

## Department of Mathematics and Computer Science

### Regulations for Doctoral Studies (PhD)

This is a rough translation of the “Promotionsordnung des Fachbereiches Mathematik und Informatik”, created to render assistance to foreign students. **Please note that legal validity is restricted to the German version only!** For the German version please click the following link:

→ <http://www.fu-berlin.de/service/zuvdocs/amtsblatt/2007/ab022007.pdf>

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## § 1 Nature of the doctoral degree (PhD)

(1) The Department of Mathematics and Computer Science of the Freie Universität Berlin awards the academic degree of **Dr. rer. nat.** according to the proceedings and regulations given below. This degree is equivalent to the **PhD** and henceforth referred to as such in this document.

(2) The PhD provides a special scientific qualification exceeding the regular university degree. This is achieved by profound research work which includes a scientific thesis (dissertation) and an examination colloquium (disputation) in the chosen PhD field. The PhD concludes either a student's postgraduate studies or PhD studies.

## § 2 Realisation of the doctoral degree (PhD)

(1) The "Fachbereichsrat" (departmental council) appoint the "Promotionsausschuss" (PhD committee) who are in charge of the realisation of the PhD and all further matters concerning departmental PhD proceedings. The PhD committee consists of no less than three full time professors (one each for Mathematics, Computer Science, Bioinformatics) and an academic staff member holding a PhD. The professors hold the majority of votes. For each member a proxy must be appointed.

(2) The PhD committee can decide for themselves or at the request of the candidate on the measures necessary

- if the realisation of the PhD is suspected to be erroneous,
- if frictions occur between the candidate and her/his supervisor.

(3) Requests according to clause (2) must be filed without delay.

(4) The evaluation of the research work (dissertation and disputation) is incumbent upon the PhD commission, which is appointed by the PhD committee (§9).

## § 3 Admission

(1) Requirements for admission:

1. A Master's degree, or  
a "Diplomabschluss" (German university degree), or  
a First State Examination for the teaching profession, graded 'cum laude' (*gut*) or better.

First State Examination candidates having scored less than 'cum laude' (*gut*) can be admitted, if their range of scientific publications suggests that a PhD can be successfully achieved. The decision is made by the PhD committee.

Candidates holding a Bachelor's degree in one of the PhD relevant subjects can be admitted after passing an entrance examination (*Feststellungsprüfung*) in their area of expertise and the adjoining subjects. Two full time professors carry out the exam, which must follow the procedures of and be equivalent to requirements of a Master's degree or "Diplomabschluss" at the Department of Mathematics and Computer Science.

2. If the applicant's university degree does not comply with the requirements as stated in point 1, admission can be acquired if the PhD committee assess that the applicant has proper qualifications in the PhD subject. After consulting a "FachvertreterIn" the PhD committee can grant the candidate admission on the condition that s/he produces satisfactory qualifications within a fixed period of time.
3. The running title of the dissertation project as well as specifications according to the requirements stated in §5 must be submitted. The dissertation project must be covered by the field of Mathematics, Computer Science, or Bioinformatics and must be represented by at least one professor in the department.
4. Please submit a professor's declaration that s/he will act as supervisor for and assessor of your project.
5. The applicant must not already have obtained a doctoral degree in the field of Mathematics, Computer Science, or Bioinformatics. Furthermore, the applicant must not be registered for a PhD in Mathematics, Computer Science, or Bioinformatics at some other university or institution.
6. The covering of all necessary material needs (§3, (3), point 5) must be ensured.
7. If a group of candidates applies for admission to a joint dissertation project, the specification of the dissertation project must give the reason for their cooperation. The PhD committee decide – in consultation with the designated supervisors, if necessary – whether the cooperation on the dissertation project and the number of candidates is justified. If approved, the group of candidates is to be granted admission, provided each candidate complies with the requirements according to §3, (1), point 1. All regulations herein apply to individual candidates and groups of candidates equally.

(2) Differing from (1), point 3 it is possible, in well-founded exceptional cases, to submit a completed dissertation.

(3) Applications for admission must be submitted to the chairperson of the PhD committee in written form. Please add:

1. documents according to (1),
2. an official 'certificate of good conduct' according to §30, (1) of the BZRG (Gesetz über das Zentralregister und das Erziehungsregister), no older than three months,
3. your curriculum vitae,
4. a written declaration, if a PhD application has been filed at some other university or department of the Freie Universität, including full particulars on its outcome,
5. a written declaration listing material or personnel that might be required for the dissertation project,
6. a written declaration, that the applicant is familiar with the PhD regulations.
7. [This point only applies to the German PhD title, the grammatical form of which distinguishes between the female and male.]

