

**Quality Assurance Plan
for doctoral level academic training
of AMC PhD candidates**

AMC Graduate School

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Contents

Preface	5
1 Introduction	6
1.2 Scope of this document	6
1.3 Governing model AMC Graduate School.....	6
2 AMC Graduate School for Medical Sciences	7
2.1 Mission of the AMC Graduate School.....	7
2.2 The AMC PhD program and organization	7
2.3. Quality assurance of the organization.....	8
3 Registration	9
3.1 Registration system	9
3.2 Registration procedure for AMC PhD candidates.....	9
3.3 Registration of supervisors	10
3.4 Access to data	10
3.5 Registration success	10
3.6 Quality assurance of the registration process	10
4 Course Program.....	12
4.1 Course administration system	12
4.2 Application procedure	13
4.3 Access to data	13
4.4 Course evaluation	13
4.5 PhD Portfolio	14
4.6 Quality assurance of the course program	14
5 Monitoring PhD projects.....	16
5.1 Individual Training and Supervision Agreement (iTSA)	16
5.2 iTSA Procedure	16

5.3	Peer Support.....	17
5.4	Peer Support Procedure	17
5.5	Exit survey.....	18
5.6	Quality assurance of the monitoring	18
6	PhD information and support	19
6.1	PhD candidate advisor	19
6.2	PhD Supervisor support.....	19
6.3	Quality assurance of information and support.....	20
7	The doctorate.....	21
7.1	Office of Doctorate Affairs.....	21
7.2	Quality assurance of the doctorate affairs	21

Preface

We are proud to present the quality assurance plan of the AMC Graduate School for Medical Sciences. It describes procedures for quality control and monitoring of the doctorate level academic training of the AMC PhD candidates. Also, the responsibilities of bodies and individuals involved in the training of AMC PhD candidates are defined.

This plan constitutes the final step in the process of developing, implementing and evaluating quality control in the different aspects of PhD research in the AMC.

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1 Introduction

Training AMC scientists as biomedical researchers is a challenging enterprise. Their background is diverse, their goals differ, and their projects cover the whole spectrum from fundamental biomedical research through translational and clinical research to the evaluation of innovations in actual clinical practice. Biomedical researchers require knowledge and expertise in a specific field of science, as well as acquaintance with other related disciplines, and a critical academic attitude. They need to develop and acquire a broad set of competences to prepare themselves for the next step in their careers. The foremost training of AMC PhD candidates is ‘training-on-the-job’, sided by courses and other activities.

The AMC Graduate School aims at ensuring a quality infrastructure that promotes and supports excellence in the doctorate level training of PhD candidates as highly qualified future professionals in an international environment.

1.2 Scope of this document

Overall responsibility of the research, training and supervision of AMC PhD candidates lies with their supervisors and the Dean. The Doctorate Board of the University of Amsterdam (UvA) and the Dean of the Faculty of Medicine have legally been assigned final responsibility for admission to the doctoral program. The AMC Graduate School has responsibility for the organization of the doctorate level training of AMC PhD candidates, including the registration of AMC PhD candidates, the AMC PhD course program, monitoring of AMC PhD projects and facilitating all formal doctorate affairs. The quality assurance plan described in this document pertains to the AMC Graduate School responsibilities.

1.3 Governing model AMC Graduate School

The AMC Regulations define the AMC Graduate School. AMC Graduate School Board members are: three full AMC professors, one AMC Graduate School course coordinator, one AMC PhD candidate (representative of APROVE) and the Dean’s delegate for doctorate affairs. The AMC Graduate School Board members are appointed by the AMC Executive Board, in consultation with the Director of the Institute of Education and Training (IOO). The AMC Graduate School Board has overall responsibility for the AMC PhD Program. The AMC Graduate School Director is responsible for the daily management of the AMC PhD Program, finance and employees. The AMC Graduate School Director and Board report to the Director of IOO and the Executive Board of the Faculty of Medicine. The AMC Board of PhD Studies (‘Opleidingscommissie’) advises the Dean and the AMC Graduate School Board on the content and structure of the PhD program in the AMC. The Graduate Studies Committee (chairs of AMC Research Council and AMC Graduate School) advises the Dean and the AMC Graduate School Board on the organization and efficiency of the PhD tracks.

2 AMC Graduate School for Medical Sciences

The AMC Graduate School was founded in 2006. It merged with the AMC Institute for Science Education to provide PhD candidates a stimulating scientific environment and PhD training program at the AMC. The AMC Graduate School is an internationally oriented, collaborative, professional organization within the Academic Medical Center of the University of Amsterdam, valuing service and quality.

The AMC Graduate School Board plans and oversees the activities of the AMC Graduate School. The AMC Graduate School Board of PhD Studies advises regularly on the content and structure of the PhD program in the AMC.

