promotors a Training and Supervision Agreement (TSA, see section 3.3) including an individual Training Programme. The TSA must be submitted to the dean of the faculty of affiliation of the primary promotor **within three months** after the start of the PhD track. The TSA should also be registered in the Utrecht University wide PhD tracking system.

2.2. Research conducted by the GS-LS PhD candidate

Research by PhD candidates is carried out in the context of defined PhD- and research programmes embedded in the institutes of affiliation and according to the prevailing (inter)national standards. The quality of research is not the responsibility of the GS-LS but of the institute of affiliation of the first promotor.

2.3. Training at the GS-LS

Training at the GS-LS is T-shaped and consists of thematic and general training. Thematic training refers to the acquisition of knowledge in one or more specific scientific discipline(s) and is provided by the PhD programme in which the PhD candidate participates. The training programme may be composed of a mixture of e.g. courses, seminars, journal clubs, retreats, and symposia. Each PhD candidate is required to be registered to one PhD programme, but has access to training activities of all other PhD programmes, free of charge, if space permits.

General training refers to the development of academic and professional skills and competences and is -amongst others- available via the PhD Course Centre of the GS-LS and Career Services of UU.

Besides, PhD candidates are encouraged to attend a variety of research-related meetings such as theoretical lectures, courses, seminars to increase knowledge and extend skills in both their specific area of research and general professional attitude.

In addition, the GS-LS organizes training for supervisors.

3. THE GS-LS PhD TRAINING PROGRAMME

The PhD training programme refers to the collection of training activities to which PhD candidates of the GS-LS have access. Thematic training is provided by each of the PhD programmes of the GS-LS. General training in professional competences and skills are provided by the institutions and available via the PhD Course Centre of the GS-LS (see <https://www.uu.nl/en/education/graduate-school-of-life-sciences/phd-programmememes/phd-course-centre>). On average the GS-LS faculties and associated institutions allocate a budget of 1,000 euro's per PhD candidate per year. This is not a personal budget but used by the PhD programmes to maintain an active and inspirational PhD community and to organize trainings and events, as well as by the PhD Course Centre to offer trainings in general skills and competences and to organize events for the entire GS-LS PhD community.

3.1. Objectives of the PhD training programme

The aim of the PhD training is to provide the PhD candidate with:

- Practical and methodological knowledge and skills to collect, analyse, present, and discuss research data to contribute independent and original scientific work in the domain of the research project;
- Discipline-specific knowledge to read, discuss, and contribute to the scientific literature in the domain of the research project;
- Professional experience (e.g. with regard to teaching, management, writing, presenting, working in a team, applying for grants) to continue an academic career be it in university or elsewhere in society;
- Awareness of the responsibilities of scientists towards society and in particular the obligation to conduct scientific practice in an integer manner.

3.2. Learning outcomes for PhD candidates

On successful completion of the PhD track, PhD candidates of the GS-LS should, according to the Doctoral Degree Regulations of Utrecht University, demonstrate achievement of the following learning outcomes:

- The PhD candidate makes an original contribution to academic research of a quality which stands up to peer review at the level usual in the Netherlands;
- The PhD candidate has demonstrated the ability to independently apply the academic methods used in the discipline concerned for developing, interpreting and putting into practice new knowledge;
- The PhD candidate has acquired and worked with a substantial body of knowledge which, at the very least, embraces the principles and methods of international academic practice and theorisation, methodology and study in the discipline concerned;
- The PhD candidate possesses the ability to design and implement a substantial research project to develop new knowledge;
- The PhD candidate can pass on knowledge and methods from their discipline or specialism in an effective way;

- The PhD candidate can exercise social responsibility in conducting, applying, and making use of own research.

3.3. Training and Supervision Agreement (TSA)

The Training and Supervision Agreement (TSA) is a standard agreement between the PhD candidate and the supervisory team and approved by the relevant representatives of the GS-LS and institutions to ensure proper training and supervision of the PhD candidate during the PhD track. It contains the name of PhD programme to which the PhD candidate has been admitted, the names and signatures of the supervisory team, and the individual training plan mentioning the intended training activities including thematic and general training and research related meetings. The individual training plan includes compulsory courses and relevant teaching training, if the PhD candidate is involved in specific teaching activities. The signed TSA must be submitted to the faculty of the affiliation of the primary promotor **within three months** after the start of the PhD track. The TSA should also be registered in the Utrecht University wide PhD tracking system.

