

# Doctorate regulations

## of the Faculty of Mathematics and Natural Sciences II

### Introduction

In accordance with Section 17 paragraph 1 subsection 1 of the interim constitution of the Humboldt Universität zu Berlin (Humboldt Universität zu Berlin, Official Bulletin No. HU 08/2002, last altered on 30 December 2004), the extended Faculty Council of the Faculty of Mathematics and Natural Sciences II passed the following doctorate regulations on 17 January 2005 (last altered on 13 February 2006).

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### Section 1 General information

(1) The Faculty of Mathematics and Natural Sciences II, Humboldt Universität zu Berlin, awards the degrees

doctor rerum naturalium (Dr. rer. nat.)

Doctor engineer (Dr. eng.)

on the basis of a doctoral examination process in accordance with the regulations below. The Faculty Council can award the academic degree Dr. eng. - but only for computer science - on application by the candidate if he/she can prove a qualification in engineering sciences.

(2) The academic degrees Dr. rer. nat. and Dr. eng. can be awarded once only for the chosen subject, with the excep-

tion of the honorary degree Dr. rer. nat. h.c. in accordance with Section 16.

(3) The following disciplines can be chosen for the doctorate:

Geography, computer science, mathematics, and psychology, and methodology of geography, methodology of computer science, and methodology of mathematics.

(4) The Faculty Council can decide to delegate the following decisions to the Dean if the necessary resolutions are passed unanimously by the institute council or the doctoral commission:

decisions about

- The application for admission to a doctorate
- Starting the proceedings
- Applications for changes to the membership of the doctoral commission
- Attendance in accordance with section 8 paragraph 1
- Extension of the publication deadline in accordance with section 14.

### Section 2 Doctoral achievements

A doctorate confers recognition of a particular scientific qualification beyond university degree level. The award of a doctorate follows the demonstration of the ability to carry out substantial independent scientific work and original research. This ability is demonstrated by the submission of a doctoral thesis and its successful disputation.

### Section 3 Admission requirements

(1) Requirement for the admission to a doctoral process is a final university diploma or master's degree or an equivalent teacher training degree in a subject related to the doctorate subject in the area covered by the German constitution.

The Faculty Council may permit exceptions if academic achievement can be demonstrated on an equivalent level.

(2) Students with a final diploma or master's degree from a university of applied sciences may be admitted to the doctoral proceedings if they received the grade "very good" in their final academic doctoral thesis and in the subjects which are essential to the doctorate.

These candidates are to take an assessment test to demonstrate that they possess sufficient degree-level knowledge of the doctorate subject and are qualified to pursue a doctorate. There are no study criteria for such tests. The Faculty Council will set the procedural regulations for such tests.

(3) Final university degrees completed at a university outside the Federal Republic of Germany are valid in the sense of paragraph (1) if equivalent to one of the degrees mentioned in paragraph (1). Equivalence must be demonstrated (confirmed by the study department or the senate authority responsible). If the equivalence is doubtful, the Central Office for Foreign Education (ZAB) is to be consulted. If equivalence cannot be demonstrated, the Faculty Council will examine whether equivalence in the sense of paragraph (1) can be achieved by fulfilling certain conditions.

(4) The doctoral thesis may only be submitted in a discipline represented by at least one professor or associate professor on the full-time or part-time faculty staff. A further condition is that the thesis has not been previously accepted, or rejected as unsatisfactory, by another university as part of doctoral proceedings.

(5) Bi-national doctoral proceedings (co-tutelle de thèse) are possible in accordance with the stipulations of each faculty's current contractual agreements.

#### Section 4 Admission process

(1) Each candidate intending to pursue a doctorate at the Faculty of Mathematics and Natural Sciences II must apply for admission to the doctorate before starting work on their thesis (see Appendix 1).

He/she must submit the final certificate from the university where he/she studied and, if applicable, a certificate of equivalence in accordance with section 3.

The Faculty Council makes the decision to admit the candidate on the basis of an Institute Council decision. The Faculty Council will determine whether the discipline chosen is represented at the Faculty and whether the applicant fulfils the admission requirements as set out in section 3 of the doctorate regulations.