2.1 Mission of the AMC Graduate School

The AMC Graduate School organizes the doctorate level academic training of AMC PhD candidates (AMC PhD Program). Doctorate level training is the third phase of the academic training in order to become an independent scientific researcher. Initially, the AMC Graduate School only offered a course program to all AMC PhD candidates. Gradually, the activities of the AMC Graduate School have expanded to include registration of all AMC PhD candidates, support for AMC PhD candidates and their supervisors, monitoring of AMC PhD projects, and doctorate affairs.

2.2 The AMC PhD Program and organization

The AMC Graduate School offers a tailored, comprehensive AMC PhD Program to all AMC PhD candidates. An AMC PhD candidate is defined by having at least one supervisor ('promotor') from within the AMC and obtaining his/her doctorate from the Faculty of Medicine of the University of Amsterdam.

AMC PhD candidates register with the AMC Graduate School. Registration as an AMC PhD candidate provides access to the course program and to all other activities of the AMC Graduate School. The AMC Graduate School offers information, support and training to AMC PhD candidates. Each AMC PhD candidate follows an individual training program, tailored to his or her needs. The individual training program is reported in a portfolio in the PhD thesis. The progress and quality of the PhD projects are monitored. The Office of Doctorate Affairs facilitates the processing of all formalities concerning the doctorate (PhD) as stipulated in the Doctorate Regulations 2014 of the University of Amsterdam. The AMC Graduate School communicates its activities through a website, brochure, newsletters, and social media. The quality assurance of all aspects of the AMC PhD Program is described in the next chapters.

The AMC Graduate School organizes doctorate level academic training of AMC PhD candidates, and as such is placed within the AMC Institute of Education and Training (IOO). Within this staff department, the AMC Graduate School is a self-managing organization. The AMC Graduate School has formulated Specific Regulations on the Arrangement and Organization of the AMC Graduate School ('Nader reglement inrichting en werkwijze AMC Graduate School'). In this document, the roles and tasks of the board, the director, the team, the course coordinators, and the PhD candidates are described, as well as course and financial regulations. The document is regularly updated, if necessary.

The AMC Graduate School participates in the AMC management information cycle, and provides an annual report and annual policy plan (A3). The AMC Graduate School A3 is incorporated in the AMC IOO A3.

The AMC Graduate School has initiated a periodic consultation and meeting with other university medical center (umc) graduate schools. The AMC Graduate School also actively participates in UvA consultations and meetings on the organization of doctoral training.

2.3. Quality assurance of the organization

- The AMC Graduate School organizes the doctorate level academic training of AMC PhD candidates.
- The AMC Regulations define the AMC Graduate School.
- The AMC Graduate School is placed within the AMC of the Institute of Education and Training (IOO).
- The AMC Graduate School Board members are appointed by the AMC Executive Board, in consultation with the Director IOO.
- The AMC Graduate School participates in the AMC management information cycle.
- The AMC Graduate School reports to the Director of the Institute of Education and Training (IOO) and the Dean of the AMC.
- The AMC Graduate School has formulated 'Specific Regulations on the Arrangement and Organization of the AMC Graduate School'.
- The Graduate Studies Committee advises the Dean and the AMC Graduate School Board on the organization and efficiency of the PhD tracks.
- The AMC Graduate School actively participates in UvA and national consultations and meetings.

3 Registration

All AMC PhD candidates have to register with the AMC Graduate School. Through this registration, the whole population of AMC PhD candidates is known, including not only AMC and AMC Medical Research Ltd. (AMR BV) research trainees but also other MD- or MSc-researchers including medical specialists, nurses, analysts etc. working on a PhD, and external AMC PhD candidates ('contract promovendi' and 'buitenpromovendi').

3.1 Registration system

The registration of AMC PhD candidates in its current form started in 2009, using a stand-alone digital registration system called DOCTOR. The registration software was developed specifically for the AMC Graduate School. The AMC Graduate School is the owner of the registration system. The ADICT (AMC-ICT Services) manages the account since 2012, and takes care of adaptations, regular updates and bug fixes. DOCTOR utilizes an SQL database and is hosted on an AMC server.

The AMC Graduate School produced a detailed manual for the registration of AMC PhD candidates in DOCTOR. The manual is updated after every update of DOCTOR.

3.2 Registration procedure for AMC PhD candidates

The registration procedure requires AMC PhD candidates to fill in an online registration form (URL: www.amc.nl/registration), signed by the PhD candidate and his/her supervisor. By registering an AMC PhD candidate, his or her status as a PhD candidate is confirmed by the supervisors. All AMC PhD candidates remain registered as active PhD candidates until the date of their graduation or premature ending. Registration as an AMC PhD candidate is unrelated to a PhD position or employment contract. Also, it is explicitly not a replacement for the request for admission to the doctorate at the UvA.