(4) The chairperson of the PhD committee will inform all departments concerned about applications with interdisciplinary topics. The PhD committee will then decide, whether the project can be realised within the Department of Mathematics and Computer Science.

(5) According to §13 the applicant can file for exams in one or more additional subjects. The chairperson of the PhD committee will notify the faculties in question.

(6) The PhD committee decide on applications for admission within one month, or within six weeks during semester break. The chairperson of the PhD committee is to inform the applicant in written form about her/his admission. In case of rejection an explanatory comment is added.

(7) Admission may only be denied if:

1. requirements according to (1) aren't met, or
2. the documents are incomplete and haven't been completed within three months time after they were requested, or
3. the period of time specified in §14 has not yet elapsed, or
4. the specification of the dissertation project, or a dissertation submitted according to §3, (2), does not meet requirements according to §5, (3), sentence 1.

(8) The PhD committee has to be notified about all changes affecting a candidate's requirements for admission. The PhD committee then scrutinise whether requirements for admission are still met and decide if the candidate can proceed.

#### **§ 4 Enrolment as a PhD student**

(1) Doctoral candidates who are neither registered students nor employees at the Freie Universität Berlin need to enrol as PhD students.

(2) If candidates do not file enrolment within the time stated in their notification of approval for PhD studies the PhD admission expires. A new application for PhD admission can however be filed.

#### **§ 5 The dissertation project, lead time**

(1) The dissertation project may be chosen freely. It is recommended to orientate towards the focal points of the department. The dissertation project should be completed after four years (lead time). Persons with no obligations other than the PhD project should finish within three years.

(2) If the lead time according to (1) is exceeded, the postgraduate needs to submit to the students' administration office (*Studierendenverwaltung*) a certificate from the PhD committee stating the current status and expected new lead time for the PhD project. In case the postgraduate fails to present such a certificate within three months time (without giving plausible reasons) her/his PhD admission expires.

(3) The specification of the dissertation project (§3, (1), point 3) must reveal the postgraduate's up-to-date knowledge in her/his field of research, her/his ability to place this knowledge in a wider frame, and that the dissertation will give new impulses to its field of research. If there is serious doubt that these requirements are met, the PhD committee can obtain expert advice.

## **§ 6 Supervision of the dissertation**

(1) The "Fachbereichsrat Mathematik und Informatik" is obliged to ensure the supervision and assessment of the dissertation while the PhD is in process.

(2) The dissertation should be supervised by a professor of the department. She/He commits her-/himself in written form to supervising and assessing the dissertation project (cf. §3, (1), point 4). On request, s/he is to inform the PhD committee about the progress of the dissertation. Professors of a "Fachhochschule" can be included in the supervision, if everybody involved agrees.

(3) The supervisor shall grant the postgraduate adequate time for her/his counselling and discussing the dissertation.

(4) The supervisor will assist the postgraduate in applying for grants and procuring equipment.

(5) If either the supervisor or the postgraduate has cause to terminate the supervision, s/he is obliged to inform the PhD committee immediately and give his/her reasons for the termination. The PhD committee will then decide if a new supervisor is to be appointed. Should a supervisor leave the Freie Universität Berlin, s/he has the right to remain in the PhD commission and finish her/his supervision of the dissertation.

## **§ 7 Dissertation and subject of the disputation**

(1) The postgraduate must submit a dissertation according to §5. The dissertation must be submitted to the examinations office (*Prüfungsbüro*) of the Dept. of Mathematics and Computer Science.

(2) A dissertation is either a thesis of a single person (individual dissertation) or a component within the thesis of a team project, recognizable as a postgraduate's individual performance (dissertation as a part of a team project). The individual contribution of each postgraduate must comply in length and character with the requirements for dissertations. The individual parts must be clearly distinguishable and they must allow for individual evaluation.

(3) A thesis published in part or as a whole must not have been made obsolete by recent publications by different authors. The assessors will judge whether this is the case or not (§8).

(4) The postgraduate must list all auxiliary means used, and assure that s/he has written the thesis by her-/himself. The thesis must not have been submitted before. In case of doubt, former theses (§3, (3), point 4) must be presented for comparison.

(5) The dissertation must be presented in English or German.