(2) The doctorate period at the Faculty starts when the doctoral candidate is informed of his/her acceptance.

(3) Admission is limited to five years. The period may be extended once on application by the candidate.

#### Section 5 Starting the doctoral proceedings

(1) The candidate must apply in writing to the Faculty to start the doctoral proceedings.

(2) The following must be submitted with the application:

- Five bound, typed or printed copies of the thesis
- An abstract in German and English, no more than one page long, summarising the findings of the research work.
- A CV in German, giving information about the candidate's scientific background in particular
- A declaration that the thesis was completed as an independent effort without unauthorised assistance
- A statement of whether the candidate has already applied for a doctorate elsewhere or al-

ready has a doctorate in the subject of the current doctorate

- A statement that the candidate is aware of the regulations of the doctoral proceedings being applied for
- A list of the candidate's published scientific work and papers
- The admission certificate in accordance with section 4.

(3) The Faculty Council decides on the beginning of the doctoral proceedings on submission of all the required documents in accordance with section 5 paragraph (2), based on the statement of the council of the institute where the doctorate subject is represented by at least one professor or assistant professor on the full- or part-time staff of the Faculty. The decision is usually made within one month, at the latest within three months. Rejections must be justified in writing and must include information on the right to appeal.

#### Section 6 Doctoral thesis

(1) The doctoral thesis is a presentation of the candidate's independent scientific research in his/her chosen doctorate subject, constituting an advance in scientific knowledge. The doctoral thesis must include a complete, self-contained presentation of research and its findings.

(2) The following may be submitted as a doctoral thesis:

a) An unpublished study

or

b) A study published in parts or intended for publication. The thesis may be based on several individual studies and/or research carried out with third parties.

One or several individual studies already published or intended for publication may be submitted as part of the doctoral thesis if they were completed recently and are closely related to the content of the doctoral thesis. These parts must be coherently integrated in the doctoral thesis in an appropriate manner and scope.

Doctoral candidates who wish to include in his/her thesis individual studies already published or intended for publication are responsible for clarifying all legal issues relating to the publication in accordance with section 14 before submitting the doctoral thesis to the Faculty.

The institutes may pass regulations specific to their disciplines; such regulations must be ratified by the Faculty Council.

Only bound copies of the thesis may be submitted.

In the case of studies and single studies with several authors, the doctoral candidate's contribution must be specified and confirmed by the co-authors.

Exceptions must be approved by the Dean.

(3) Doctoral theses must usually be written in German or English. The Faculty Council may permit exceptions if an assessment can be guaranteed.

(4) Doctoral candidates must specify all resources and assistance drawn on and affirm that they have written their doctoral thesis independently on this basis.

(5) The doctoral thesis must be supplemented by a title page (in accordance with Appendix 2) and a CV detailing the candidate's scientific background.

### **Section 7 Doctoral commission**

(1) By starting the doctoral proceedings in accordance with section 5 paragraph (3), the Faculty Council confirms the doctorate subject chosen by the candidate and appoints the doctoral commission, its chairperson and the assessors. As a rule the assessors are members of the doctoral commission but cannot be the chairperson.

(2) The doctoral commission comprises at least three professors or associate professors. The chairperson and one other member should be full professors.

(3) If the doctoral thesis addresses an issue relevant to more than one discipline or an interdisciplinary issue, the relevant disciplines and institutes (if applicable) should be taken into consideration when appointing the doctoral commission. The majority of doctoral commission members must be members of the institute representing the doctorate subject.

(4) The doctoral commission's tasks are:

- Deciding to accept the doctoral thesis and assessing it on the basis of the available expert opinions
- Carrying out and assessing the disputation of the doctoral thesis
- Determining the overall doctorate grade

(5) The doctoral commission's meetings are not public.

(6) The doctoral commission takes decisions on the majority of the valid votes cast.

(7) The Faculty Council decides on applications to change the members appointed to the doctoral commission.

