

EXAMPLE of DOCTORAL REGULATIONS

DOCTORAL REGULATIONS

FOR THE FACULTY OF

ELECTRICAL ENGINEERING, INFORMATION TECHNOLOGY AND PHYSICS (FK EITP)

AT TECHNISCHE UNIVERSITÄT

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Preamble

The Faculty Council for the Faculty of Electrical Engineering, Information Technology, Physics (FK EITP) at Technische Universität Braunschweig (TU Braunschweig) passed these Doctoral Regulations on January 13, 2014, on the basis of the Niedersächsische Technische Hochschule's Framework Doctoral Regulations (RPO-NTH) in the version from July 15, 2011. In these FK EITP Doctoral Regulations, specific and supplemental provisions beyond those in the RPO-NTH are also included. To the extent necessary to preserve the disciplines' identity, specific basic principles that exist in the natural sciences and engineering sciences will be considered with discipline-related and, if required, separate provisions.

§ 1 Area of Applicability and Responsibilities

- (1) These Doctoral Regulations apply to the Faculty of Electrical Engineering, Information Technology, Physics at TU Braunschweig (FK EITP) and governs doctorates in the disciplines represented at the FK EITP.
- (2) If no other provisions are made in these Regulations, the Dean acts on behalf of the Faculty for doctorates for the degree Dr. rer. nat., and the Faculty Council acts on behalf of the Faculty for doctorates for the degree Dr.-Ing. Requests pertaining to doctorates must always be submitted in writing to the FK EITP's Dean. The FK EITP's Dean will notify affected parties with a written notice of decisions taken on doctoral matters by the responsible office.

§ 2 Right to Award Doctorates and Doctoral Degrees

- (1) According to § 9(1) of the Lower Saxony Higher Education Act (NHG) from February 26, 2007 (Lower Saxony Law Gazette 2007, p. 69), in the respectively valid version, the FK EITP awards the degree of Doctor of Natural Sciences (Dr. rer. nat.) in the natural-scientific disciplines represented by the FK EITP and the degree of Doctor of Engineering (Dr.-Ing.) in the engineering disciplines represented by the FK EITP for scientific achievements in the appropriate form. The degree Dr. rer. nat. or Dr.-Ing. can each only be awarded once to an applicant.
- (2) According to § 20, the FK EITP can also award the degree Honorary Doctor of Natural Sciences (Dr. rer. nat. h. c.) or the degree Honorary Doctor of Engineering (Dr.-Ing. E. h.).

§ 3 Purpose and Forms of Doctorates

- (1) The doctorate serves to prove the applicant's ability to work in-depth and independently on an academic topic from among the subject areas represented at the FK EITP.
- (2) Proof is given in the form of a written academic work (dissertation) according to § 10 and an oral examination according to § 12. The oral examination is carried out according to § 12(3) letter a for the degree Dr. rer. nat. and according to § 12(3) letter b for the degree Dr.-Ing.
- (3) Those who were admitted by the FK EITP as a doctoral candidate according to § 6 should enrol at TU Braunschweig as a doctoral student according to § 9(2) NHG.
- (4) A doctorate with the aim of obtaining the degree Dr. rer. nat. or Dr.-Ing. can be carried out in the context of a Structured Doctoral Programme at the FK EITP or another TU Braunschweig faculty in which the FK EITP participates if such a Structured Doctoral Programme is offered.

For the Structured Doctoral Programme, the following provisions apply in addition to these Regulations:

- a) The doctoral candidates must enrol for at least four semesters as doctoral students at TU Braunschweig's FK EITP. If the entry requirements according to § 5 have not yet been fulfilled at the time of enrolment, upon request the doctoral candidate can be accepted as a doctoral student under the condition that proof that the entry requirements are fulfilled must be submitted by the time the doctoral examination process is initiated.
- b) Doctoral candidates must successfully participate in at least four soft-skills workshops. The FK EITP will offer these workshops free of charge for the doctoral candidates. For structured doctoral programmes in which the FK EITP participates, the same applies. The requirement for participating in these workshops is that at the time of workshop the doctoral candidate is enrolled as a doctoral student in the FK EITP at TU Braunschweig.
- c) In exceptional cases, it is possible for doctoral candidates to have appropriate soft skill qualifications recognised that they obtained in other ways. The supervisor or mentor reviews whether the qualification can be considered equivalent. For each course recognised, the minimum duration of the programme according to letter a is reduced by one semester, but a maximum of three semesters may be deducted from the minimum duration.

§ 4 Mentors for Doctorates for the Degree Dr. rer. nat.

