



Disclaimer



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Doctoral Regulations of the Faculty of Mathematics and Natural Sciences of the University of Cologne of March 12, 2020

On the basis of § 2(4) and § 67(3) of the Act on the Universities of the State of North Rhine-Westphalia (Higher Education Act - HG) in the version of the Higher Education Act (HZG NRW) of September 16, 2014 (GV. NRW. p. 547), last amended by Article 1 of the Act Amending the Higher Education Act of July 12, 2019 (GV. NRW. p. 425, ber. 593), the Faculty of Mathematics and Natural Sciences of the University of Cologne enacts the following doctoral regulations.

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§ 1

Doctoral Degree

(1) ¹The Faculty of Mathematics and Natural Sciences (hereafter: Faculty) awards the degree of Doctor of Philosophy in Natural Sciences (abbreviated: Ph.D.; Deutsch: Doktor der Naturwissenschaften, doctor rerum naturalium, abbreviated: Dr. rer. nat.) on the basis of a scientific doctoral thesis (dissertation § 7) written and published by the doctoral student in one of the subjects of the doctorate (Appendix 1) and an oral examination (thesis defense § 9).

(2) ¹The Faculty may confer the degree and dignity of honorary Doktor der Naturwissenschaften (doctor rerum naturalium honoris causa, abbreviated: Dr. rer. nat. h. c.) for excellent scientific achievements. The award of this title requires that at least five members of the group of professors of the faculty propose this. ²The professors of the Faculty Council with voting rights shall decide on the proposal by secret ballot. ³The acceptance of the proposal requires the approval of two-thirds of the attending members of this group. ⁴The honorary doctorate shall be awarded by presentation of a certificate honoring the merits.

§ 2

Doctoral Degree Committee

(1) ¹The Doctoral Degree Committee shall be responsible for decisions in doctoral matters, unless otherwise stipulated in these Doctoral Regulations.

(2) ¹The Doctoral Degree Committee shall consist of the following voting members:

a) the Dean as chairperson; the Dean's deputy is the Vice-Dean for gender equality, diversity and young academics,

b) one further member from the group of University professors of the faculty as spokesperson of the Doctoral Degree Committee; the spokesperson is elected by the Faculty Council; in addition, the Faculty Council elects a deputy; their respective term of office is four years; re-election is possible,

c) one member each from the group of professors of the Departments of Biology, Chemistry, Didactics of Mathematics and Natural Sciences, Earth Sciences, Mathematics/Informatics and Physics; these may not already be members according to letters a) or b); they shall be elected by the Faculty Council upon proposal of the respective Departmental Committee; in addition, the Faculty Council shall elect one deputy each upon proposal of the respective Departmental Committee; their respective term of office shall be four years; re-election is possible,

d) two members from the group of academic staff; they shall hold a doctorate; they shall be elected by the Faculty Council upon proposal of the members of the group of academic staff of the Faculty Council; their term of office shall be four years; re-election is possible,

e) two members from the group of academic staff who are doctoral students according to § 5; they are elected by the Faculty Council upon the proposal of the members of the group of academic staff of the Faculty Council; their term of office is two years; re-election is possible,

f) two members from the group of students, who are doctoral students according to § 5; they are elected by the Faculty Council upon the proposal of the members of the group of students of the Faculty Council; their term of office is two years; re-election is possible,

g) one member from the group of employees in technology and administration, elected by the Faculty Council on the proposal of the member of this group in the Faculty Council; the respective term of office shall be two years; re-election is possible.

(3) ¹For each member according to paragraph 2 letters d) to g), a deputy shall be elected by the Faculty Council. ²The deputy members according to letters d) and e) shall be elected on the proposal

of the group of academic staff members of the Faculty Council. ³The deputy members according to letter f) shall be elected on the proposal of the group of students of the Faculty Council. ⁴The deputy members according to letter g) shall be elected on the proposal of the group of technical and administrative staff of the Faculty Council. ⁵The term of office of the deputy members according to clause 1 ends with the term of office of the corresponding member. ⁶Re-election is possible.

(4) ¹If a member or a deputy member resigns in accordance with paragraph 2 letters b) to g) or paragraph 3, the Faculty Council shall elect a new member or a new deputy member to take over the office until the end of the term of office of the resigning member or the resigning deputy member.

(5) ¹The member or deputy member of the Doctoral Degree Committee from the group of employees in technology and administration shall have the right to vote in doctoral matters only if he or she performs corresponding functions at the university and has special experience in the respective area. ²The chairperson shall decide whether these requirements are met at the beginning of the term of office of the member or deputy member; in cases of doubt, the rectorate shall decide.

(6) ¹The members of the speaker team of the board of the graduate schools of the faculty according to § 3(3) or their deputies shall participate in the meetings of the Doctoral Degree Committee in an advisory capacity. ²Additional advisors may be invited to the meeting of the Doctoral Degree Committee.

(7) ¹The quorum is reached if at least half of the voting members of the Doctoral Degree Committee are present. ²In matters which directly concern teaching, with the exception of its evaluation, the members from the group of university teachers shall have at least half of the votes. ³In matters directly relating to research, the members from the group of university teachers shall have the majority of votes. ⁴The Doctoral Degree Committee shall decide by simple majority of the voting members present at the meeting. ⁵In the event of a tie, the vote of the chairperson or her/his deputy shall be decisive.

(8) ¹The meetings of the Doctoral Degree Committee shall not be public. ²The members and their deputies shall be subject to official secrecy. ³If they are not in civil service, they shall be sworn to secrecy by the chairperson.

(9) ¹The Doctoral Degree Committee shall ensure that the provisions of these Doctoral Regulations are complied with. ²In particular, it shall decide on appeals against decisions made in doctoral matters. ³The chairperson of the Doctoral Degree Committee, or his/her deputy if the chairperson is unable to attend, shall represent the Doctoral Degree Committee. ⁴The chairperson shall convene the meetings of the Doctoral Degree Committee, chair them and implement the resolutions passed there. ⁵The Doctoral Degree Committee may delegate the execution of its tasks for all regular cases to the spokesperson of the Doctoral Degree Committee in accordance with paragraph 2 letter b). ⁶The right to decide on appeals against decisions of the spokesperson shall be reserved for the Doctoral Degree Committee. ⁷The chairperson shall announce orders, the setting of deadlines and time limits, as well as other communications of the Doctoral Degree Committee which do not only affect individual persons, with legally binding effect by posting notices or by other suitable means.

§ 3

Graduate Schools

(1) ¹Upon the proposal of the department the Faculty may establish one graduate school for each department and adopt separate regulations for each of these. ²The graduate schools shall assume for their area the tasks which are incumbent upon the faculty in the context of doctoral studies in accordance with § 67(2) HG.

