

Rules and Requirements for Postgraduate (PhD) Studies and Examinations in structured doctoral programs of Hannover Biomedical Research School (HBRS), Hannover Medical School

On December 15th, 2000 the Senate of the Hannover Medical School approved the following **Rules and Requirements for Postgraduate (PhD) Studies and Examinations in structured doctoral programs of Hannover Biomedical Research School (HBRS)** (alternatively Dr.rer.nat. for life scientists). (*Modifications on June 4th 2002, February 11th 2004, April 21st 2005, March 14th 2007*)

Chapter One

Objective of PhD Studies

§ 1 Objective

Research studies at the Hannover Medical School (MHH) for the purpose of obtaining a PhD degree (hereinafter referred to as PhD studies) shall facilitate postgraduate training with a focus on specific research projects with a view to enabling the candidate to do in-depth scientific work on his or her own and to provide him or her with additional professional qualifications for future assignments in research or related areas of work. PhD studies shall foster the development of outstandingly gifted up-and-coming academics. The standard time allowed for completing PhD studies shall be three years. Once these PhD studies have been successfully completed, and the PhD examination has been passed, the MHH will award the degree of a Doctor of Philosophy (PhD), or Dr. rer. nat. to natural scientists (not to medical students).

Chapter Two

Requirements for Access and Admission

§ 2 Access

(1) Anybody having successfully completed university studies in medicine, veterinary medicine or natural sciences (normally Master, Diploma or Staatsexamen) shall have access to PhD studies.

(2) Applicants are required to render evidence of above-average results obtained at university. The applicant's past career must reveal his or her particular qualification for and dedication to scientific work. A physician or dentist will provide evidence of such qualification and dedication by his or her highly expert doctoral thesis in human medicine or dentistry, with at least its experimental or analytical part completed. Decision on whether or not a candidate qualifies for access to PhD studies is up to the PhD Program Committee (§ 4).

§ 3 Admission to PhD Studies

(1) The number of applicants that can be admitted to PhD studies is limited; the number depends on the respective program. The applicants should not be older than 30 years. The respective PhD Program Committee shall select the applicants to be admitted (§ 4). As a rule, the President of the MHH will give notice of the date of commencement of PhD studies once a year.

- (2) Details of the as a rule three-step selection process (written application, written test in home countries, interview) are regulated in the respective program 'rules of admission'.
- (3) Application papers shall be submitted to the chairperson of the PhD Program Committee. Details of application procedures are described in the respective program 'guidelines for applicants'.
- (4) On the basis of this application the PhD Program Committee shall decide on admission to PhD studies.

Chapter Three

PhD Program Committee

§ 4 PhD Program Committee

- (1) The respective PhD Program Committee shall be responsible for the conduct of PhD studies pursuant to the provisions relating to the Rules and Requirements for postgraduate studies and examinations to obtain a PhD (Dr.rer.nat.) degree.
- (2) The PhD Program Committee shall be as a rule composed of four professors (or competent habilitated/senior scientists), a university scientist with a doctor's degree, and a student from every study year who have a joint vote. The members of the PhD Program Committee shall be appointed by the scientists of a respective program for a period of four years, or two years as regards the student member. Re-election shall be admissible. The PhD students shall suggest candidates from among their ranks. The respective PhD Program Committee shall be affirmed by the Research Committee of MHH. The PhD Program Committee is then constituted by the Dean of HBRS and shall elect a professor from among its ranks as chairman.
- (3) The PhD Program Committee will meet regularly.
- (4) The PhD Program Committee will evaluate proposed projects (open projects) according to quality (with external referees if necessary), financial support, guarantee of independence for PhD student.
- (5) The PhD Program Committee shall appoint a team of co-ordinators for each PhD student. Team members shall be habilitated or equally qualified. The team of co-ordinators shall be composed of the student's personal supervisor at the MHH or partner institutes, and two further scientists qualified as university teachers whose professional activity shall be closely related to the subject of the project. In case of several PhD students doing research in the same line, the respective co-ordinators' teams can be composed of the same individuals.

Chapter Four

Curriculum

§ 5 Contents of Studies

- (1) The contents to be learned shall be conveyed to the students through their experimental or equivalent theoretical research work and through project-related as well as inter-disciplinary research-oriented courses and seminars. For that purpose, the PhD Program Committee shall prepare and submit, after consultation with the university institutions or partner institutes involved in these studies, a curriculum indicating compulsory and recommended courses or seminars for each discipline. The courses and seminars shall be held by the teachers and professors of the MHH as well as partner institutes (e.g. the University of Veterinary Medicine Foundation Hannover, the Leibniz University of Hanover, Fraunhofer Institute of Toxicology and Experimental Medicine Hannover, Helmholtz Center for Infection Research Braunschweig), including visiting professors. Teaching shall be in English.