3.4. PhD Training Portfolio and GS-LS Training certificate

PhD candidates will collect evidence (certificates of attendance) of the training activities they have followed during their PhD track together constituting the PhD Training Portfolio.

Based on the contents of this PhD Training Portfolio the PhD programme management, on behalf of the Board of Studies (BoS), will decide whether the PhD candidate qualifies for the Training Certificate of the GS-LS at the end of the PhD track. The Training Certificate is usually handed over at the end of the PhD defense ceremony.

The requirements to receive the Training Certificate are the following:

Training should comprise a minimum of 5 credits¹ for each fulltime equivalent year of research appointment, which will be at least 3 years (at least 15-20 ECs in total).

- A minimum of 40% of the total credits should be spent on discipline-specific courses (of the PhD programme to which the PhD candidate has been admitted).
- A minimum of 20% of the total credits should be spent on general courses.
- A maximum of 20% of the total credits may be spent on symposia/conferences.

3.5. The Research and Training Community

PhD candidates are offered the opportunity to attend meetings (such as courses, seminars, master classes, journal clubs, PhD retreats) organised by the PhD programmes and/or research institutes or the national and/or international research networks/schools. PhD candidates are encouraged to attend guest lectures and to participate in (international) symposia and conferences.

It is the responsibility of the PhD programmes to organise these meetings and to maintain an active and inspirational community of PhD candidates.

¹ according to the European Credit Transfer System (ECTS) 1 credit = 28 hr and 1.5 credit = 1 week

4. SUPERVISION OF PhD CANDIDATES AT GS-LS

The formal supervisory team of each PhD candidate consists of a minimum of two and a maximum of four supervisors (promotors (maximum 2) and co-promotors (maximum 2)). The supervisory team shall divide the various tasks and communicate these with the PhD candidate.

4.1. PhD competence model

The PhD candidate will not only grow during his/her PhD track in terms of research skills and knowledge but will also develop other relevant personal and professional competences. This implies that at the end of the PhD track we graduate a person with specific skills and competences rather than merely delivering a thesis. For this purpose, the PhD competence model has been developed (www.phdcompetencemodel.nl). The PhD competence model can be used by the PhD candidate in the preparation of the annual progress meetings and the selection of desired training activities.



Figure: The PhD competence model

4.2. GS-LS Supervision philosophy

The PhD candidate is the driver of his/her own development. The supervisory team supports the PhD candidate during this track to develop the relevant competences and providing the desired environment and structure. The supervision style -which should be adjusted to the characteristics of the PhD candidate- aims at letting the PhD candidate develop into an independent scientist. The supervisor should realize that, in accepting a PhD candidate, he/she takes responsibility for an important phase in the career of a person, and not only for progress in research. The GS-LS supervision philosophy can be found on the School's website (<https://www.uu.nl/en/education/graduate-school-of-life-sciences/phd-programmes>) and will be communicated to all supervisors. The supervision philosophy is also embedded in the GS-LS training course for PhD supervisors.

4.3. Quality assurance of PhD supervision

Quality assurance of PhD supervision takes place at two levels: basic training of PhD supervisors, and periodic performance evaluation of PhD supervisors as part of their annual assessment interview.

4.3.1. Basic training for PhD supervisors

Each person that supervises a PhD candidate at the GS-LS for the first time, will have to participate in the Utrecht University course 'Supervising PhD candidates at the GS-LS'.^{2 3} (S)he will follow this training during the first two years of supervising a PhD candidate. The other member(s) of the supervisory team of the PhD candidate has/have to be more experienced in PhD supervision. The UU course 'Supervising PhD candidates at the GSLS' is mandatory for persons applying for a senior qualification research.

4.3.2. Periodic performance evaluation of PhD supervisors

The quality of supervision is an obligatory topic to be discussed during the yearly assessment/performance interview with the supervisor according to the HRM procedures of the faculties and associated institutes where the supervisor is employed (*Performance & Goals* (UMC Utrecht) or *Assessment & Development Interview* (Utrecht University)). The quality of supervision can for example be measured by 360 feedback from peers and possibly also PhD candidates. In addition, duration of the PhD track and success rates will be discussed.