(2) ¹The graduate schools promote the scientific exchange of doctoral students within the department and beyond. ²They offer a structured, quality-ensuring doctoral program and regulate the mentoring

of doctoral students. ³They coordinate - also across departments - the supply of courses for the acquisition of key academic qualifications and for the further scientific education of the doctoral students – some of these courses can be obligatory for doctoral students of the Graduate School. ⁴In particular, the offers shall be open also to members of other graduate schools of the Faculty.

(3) ¹The faculty shall form a board of all graduate schools of the Faculty of Mathematics and Natural Sciences. ²The members of this board are the spokespersons and the coordinators of the graduate schools of the departments and the Vice Dean for Research and the Vice Dean for Equality, Diversity and Young Academics on a deputy basis. ³This board elects a team of speakers consisting of a spokesperson of one of the graduate schools and a coordinator of one of the graduate schools as well as their deputies. ⁴The term of office of the team of speakers and the deputies shall be two years. ⁵Re-election is possible. ⁶The team of speakers represents the common interests of the graduate schools vis-à-vis the institutions, committees and bodies of the faculty and the university. ⁷In addition, the board ensures comparable quality standards in the graduate schools of the faculty and participates in the further development of the graduate schools.

(4) ¹Doctoral students who have been admitted in a doctoral subject assigned to a department with an established graduate school (Appendix 1) become doctoral members of that graduate school unless they object to membership. ²Doctoral students are at liberty to resign from a graduate school.

§ 4

Requirements for Admission to Doctoral Studies

(1) ¹A doctoral degree can only be awarded in a doctoral subject of the Faculty of Mathematics and Natural Sciences of the University of Cologne. ²The doctoral project must correspond to the doctoral subject as represented at the faculty. ³Each doctoral subject is assigned to a subject area represented by a department, in the case of an interdisciplinary doctoral subject to a maximum of two subject areas. ⁴The subjects of the doctorate and their assignment are regulated in Annex 1.

(2) ¹The prerequisite for admission to doctoral studies pursuant to § 67 HG is

a) a degree from a consecutive Master's program pertinent to the doctoral subject in terms of § 61(2) clause 2 HG, or

b) a degree at the end of a relevant university course of study with a general standard period of study of at least eight semesters, for which a degree other than Bachelor's is awarded, or

c) a degree at the end of relevant university studies with a general standard period of study of at least six semesters, which was completed with an ECTS grade of A or with a grade which identifies the graduate as belonging to the top 10% of the cohort, or, if neither ECTS grade nor relative positioning in the cohort can be determined, with a grade of 1.5 or better. In addition, proof of appropriate studies in the doctoral subject following the university studies is required in preparation for the doctorate, which as a rule corresponds to a subject-specific scientific specialization of two semesters; the Doctoral Degree Committee may determine which supplementary studies and examinations are to be completed. These studies preparing for the doctorate may be completed at the University of Cologne, provided that they are offered by a Master's program or a graduate school of the faculty (so-called fast-track option); admission to the doctoral program is initially conditional for the period of completion of the studies preparing for the doctorate; the final decision is made by the Doctoral Degree Committee.

(3) ¹Admission to doctoral studies requires proof of a qualified degree in accordance with paragraph 2. ²As a rule, a qualified degree exists if the overall grade of the degree is "good" or better and if a scientific work has been delivered in the underlying study program. ³If the underlying degree does not include a scientific work, such a scientific work must be completed subsequent to the underlying

degree, and enable to ascertain the aptitude for a doctorate. ⁴The Doctoral Degree Committee may allow exceptions.

(4) ¹If the student has a degree with only limited relevance to the subject, or if proof of a scientific work in accordance with paragraph 3 is not available, the Doctoral Degree Committee shall decide on access to doctoral studies in exceptional cases. ²This exceptional access generally requires an above-average degree. ³The Doctoral Degree Committee may stipulate that further in-depth study and/or examination requirements be met. ⁴As a rule, a deadline shall be set for the fulfillment of the study and/or examination requirements. ⁵In this case, admission to the doctoral program is initially granted on a provisional basis subject to the fulfillment of the study and/or examination requirements. ⁶The final decision is made by the Doctoral Degree Committee.

§ 5

Admission as a Doctoral Student

(1) ¹At the beginning of the implementation of the doctoral project, the applicant shall register the doctoral project in writing with the Doctoral Office of the Dean's Office of the Faculty.

(2) ¹In the case of Germans and applicants who have the same status as Germans in accordance with the NRW Regulations for Awarding Doctoral Degrees, the subject-related and formal examination of the registration is carried out by the Doctoral Degree Committee, which decides on the admission as a doctoral student. ²Independently of this, the International Office of the University of Cologne is responsible for checking all foreign secondary school and university certificates. ³In the case of foreign applicants, the subject-related assessment is carried out by the Doctoral Degree Committee, which decides on the subject-related requirements for admission. ⁴In case of a subject-related approval by the Doctoral Degree Committee and a written confirmation of a supervisor according to § 14, the applicants shall address their application for admission to the doctoral program to the International Office [according to the regulation of admittance to studies for foreign applicants at the University of Cologne as amended].

(3) ¹The application shall be submitted in German or English. ²The following must be enclosed with the application

a) proof of university entrance qualification;

b) proof of university degrees (certificates, transcripts);

c) statement of a preliminary doctoral thesis topic (working title) and the doctoral subject;

d) the date of the planned or already effected start of the doctoral project;

e) as a rule, a commitment by a supervisor according to § 14 to take over the supervision of the doctoral project, whereby the supervisor may make the commitment to supervise dependent on the doctoral student's membership in the department's graduate school;

f) as a rule, either a confirmation about the registration in the Graduate School from the Graduate School of the Department in which the doctoral subject is represented, provided that the doctoral project will be carried out by the doctoral student as a member of the Graduate School, or a supervision agreement and a commitment of a second mentor according to § 14(2) to co-supervise the doctoral project.

(4) ¹In the case of interdisciplinary doctoral projects and doctoral projects which are not carried out at a scientific institution of the Faculty of Mathematics and Natural Sciences or at a scientific institution of a supervisor in accordance with § 14 paragraph 2, further evidence may be required; the Doctoral Degree Committee shall make the necessary determinations. ²This applies, among other things, to doctoral projects which are to be carried out under the supervision of a professor from other faculties of the University of Cologne in accordance with § 14(3) or an independent group

leader in accordance with § 14(6). ³If a doctoral project is not to be carried out at the University of Cologne or at a scientific institution of a supervisor in accordance with § 14, and if this doctoral project involves the acquisition and analysis of primary data or the generation of sample material, the doctoral project must be registered in accordance with paragraph 1 before the acquisition and analysis of primary data and the generation of sample material begins. ⁴Furthermore, the accessibility of the primary data and the archiving of this data as well as the availability of the experimental protocols and the sample and experimental materials are required for the review of the dissertation and for any examination that may take place in accordance with the rules of good scientific practice by the authorized body of the University of Cologne.

(5) ¹An applicant who has already once definitively failed a doctoral examination to obtain the degree of Dr. rer. nat. can not be admitted as a doctoral student.