DOCTOR is linked to the AMC personnel registration system. Identification and authentication of AMC PhD candidates is processed through the AMC HR department. Each AMC PhD candidate is registered in the AMC personnel registration system. PhD candidates not employed by AMC or AMR BV are given a so called 'hospitality agreement' through the AMC Graduate School. This way, the required personal information is registered through a validated routine procedure, all AMC PhD candidates are issued an AMC account which provides access to e.g. the AMC Intranet and the Medical Library, and their privacy is ensured. We comply with the Dutch Data Protection Act.

Next, the AMC PhD candidate can be inserted into the AMC Graduate School's registration system DOCTOR from the AMC personnel registration system. All relevant information of the AMC PhD candidate is transferred automatically, and the AMC Graduate School manually adds specific information pertaining to the PhD project and supervision. The additional information is provided by the AMC PhD candidate using the standardized registration form. The signature of the PhD supervisor ensures verification of the information. The commitment of (co)supervisors is also registered. The AMC Graduate School checks the eligibility of the PhD candidate (e.g. education and supervision requirements). Changes in the registered information of AMC PhD candidates are allowed after initial registration. Major changes in supervisory team and employment are saved as new information.

Upon registration, all AMC PhD candidates receive a confirmation e-mail to inform them about the AMC Graduate School's facilities and support, now accessible for them.

After graduation, upon adding the graduation date, the AMC PhD candidate receives the status 'inactive' and remains in the database. Alternatively, when an AMC PhD candidate discontinues his or her PhD project, a stopped date is added and the AMC PhD candidate also receives the status 'inactive'. Once registered, an AMC PhD candidate is not to be deleted from the registration.

3.3 Registration of supervisors

All AMC full professors are manually registered in DOCTOR, with their names and contact information only. By registering them as AMC supervisors in DOCTOR, we can ensure that every AMC PhD candidate has an AMC full professor as supervisor (which is a requirement from the UvA Doctorate Regulations 2014), and we can grant her/him access to DOCTOR. Full professors remain registered in DOCTOR after they leave the AMC (honorable termination of appointment, or superannuation ('emeritaat')). They may continue to act as PhD supervisor for a period of five years (Dutch WHO Act) or based on another arrangement (e.g. honorary professor), and keep the status as promotor. After that time, they lose that status but remain in the registration database.

3.4 Access to data

Authorization of access to DOCTOR is possible at five levels: administrator, operator, professor, user and PhD candidate ('promovendi').

The AMC Graduate School staff has access to DOCTOR as administrator, as well as the ADICT account manager. They have full access to all information registered in DOCTOR, and are authorized to add, change and delete information.

All AMC full professors are authorized access to DOCTOR. They obtain a read-only account and access is restricted to the information regarding their own PhD candidates.

The role of 'user' is given to selected AMC employees who are professionally interested in the status of AMC PhD candidates. They have limited read-only access to information in DOCTOR, restricted to non-private data.

The role of 'operator' gives limited authorization to read, add, and change information in DOCTOR. All AMC PhD candidates are registered with role 'promovendi'. They do not have access to DOCTOR.

3.5 Registration success

The AMC Graduate School aims to register all AMC PhD candidates. Registration is compulsory for AMC PhD candidates, although not a prerequisite for doctorate graduation at the UvA. Registration compliance is above 90%. We have seen a sharp increase in the number of doctorate graduations with previous registration with the AMC Graduate School over the last years, due to adjacent AMC regulations. AMC PhD supervisors can only claim AMC PhD candidates when they are registered with the AMC Graduate School. Therefore, we expect the registration compliance to further increase.

Registration with the AMC Graduate School is warranted at the beginning of the PhD project. It is however possible, and it does occur, that PhD candidates register during or towards the end of the PhD project.

Currently, over 2.600 AMC PhD candidates have been registered with the AMC Graduate School, of whom almost 1.500 are still active. The number of active AMC PhD candidates fluctuates from day-to-day, due to new registrations and doctorate graduations.

3.6 Quality assurance of the registration process

- All AMC PhD candidates have to register with the AMC Graduate School.

- DOCTOR is linked to the AMC personnel registration system. Identification and authentication of AMC PhD candidates is processed through the AMC HR department.
- Relevant personal information is automatically transferred from the AMC personnel registration into DOCTOR.
- The AMC Graduate School adds additional information and checks the eligibility of the PhD candidate (e.g. education and supervision requirements).
- The status of an AMC PhD candidate is 'active' for as long as the PhD project is ongoing. The status is changed into 'inactive' upon graduation or discontinuation of the PhD project.
- All AMC full professors are registered with the AMC Graduate School.
- AMC PhD supervisors may include AMC PhD candidates in their research group for research evaluation purposes under the condition that they are registered with the AMC Graduate School.
- ADICT manages the AMC PhD registration system DOCTOR.
- Access to the data is limited to authorized users, who are assigned designated roles.