² Supervisors that have had similar training for supervising PhD candidates from other graduate schools of UU or at other universities can receive a waiver.

³ <https://www.uu.nl/en/professionals/programmames/supervising-phd-research>

5. THE PhD THESIS

In the end, the PhD candidate has to write a PhD thesis and defend it in public. The PhD thesis is submitted to the reading committee before the end of the PhD candidates contract. The requirements, procedures, responsibilities, and rules are laid down in the Doctoral Degree Regulations of Utrecht University and therefore also apply to the PhD candidates and supervisors of the GS-LS. On top of these general requirements, several additional guidelines apply for the thesis of a GS-LS PhD candidate:

The PhD thesis is a written document demonstrating the scientific development of a PhD candidate. The thesis contains at least a general introduction, publishable research chapters, and a general discussion. The chapters in a PhD thesis form a collective unit; the PhD candidate creates a red thread through the thesis which is reflected upon in the general discussion.

In the general introduction, the PhD candidate describes their view of the current state of the art in the discipline, highlights gaps in scientific knowledge and introduces an overview of the thesis. The general introduction contains information that readers need to know in order to comprehend the context of the research chapters. The general introduction may be in the form of a review article.

Each research chapter contains work in which the PhD candidate followed the scientific research cycle: it identifies a gap in scientific knowledge, outlines an approach, describes appropriate collection and analysis of data or existing relevant databases and finally, reflects on the results in the context of the specific field. The size of a chapter, the scientific depth, the quality of data collection and analysis thereof, should be of a level customary to that specific discipline. The same directive applies to the format of the thesis chapters.

The degree of scientific contribution of a PhD candidate determines whether a manuscript can be part of the PhD thesis, and not the position of the PhD candidate on the list of authors. Therefore, each chapter of the PhD thesis explicitly indicates how the PhD candidate has contributed to this work. If relevant, this also applies to the general introduction and discussion. Note that only the collection of data by the PhD candidate is not sufficient in itself for inclusion of a chapter in the PhD thesis; earlier mentioned directives on the scientific research cycle still apply. If the PhD candidate, as part of a team effort, has conducted a crucial part of a larger study, but is not the first, second or last author, the work can still be included in the thesis, as long as they explain their role in the study. If the contribution of the candidate to that publication is not sufficient in itself, a PhD candidate may supplement the material with own relevant work.

A publishable chapter can be a (future) publication or a substantial part of a more extensive study. In the latter case, the abovementioned directives still apply. There is no requirement for the number of publishable research chapters in a PhD thesis: quality, coherence and the specific contributions of the PhD candidate prevail over quantity. The direction is three or more publishable chapters, but less can be justified for example by the extensiveness of the

work.

Importantly, a (publishable) research chapter does not already have to be submitted or accepted for publication in a peer-reviewed journal to be included in the thesis. However, PhD candidates and supervisors should strive to publish these chapters in peer-reviewed open-access scientific journals. For those manuscripts that are published or will be in the future, the PhD candidate will be (co)author of the respective thesis chapters, in recognition of the scientific work.

Where research chapters and sometimes the general introduction are collaborative efforts, the general discussion should be the PhD candidate's own product. Therefore, the general discussion functions as a rite of passage more than other chapters. In this final chapter, the PhD candidate reflects with a birds-eye perspective on the research chapters and notable findings, identifies future opportunities for research, and discusses the impact on the research field and society. There is explicitly no minimum size for the introduction nor the discussion; quality is the only criterium.

Development of a PhD candidate is typically broader than the scientific content of the research chapters. Candidates can detail their broader personal and scientific development in an attachment in their thesis. The inclusion of this attachment is optional and may be used by the reading committee to acquire a complete picture of a candidate as an academic in training, but falls outside the scope of the manuscript to be judged by the reading committee. In drafting such an attachment, PhD candidates may use the GS-LS PhD competence model as a guideline.

In assessing the PhD thesis, the reading committee uses an assessment form based on these guidelines and those in the doctoral degree regulations of Utrecht University.