(6) ¹The Doctoral Degree Committee shall decide on the existence of the prerequisites according to § 4 paragraphs 1 to 3 and, if necessary, on a conditional admission or a subject-specific approval subject to reservation according to § 4 (2), letter c and § 4(4). ²In addition to the information and evidence provided according to paragraph 3 and, if applicable, paragraph 4, further evidence and a description of the doctoral project may be requested from the applicant for the decision. ³A professional opinion from the Graduate School of the department representing the doctoral subject or from one of the department's representatives may be obtained for the decision. ⁴Further advisory opinions containing a professional statement may be obtained.

(7) ¹In case of a positive decision by the Doctoral Degree Committee, the applicant shall receive a notice of admission as a doctoral student or a notice of subject-specific approval in case of foreign applicants in accordance with paragraph 2 (in the following, notice of admission). ²In the case of conditional admission or conditional acceptance, admission is granted subject to the proviso that the studies or additional studies and/or examinations required to prepare for the doctorate are completed and proven in due time. ³The date of the notice of admission shall be the date of commencement of the doctorate in accordance with the Higher Education Statistics Act. ⁴In the event of a negative decision, a doctorate with the underlying doctoral project is no longer possible at the faculty. ⁵In the event of a negative decision, the applicant shall receive a corresponding notice of rejection, which shall be accompanied by instructions on how to appeal.

(8) ¹After receiving the notice of admission, the doctoral student must enroll as a doctoral student in the subject area of the doctoral subject at the University of Cologne.

(9) ¹The doctoral student is obliged to inform the Doctoral Office of the Dean's Office immediately if the supervision according to paragraph 3 letters e and f changes or if there are changes in the information given according to paragraph 3 letters c and d. ²If the student leaves the Graduate School, a supervision agreement and the commitment of a second supervisor according to paragraph 2 letter g should be submitted subsequently. ³If the supervisor has made supervision dependent on membership in the graduate school or if the supervisor's right to supervise doctoral students is restricted to members of graduate schools, the doctoral student shall obtain another supervisor.

(10) ¹The applicant and the doctoral student are obliged to cooperate in the business processes and procedures used at the University of Cologne; § 6 of the enrollment regulations of the University of Cologne, as amended, shall apply accordingly. ²Admission as a doctoral student and the application for admission to doctoral examinations require complete registration in the registration and administration software for doctoral students at the University of Cologne, including all information in accordance with the Higher Education Statistics Act. ³Once a year, the data stored in the system must be updated by all doctoral students in the manner required by the Doctoral Office.

§ 6

Admission to Doctoral Examinations

(1) ¹The doctoral student shall submit an application for admission to the doctoral examinations to the Doctoral Office of the Dean's Office of the Faculty.

(2) ¹The application can be made at the earliest 24 months after admission as a doctoral student according to § 5. ²The Doctoral Degree Committee decides on justified exceptions, for example in the case of a transfer of the doctoral student during the doctoral project from another university due to the supervisor being newly appointed to the faculty, or in the case of outstanding scientific results achieved within a shorter period of time.

(3) ¹The application shall be accompanied by:

a) the dissertation (§ 7) in at least four copies - three printed and hard-bound copies and one electronic version;

b) a curriculum vitae with photograph in German or English;

c) a statement of the doctoral subject, the doctoral topic and the supervisor;

d) a proposal of the doctoral student for the reviewers of the dissertation according to § 8;

e) a proposal of the doctoral student on the composition of the examination committee according to § 9(2);

f) a proposal of the doctoral student on the date of the thesis defense;

g) proof of participation in an advanced training course on good scientific practice, if the doctoral student is not a member of the graduate school of the department representing the doctoral subject;

(h) evidence of participation in required and elective courses offered by the department's graduate school, if the doctoral subject is represented by a graduate school and the doctoral student is a member of the graduate school;

i) a statement by the doctoral student as to whether they have already made an attempt - successful or unsuccessful - to obtain a doctoral degree or whether they are in the process of obtaining a doctoral degree or whether a doctoral degree has been withdrawn.

(4) ¹The Doctoral Degree Committee shall examine the application for admission to the doctoral examinations and decide on the reviewers of the dissertation in accordance with § 8, on the composition of the examination committee in accordance with § 9 and on the date of the thesis defense. ²The doctoral student shall receive a notice of admission to the doctoral examinations with names of the reviewers, the composition of the examination committee and the date of the thesis defense. ³In the event of a negative decision, the applicant shall receive a corresponding notice of rejection, which shall be accompanied by instructions on how to appeal.

(5) ¹The application for admission to the doctoral examinations may be withdrawn by the doctoral student without justification once, as long as the deadline for submission of the expert opinions has not yet expired.

(6) ¹A dissertation, which has not been supervised by a mentor in accordance with § 14, can only be accepted if the subject-specific character of the dissertation permits this in accordance with § 4(1), the primary data on which the dissertation is based, the experimental protocols and the sample and experimental material are accessible or secured in public databases, and a member of the group of professors of the Faculty of Mathematics and Natural Sciences who has the right in the corresponding doctoral subject according to § 14(1) can be appointed as a reviewer.

§ 7

Dissertation

(1) ¹The dissertation is a written doctoral thesis which must demonstrate the ability to conduct independent scientific work, including its presentation, and must contain scientifically significant results.

(2) ¹The dissertation must be written in German or English and in each case include a title page, an abstract, an overarching introduction, the presentation of the results, a concluding overarching discussion (with the exception of dissertations in the field of mathematics/computer science), a list of the resources and the literature used, as well as the declaration according to § 7(8). ²Further chapters and an appendix are possible.

(3) ¹Articles published in professionally accepted, peer-reviewed media, such as journals and textbooks, and manuscripts accepted for publication (in the following publication), as well as unpublished manuscripts, may be included as chapters in the dissertation, provided that the author's own contribution to the publications and manuscripts is substantial. ²Publications and manuscripts included must be preceded by a comprehensive, in itself intelligible explanation of their significance in the context of the dissertation. ³In the case of articles and manuscripts with several authors, it must become clear from this explanation which specific contributions were made by the doctoral student, both with regard to the results and in the writing of the article itself.

(4) ¹A dissertation is designated as monograph if fewer than three publications are included in it.

(5) ¹A dissertation is designated as cumulative if the presentation of the results includes at least three publications.

(6) ¹The form and content of the dissertation should be agreed upon by the doctoral student and the thesis advisory committee (in the case of members of a graduate school) or with the supervisor and the second supervisor (in the case of doctoral students who are not members of a graduate school) well in advance of submission. ²For dissertations in the subject field of physics, the inclusion of each individual publication and each unpublished manuscript, as well as the use of content from publications, must be approved by the thesis advisory committee (for members of a graduate school) or the supervisors (for doctoral students who are not members of a graduate school).