### **Section 8 Expert opinions on the doctoral thesis**

(1) As a rule three or at least two experts (professors or associate professors) will be appointed to assess the thesis. One of the experts should not be a member of the institute of the Faculty which represents the doctorate subject. Two of them must be present at the disputation. Justifiable exceptions are only possible if the Faculty Council agrees.

In exceptional cases, which must be justified, the Faculty Council may appoint external experts who possess a doctoral qualification and are experts in their field, if the two other experts appointed to make assessments are professors or have a post-doctoral qualification.

(2) The experts are to write their assessments independently of each other and must present them within three months of the requested date. Otherwise the doctoral commission must either extend the deadline by four weeks or appoint other experts.

(3) Each expert will either recommend that the doctoral thesis be accepted, giving a grade in accordance with section 11 paragraph (1), or that it be rejected with the grade

“non sufficit”. The assessment must take into consideration the significance of the doctoral thesis and its findings in a wider context. If an expert sees faults in the work that would be possible and necessary to correct, he/she must pinpoint them precisely. In such cases, he/she may suggest specific changes to the candidate. If the assessment does not provide a clear evaluation, the doctoral commission will return the assessment to be revised.

(4) After the decision on the acceptance of the doctoral thesis, the doctoral commission will make the assessment available to the doctoral candidate two weeks before the disputation. The assessment may only be used in the context of the doctoral proceedings and are otherwise to be treated as confidential.

(5) If the experts have differences of opinion, e.g. if the doctoral thesis grades vary by more than one grade or if one of the experts evaluates the thesis with the grade “non sufficit”, the Faculty Council is to appoint another expert at the request of the doctoral commission.

### **Section 9 Acceptance of the doctoral thesis and setting a date for the disputation of the thesis**

(1) The candidate's doctoral thesis must be accepted before he/she can be admitted to the disputation of the thesis. The doctoral commission uses the assessments to decide whether to accept the doctoral thesis or not.

If the doctoral thesis is rejected, the doctoral commission declares that the candidate has failed the doctorate and gives reasons for the decision. The candidate must be informed of the decision in writing after the decision is confirmed by the Faculty Council. The reasons for the rejection and information on the right to appeal must be included.

(2) When the doctoral thesis has been accepted, the chairperson of the doctoral commission informs the candidate of the decision. The date for the disputation is set with the candidate's agreement. The disputation is to take place no more than two months after the last expert opinion has been submitted.

(3) The doctoral thesis is to be displayed publicly for a period of at least two weeks before the disputation in the institute representing the doctorate subject.

In the period after completion of the doctoral thesis assessments until the disputation, for at least 14 days, the doctoral thesis and assessments are to be displayed in the institute representing the subject to be viewed confidentially by members of the Faculty Council and by the professors at the Faculty of Mathematics and Natural Sciences II. During this period, the professors may express objections to the doctoral thesis and/or to the assessments. Any objections must include reasons and must be submitted in writing to the doctoral commission.

The objections are to be examined by the doctoral commission in the presence of the candidate. The doctoral commission will then hold a non-public meeting at which it suggests a decision to the Faculty Council to either reject the objection, appoint a new expert or break off the doctoral proceedings.

### **Section 10 Disputation of the doctoral thesis**

(1) The disputation of the doctoral thesis takes place, which is open to university members. Exceptions are to be decided by the Dean at the request of the candidate.

(2) Invitations to the disputation are sent by the chairperson of the doctoral commission. The disputations intended to establish the doctoral candidate's ability to present and explore scientific issues orally. It is usually conducted in German or English; an exception to this may be permitted by the doctoral commission at the request of the candidate.

(3) The disputation usually starts with a 30-minute lecture in which the doctoral candidate presents and explains the findings of his/her research in a wider scientific context. After this, the substance of the assessments is presented. The questions posed during the discussion should also include how the findings of the research relate to a wider scientific context and should enable the candidate to demonstrate profound knowledge of the subject of the thesis beyond the specific topic. The discussion should not usually last longer than 60 minutes.

(4) The chairperson of the doctoral commission coordinates the scientific discussion and decides on the order and, if necessary, the admissibility of the questions. He/she may exclude the public if this is necessary for the regular conduct of the disputation.