6. ASPECTS OF THE QUALITY OF DOCTORAL EDUCATION AT GS-LS

The GS-LS is headed by the deans of the faculty of Medicine, Science, and Veterinary Medicine. The joint deans ('co-decanaat', the three deans together) is accountable for all aspects of doctoral education (research, PhD thesis, training, and supervision) of all GS-LS PhD candidates. This collective accountability seems at odds with the legally defined responsibility of an individual dean for research and training in his/her faculty. Likewise, in his/her role of employer, a dean carries responsibilities concerning the position of a PhD candidate as an employee of that dean's faculty. As a consequence, some responsibilities of the collective Life Sciences deans concerning the PhD track are shared, while others have been split and assigned to individual deans.

Concerning the quality control of the doctoral education, three aspects are defined:

- 1) Quality of the PhD thesis and the conducted research;
- 2) Quality of training;
- 3) Quality of supervision.

6.1. Quality of the PhD thesis and the conducted research

The Board for the Conferral of Doctoral Degrees of Utrecht University, which oversees the implementation of the doctoral regulations on behalf of the Executive Board of Utrecht University, defines the general rules and regulations for a PhD thesis at Utrecht University. The GS-LS has guidelines in addition to these Utrecht University rules and regulations.

The supervisory team as well as the PhD candidate are responsible for the quality of the research in the PhD thesis according to the prevailing standards.

6.2. Progress evaluation

Quality of research and progress are monitored informally throughout the year by regularly scheduled meetings between the PhD candidate and the supervisory team.

Quality and progress of both research, training, career perspectives and supervision are evaluated in a yearly progress meeting for all GS-LS PhD candidates. This progress meeting is a discussion between the PhD candidate, the (co)promotors and the independent advisor(s) (see sections 8.6 & 8.7) and guided by a progress report written by the PhD candidate. The format of the progress report can be found on the School's website.

In addition, the PhD students that are employed by one of the GS-LS faculties or research institutes, have an annual *Performance & Goals Interview* (UMC Utrecht) or *Assessment & Development Interview* (Utrecht University). These interviews should also include the content and progression of TSA. Besides, these interviews address compliance of the PhD candidate with his/her rights and duties as an employee. The requirements, nature, and confidential reporting of these interviews is subject to the relevant HRM rules and regulations of the individual faculties and associated institutes.

At approximately a quarter of the intended duration of the PhD track (i.e. at the end of the first year in case of a full-time programme) it has to be evaluated whether the research and

the PhD candidate have the quality and competencies for a PhD graduation, the so called go/no-go decision.

6.3. Quality of training

The quality of the courses and other training activities offered to PhD candidates by the PhD programmes and via the PhD Course Centre is the responsibility of the PhD programme management (PhD programme-specific training) and the director of doctoral education (training on general skills and competences). Training activities are regularly evaluated by the PhD programmes and the PhD Course Centre through written or oral evaluations by PhD candidates. The quality of the training portfolio of the individual PhD candidate is monitored in the annual interviews with the supervisory team and the independent person(s).

The PhD programmes are audited periodically on behalf of the Board of Studies.

6.4. Quality of supervision

The quality of supervision is the responsibility of the dean of the faculty where the PhD candidate is registered. The quality of the supervisory team is assessed at the moment of admittance to the doctoral education. The quality of supervision of each member of the supervisory team is formally assessed in an annual *Performance & Goals* (UMC Utrecht) or *Assessment & Development Interview* (Utrecht University), see also Chapter 4. In addition to this formal interview, the progress of both the quality of supervision by the supervisory team is monitored informally by one or more independent advisors.

7. MONITORING AND REPORTING

The relevant responsible individuals and formal bodies monitor and evaluate all aspects of the PhD track, and provide written proof thereof. With the aim of continuous improvement according to the PDCA (plan-do-check-act) principles. These include: an annual progress report of the PhD candidate, periodic evaluation of the quality of supervision, periodic evaluation of the PhD programmes, periodic evaluation of the training activities, and justification of the budget spent.

7.1. The PhD candidate, the supervisory team and the independent advisor(s)

Each year the PhD candidate provides a written progress report, to be discussed with the independent advisor(s) and the supervisory team. The report contains a standardized evaluation of all aspects of the work of the past period, insight in the progress of the project and re-evaluation by PhD student and supervisor concerning the expectations of the PhD project. The last progress report contains a plan for completion of the PhD track. A copy of the progress report is sent to the PhD programme of which the PhD candidate is part. The format for the yearly progress report is available from the School's website.