4 Course Program

The AMC Graduate School offers a comprehensive course program to AMC PhD candidates. The AMC PhD Course Program is international, demand-driven, elective, modular, and tailored to AMC PhD research. The courses are small-scale, interactive, and 'just-in-time'. They are offered as blended learning: e-learning when possible, and/or face-to-face when needed. Course coordinators are mostly AMC Principal Investigators (PI's) and staff.

The AMC Graduate School currently offers 47 courses. An overview of all courses plus short description of each course can be found on the AMC Graduate School website (URL: www.amc.nl/phdcourses) and in the brochure. The course program offers training to AMC PhD candidates to develop their scientific skills, to acquire transferable skills, and to broaden and deepen their scientific understanding. Each AMC PhD candidate follows an individual training program. The course program can help PhD candidates in conducting independent, original and scientifically significant research, and critically evaluating their own work and that of others. Prior registration as an AMC PhD candidate is a requirement for participation in the course program.

The AMC PhD Course Program started in the 1990s, before the AMC Graduate School was founded, as a course program for all AMC researchers. The first courses were on clinical epidemiology and biostatistics. In 2006, at the start of the AMC Graduate School, 20 PhD courses were offered. The number of courses grew gradually over the years, both bottom-up and top-down. Existing courses for PhD candidates were incorporated into the AMC PhD Course Program, and new courses developed.

The content and format of the courses and the contribution to the AMC PhD Course Program are judged by the Board of the AMC Graduate School prior to admission. Next, all courses run as a pilot course and are evaluated before final inclusion to the AMC PhD Course Program. The AMC Board of PhD Studies is consulted before final inclusion. Upon final inclusion to the AMC PhD Course Program, the AMC Graduate School Board formally appoints the course coordinator. The AMC Graduate School Board evaluates the AMC PhD Course program annually, and organizes periodic feedback arrangements with all course coordinators.

AMC PhD Course Regulations describe the admittance requirements, participation rules, evaluation and examination procedures, and fraud regulations. Absence without prior notice is not allowed and results in a warning or exclusion from further participation in the AMC PhD Course program.

PhD candidates and their supervisors select relevant courses, while considering prior training and the content and methods of the planned PhD research. This will result in a personalized, modular training program for the entire period of doctorate studies. Unless stated otherwise, the AMC Graduate School courses are offered free of charge for registered AMC PhD candidates.

All training activities have appropriate procedures to assess the performance of individual AMC PhD candidates. Attendance is compulsory and registered. Course certificates are issued to all participants.

4.1 Course administration system

The course administration is done in Promptus, a software package developed for course administration by both individual teachers and the educational sector. The AMC Graduate School has purchased a license and has adapted the software package for its own purpose. The AMC Graduate School is the sole user of Promptus in the AMC. Every AMC PhD candidate is manually added as student into Promptus upon registration. All courses per academic year are also imported into Promptus, including the dates, time, location, maximum number of participants, and course coordinator. Students are assigned to courses upon application using a standard application form. Promptus

enables sending e-mails with confirmation of subscription and confirmation of participation, as well as lists of participants per course (attendance lists). Promptus also produces course certificates for all participants.

The AMC Graduate School manages the account, and contacts the provider for updates and maintenance. The AMC ICT Services (ADICT) provides support to host the software package on their servers and make it available to the AMC Graduate School users.

4.2 Application procedure

AMC PhD candidates can subscribe for courses using a standardized online application form. When the applicant can be placed in the course of his or her choice, (s)he receives a confirmation. If the applicant cannot be placed in the course of his or her choice, (s)he will be placed in a future edition of the course.

As soon as a new course date is available, all known applicants are approached actively to ask if they want to participate. They have priority over new applicants.

Approximately three weeks before the start of the course, all applicants receive a confirmation of their participation. They are allowed to cancel the application without motivation until two weeks before the course starts. After that, cancellation without consequences is not allowed (provided circumstances beyond one's control). Attendance is monitored by attendance lists, which the participants have to sign every session. The course coordinator receives the printed attendance lists from the AMC Graduate School.

Free slots due to cancellations are offered to other applicants, in order of application. This procedure results in an overall average capacity utilization of 80%.

4.3 Access to data

The AMC Graduate School has acquired a license with three user accounts for Promptus. The course administrator has a personal account with full rights. The second personal account is for the administration of applicants. The third, general account has fewer (writing) rights.

4.4 Course evaluation

All PhD courses are evaluated by the participants using the same evaluation system as the AMC Bachelor and Master programs and the University of Amsterdam (UvA) in general (EvaSys). Since 2012, the course evaluations follow the PCDA-cycle.