(5) The doctoral commission selects one of its members to take minutes. The keeper of the minutes takes a register of participants and takes minutes on the course of the disputation. The register and minutes are to be added to the doctoral documents.

(6) If the candidate does not attend the disputation and presents no proper excuse, he/she is considered to have failed. The candidate is to be informed of this in writing, including information on the right to appeal.

(7) If the evaluation of the disputation is unsatisfactory, this constitutes a fail. If the candidate fails in the disputation, he/she may repeat the disputation after three months but within no more than six months.

### **Section 11 Assessment of the performance in the doctoral proceedings**

(1) If the thesis is accepted, a grade will be given on the basis of the assessments.

The following grades are used:

- summa cum laude (excellent) if all experts give the thesis the summa cum laude grade
- magna cum laude (very good)
- cum laude (good)
- rite (satisfactory).

(2) The disputation is also graded using the above-mentioned grades and the additional grade of

- non sufficit (insufficient)

### **Section 12 Decision in doctoral proceedings**

(1) After the disputation, the doctoral commission holds a non-public meeting to consider the performance in the doctoral proceedings and to decide on the overall grade

for the doctorate, taking the grades for the doctoral thesis and the disputation into account. The grades used are stated in section 11 paragraph (1).

The grade summa cum laude (excellent) may only be given if the thesis and disputation are both given this grade.

In all other cases, the overall grade is determined by giving the thesis grade twice the weight of the disputation grade.

The chairperson of the doctoral commission informs the candidate of the grade awarded.

(2) If the candidate does not pass the repetition of the disputation in accordance with section 10 paragraph (7), the doctoral commission declares the doctoral proceedings to be a fail, giving reasons for their decision. The candidate is to be informed of the decision in writing, including information on the right to appeal.

(3) After the doctoral commission has confirmed the doctoral proceedings, the candidate may apply for an interim report (see appendix 3). This interim report does not authorise the use of the academic title in accordance with section 1 paragraph (2).

(4) The successful doctorate holder or former candidate has the right to inspect the doctorate file for one year.

### **Section 13 Withdrawal, repetition, discontinuation of the proceedings**

(1) If the candidate's written declaration of withdrawal is received before the doctoral proceedings start, the documents submitted are returned to the candidate. The paper is considered not to have been submitted.

(2) Once they begin, the doctoral proceedings can be discontinued at the request of the candidate as long as none of the experts has submitted a written statement. In such a case, the proceedings are regarded as not to have begun.

(3) If the candidate fails the doctorate, he/she must wait at least one year after being informed of his/her failure before being admitted to new doctoral proceedings.

(4) If the doctoral candidate fails to or refuses to punctually fulfil one of the doctorate commission's demands relating to the doctoral proceedings without a proper reason that has been accepted by the Faculty Council, the doctoral commission will issue a written statement discontinuing the proceedings. This also applies if the candidate states he wants to discontinue the doctorate proceedings after a written statement has been submitted.

(5) If it is established that the candidate has deliberately given false information before the doctorate certificate is issued, the Faculty Council will decide if the doctoral proceedings are discontinued. In doubtful cases, the process will be suspended until the matter is clarified. The candidate is to be given the opportunity to comment on the accusations made against him/her.

### **Section 14 Publication**

(1) Before the doctoral thesis is published, any faults noted in accordance with section 8, paragraph (3) must be corrected and the conditions fulfilled. The chairperson of the doctoral commission is to confirm that this has been done.

(2) The doctoral thesis is to be made available to the scientific community in an appropriate way by copying and distributing it. This condition has been fulfilled when the successful candidate has delivered the following items free of charge to the university library in addition to the copies stipulated in section 5 paragraph (2):

Either

a) 20 copies in book print or photo print for distribution

or

b) 3 copies if published in a journal

or

c) 3 copies if there is evidence that a commercial publisher takes on the distribution through the book trade and a minimum edition of 150 copies and information about the publication of the thesis is shown on the reverse of the title page

or

d) 3 typed copies which can be photocopied, with the original and 20 further copies in the form of microfiches.