Lectures and seminars of different programs are mutually acknowledged. PhD students may also register for suitable courses or seminars offered by other scientific schools (Leibniz University, University of Veterinary Medicine, etc.). Students are encouraged to do active teaching themselves, e.g. by giving lectures at seminars or postgraduate research training program [Doktorandenkolleg]. Each student's individual progress at PhD courses and seminars shall be monitored and consistently assessed by the respective teachers, with teachers preparing written reports on the results obtained by the student.

(2) PhD students shall design, after consultation concert with their co-ordinators, their respective individual schedules pursuant to the curriculum established by the PhD Program Committee. Such individual schedule shall require approval by the respective co-ordinators' team. The student must complete a minimum of 300 hours at courses and seminars during his or her PhD studies; as a rule, at least 80% thereof must be taken at project-related courses and seminars and up to 20% may be spent on interdisciplinary learning (e.g. experimental techniques and bio-informatics, molecular biology, bio-statistics, scientific communication etc.). The European Credit Point System has been introduced for assessing tuition results.

During the first year of PhD studies, courses for physicians, dentists and veterinarians are intended to provide participants with a chance to consolidate their knowledge of the fundamental principles of natural sciences and courses for natural scientists are intended to consolidate their knowledge in medical aspects.

(3) The respective PhD programs shall be – in structure and content – in accordance with the modus of granting credit points (cp) according to the European ECTS system. For the 3-year program altogether 180 cp have to be achieved. The granting of ECTS is regulated in the respective program rules.

PhD students could apply for a leave if justified (e.g. in case of pregnancy), but for no more than 12 months.

Short time stays abroad are very much appreciated and will be supported. If students take seminars and courses abroad, they could be acknowledged for the respective PhD program.

§ 6 Co-ordinators

(1) PhD students shall supervised by the members of their respective team of co-ordinators (§ 4) appointed by the PhD Program Committee. The responsibilities of the team shall be:

- a) To act as co-ordinators and to give individual expert advice to PhD students all through their PhD studies.
- b) To evaluate PhD students' progress during their studies by reading their reports and conducting tests, and to assess their written final examination papers.
- c) Within a time of probation of 6 months, PhD students are evaluated. Within this time peroid, student status can be changed easily on both sides in agreement with the team of co-ordinators and PhD Program Committee. The PhD Program Committee can upon request decide about the termination of collaboration with the student.

Within the scope of their research project, students have to work with appropriate methods on a clearly defined subject so that, with some realistic prospect of success, scientific knowledge can be expected to be incremented and the results of such research should be published in international peer-review journals. The co-ordinators shall make sure, and satisfy the PhD Program Committee to that effect, that students are not entrusted with any tasks unrelated to their PhD studies.

(2) The co-ordinators shall be responsible for the financing of the respective research project and shall make efforts, during the standard period of PhD studies (three years), to raise the money needed for the PhD students they are in charge of. Any scholarships available at the MHH shall be awarded by resolution of the HBRS Committee of MHH.

(3) Co-ordinators should assist PhD students in planning their further professional career.

(4) The responsibilities of co-ordinators for PhD students shall end upon the date when the latter pass their PhD examination (§ 10), which is normally three years but no later than five years after commencement of PhD studies.

§ 7 Scientific Colloquia

PhD students shall be invited once every year by the PhD Program Committee to attend a public colloquium held at the MHH, giving them an opportunity to give a lecture on the current state of their research (§5). The contents of such lecture, constituting an interim report, shall be submitted in writing by the PhD student to the PhD Program Committee. The PhD Program Committee shall decide whether or not this progress report constitutes a sufficient step towards the successful completion of the student's research. If the Committee's comment is negative, such result shall be communicated in writing to the student and his or her co-ordinators' team, indicating the reasons. Pursuant to a period of one month, the student shall submit a modified work plan for the next year of his research, giving due consideration to the recommendations made.

Chapter Five

Examinations

§ 8 Intermediate Examination

The oral intermediate examination shall be held no later than 18 months after commencement of PhD studies. By way of exception, which must be well-founded, the intermediate examination can be taken at a later date. If a student wishes such exception, he shall apply in writing to the PhD Program Committee adding a comment prepared by his co-ordinators' team. The dates for intermediate examinations shall be determined by the PhD Program Committee. The intermediate examination shall be held by a member of the PhD Program Committee and an expert (chairman) in the special field and shall cover topics from the student's research project and from the courses and seminars the student has registered for. The examination usually is held in English. If the student fails the intermediate examination he shall be allowed to retake it once, pursuant to a period of at least three and no more than six months as the examiners may decide. If the student fails again, he or she shall be deemed to have finally and absolutely failed. Following such final and absolute failure the student shall be taken off the register. The "chairman" shall report the result of the intermediate examination to the PhD Program Committee. The result of the exam will account for 20% of the final mark (PhD or Dr.rer.nat.).