Each course has its own adapted evaluation form, based on a standardized format. The AMC Graduate School produces and provides the course coordinator with evaluation forms (together with the attendance list). PhD candidates evaluate each course as a paper-and-pencil task at the end of the last session of the course.

The evaluation forms contain questions regarding the content, course plan, presentation and material, attendance and an overall judgment of the course. Also additional comments can be given. For courses with multiple teachers or different types of teaching, all are evaluated separately.

The evaluation forms are scanned using AMC/UvA EvaSys software. The software and hardware is supported by ADICT and the Onderwijs support ICT manager. The evaluation reports are sent to the course coordinator and archived by the AMC Graduate School.

Once every two years, or more frequently if necessary, each course coordinator is invited for an evaluation discussion with an evaluation committee of two AMC Graduate School Board members, representing the AMC PhD candidates and the AMC Graduate School. The evaluation committee is facilitated by the PhD course administrator. The action items in the minutes of the evaluation discussion are followed up by the PhD course coordinator.

4.5 PhD Portfolio

During the PhD track the AMC PhD candidates will collect official evidence of the training activities in a PhD Portfolio. They are required to include this portfolio in their PhD theses. The portfolio often consists of courses and practical training aimed at acquiring specific academic skills, general scientific skills or transferable skills. It may also include other activities such as attending conferences, seminars and master classes, participation in retreats and journal clubs, teaching, and publications. Courses can be taken at the AMC Graduate School or elsewhere. Publications may but do not need to be related to the PhD project.

Other activities may be included in the PhD Portfolio. For each activity, the PhD candidate indicates the year and (with the exception of the parameters of esteem and publications) the workload of the activity. The workload is expressed in hours and/or European Credit Transfer and Accumulation System (ECTS) credits. The AMC Graduate School does not impose a minimal or maximum level of ECTS credits. Instead, a guideline of 20-30 ECTS is suggested. The individual Training and Supervision Agreement provided by the AMC Graduate School can be used as a basis for the PhD Portfolio. Inclusion of a short CV of the PhD candidate in the PhD thesis is advisable. There is no predefined format.

PhD candidates and their supervisors share responsibility for the correctness of the PhD Portfolio in the thesis; in any case the PhD supervisor should approve the PhD Portfolio. The AMC Graduate School is not responsible for the content of the PhD Portfolio. PhD candidates are responsible for their own CVs.

4.6 Quality assurance of the course program

- PhD candidates engage in doctoral training during the entire PhD track, particularly in the first few years.
- The individual doctoral training program may be composed of various activities: courses, seminars, journal clubs, retreats, congresses and symposia, teaching, coaching and supervising, board memberships, prizes and awards, and publications.
- The AMC Graduate School offers a comprehensive AMC PhD Course Program.
- The AMC PhD Course Program is international, demand-driven, elective, modular, and tailored to AMC PhD research.
- The courses are small-scale, interactive, and 'just-in-time'. They are offered as blended learning: e-learning when possible, and/or face-to-face when needed.
- Practical and methodological methods and skills, transferable skills, and specific scientific knowledge are the domain of the AMC PhD Course Program.
- Course coordinators are mostly AMC PI's and staff.
- AMC PhD Course Regulations describe the admittance requirements, participation rules, evaluation and examination procedures, and fraud regulations.
- Prior registration as an AMC PhD candidate is a requirement for participation in the AMC PhD Course Program.
- Students are assigned to courses upon application using a standard application form.
- The doctoral training of individual PhD candidates is reflected in the PhD Portfolio.

- The content and format of new courses and the contribution to the AMC PhD Course Program are judged by the Board of the AMC Graduate School prior to admission in the AMC PhD Course Program.
- All courses run as a pilot course and are evaluated before final inclusion to the AMC PhD Course Program.
- The AMC Board of PhD Studies is consulted before final inclusion of new courses.
- Upon final admission to the AMC PhD Course program, the AMC Graduate School Board formally appoints the course coordinator.
- The AMC Graduate School Board evaluates the AMC PhD Course Program annually, and organizes periodic feedback arrangements with all course coordinators.
- All training activities have appropriate procedures to assess the performance of individual PhD candidates.
- All PhD courses are evaluated by the participants using EvaSYS. Evaluation of PhD courses follows the PCDA cycle.
- The AMC Board of PhD Studies meets with the AMC Graduate School Board twice a year, and advises on the AMC PhD Course Program.
- The course administration system Promptus is hosted by ADICT.
- Access to the data is limited to authorized users, who are assigned designated roles.

5 Monitoring PhD projects

PhD candidates are in training to become independent researchers. As such, they need guidance and “on-the-job” supervision. Their PhD supervisor (*promotor*) is responsible for providing them with supervision, guidance and feedback. The PhD supervisor may decide to delegate elements of the supervision to one or more co-supervisors (*co-promoters*). In addition, other experienced researchers may help PhD candidates on a day-to-day basis.