In cases a) and d), the successful doctoral candidate transfers to the university the right to make and distribute further copies of his/her doctoral thesis under the provisions of the legal obligations of university libraries.

If a doctoral thesis is published by a commercial publisher and a public subsidy is used to cover the printing costs, an appropriate number of copies is to be made available to the university library for exchange purposes.

e) In addition to the options in paragraph (2) subsections a) to d), another option to fulfil the obligation to publish and disseminate the thesis is the provision of four complete copies printed on non-ageing, wood-free, acid-free paper and in permanent bindings and one digital version in a file format and on a data carrier agreed by the university library.

The published version must include an abstract in German and English. The successful doctoral candidate transfers the right to publish the digital version in data networks to the university library of the Humboldt University, the DDB (the German National Library) and, if applicable, to the DFG (the German Research Foundation's special collections). The candidate is to ensure that the digital version is identical with the accepted doctoral thesis. The university library is to check that the version supplied is legible and complies with the conditions required.

If the file format and data carrier of the data supplied do not fulfil the conditions required, this is not considered a valid publication.

Confirmation from the university library that publication is complete is to be submitted to the Dean's office. Following this, the certificate according to section 15 will be issued.

(3) Publication must take place within one year from the date of the disputation. The process is not complete until

this requirement has been fulfilled. The validity of the publication supplied is judged according to the legal regulations. The successful candidate can request the Faculty Council to extend the deadline.

### Section 15 Doctoral certificate

(1) A doctoral certificate in German will be issued (see appendix 4).

(2) It must include:

- The name of the university and the faculty
- The successful doctoral candidate's name, date of birth and place of birth
- The degree conferred (doctor rerum naturalium or doctor engineer) and the doctorate subject
- The title of the doctoral thesis
- The date of the disputation, which is considered to be date at which the doctorate is awarded.
- 
- The overall grade of the doctorate
- The name and signature of the President of the Humboldt Universität zu Berlin and that of the Dean of the Faculty
- The university seal
- The date of the completion of the proceedings, which is the same date as the fulfilment of the obligation to publish in accordance with section 14 paragraph (3).

(3) The doctorate certificate is to be issued within four weeks of the fulfilment of the obligation to publish in accordance with section 14. The certificate entitles the successful candidate to use the academic title Dr. rer. nat. or Dr. eng.

(4) The certification of a bi-national doctoral process is carried out in accordance with the regulations applicable in each case.

### Section 16 Honorary doctorate

(1) The academic degree

doctor rerum naturalium honoris causa  
(Dr. rer. nat. h.c.)

can be awarded for outstanding scientific work in a discipline represented at the Faculty.

(2) The Faculty Council has the right to propose people for honorary doctorates. Proposals should include a written application, an assessment of the performance of the person being suggested and two external expert opinions.

(3) Applications for an honorary doctorate are to be submitted to the Academic Senate of the Humboldt Universität zu Berlin for a decision.

(4) Honorary doctorates are awarded by issuing a certificate that is signed by the President of the Humboldt Universität zu Berlin and the Dean of the Faculty and bears

the university seal. The certificate is to emphasize the work that the degree is honouring.

### **Section 17 Coming into effect**

(1) These doctorate regulations come into effect on the day after they are published in the *Official Bulletin of the Humboldt Universität zu Berlin*.

At the same time, the doctorate regulations passed by the Faculty Council of the Faculty for Mathematics and Natural Sciences II on 19 February 1996 (Official Bulletin of the Humboldt Universität zu Berlin No. 16/1996 of 5 August 1996) become invalid in accordance with paragraph 2.

(2) Doctoral proceedings started in accordance with section 4 of the previous regulations, before these regulations come into effect, will be completed according to the previous regulations.

Candidates who can provide evidence of having begun work on their thesis when these regulations come into effect may be examined under the previous regulations if they apply to the Dean in writing within 3 months of these regulations coming into effect and if they apply to start the process within three years of these regulations coming into effect.

**Appendix 1: Application for admission to pursue a doctorate at the Faculty of Mathematics and Natural Sciences II**

in accordance with the doctorate regulations, section 4.