(6) The title page of the dissertation must give the topic of the thesis, the author's name, the dissertation's designation as a work submitted to the Department of Mathematics and Computer Science at the Freie Universität Berlin, and the year of its submission. The following page must state the name/s of the supervisor/s. The annex requires a German summary of the results up to one page and, if the postgraduate wishes, a brief curriculum vitae.

(7) The dissertation must be submitted in quintuplicate. One copy must be suitable for reproduction. One copy remains with the faculty.

(8) After the assessment, the postgraduate submits a proposal for her/his disputation talk, attaching a short abstract. The supervisor can advise the postgraduate about appropriate subjects, if desired. The PhD commission decide, whether the proposal meets with requirements. If necessary, an alternative proposal will be demanded.

## **§ 8 Assessment of the dissertation**

(1) The PhD committee appoints the dissertation's assessor immediately after the dissertation has been submitted.

(2) The supervisor chosen according to §6, (2), sentence 1 is to be assigned as first assessor. Additionally, the PhD committee appoints in accordance with the postgraduate an external assessor, who must be a university professor. One or two further assessors may be appointed. At least one of the assessors has to be a full-time professor and one, a faculty member. If major aspects of the dissertation refer to a subject covered basically by another faculty, a further assessor shall join from this faculty.

(3) The assessors are to write their evaluation reports independently and submit them to the examinations office (*Prüfungsbüro*) within three months. Failures to observe this time limit must be accounted for in written form to the PhD committee. If an external assessor exceeds this time limit, the examinations office contacts her/him and reports to the PhD committee. If any assessor exceeds the time limit by more than a month, the PhD committee can appoint another assessor. The evaluation reports are to be treated as confidential. They assess the importance of the dissertation subject in a wider context, evaluate the results of the work, and point out possible deficiencies. The assessors can demand modifications for the version to be printed (§17, (1)). These modifications must be clearly indicated. In a final overall appraisal each assessor has to either recommend acceptance of the dissertation, marking it according to §9, (1), or refuse its acceptance. If an evaluation report fails to state the necessary appraisals clearly, the PhD commission will return it for revision.

(4) On the PhD commission's proposal the PhD committee can appoint a further external assessor if the assessors' appraisals differ in at least one grade, or if –

according to clause (5) – critical comments on the dissertation’s evaluation have been presented.

(5) When the assessment of the dissertation is completed, the dissertation will be put on public display at the faculty for a period of two weeks during semester time, three weeks during semester break. All faculty members who may qualify to supervise a dissertation (according to §6, (2)) can make a case to the chairperson of the PhD committee that the time limit for display is prolonged by another two weeks. They are also entitled to go over the dissertation and evaluation reports, and hand in a comment which is added to the PhD documents. The examinations office (*Prüfungsbüro*) must inform each member of this group by email about the dissertation’s display.

## **§ 9 The PhD commission**

(1) Upon receipt of the thesis or, at the latest, upon receipt of the evaluation reports the PhD committee appoints the PhD commission for the upcoming procedures.

(2) The PhD commission consists of four faculty members of the Department of Mathematics and Computer Science. It is composed of three professors and one academic staff member holding a PhD. As an exception to this rule one EXTERNAL professor may be appointed. Further members, especially external assessors, can be appointed, but as advising participators only.

(3) The meetings of the PhD commission are not public. The decisions are to be treated confidentially.

(4) If a regular member of the commission (clause (2), sentence 1) drops out, the PhD committee will replace her/him.

(5) In interdisciplinary projects all the departments concerned are to be considered adequately when the PhD commission is appointed.

(6) The PhD commission decide on the member who shall act as chairperson.

## **§ 10 Evaluation of the dissertation and scheduling of the disputation**

(1) When the period for the dissertation’s display is over, the PhD commission decide whether the dissertation shall be accepted or refused. In the case of acceptance the following terms are to be used:

summa cum laude	(excellent)
magna cum laude	(very good)
cum laude	(good)
rite	(sufficient)

(2) In the case of refusal the PhD commission declare that the PhD has been failed and state the reasons in a final report. The chairperson of the PhD committee has to

inform the postgraduate in written form about the decision, including an explanatory statement.

(3) On acceptance of the dissertation the PhD commission inform the postgraduate about the subject of the disputation talk, which they determined on the basis of the postgraduate's proposal (§7, (8)). Furthermore, the PhD commission determine the date and time of the disputation in accordance with the postgraduate, and issue a public invitation in the university. The time appointed should lie within the academic semester. The disputation talk shall be no sooner than two weeks after the postgraduate's notification about her/his talk's subject. The members of the PhD committee shall attend all disputation talks. The time span between the entry of the last evaluation report and the disputation talk should be no more than two months.