The evaluation of the training, supervision and process of PhD projects is becoming an increasingly important duty of graduate schools. Standardized monitoring and evaluation procedure will strengthen the AMC PhD Program. The AMC Graduate School monitors and evaluates PhD projects at three moments in time. At the beginning of the project, the individual Training and Supervision Agreement (iTSA) is discussed and approved. Mid-term monitoring of the progress of the PhD project and supervision is organized through a written PhD Progress Report and Peer Support. Finally, an exit survey among recently graduated PhD candidates on PhD experiences is conducted.

In its report on the research performance of the AMC-UvA in 2011, the International Evaluation Committee strongly recommended to the AMC Graduate School to develop a standardized monitoring procedure. Also, the new Standard Evaluation Protocol (SEP) 2015-2021 by VSNU, KNAW and NWO requires information on the quality and progress of PhD research and supervision.

The AMC Graduate School keeps track of the enrollment in AMC PhD projects, duration of the project and PhD graduation. All data are annually shared with AMC the Board of Directors. The say of AMC researchers in the monitoring and evaluation procedure of PhD projects is formally organized through the representation of the AMC Research Council in the Graduate Studies Committee. The Graduate Studies Committee advises the Dean and the AMC Graduate School Board on the organization and efficiency of the PhD tracks.

5.1 Individual Training and Supervision Agreement (iTSA)

To ensure that PhD candidates receive proper training and supervision, and to specify the rights and duties of all parties, the candidate and the (co)supervisor(s) jointly complete an individual Training and Supervision Agreement (iTSA). Its goal is to enhance the quality of the PhD project. The iTSA should be submitted to the AMC Graduate School within three months after the start of the PhD track.

The iTSA stipulates the mode and frequency of the supervision during the PhD project as well as the structure and contents of additional courses and training, and other tasks and needs of the PhD candidate. The AMC Graduate School offers a variety of courses to help PhD candidates become more proficient and efficient researchers. In consultation with their PhD supervisor, the PhD candidates select what courses to take and when.

5.2 iTSA Procedure

The PhD supervisor, co-supervisor and the PhD candidate complete the iTSA form together. The iTSA is signed by both the PhD candidate and the principle supervisor. Upon submission to the AMC Graduate School, the PhD candidate receives an invitation for an individual face to face meeting with the PhD Candidate Advisor. During this meeting several aspects of the PhD project will be discussed, such as the nature and frequency of supervision, relevant courses, the PhD thesis and the portfolio. The PhD Candidate Advisor signs the form and attaches it to the candidate's personal file in the registration system. The PhD candidate receives a pdf version of the signed form for

her/his records. The PhD supervisor may refer to the form through access to the PhD registration system DOCTOR, using her/his personal login. The AMC Graduate School is responsible for registering and monitoring the iTSA.

The AMC Graduate School follows up on the submission of iTSA, due within three months after the start of the PhD track. AMC PhD candidates who fail to submit iTSA within this period, receive a first and second reminder. The collective labor agreements (CAO) for the Dutch universities and AMR personnel require such an agreement to be compiled for all PhD candidates. Therefore, AMR personnel is subsequently referred to the AMR HR. The CAO-UMC has no requirement concerning such an agreement.

5.3 Peer Support

Mid-term monitoring will strengthen the AMC PhD projects. Potential threats to the progress and quality of PhD projects will be avoided or minimized, or signaled at an early stage. Transparency and independent feedback in the vulnerable, hierarchical relation between PhD candidate and (co)supervisor are highly valued characteristics of AMC PhD projects, as well as good mentorship, integrity, and independence in science, to be emphasized and enhanced by the monitoring procedure.

The AMC Graduate school introduced Peer Support in 2015 to monitor PhD projects. Peer Support aims to provide supportive, external input as an incentive for - rather than a check on - good research and mentorship. All AMC PhD candidates will receive Peer Support to enhance the quality and progress of their PhD projects. The actual monitoring will be performed by one Peer (AMC PI or senior researcher), who is not directly involved in the PhD project. The Peer Support procedure is lean and efficient, in recognition of the many other tasks of AMC PI's. We believe that Peer Support will benefit both the PhD projects and AMC research at large. The AMC Graduate School coordinates and administers the Peer Support of AMC PhD projects. Peer Support is a one-time action, initiated about halfway through the PhD project (approximately 1.5 to 2 years after the start of the project).

5.4 Peer Support Procedure

The procedure of the midterm monitoring of AMC PhD projects is simple and flexible, and can be adapted to the research group's own routine. It requires only minimal effort of one AMC PI, who is not directly involved in the project. In short, the proposed procedure requires the 'Peer' to read the Progress Report, contact the PhD candidate and the PhD supervisor separately, and provide conclusions in writing.