(7) ¹The provisions of good scientific practice apply to the dissertation. ²The dissertation may not have been submitted by the doctoral student in the same or similar form or in excerpts as part of another doctorate or another examination. ³However, the inclusion of results obtained in the context of one's own Master's, Diploma or Bachelor's thesis or the written term paper of the *Staatsexamen* is permitted if these are identified as such. ⁴If the results included from other and own work are not identified as such, the dissertation may be graded "nicht genügend / insufficiens (4)".

(8) ¹The dissertation must be accompanied by a declaration with the following wording:

„Hiermit versichere ich an Eides statt, dass ich die vorliegende Dissertation selbstständig und ohne die Benutzung anderer als der angegebenen Hilfsmittel und Literatur angefertigt habe. Alle Stellen, die wörtlich oder sinngemäß aus veröffentlichten und nicht veröffentlichten Werken dem Wortlaut oder dem Sinn nach entnommen wurden, sind als solche kenntlich gemacht. Ich versichere an Eides statt, dass diese Dissertation noch keiner anderen Fakultät oder Universität zur Prüfung vorgelegen hat; dass sie - abgesehen von unten angegebenen Teilpublikationen und eingebundenen Artikeln und Manuskripten - noch nicht veröffentlicht worden ist sowie, dass ich eine Veröffentlichung der Dissertation vor Abschluss der Promotion nicht ohne Genehmigung des Promotionsausschusses vornehmen werde. Die Bestimmungen dieser Ordnung sind mir bekannt. Darüber hinaus erkläre ich hiermit, dass ich die Ordnung zur Sicherung guter wissenschaftlicher Praxis und zum Umgang mit wissenschaftlichem Fehlverhalten der Universität zu Köln gelesen und sie bei der Durchführung der Dissertation zugrundeliegenden Arbeiten und der schriftlich verfassten Dissertation beachtet habe und verpflichte mich hiermit, die dort genannten Vorgaben bei allen wissenschaftlichen Tätigkeiten

zu beachten und umzusetzen. Ich versichere, dass die eingereichte elektronische Fassung der eingereichten Druckfassung vollständig entspricht." ¹

²In the case of dissertations with incorporated articles and manuscripts according to paragraph 5, only the independently written part constitutes the dissertation in the sense of the assurance. ³If the affirmation in lieu of oath was made falsely, the legal consequences of § 63(5) HG may apply.

(9) ¹If the dissertation involves the acquisition of primary data or the analysis of such data, or if the reproducibility of the results presented in the dissertation requires the availability of data analyses, experimental protocols or sample material, the dissertation shall state how these data and materials are secured and accessible. ²If this statement was made falsely, the legal consequences of § 63(5) HG may apply.

(10) ¹After passing the doctoral examination in accordance with § 11, the dissertation must be published in accordance with § 12.

§ 8

Evaluation and Assessment of the Dissertation

(1) ¹At least two expert opinions shall be obtained for the assessment of the dissertation. ²The reviewers of the dissertation shall be appointed by the Doctoral Degree Committee. ³In appointing the reviewers, the principles of the University of Cologne concerning bias shall be observed. ⁴The person who supervised the doctoral project in accordance with § 5 paragraph 2 letter f may be appointed as a reviewer for one of these reviews. ⁵As a rule, a person from the group of persons according to § 14 or a professor of a German university shall be appointed as the second reviewer. ⁶A professor of a foreign university or a person working in an equivalent position at another research institution who fulfills the professional requirements specified in § 14 may also be appointed as a second reviewer, provided that they are familiar with the German doctoral system. ⁷The second reviewer should in particular not be a cooperation partner of the doctoral student or co-author of a publication or manuscript of the doctoral student and must belong to a different research group than the doctoral student and the first reviewer. ⁸If only one of the reviewers is a professor of the Faculty of Mathematics and Natural Sciences, this reviewer is usually a University professor working full-time at the faculty.

(2) ¹In special cases, the Doctoral Degree Committee may consult additional reviewers, for example a second supervisor, if the dissertation was carried out in cooperation with a university of applied sciences, a foreign university or a research institution. ²These additional reviewers must meet the professional requirements specified in § 14.

(3) ¹An additional reviewer shall be appointed in addition to the reviewers pursuant to paragraphs 1 and 2 if the grade proposals differ by more than one grade. ²The grade proposal of this additional reviewer shall be included in the calculation of the grade in accordance with § 11(2).

1 Declaration in English: "*I hereby affirm in lieu of oath that I have prepared this dissertation independently and without the use of any resources or literature other than those indicated. All passages that have been taken verbatim or in spirit from published and unpublished works are marked as such. I affirm in lieu of oath that this dissertation has not yet been submitted to any other faculty or university for examination; that it has not yet been published - apart from partial publications and incorporated articles and manuscripts as indicated below - and that I will not undertake publication of the dissertation before completion of the doctorate without the approval of the Doctoral Degree Committee. I am aware of the provisions of these doctoral regulations. Furthermore, I hereby declare that I have read the Regulations of the University of Cologne for Safeguarding Good Scientific Practice and for Dealing with Scientific Misconduct and that I have observed them in carrying out the work underlying the dissertation and in writing the dissertation, and I hereby undertake to observe and implement the requirements stated therein in all scientific activities. I affirm that the submitted electronic version corresponds completely to the submitted printed version.*"

(4) ¹An independent external reviewer shall be appointed in addition to the reviewers pursuant to Paragraphs 1 and 2 if the dissertation has been evaluated by all reviewers with the grade "0" = with distinction (summa cum laude). ²This external reviewer should be a University professor or work in an equivalent position at a research institution and must fulfil the professional requirements specified in § 14. ³The grade proposal of this additional reviewer shall be included in the calculation of the grade in accordance with § 11(2).

(5) ¹The reviewers shall review the dissertation independently of each other. ²They recommend acceptance or rejection of the dissertation and they grade the dissertation in accordance with § 11.

(6) ¹The reviewers may use electronic plagiarism software.

(7) ¹The review should take place within four weeks. ²In justified exceptional cases, the Doctoral Degree Committee may grant an extension of the deadline to a maximum of three months. ³If the review is not submitted after the (extended, if applicable) deadline, as a rule the review assignment shall expire and the Doctoral Degree Committee shall appoint a new reviewer.

(8) ¹If there are objections to the research approach, the conduct of the research, the research results or their presentation that stand in the way of acceptance of the thesis, a reviewer may recommend to the Doctoral Degree Committee that acceptance of the thesis be made dependent on prior revision. ²If the Doctoral Degree Committee follows this recommendation, the revision of the dissertation must take place within a period of 12 months. ³This period may be extended in exceptional cases by the chairperson of the Doctoral Degree Committee in agreement with the reviewers. ⁴With the new version, the original version shall be resubmitted, if necessary with the comments of the reviewers.