§ 9 Requirements for Signing up for PhD Examination

After completion of PhD studies, which is normally at the end of the third year, the PhD examination shall be held by the co-ordinators' team. The PhD student shall submit the following documents when signing up for the PhD examination:

1. Certificate of regular attendance at and completion of courses and seminars according to the curriculum, i.e. a total of at least 300 hours, and of three colloquia pursuant to § 7;

2. Certificate of intermediate examination;
3. A scientific thesis (dissertation) prepared in English or German by the PhD student on the research project the student worked on during his or her PhD studies, with introduction, materials and methods, results, discussion and summary. The thesis shall constitute an essential original scientific contribution to the discipline the student's research project pertains to;
4. Alternatively (instead of thesis), usually two first author publications in internationally peer review science journals. The PhD student's personal contribution to such publications shall be clearly identified. In that context, "accepted" shall be deemed equivalent to "published". As for this publication requirement, exceptions are possible with reasons to be given by the co-ordinator. The publications must be correlated as regards their subject matter, and shall be supplemented by a detailed description under a joint title in English or German of the research subject, including an overall summary and a discussion of results.

To assess the thesis or the publications, the PhD Program Committee shall procure at least one external expert's opinion, as well as one internal expert's opinion. To be on the safe side, one expert shall be nominated as substitute in case of unforeseen drop outs. For the Dr. rer. nat., the external expert has to be member of a natural science faculty. In addition, the co-ordinators' team shall prepare an expert report on the dissertation or the publications, and such report together with the external and internal expert's opinion shall serve to make the final assessment. If one of the expert reports detects any shortcomings in the dissertation, the PhD Program Committee can be requested to have such shortcomings eliminated or remedied as a precondition for acceptance of the thesis. The chairperson can allow a reasonable period for the PhD candidate to remedy the shortcomings and recommend that he or she submit the thesis anew. In that respect, the chairperson of the PhD Program Committee can extend this period once only. The experts shall assess the thesis again once the shortcomings have been remedied. If, based on such second experts' vote, the PhD Program Committee declines to accept the thesis, the candidate shall be deemed to have failed the PhD examination finally and absolutely. In that case, the PhD student shall be taken off the register.

§ 10 PhD Examination

The PhD examination consists of a public lecture (15 min, in English) held by the PhD student at the Hannover Medical School on the subject of his research, a subsequent public disputation of the project of at least 30 minutes of duration to assess the knowledge acquired by the student on the subject of his specific area of research as well as on interdisciplinary subjects. The interview also serves to assess whether the candidate has acquired, and is able to apply, any knowledge and skills relating to the scientific environment of the subject of his research. The examination is taken by the external and internal examiner. The final mark results from: the intermediate exam (20%), the written dissertation/ the two experts' opinions (60%), the oral examination (20%). In justified exceptional cases, the examination committee may deviate from the latter rule.

The oral examination shall be taken on record in abridged form and shall indicate:

- the grade earned for the oral examination,
- the grade earned for the thesis,
- the overall grade average earned for the PhD examination.

It shall be signed by the chairman of the board of examiners.

The following grades can be awarded:

Excellent/ very good/ good / satisfactory
(Failed)

Equivalent to

excellent / summa cum laude,
very good / magna cum laude,
good / cum laude,
passed / rite.

If the candidate fails the final examination he or she shall be allowed to retake it once, pursuant to a period of at least three and no more than six months as the co-ordinators' team may decide. Should the student then fail again, he or she shall be deemed to have finally and absolutely failed the PhD examination. Following such final and absolute failure the student shall be taken off the register. The result of the PhD examination shall be communicated to the PhD Program Committee and the President's office.

Chapter Six

The PhD Doctorate

§ 11 Award of the Academic Degree of a Doctor of Philosophy (PhD)

Once the student has passed the PhD examination and has distributed six copies of the dissertation (plus one electronic version), he or she shall be awarded the academic degree of a Doctor of Philosophy (PhD) or a Dr. rer. nat. degree by the MHH. A document as shown in Appendix 1 shall be issued to him or her in evidence of such award. The award shall authorize the candidate to use the academic title of a PhD or Dr. rer. nat..

Coming into Effect

The Rules and Requirements for Postgraduate Studies and Examinations in structured doctoral programs of Hannover Biomedical Research School (HBRS) to obtain a PhD degree (or Dr.rer.nat.), as approved by me, are hereby published within the Hannover Medical School and are coming into effect.

Hannover, March 14th, 2007

The President
Professor Dr. Dieter Bitter-Suermann