The PhD supervisor(s) suggest(s) the name of the Peer - in consultancy with the PhD candidate -and invite(s) the Peer. The PhD candidate may add a Peer of his/her own choice, up to two weeks before the monitoring. The PhD candidate informs the supervisor(s). The Peer's name is also reported to the AMC Graduate School.

The AMC Graduate School signals the PhD candidate and supervisor(s), approximately 1.5 years after the start of the PhD project, to start Peer Support. The PhD candidate writes a PhD Progress Report, using the standardized format. The PhD Progress Report includes questions on the research project, the training, the supervision, and an overview of presentations, publications and results so far. The PhD candidate and the PhD supervisor(s) discuss the PhD Progress Report, and all sign if agreed. The PhD Progress Report Form is then sent to the Peer(s).

The Peer discusses the PhD Progress Report with the PhD candidate and the PhD supervisor(s) and co-supervisor(s) separately and/or collectively, if applicable, and inquires about the plans for the remaining time of the PhD project. The Peer adds his/her own comments, if any, formulates his/her conclusion and signs the PhD Progress Report

Form. Any additional comments by the Peer are also given to the PhD candidate and PhD (co-)supervisor(s) in writing. If the PhD candidate has invited a Peer of his/her own choice, both Peers discuss their findings together before signing the PhD Progress Report Form.

The PhD candidate sends the completed and signed PhD Progress Report Form to the AMC Graduate School. Upon request by the PhD candidate and/or the PhD (co)supervisor(s), or on the initiative of the AMC Graduate School, the PhD candidate may be invited to talk with the PhD Candidate Advisor. The Peer may, on his/her own initiative or upon request of the PhD candidate or PhD (co)supervisor(s), intensify the monitoring of the PhD project.

5.5 Exit survey

All AMC PhD candidates receive a web-based PhD Research Experience Questionnaire (PREQ)¹, a validated questionnaire adapted for the AMC-UvA by the AMC Graduate School, upon graduation. The aim of the questionnaire is to collect information on the perception of the AMC PhD candidate's experience as an AMC PhD student. The AMC Graduate School will use the information collected for the evaluation of AMC PhD projects, and for improving the infrastructure for AMC PhD students.

The questionnaire combines question on PhD experience (PREQ) with questions on PhD research work, PhD supervision, future career and the AMC PhD Program. The AMC PREQ data collection started in February 2014. All AMC PhD graduates receive the request to fill out the AMC PREQ in the months following their graduation, and one reminder approximately two weeks later.

5.6 Quality assurance of the monitoring

- The AMC Graduate School monitors and evaluates PhD projects.
- Within three months after the start of the PhD project, the AMC PhD candidate and the supervisor complete the individual Training and Supervision Agreement (iTSA) together, and sign it.
- Upon receipt of the iTSA, the AMC PhD Candidate Advisor invites the AMC PhD candidate for an individual face-to-face meeting.
- The AMC Graduate School organizes and follows up on the compliance with the iTSA procedure.
- Mid-term monitoring of AMC PhD projects is organized as Peer Support.
- AMC PhD candidates fill out a Progress Report Form approximately 1.5-2 years after the start of their PhD project.
- The PhD supervisor suggests and invites an AMC PI or senior researcher as Peer. The AMC PhD candidate may add a Peer of his/her own choice.
- The Peer discusses the progress of the PhD project with PhD candidate and (co)supervisor(s), and adds his/her comments and suggestions on the Progress Report Form.
- The AMC Graduate School organizes, administers and follows up on the compliance with the Peer Support procedure.
- Upon graduation, all AMC PhD candidates receive an exit survey about their PhD experiences (AMC PREQ).
- The AMC PREQ is adapted from a validated questionnaire on PhD experience.
- The AMC Graduate School provides annual data on enrollment and success of AMC PhD tracks, including duration, and cohort analysis.

¹ Ainley, J. The 1999 Postgraduate Research Experience Questionnaire. Higher Education Division, ACRE, Australia, 2001.

6 PhD information and support

The AMC Graduate School website (URL: www.amc.nl/graduateschool) and brochure provide general information on its activities and courses, and more detailed information to future and current AMC PhD candidates and PhD supervisors. The monthly Introductory Meetings for new AMC PhD candidates inform them in more detail on the activities of the AMC Graduate School and the AMC PhD association APROVE.

The AMC VUmc Research Code provides a framework to guide researchers in living up to the values of independence and integrity. Chapter 2 on Good Mentorship states the duties of supervisors and the duties and rights of PhD candidates.

6.1 PhD candidate advisor

The PhD experience can be difficult. PhD projects may seem daunting. Occasional disputes are inevitable, ranging from minor disagreements about the order of experiments to severe conflicts about the quality of the thesis and the financial support.