(9) ¹If objections to the presentation and style prevent publication of the thesis in the form submitted, the reviewers of the thesis may, in consultation with the Doctoral Degree Committee, recommend that the thesis be accepted subject to amendments that must be completed for the doctoral degree to be awarded. ²The fulfillment of these amendment requirements shall be confirmed by the reviewers. ³If only one reviewer considers the amendments to be not fulfilled, the chairperson of the Doctoral Degree Committee shall decide whether the amendments are to be considered fulfilled.

(10) ¹The reviews, together with the dissertation and amendment requirements imposed in accordance with Paragraph 9, if any, shall be available for inspection by the professors of the Faculty for five days in the doctoral office of the Dean's Office. ²The professors of the Faculty may raise a reasoned objection to the acceptance or rejection of the dissertation as well as to the proposed grade within the time limits specified in Paragraphs 11 and 12.

(11) ¹The dissertation is accepted if the reviewers have recommended acceptance and no justified objection is raised by one of those entitled to inspect the dissertation in accordance with paragraph 10 within five days of the expiry of the time limit for the display of the dissertation. ²An objection may also be raised to the proposed grades and amendment requirements (paragraph 9). ³If an objection is raised, the Doctoral Degree Committee may obtain a further expert opinion on the dissertation. ⁴Paragraph 10 shall apply accordingly in this case. ⁵The final decision on the acceptance or rejection of the dissertation shall be taken by the Doctoral Degree Committee. ⁶Notwithstanding this, Paragraph 9 shall apply; in this case, acceptance of the dissertation shall be provisional.

(12) ¹If only one reviewer recommends rejection of the dissertation (evaluation with a grade of 4 = insufficient), the Doctoral Degree Committee shall arrange for the dissertation to be re-examined by another reviewer who shall be a University professor or who holds an equivalent position at a research institution and who fulfills the professional requirements specified in § 14. ²Paragraph 10 shall apply accordingly in this case. ³The dissertation shall be deemed to have been rejected if half of the reviews (but at least two reviews) recommend rejection of the dissertation and a reasoned objection has not been raised within four weeks of the expiry of the period for display in accordance with paragraph 10. ⁴The final decision on the rejection of a dissertation shall be made by the Doctoral

Degree Committee. ⁵In the event of rejection of the dissertation, the doctoral student shall receive a written notification with instructions on how to appeal. ⁶A rejected dissertation shall remain on file with the faculty along with all expert opinions.

§ 9

Thesis Defense

(1) ¹The thesis defense is an oral examination in which the dissertation is defended before an examination committee. ²The thesis defense takes place after acceptance of the dissertation or after provisional acceptance of the dissertation in accordance with § 8(9).

(2) ¹The examination committee is appointed by the Doctoral Degree Committee. ²As a rule, its examiners include the two reviewers of the dissertation in accordance with § 8(1) and a University professor of the faculty as chairperson. ³The chairperson should have the right to supervise in a different doctoral subject than the doctoral subject of the doctoral project or belong to a different institute of the faculty than the supervisor of the doctoral project. ⁴The thesis defense is also attended by an assessor who must have a doctorate (Dr. rer. nat. or equivalent) and who takes the minutes. ⁵At least two members of the examination board shall be professors and members of the faculty, at least one of whom shall be a University professor working full-time at the faculty. ⁶Other reviewers who may have been appointed in accordance with § 8 paragraphs 2, 3, 4, 11 and 12 and, if applicable, another person in accordance with paragraph 3 may be additional members of the examination committee as examiners. ⁷In the case of a doctorate within the framework of a graduate program established jointly by a scientific institution of the Faculty of Mathematics and Natural Sciences and another university, the examination committee may be extended to include professors of the participating university who are members of the graduate program as additional examiners.

(3) ¹The chairperson of the Doctoral Degree Committee or their deputy shall have the right to participate in each thesis defense as an additional examiner of the examination committee. ²As a rule, they shall exercise this right when the thesis defense is repeated.

(4) ¹The thesis defense shall be conducted in German or English. ²The language shall be chosen by the doctoral student. ³If the doctoral student or a member of the examination committee does not speak German or English sufficiently well, the thesis defense shall be held in the language that all participants speak sufficiently well.

(5) ¹The thesis defense begins with a presentation of about 20 minutes by the doctoral student on the dissertation. ²This is followed by a colloquium in which only the members of the examination committee are entitled to ask questions. ³The chairperson of the examination committee may grant the assessor the right to ask questions. ⁴The colloquium shall extend from the presentation and the factual and methodological basis of the dissertation to areas of the doctoral subject adjacent to the dissertation topic. ⁵The thesis defense shall last at least one hour and at most one and a half hours.

(6) ¹The thesis defense is open to the university public, unless the doctoral student or the supervisor objects. ²It shall be announced by notice or in an online portal of the department or faculty. ³The chairperson of the examination committee shall allow an appropriate number of listeners. ⁴With the consent of the doctoral student, the chairperson may admit listeners from outside the university. ⁵The members of the Doctoral Degree Committee have the right to participate in the thesis defense as listeners. ⁶The listeners have no right to participate in the examination. ⁷The chairperson of the examination committee may exclude members of the audience if the proper conduct of the thesis defense appears to be at risk. ⁸The reasons for this shall be recorded in the minutes.

§ 10

Assessment of the Thesis Defense

- (1) ¹After the conclusion of the thesis defense, the examination board shall retire for a non-public meeting at which the assessor shall be heard. ²The examination board shall set a grade for the thesis defense in accordance with § 11.
- (2) ¹Each examiner shall propose a grade in accordance with § 11, from which the final grade for the thesis defense shall then be calculated in accordance with § 11(2).
- (3) ¹The thesis defense is not passed if the grade is 3.5 or worse or if at least half of the examiners plead for the grade "4" (= not sufficient, insufficiens).
- (4) ¹If a doctoral student fails to appear at the thesis defense without good cause to be demonstrated by them, or if they abandon the thesis defense prematurely, the thesis defense shall be deemed as failed.
- (5) ¹The doctoral student shall be informed orally of the assessment without delay. ²If the thesis defense is not passed, the chairperson of the Doctoral Degree Committee shall also notify the doctoral student in writing. ³The decision shall be accompanied by instructions on how to appeal.
- (6) ¹A failed thesis defense may be repeated once within six months. ²If the retry is not passed or if it is not taken in due time for reasons for which the doctoral student is responsible, the doctoral degree is definitively failed.
- (7) ¹The minutes of the thesis defense shall be placed in the doctoral files by the examination committee.
- (8) ¹The persons involved in the thesis defense are obligated to investigate doubts about the regularity of the thesis defense and its assessment and to address doubts with all persons involved in the doctoral project concerned.