This annual review of the progress of an individual PhD candidate is -though the content partially overlaps- a separate registration from the yearly performance review for PhD candidates employed by UU or UMC Utrecht. Both annual reviews may efficiently be combined in time. The supervisor has an annual Performance & Goals interview (UMC Utrecht) or Assessment & Development Interview (UU) with the PhD candidate, according to the rules and guidelines of the institution. A written report of the interview is provided to the HRM department of the relevant faculty/research institute.

7.2. The PhD programme management

Each year the PhD programme provides a written report, according to the format provided by the Director of Doctoral Education. The report includes -amongst others- the identity⁴, affiliation and start year of participating PhD candidates, the training programme of the PhD programme and justification of the budget spent of the previous year upon request. This report is discussed by the BoS who advises the Life Sciences deans. The annual reports will guide the periodic evaluation of the PhD programme by the Board of Studies.

7.3. The management team of the GS-LS

The management team of the GS-LS provides an annual report on doctoral education to the Life Sciences Deans and includes both qualitative and quantitative information. In addition, a justification of the budget spent is given.

⁴ taking into account The relevant General Data Protection Regulation (Dutch: AVG)

7.4. The Life Sciences faculties

The Life Sciences faculties have procedures in place for monitoring and enforcement of HR-regulations relevant to PhD education and supervision.

8. RESPONSIBILITIES AND ROLES REGARDING DOCTORAL EDUCATION AT GS-LS

In this chapter, the roles and responsibilities of individuals and formal bodies are being described concerning the different aspects of the PhD track.

8.1. Life Sciences Deans and director of doctoral education

The deans of the Veterinary Medicine, Science, and Medicine faculties are accountable for all aspects of the quality of the doctoral education at GS-LS. The director of doctoral education GS-LS is responsible for the quality of the training programmes for PhD candidates at GS-LS. The individual Life Sciences deans are responsible for the quality of supervision, the quality of the research, the quality of the thesis, the adherence to the doctoral regulations of UU, the HRM, and financial aspects related to the PhD candidate and the projects.

8.2. Management team GS-LS and Board of Studies

The Management team of the GS-LS consisting of the director GS-LS, director doctoral education GS-LS, managing director PhD Course Center and the GS-LS secretary runs the daily affairs of the GS-LS and reports to and advises the Life Sciences Deans on the quality of master- and PhD-programmes. The Board of Studies (BoS) advises the management team of the GS-LS. The BoS meets minimally once per month. The BoS is headed by a Chair, who is a professor in one of the Life Sciences areas at Utrecht University or UMC Utrecht. Other members include three directors of the research master and/or PhD programmes of the GS-LS, a Master student of the Life Sciences Representatives (LSR), and a member of the PhD council, and the secretary of the GS-LS. Other members may be appointed based on their specific qualities/interests. The Life Sciences deans appoint members of the BoS for the term of six years.

8.3. The GS-LS PhD Course Centre

The development of transferrable skills becomes increasingly important in pursuit of a career inside or outside academia. The GS-LS PhD candidates are challenged to model their learning process to be well equipped for their next step. The PhD Course Centre is responsible for a portfolio of courses and meetings, tailored to develop the competences described in the PhD competence model. In addition, the PhD Course Centre is responsible for the communication of relevant aspects of doctoral education through newsletters, events, and other means.

8.4. PhD programme management

Each PhD programme has a programme director, a PhD programme coordinator, a PhD representative and a PhD programme committee. The director is a professor of Utrecht University or UMC Utrecht and is appointed by the Deans for the term of maximally six years. (S)he is accountable for an original and high-quality PhD programme and community,

and the continuous improvement thereof. (S)he is also accountable for the budget assigned by the Life Sciences deans. The PhD programme coordinator supports the programme director in the organisation of the PhD programme. Each PhD programme has a PhD programme committee. The PhD programme committee is appointed by the PhD programme director and consists of relevant stakeholders, representative research leaders participating in Utrecht University research focus areas and at least one PhD candidate. The PhD programme committee supports the PhD programme director in maintaining a high-quality PhD programme.