AMC PhD candidates are welcome to contact the AMC Graduate School at any time with questions or problems concerning PhD studies, or other matters related to the PhD project. If indicated, the PhD Candidate Advisor will refer the PhD candidate to other authorities, such as the AMC Ombudsman, a mediator or an external confidential counselor.

AMC PhD candidates can ask the PhD Candidate Advisor for help and advice related to their PhD project, about the individual Training and Supervision Agreement, procedures, processes, or other issues. The advisor is also interested in learning about PhD projects that were successful due to good supervision, efficient work arrangements, or other factors. Such positive feedback will enable the AMC Graduate School to improve its recommendations to all AMC PhD candidates

6.2 PhD Supervisor support

PhD candidates in the doctorate phase are expected to work as autonomously as possible. The PhD supervisor is fully responsible for the academic training of the PhD candidate. Supervision is crucial for a successful PhD project. The outcome of a PhD project is a young scientist, not just a PhD thesis.

The coaching, evaluation and appraisal of PhD candidates and their scientific progress and professional development are part of the PhD (co)supervisors' tasks. Offering support to the (co)supervisors is part of the Graduate School's mission. To that end, the Graduate School offers a number of instruments, including guidelines for good mentorship, progress evaluation interviews, a timetable for supervisors and workshops on supervision of PhD candidates (in cooperation with HR department). The AMC Graduate School contacts all new AMC full professors, in their capacity as PhD supervisors, for an individual introduction meeting to explain its mission, activities and routine. A handbook for PhD supervision describes all relevant information for PhD (co)supervisors, including the duties and expectations.

6.3 Quality assurance of information and support

- The AMC-VUmc Research Code enhances awareness of the responsibilities of scientists towards society as in particular the obligation to conduct scientific practice in an integer manner.
- PhD candidates are actively informed on the activities of the AMC Graduate School.
- The AMC PhD Candidate Advisor offers individual support to AMC PhD candidates, aimed at empowering the AMC PhD candidate.
- If the occasion arises, the AMC PhD Candidate Advisor refers to other authorities for help and/or mediation.
- New AMC full professors are actively informed on the activities of the AMC Graduate School.
- The AMC Graduate School offers training and support for PhD (co)supervisors.

7 The doctorate

The Doctorate Board of the University of Amsterdam, which oversees the implementation of the UvA Doctorate Regulation, defines the general standards for a thesis at the University of Amsterdam. The Dean of the Faculty of Medicine may add faculty-specific rules and criteria for the thesis.

The Further Regulations of the Faculty of Medicine stipulates that an AMC PhD thesis exists of at least three manuscripts with results of original scientific research with the PhD candidate as first author, published in or accepted by international, peer-reviewed, scientific journals at the time of assessment of the thesis manuscript by the voting members of the doctorate committee. Also, no more than 25% of the papers in the PhD thesis may have one or more voting members of the doctorate committee as co-author. And the final manuscript of the thesis must be screened on plagiarism following an AMC-specific protocol.

The AMC Dean has delegated his duties regarding the formalities concerning the Doctorate to an AMC emeritus professor. The administration is done by the Office of Doctorate Affairs.

7.1 Office of Doctorate Affairs

The AMC Office of Doctorate Affairs (called in Dutch *Bureau Promotiezaken*) processes all formalities concerning the Doctorate (PhD) as stipulated in the Doctorate Regulations 2014 of the University of Amsterdam and the Further Regulations of the Faculty of Medicine. The Office is the faculty PhD liaison between AMC PhD candidate / PhD supervisor and the University of Amsterdam. The Office supports the Dean's delegate on Doctorate affairs.

AMC PhD candidates and their supervisors are welcome to call upon the Office of Doctorate Affairs with any questions regarding the Doctorate. The Office informs the AMC PhD candidates on the formal procedure. All formalities concerning the Doctorate should pass through the AMC Office of Doctorate Affairs. It performs a check on the correctness and completeness of the forms and required documents, the procedure towards the Doctorate, and the preparation for and the organization of the ceremony. The Office also archives all documents for a period of five years.

A step-by-step approach is provided for AMC PhD candidates who wish to obtain a doctorate in the Faculty of Medicine (URL: www.amc.nl/promotiezaken), and their supervisors. It combines the doctorate regulations set by the University of Amsterdam and the additional ones set by the Faculty of Medicine.

7.2 Quality assurance of the doctorate affairs

- The UvA Doctorate Regulations and AMC Supplementary Regulations apply.
- The AMC Dean has delegated his duties regarding the formalities concerning the Doctorate to an AMC emeritus professor.
- All formalities regarding the doctorate are processed through the AMC Office of Doctorate Affairs.
- A step-by-step approach is provided for AMC PhD candidates and PhD supervisors.
- The Office of Doctorate Affairs follows up on compliance with the AMC procedures and Doctorate Regulations.