§ 11

Grading scale of the Dissertation and Thesis Defense and overall Grade of the Doctorate

- (1) ¹The following grades shall be used for the evaluation of the dissertation and the thesis defense:
0 = with distinction (summa cum laude): for exceptionally high scientific achievement
1 = very good (magna cum laude): in the case of above-average scientific performance
2 = good (cum laude): for a scientific performance that meets average requirements
3 = sufficient (rite): for a scientific performance that still meets the requirements
4 = insufficient (insufficiens): in the case of a scientific performance that no longer meets the requirements due to considerable deficiencies.
²For differentiated assessment, the grades 1 to 3 can be increased or decreased by 0.3 or the intermediate values 1.5 and 2.5 can be given. ³The grade 3.3 is excluded.
- (2) ¹The grade of the dissertation respectively the thesis defense is calculated as the arithmetic mean of the proposed grades of all reviewers or examiners. ²Of this mean value, only the first decimal place after the decimal point is taken into account; all other digits are deleted without rounding. ³If the dissertation is rejected in accordance with § 8 paragraph 12, it will be given the grade "4" (insufficient, insufficiens). ⁴If the thesis defense is not passed in accordance with § 10, it shall be given the grade "4" (not sufficient, insufficiens).
- (3) ¹The doctorate is passed if the dissertation is accepted and the thesis defense is passed. ²The overall grade of the doctorate is calculated as a weighted average of the overall grade of the

accepted dissertation and the overall grade of the passed thesis defense, whereby the overall grade of the dissertation is weighted twice and the overall grade of the thesis defense is weighted once.³Of this mean value, only the first decimal place after the decimal point shall be taken into account; all further digits shall be deleted without rounding.

(4) ¹Scores that result as averaged values are named as follows

for 0 = with distinction (summa cum laude)

from 0.1 to 1.4 = very good (magna cum laude)

from 1.5 to 2.4 = good (cum laude)

from 2.5 to 3.4 = sufficient (rite)

from 3.5 to 4.0 = insufficient (insufficiens).

²The grade "0" (with distinction, summa cum laude) is awarded for the dissertation and the thesis defense respectively only if all reviewers of the dissertation or all examiners of the thesis defense have suggested this grade.

³If both the thesis defense and the dissertation have been assessed with the grade "0" = "with distinction", the overall grade of the doctorate shall be "with distinction / summa cum laude".

§ 12

Publication of the Dissertation

(1) ¹After passing the doctoral examinations, the doctoral student shall publish the dissertation in an appropriate form. ²In this context, chapters that have already been published or accepted for publication may be replaced by a literature reference.

(2) ¹Publication may take place in the following forms:

(a) in electronic form on the university server KUPS and additional submission of four bound copies to the University and City Library of Cologne;

b) by private printing and submission of 20 bound copies to the University and City Library of Cologne;

c) in a publishing house with ISBN or ISSN and submission of six bound copies to the University and City Library of Cologne.

²The publication must contain a note on the title page or on the back of the title page stating that it is a dissertation accepted by the Faculty of Mathematics and Natural Sciences of the University of Cologne; the year of the thesis defense must be mentioned. ³In cases b) and c), electronic versions of the summary of the dissertation shall be published on the university server KUPS in German and in English.

(3) ¹An additional bound copy of the published version of the dissertation must be submitted to the doctoral office of the Dean's Office. ²In addition, an electronic version of the published version of the dissertation must be submitted to the doctoral office.

(4) ¹Publication and submission of the deposit copies must take place within one year after passing the thesis defense. ²Upon justified application, the Doctoral Degree Committee may extend this period by one year at a time, but to a maximum of five years.

§ 13

Certificate, provisional title and conferral of the Doctoral Degree

(1) ¹When the doctoral examination is passed in accordance with §11 the doctorate is completed and the doctoral student receives a certificate signed by the Dean and bearing the seal of the Faculty and the date of the thesis defense. ²This certificate contains the title of the dissertation, the overall grades of the dissertation and the thesis defense as well as the overall grade of the doctorate, the names of the reviewers and the members of the examination committee, as well as the date of admission to the doctoral program and the date of the thesis defense. ³The certificate does not entitle the holder to use the doctoral degree.

(2) ¹After publication of the dissertation in accordance with § 12, the graduate shall receive a certificate of conferral of the doctoral degree, made out on the day of the thesis defense, signed by the Dean and bearing the seal of the Faculty. ²The certificate shall state the title of the dissertation and the overall grade of the doctorate in accordance with § 11. ³In addition to the seal of the faculty, the certificate may bear the seal of a graduate school or a cooperation partner. ⁴The doctorate is completed when the certificate is handed over. ⁵The doctoral degree may not be used before the certificate has been issued.

(3) ¹Upon application, the doctoral student may be granted permission to provisionally use the doctoral degree before the deposit copies are submitted in accordance with § 12(2), if the dissertation has been accepted and is ready for printing and an important reason for not publishing the dissertation can be demonstrated. ²An important reason exists in particular if the dissertation or parts of the dissertation have been accepted for publication by a journal or publishing house and prior publication of these parts is not permitted under the underlying contract, or if this is necessary for the protection of intellectual property because otherwise the registration of industrial property rights would be jeopardized, if publication is dependent on the consent of third parties, or if scientific data directly related to the dissertation are to be published in another manner first. ³Such permission shall be valid for a period of two years after passing the doctoral examination. ⁴It may be withdrawn if the doctoral student unduly delays or makes impossible the publication of the dissertation by their conduct. ⁵Upon application, the Doctoral Degree Committee may extend the period by one year at a time, up to a maximum of five years.

§ 14

Supervisors of Doctoral Projects

(1) ¹Supervisors of doctoral projects must hold a doctorate in mathematics or the natural sciences or in a subject related to the subject of the doctoral project, must have accomplished scientific research beyond their dissertation, and must meet the requirements for the right to supervise doctoral theses set out in paragraphs 2 to 10.

(2) ¹Professors, as well as private lecturers employed full-time at the University of Cologne, who are members of the Faculty of Mathematics and Natural Sciences and fulfill the requirements according to paragraph 1, may supervise doctoral projects. ²This also applies to private lecturers of the Faculty of Mathematics and Natural Sciences who are not employed full-time at the University of Cologne, provided that they fulfill the requirements according to paragraph 1 and can provide evidence of scientific research achievements in the form of publications or patents for the last five years.

(3) ¹Professors who are members of other faculties of the University of Cologne may be granted the right to supervise doctoral projects upon application, provided that they meet the requirements pursuant to paragraph 1. ²This right may be granted on a restricted basis, such as on a case-by-case basis, for a specific period of time, on condition that the doctoral project has been examined professionally or that it is carried out in a graduate school of a department of the faculty. ³The right

may further be restricted to doctoral projects carried out at the academic institution where the university teacher is employed full-time.

(4) ¹Professors who are members of other universities and who meet the requirements of paragraph 1 may be granted the right to supervise doctoral dissertations upon application, provided that they are members of a graduate program/graduate college that is established and supported jointly with an academic institution of the Faculty of Mathematics and Natural Sciences. ²As a rule this right is granted on a limited basis for the supervision of doctoral projects that are carried out as part of the joint graduate program/ or graduate college and are co-supervised by a professor of the Faculty of Mathematics and Natural Sciences.