The programme director is responsible for:

- A PhD programme committee.
- Yearly evaluation and continuous improvement of the content of the PhD programme and its training activities together with the PhD programme committee.
- Admission of candidates to the PhD programme based on the programme's admission criteria.
- Information to the PhD candidates about the nature of the programme;
- Information of the PhD candidates about the requirements for the Training Certificate of the GS-LS;
- Information to the PhD candidates about activities organised by the PhD programme;
- The organization of discipline-specific training activities;
- The assessment of the eligibility of the PhD candidate at the end of the PhD track to receive the School's Training Certificate, based on proven attendance, on behalf of the BoS;
- Provision of an annual report to the Management team of the GS-LS describing activities of the programme and justification of the budget spent.

8.5. The PhD candidate

Setting up research and acquiring the necessary skills in problem solving and communication is, in the first place, the responsibility of the PhD candidate. The candidate is expected to take responsibility to cultivate his/her talents and prepare for a future career, within or outside academia, and for meeting the commitments linked to the funding of the doctoral research. A PhD candidate is responsible for:

- The quality of the research together with the supervisory team;
- Undertaking the necessary efforts to ensure good progress in the doctoral research project and finalizing the doctoral thesis within a reasonable timeframe;
- Actively engaging in setting up the research questions that are addressed in the doctoral project;
- Actively participating in the research community (s)he belongs to;
- Communication of research findings together with the supervisory team;
- Adhering to the generally accepted standards and norms of responsible conduct of research;

- Respecting the intellectual property rights relating to concepts and findings of Utrecht University, UMC Utrecht, or relevant other institution and to take proper care of materials and equipment;
- Compiling a TSA including an individual training plan together with the supervisory team and maintaining a Training Portfolio;
- Organising the annual progress meeting;
- Bringing up any problems and challenges as quickly as possible, first informing the supervisory team and, if necessary, the independent person(s), so that a suitable solution can be found.

8.6. PhD Supervisory team

As defined in the UU Doctoral degree Regulations the formal supervisory team of each PhD candidate consists of minimal two and maximum four supervisors (promoters and co-promoters). The supervisory team shall divide the various tasks and communicate these with the PhD candidate. The supervisory team is responsible for the quality of the research, the quality of the PhD thesis, the development of skills and competences of the PhD candidate, and the availability of the resources, including the budget for the entire PhD track. Of note, if at the end of the PhD track the manuscript is rejected by the reading committee and requires additional work the supervisory team is responsible for the required budget (salary), and extension of the track needs to be approved by the relevant department (Veterinary Medicine & Science) or division (UMC Utrecht). The supervisory team is also responsible for the formal go/no-go decision at the end of the first year of the PhD track and -together with the PhD candidate for the *completion plan* approximately one year before the provisional end of the PhD track.

8.7. Independent advisor(s)

One or two independent advisor(s) are assigned to each PhD candidate at the beginning of the PhD track. The role of the independent advisor(s) is to provide independent advice to both the PhD candidate and the supervisory team concerning the progress (rate, direction) of the PhD track. An independent advisor is a researcher in a field related to that of the PhD candidate, but who is not involved in the PhD candidate's research project. The minimum contribution of the independent advisor (s) is to discuss the annual progress report of the PhD candidate with the PhD candidate and his/her supervisory team.

8.8. PhD council

The PhD council consists of representative PhD candidates of all GS-LS PhD programmes. The PhD council advises the management team of the GS-LS and the BOS on the quality of doctoral education. The council meets once a month in the presence of the administrative secretary and PhD coordinator of the GS-LS.

8.9. Mental support and confidential PhD Advisors

Mental wellbeing is important for everyone and thus also for PhD candidates. Utrecht University offers psychological support specifically for PhD candidates when necessary.

Each faculty has assigned dedicated confidential advisors ('vertrouwenspersonen') for PhD candidates. The confidential advisor is a staff member of the faculty. He/she can mediate upon request of the PhD candidate in case of a personal or professional dispute between PhD candidate and his/her supervisor(s). Their identity and working method can be found on the School's website and that of the individual faculties/institutions.

Besides, Utrecht University has separate confidential advisors for staff affairs, inappropriate behaviour, academic integrity, and for whistle-blowers. Their identity and working method can be found on the School's website that of Utrecht University.

APPENDIX

This quality assurance plan was realized by an ad-hoc working group from the Graduate School of Life Sciences consisting of PhD students, supervisors, PhD Program directors & coordinators, HRM advisors and vice deans.

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