The Dean’s signature confirms that the admission requirements for the doctoral proceedings at the faculty have been fulfilled.

Your doctorate period at the faculty starts on the date of the Dean’s signature. The period is limited to five years.

|                  |  |
|------------------|--|
| <b>Applicant</b> | Surname, first name: .....<br>Home address/E-Mail: .....<br><br>University degree in subject: .....<br><br>Chosen doctorate subject: .....<br><br>Planned topic: .....<br><br>.....<br><br><b>Please include the following attachments:</b><br>1. University transcripts and degree certificate / equivalence certificate in case of a degree from a foreign university / report from an assessment test, if applicable (in accordance with the doctorate regulations, section 3 paragraph (2))<br>2. If the discipline of the university degree is different from the doctorate discipline, please give details of why doctoral proceedings in this discipline are likely to be successful (evidence of previous knowledge of the doctorate subject, publications, specialisation, professional experience, etc).<br><br><b>Declaration:</b><br>I certify that the information given above is correct. I am aware of the Faculty of Mathematics and Natural Sciences II’s doctorate regulations of 17 January 2005 (last altered on 13 February 2006).<br><br>.....<br><br><p style="text-align: right;">Date and signature</p> |
| <b>Institute</b> | Supervisor at the institute:<br><br>.....<br><br><p style="text-align: right;">Date and signature</p>  |
|                  | <p><b>The admission requirements for future doctoral proceedings at the institute have been checked.</b></p> Institute council decision as of ..... Vote outcome:            /            /<br>Institute director: .....<br><br>.....<br><br><p style="text-align: right;"><b>Date, signature, stamp</b></p>   |
| <b>Faculty</b>   | Dean’s agreement:<br><br>.....<br><br><p style="text-align: right;">Date, signature, stamp</p>   |

**Appendix 2: Sample doctoral thesis title page**

**Title of the doctoral thesis**

**D o c t o r a l T h e s i s**

to obtain the degree of .....

in (doctorate subject) .....

Submitted to the

Faculty of Mathematics and Natural Sciences II  
at Humboldt Universität zu Berlin

by  
(academic degree, first name, surname, maiden name)  
(date of birth, place of birth)

President of Humboldt Universität zu Berlin

.....

Dean of the Faculty of Mathematics and Natural Sciences II

.....

Experts

1. ....

2. ....

3. ....

Date of disputation: .....



**Appendix 3: Sample of a doctorate interim report**

**HUMBOLDT UNIVERSITÄT ZU BERLIN**  
**Faculty of Mathematics and Natural Sciences II**  
**I N T E R I M R E P O R T**

Mr/Mrs/Ms/Miss .....

Date of birth: .....

Place of birth: .....

has completed the doctoral proceedings in (doctorate subject) at the Faculty of Mathematics and Natural Sciences II in accordance with the regulations of 17 January 2005, last altered on 13 February 2006, and has obtained the following grades:

Doctoral thesis:

Disputation:

Overall grade:

Date of disputation:

Topic of the thesis:

Experts:

1. ....

2. ....

3. ....

The doctorate certificate exclusively entitles the holder to use the academic title

doctor rerum naturalium / doctor engineer

Berlin, (date)

Chairperson of the  
doctoral commission

**Appendix 4: Sample doctorate certificate**

**HUMBOLDT UNIVERSITÄT ZU BERLIN  
CERTIFICATE**

The Faculty of Mathematics and Natural Sciences II of Humboldt Universität zu Berlin awards

Mr/Mrs/Ms/Miss

.....

date of birth ..... place of birth .....

the academic degree

**d o c t o r r e r u m n a t u r a l i u m / D o c t o r e n g i n e e r**

(Dr. rer. nat.)

(Dr. eng.)

in recognition of having demonstrated his/her scientific ability in (doctorate subject)

.....

Topic of the doctoral thesis: .....

The disputation took place on .....

The grade of ..... has been awarded for the overall achievement.

Berlin, (date) .....

University seal

President  
of the Humboldt Universität zu Berlin

Dean  
of the Faculty of Mathematics and Natural  
Sciences II