(5) ¹Independent group leaders who are members or affiliates of the Faculty of Mathematics and Natural Sciences and who fulfil the requirements according to paragraph 1 may be granted the right to supervise doctoral projects upon application. ²An independent group leader is employed full-time at a scientific institution, conducts independent research and heads their own research group. ³They have personnel responsibility, budget responsibility and the necessary basic equipment or access to the infrastructure and all necessary resources. ⁴They have been selected in a competitive procedure and are in the process of qualifying for scientific leadership positions, especially for appointment to a professorship. ⁵The right to supervise doctoral projects is generally granted for a limited period of time for the period of activity as a group leader and can be limited to doctoral projects that are carried out under the direct supervision of the group leader and are embedded in a graduate school of the Faculty of Mathematics and Natural Sciences.

(6) ¹Independent group leaders (according to paragraph 5, clauses 2 to 4) who are members of other faculties of the University of Cologne or who work at a research institution with which the Faculty of Mathematics and Natural Sciences cooperates and who fulfill the requirements according to paragraph 1 may be granted the right to supervise doctoral projects upon application. ²The group leader should be a member of a scientific institution or a coordinated program that is established or promoted jointly with a scientific institution of the Faculty of Mathematics and Natural Sciences. ³This right is generally granted only for doctoral projects conducted under the direct supervision of the group leader and in a graduate school of a department of the Faculty of Mathematics and Natural Sciences, and only for the period of activity as group leader.

(7) ¹The right to supervise doctoral projects may only be exercised in one of the doctoral subjects (Appendix 1), unless other arrangements have been made in an appointment or habilitation procedure (e.g. overarching subject designation or granting of the *venia legendi* for two doctoral subjects) or in a resolution of the Faculty Council for an individual case. ²This right may be extended by the Faculty Council to an additional doctoral subject.

(8) ¹The right to supervise doctoral projects may continue to be exercised by professors of the Faculty of Mathematics and Natural Sciences for up to three years after appointment to another faculty, university or research institution or after retirement. ²The right to supervise doctoral projects in accordance with paragraphs 3 to 6 may be extended upon application for up to three years in individual cases for the purpose of supervising doctoral projects already commenced in the event of a change in activity, employment or begin of retirement.

(9) ¹In the case of joint research projects or cooperation with universities of applied sciences, a professor from the university of applied sciences shall be involved in the supervision of the doctoral student and may be appointed as a reviewer pursuant to § 8 and as an examiner pursuant to § 9.

(10) ¹The supervisor is obliged to comply with the rules of good scientific practice and to support the doctoral student in complying with the rules of good scientific practice.

§ 15

Ombudsperson

(1) ¹The Faculty Council shall elect an ombudsperson and a deputy. ²The ombudsperson must be a University professor for life. ³Re-election is possible. ⁴If the ombudsperson resigns or withdraws, a new ombudsperson shall be elected. ⁵In the event of the resignation or withdrawal of the deputy, a new election of the deputy shall be held.

(2) ¹The ombudsperson and their deputy shall be persons of trust for the doctoral students in conflict situations arising in connection with their doctoral studies or the doctorate.

§ 16

Doctoral Procedure with a Foreign University (Cotutelle)

(1) ¹A joint doctoral procedure with a foreign university provides for joint supervision of the doctoral project, joint assessment of the dissertation, and a joint thesis defense in a manner that meets the requirements of the doctoral regulations of the Faculty of Mathematics and Natural Sciences of the University of Cologne and the foreign partner university involved.

(2) ¹The conditions of the joint doctoral project may be determined either by a framework agreement or by an individual agreement between the Faculty of Mathematics and Natural Sciences of the University of Cologne and the foreign university. ²Agreements to this effect must be approved by the Doctoral Degree Committee. ³The doctoral regulations shall apply to the doctorate in the version valid at the time of conclusion of the agreement, unless otherwise stipulated in this agreement.

(3) ¹The agreement pursuant to paragraph 2 shall regulate the following matters, whereby these may replace the provisions of these doctoral regulations:

a) the supervisors of the doctoral student by the Faculty of Mathematics and Natural Sciences according to § 14 and by the partner university;

b) the minimum stays of the doctoral student at the partner institutions and the financing of the research stays and travels;

c) the enrolment at the University of Cologne respectively the partner university;

d) the sequence of the examinations, i.e. the dissertation and the thesis defense, and the language in which they are to be conducted;

e) framework requirements for the appointment of the dissertation reviewers;

f) framework requirements for the composition of the examination committee for the thesis defense;

g) the evaluation of the doctoral performance (dissertation and thesis defense), as a rule the participating universities employ their respective evaluation systems, even if these are different;

h) the publication of the dissertation;

i) the joint doctoral certificate of the participating universities or the doctoral certificates of the participating universities.

(4) ¹Access to joint doctoral studies with a foreign university requires that the applicant fulfills the requirements for access to doctoral studies according to § 4 at the Faculty of Mathematics and Natural Sciences of the University of Cologne and submits the evidence according to the agreement when registering the doctoral project.

(5) ¹After successful completion of the doctoral studies and publication of the dissertation, as a rule a joint bilingual doctoral certificate is issued with reference to the joint doctoral studies at the University of Cologne and the foreign partner university and statement of the jointly awarded doctoral

degree or doctoral degree to be awarded in the respective country concerned and signed and sealed by both cooperation partners. ²If a joint doctoral degree certificate cannot be issued, two certificates referring to the binational doctoral program shall be issued, which shall be valid only jointly and shall indicate that only a single doctoral degree is awarded, which may be held either in the German form or in the form of the foreign partner university.

§ 17

Joint Doctoral Procedure with a German University of Applied Sciences

- (1) ¹The Faculty of Mathematics and Natural Sciences of the University of Cologne shall develop doctoral studies in cooperation with German universities of applied sciences as defined by § 67 of the Higher Education Act (HG), in which the performing of doctoral work is jointly supervised.
- (2) ¹Admission to joint doctoral studies with a German university of applied sciences requires prior admission to doctoral studies at the Faculty of Mathematics and Natural Sciences of the University of Cologne in accordance with § 4. ²Admission to joint doctoral studies shall subsequently be granted by concurrent declarations of intent by the Faculty of Mathematics and Natural Sciences of the University of Cologne and the German university of applied sciences.
- (3) ¹The conditions of the joint doctoral studies shall be laid down for the individual case in an agreement between the University of Cologne and the German university of applied sciences. ²Agreements to this effect require approval by the Doctoral Degree Committee.
- (4) ¹Joint doctoral studies with universities of applied sciences shall be conducted at the Faculty of Mathematics and Natural Sciences of the University of Cologne in accordance with the provisions of these doctoral regulations. ²Individual matters of these doctoral regulations may be replaced by equivalent regulations recorded in the agreement. ³The replacement of these regulations is subject to the approval of the Doctoral Degree Committee.