(4) If the postgraduate declares her/his abdication from making the disputation, the PhD is failed. The postgraduate is to be notified in written form by the chairperson of the PhD committee.

## **§ 11 Disputation**

(1) The disputation's purpose is to give evidence of the postgraduate's capability to orally present and discuss scientific issues and to defend the dissertation against criticism, especially against the assessors' objections. For this purpose the postgraduate is to be granted access to the evaluation reports (and comments according to §8, (5)) two weeks beforehand. The disputation talk is in either German or English.

(2) The disputation lasts approx. 90 minutes. It starts with the postgraduate's 30 minute talk and a subsequent discussion of about 15 minutes. In her/his talk the postgraduate introduces a topic of common interest of her/his own choice (§7, (8)). The dissertation's "Verteidigung" (defence) then lasts about 10 minutes. Here, the postgraduate presents her/his results, and answers the PhD commission's questions. A discussion follows, where the audience may also ask questions.

(3) The chairperson of the PhD commission files the protocol of the disputation.

(4) In joint dissertation projects according to §3, (1), point 7 the disputation is to be performed by all group members together; in doing so, each postgraduate has to give a talk and enter into a discussion. Each postgraduate's disputation shall be approx. one hour. If one of the group members is absent with valid excuse, or if a group member's prolonged absence is to be expected, the disputation can be performed in accordance with the remaining postgraduates. For the absent postgraduate a new disputation date will be appointed, at which his/her fellow postgraduates should be present.

(5) If the postgraduate neglects her/his disputation without valid excuse, the disputation is failed. The chairperson of the PhD committee will notify the postgraduate in written form including an explanatory statement.

## **§ 12 Making a decision on the PhD**

(1) After the disputation the PhD commission make their decision. If the exam has been passed, the grades according to §10, (1) are applied.

(2) If the postgraduate fails the disputation, it can be repeated once within eighteen months, but no sooner than three months after the first disputation. In her/his new disputation the postgraduate must be able to discuss the scientific developments in her/his dissertation field according to the latest publications. If s/he fails the second disputation too, the PhD commission declare the PhD failed and give their reasons in a final report (4). The chairperson of the PhD committee is to inform the postgraduate in written form about the decision (including statement).

(3) If the postgraduate passes the disputation, the PhD commission assess the overall result of the PhD. The PhD commission apply the grades according to §10, (1). The grade “summa cum laude” may only be granted if both the dissertation and disputation were marked the same.

(4) The PhD commission comment on their assessment in a final report, which gives a summary of the postgraduate’s overall performance (dissertation and disputation), and states the individual grades.

(5) After the postgraduate has passed her/his dissertation and disputation s/he can request an interim report, which states the subjects and grades of the dissertation and disputation as well as the overall grade.

(6) The whole PhD process is to be treated confidentially even after procedures have been closed. Access to the records is granted according to the regulations of the “Satzung für Allgemeine Prüfungsangelegenheiten”.

## **§ 13 Additional PhD subjects**

(1) Postgraduates are given the opportunity to sit an exam in additional subjects they have acquired knowledge about during their scientific education.

(2) Before admitting a postgraduate to an exam in such an additional subject requirements for admission must be determined in accordance with the faculty responsible for this subject. The exam will be about 30 minutes. It must be scheduled after the dissertation has been submitted, and taken before – and independently from – the disputation.

(3) The postgraduate can apply to the chairperson of the PhD committee that the exam performance of the additional subject be included in the PhD certificate. The performance is assessed according to the valid PhD regulations.

## **§ 14 New PhD proceedings**

If the postgraduate has failed the PhD, s/he can apply again for admission after six months and submit a new dissertation after one year (earliest dates). This rule also applies if the PhD was failed at some other university or institution.

## **§ 15 Withdrawal of the application and closing of the proceedings**

(1) The postgraduate can withdraw her/his PhD application only as long as s/he hasn't submitted the dissertation yet (§7, (1)). Otherwise the PhD committee must deny the withdrawal. A valid withdrawal of this kind does not count for a failed PhD.

(2) If more than six years have passed since the PhD admission, the PhD committee can discontinue the proceedings after the supervisor has given her/his written approval and comment and the postgraduate has been heard. The chairperson of the PhD committee informs about the discontinuance of proceedings in written form, including an explanatory statement. A new application for PhD admission is possible.