§ 18

Withdrawal and not-awarding of the Doctoral Degree, revocation of the Doctorate and withdrawal of admission to Doctoral Studies

- (1) ¹The doctoral degree may be withdrawn, the granting of the doctoral degree may be withheld, the grade of the doctorate may be assigned as "unsatisfactory", and admission as a doctoral student may be withdrawn,
 - a) if it subsequently transpires that the doctoral student or graduate intentionally deceived about the existence of essential requirements for admission to doctoral studies or admission to doctoral examinations;
 - b) if it is subsequently found that the doctoral degree was obtained on the basis of incorrect information about essential requirements for the doctoral degree or by means of deception;
 - c) if it is subsequently found that the graduate was guilty of deception in the performance of the doctoral work;
 - d) if the authorized office of the University of Cologne has found scientific misconduct in connection with the dissertation;
 - e) if the doctoral student or graduate has been convicted of an intentional criminal offense in the preparation or commission of which the status of doctoral student or the doctoral degree was abused.
- (2) ¹If circumstances become known which may justify the withdrawal or not-awarding of the doctoral degree or the assessment of examination performance with "not sufficient" according to paragraph 1, the Faculty Council shall make the decision. ²The graduate or the doctoral student shall be given

the opportunity to comment beforehand. ³The Doctoral Degree Committee shall be heard prior to the decision. ⁴If circumstances become known which justify the withdrawal of admission as a doctoral student to the doctoral program in accordance with paragraph 1, the Doctoral Degree Committee shall make the decision, and the doctoral student or graduate shall be given the opportunity to comment beforehand. ⁵The decision shall be taken within one year of knowledge of the facts justifying the not-awarding or withdrawal of the degree. ⁶If the doctorate was awarded in cooperation with a foreign partner faculty or a university of applied sciences, the decision on the withdrawal shall be made with their participation. ⁷The provisions of the Administrative Procedure Act for the State of North Rhine-Westphalia (VwVfG NRW) shall apply to this procedure.

(3) ¹After the decision on the withdrawal of the doctoral degree, the doctoral certificate as well as the certificate pursuant to § 13(1) shall be declared invalid and confiscated.

§ 19

Doctoral File, Inspection of Files and Retention Periods

(1) ¹A doctoral file shall be kept for each doctoral student. ²The doctoral file in particular shall document registration and admission to doctoral studies, registration and access to doctoral examinations, the dissertation and the dissertation reviews, the examination committee for the thesis defense, the thesis defense minutes, the assessment of the dissertation and thesis defense and the calculation of the overall grade for the doctorate, proof of publication of the dissertation, and copies of the certificates and documents. ³The doctoral file shall be kept in writing or, in whole or in part, electronically.

(2) ¹After the assessment of the dissertation and thesis defense has been announced, and upon written application, the doctoral student or an authorized representative shall be granted access to his or her written performance in these examinations and the respective expert opinions and correction notes as well as to the minutes of the thesis defense. ²In the context of this inspection, the doctoral student or their authorized representative must be given the opportunity to make either copies or photographs of the documents. ³The application for inspection of records must be submitted to the doctoral office of the Dean's Office. ⁴The doctoral office shall determine the place and time of inspection.

(3) ¹The doctoral file as well as the data collected in accordance with the enrolment regulations of the University of Cologne, as amended from time to time, shall be retained in the case of discontinuation of the doctorate until the end of the third year following the doctorate period and in the case of successful completion until the end of the fifth year following the completion of the doctorate and subsequently offered to the responsible archive; if the archive refuses to accept it, it may be destroyed. ²The academic degrees awarded and a catalogued collection of the period of study for the doctorate, the date on which the certificate was awarded, the details of the supervision of the doctorate, the reviews of the doctoral thesis and the members of the examination board, the certificates and documents issued are permitted to be kept in a register until the end of the fiftieth year following the completion of the doctorate; clause 1, second half-sentence shall apply accordingly. ³If the doctorate is discontinued, the period of study for the doctorate and the details of supervision may be retained in a catalogued collection until the end of the tenth year following the discontinuation of the doctorate; clause 1, second half-sentence shall apply mutatis mutandis.

§ 20

Transitional Provisions

(1) ¹These doctoral regulations shall apply to all those who have applied for admission to doctoral studies after the entry into force of these regulations.

(2) ¹These doctoral regulations shall also apply, as a rule, to all doctoral students who have registered their intention to study for a doctorate with the Doctoral Office of the Dean's Office before these regulations came into force. ²Upon application, these doctoral students shall be treated in accordance with the doctoral regulations of February 02, 2006 (Official Notices 17/2006), last amended by regulations of April 21, 2014 (Official Notices 05/2014). ³The application must be submitted in writing to the Doctoral Degree Committee at the latest when registering for the doctorate in accordance with § 6 of these regulations or in accordance with § 4 of the doctoral regulations of 02 February 2006, last amended by regulations of 21 April 2014, but no later than two years after these regulations come into force.

§ 21

Entry into force

¹These Doctoral Regulations shall enter into force on the day following their publication in the Official Notices. ²The regulations shall be published in the Official Notices of the University of Cologne. ³Issued on the basis of the resolution of the Faculty of Mathematics and Natural Sciences of January 23, 2020, and after review of legality by the Rectorate of the University of Cologne of March 10, 2020.

Cologne, March 12, 2020

Signed.

The Dean of the Faculty of Mathematics and Natural Sciences of the University of Cologne Univ.-
Prof. Dr. Günter Schwarz

Appendix 1

¹Explanation: The assignment of the doctoral subjects to one or to two subject areas represented by the departments according to § 4 paragraph 1 is determined as follows:

Doctoral subject	Subject area and department						
	Biology	Chemistry	Didactics of Mathematics and Natural Sciences	Geosciences	Mathematics / Informatics	Physics	
Biology	x						
Computational Biology	x						
Biochemistry	x	x					
Chemistry		x					
Biology Education			x				
Chemistry Education			x				
Geography Education			x				
Primary Science and Social Sciences Education			x				
Mathematics Education			x				
Physics Education			x				
Geography				x			
Geology and Mineralogy				x			
Geophysics				x			
Crystallography				x			
Meteorology				x			
Applied Mathematics					x		
Computer Science					x		
Pure Mathematics					x		
Biophysics	x					x	
Experimental Physics						x	
Theoretical Physics						x	

²Enrolment for doctoral studies shall be in the doctoral program of the respective subject area represented by the department, i.e. Biology or Biological Sciences (GS) in the case of members of the Graduate School of the Department of Biology, Chemistry, Geosciences, Mathematics/Computer Science, Physics, and Didactics of Mathematics and Natural Sciences, respectively. ³The doctoral subjects and their assignment to the departments, each of which represents a subject area, as well as the subject of the doctoral program, may be changed by resolution of a 2/3 majority of the Faculty Council.