## **§ 16 Certificate**

(1) The PhD certificate is in German.

(2) The PhD certificate states:

1. the name of the Freie Universität Berlin and of the Department of Mathematics and Computer Science,
2. the name of the PhD holder,
3. [this point only applies to the German title: male or female version according to §1, (1)],
4. the title of the dissertation,
5. the PhD field,
6. the date of the disputation, which is regarded as the date of awarding the PhD,
7. the overall result of the PhD according to §12, (3),
8. the names of the assessors,
9. the name and signature of the Dean,
10. the seal of the Freie Universität Berlin.

(3) The postgraduate can apply to the chairperson of the PhD committee that the exam results of an additional subject (§13, (1)) be included in the PhD certificate. The exam performance is assessed according to the valid PhD regulations.

(4) The final report is to be attached to the PhD certificate.

(5) The Dean hands over the PhD certificate no later than four weeks after the postgraduate has delivered the printed copies of her/his dissertation according to §18. The PhD certificate authorises its holder to use the title awarded according to §1, (1).

## **§ 17 Publication of the dissertation**

(1) Unpublished dissertations must be edited within one year after the disputation. No changes are allowed except those accepted by the PhD commission (§8, (3)). The number of copies given in §18 must be handed free of charge to the library of the FU (*Universitätsbibliothek*) and to the Dean.

(2) If the postgraduate gives evidence that publication with a commercial publisher is guaranteed (§17, (1), point 1 or 2), the time limit for delivery can be prolonged by one year. In well-founded exceptional cases further prolongation is possible.

(3) The published copies shall meet the formal guidelines as given in §7, (6) and state the names of the assessors as well as the date of the disputation. Dissertations edited by a commercial publisher must at least indicate that they were submitted to the Freie Universität Berlin and give the year of submission.

## **§ 18 Modes of publication, submission liability**

(1) Accepted forms of publication are:

1. Commercial publication of a monograph with a minimum print run of 95 copies, or
2. publication in a journal, or
3. publication by the postgraduate in electronic form, the medium and format of which are to be arranged with the library of the FU (*Universitätsbibliothek*), or
4. publication by the postgraduate in the form of printed copies.

(2) In the case of publications according to (1), point 1, 2, or 3 six copies must be handed in to the library of the FU (*Universitätsbibliothek*) and three copies to the examinations office (*Prüfungsbüro*).

(3) In the case of printed copies (according to (1), point 4) ninety-five (95) copies must be handed in.

## **§ 19 PhD in cooperation with foreign institutions**

(1) A PhD can be achieved in cooperation with foreign universities or equal institutions, provided:

- a) the applicant meets requirements for a PhD admission at the Department of Mathematics and Computer Science at the Freie Universität Berlin, and
- b) the foreign institution is (legally) authorized to award a PhD.

(2) All departments, faculties, or equal institutions involved must agree on the PhD cooperation and on its procedures. Agreements on procedures etc. are valid alongside the regulations in this document and must comply with their standards.

## **§ 20 Remonstrance**

The postgraduate has the right to remonstrate to the PhD committee about the result of the PhD or parts of it. The remonstrance must be submitted to the chairperson of the PhD commission in written form within four weeks after the results have been announced. For further details see the “Satzung für Allgemeine Prüfungsangelegenheiten”.

## **§ 21 Revocation of the degree**

The PhD can be revoked in accordance with the statute laws and regulations.

## **§ 22 Honorary doctorate**

At the request of the Dean or at least three professors of the faculty the “Fachbereichsrat” can award an honorary degree (abbr. Dr. rer. nat. h. c.) according to §1, (1) for extraordinary scientific achievements in one of the fields covered by the Department of Mathematics and Computer Science. The PhD committee appoints a PhD commission according to §9, (2) that will judge the achievements by submitting an evaluation report. The “Fachbereichsrat’s” decision must be supported by the majority of PhD committee-members entitled to hold a doctoral degree (PhD) themselves. Professors who are not members of the “Fachbereichsrat” must be given the opportunity to participate in the voting.

## **§ 23 Entry into force and transitional regulations**

(1) The regulations given in this document enter into force on the day of their publication in the “Amtsblatt der Freien Universität Berlin”. The antecedent document becomes invalid.

(2) Candidates of currently active proceedings can choose whether they want to continue according to former or new regulations. This decision must have been made by the end of the semester in which this document enters into force. The decision is irreversible.