- (1) For doctorates for the degree Dr. rer. nat., the applicants must select a mentor at the latest by the time they are admitted to the process according to § 6.
- (2) When agreeing to be a mentor, the mentor declares the willingness to supervise the applicant before the doctoral examination process is initiated and during the process. The mentor advises the Faculty in regard to quality, originality and adherence to academic standards in the respective doctoral examination process.
- (3) Mentors can be:
 - a) members of the group of FK EITP professors who work at one of the institutes in the area of physics,
 - b) FK EITP retired and emeritus professors who worked at one of the institutes in the area of physics and honorary professors at the FK EITP with the degree Dr. rer. nat. in the area of physics,
 - c) associate lecturers (Privatdozent*innen) who are not on leave and extraordinary professors at the FK EITP with the degree Dr. rer. nat. or a doctoral degree that is held without a specific designation in a subject represented at one of the FK EITP physics institutes,
 - d) if the Faculty Council grants permission, professors with the degree Dr. rer. nat. from other natural-scientific areas represented in Technische Universität Braunschweig faculties.
 - e) if the Faculty Council grants permission, professors with the degree Dr. rer. nat. who work at one of the institutes in electrical engineering or information technology at the FK EITP,

- f) if the Faculty Council grants permission, FK EITP retired and emeritus professors who worked at one of the institutes in the area of electrical engineering and information technology at the FK EITP, and honorary professors who work in one of the FK EITP's electrical engineering or information technology subject areas,
- g) if the Faculty Council grants permission, associate lecturers who are not on leave and extraordinary professors at the FK EITP with the degree Dr. rer. nat. or a doctoral degree that is held without a specific designation in a subject represented at one of the FK EITP electrical engineering or information technology institutes.
- (4) Heads of Junior Research Groups in a natural-scientific subject area who are funded based on an external evaluation process by a research funding organisation, in particular through the German Research Foundation (DFG) Emmy Noether Programme, the VW Foundation, the European Research Council (ERC) or a comparable organisation, or heads of Junior Research Groups who were hired in an internal process with the inclusion of external reviewers can also be permitted to be mentors with the agreement of the FK EITP's Faculty Council.
- (5) The mentor should be as close as possible to the dissertation's subject area. However, the mentor may not be the person who suggested the idea for the dissertation. If necessary, the Dean can assist in finding a suitable person. The mentor is part of the doctoral committee according to § 9.
- (6) The mentor and the doctoral candidate are to make a doctoral supervision agreement as intended by the RPO-NTH's supervision agreement (Appendix 1). Proof of the supervision agreement must be shown when being admitted to the doctorate.
- (7) The mentor may withdraw from the supervision relationship according to the agreement in § 4(6) for important reasons. The Faculty must be informed in writing and the reasons must be described. If no other mentor can be found, admission to the doctorate is revoked. The candidate must be informed of this in writing with the reasons and legal remedies. If the candidate submits a new doctoral supervision agreement, she or he may re-apply for admission.
- (8) If the mentor leaves TU Braunschweig, admission to the doctorate is revoked. The candidate must be informed of this in writing with the reasons and legal remedies. Upon the mentor's request, the Faculty Council can approve the mentor continuing to supervise the doctorate. Upon the candidate's request, the Faculty Council can approve the doctorate being supervised by another mentor.
- (9) Cooperative forms of supervision are permitted. In this case, the supervision agreement according to § 4(6) must be signed by the mentor and the other supervisor(s). In cooperative supervision, the regular discussions foreseen in the agreement should be held with all supervisors (Appendix 1).

§ 5 Entry Requirements for the Doctorate

(1) The following requirements must be fulfilled to be admitted to a doctorate:

a) A degree from a relevant university Diplom degree programme (or if a doctorate for the degree Dr. rer. nat. is planned, a relevant state examination degree programme lasting at least 8 semesters) at a German university in a subject area represented at FK EITP or in a similar natural-scientific or engineering-scientific subject area; or

- b) A degree from a relevant Master's degree programme that included a final academic thesis at a German university in a subject area represented at FK EITP or in a similar natural-scientific or engineering-scientific subject area; or
- c) A degree from a university Diplom degree programme that does not fall under the letter a) at a German university lasting at least 9 semesters and equivalency exams according to § 5(2) letter a; or
- A degree from a Master's programme that included a final academic thesis and that does not fall under the letter b) at a German university and knowledge exams according to § 5(2) letter a); or
- e) A Diplom degree from a relevant degree programme lasting at least 8 semesters at a German university of applied sciences (*Fachhochschule*) in a subject area represented at FK EITP or in a similar natural-scientific or engineering-scientific subject area. Typically, the overall mark and mark of the final thesis must be at least "very good." If one of these marks is at least "very good" and one is at least "good," a request for an exception can be submitted. The request must include a review from a person from among those listed in § 4(3) or § 7(1) that evaluates and determines the applicant's special academic qualification.

The Faculty Council decides on the request. Applicants must prove the ability to conduct indepth academic work through knowledge exams according to § 5(2) letter b; or

- f) A degree earned outside of Germany that is equivalent to one of the German degrees in § 5(1) letters a-e. Foreign degrees must be recognised. Degrees can only be recognised if they are equivalent with the German degrees. When determining the equivalency of foreign degrees, the equivalency agreements made by the Conference of the Ministers of Education and Cultural Affairs (KMK) and the German Rectors' Conference (HRK) or relevant legal regulations must be considered. If there are doubts about equivalency, the Central Office for Foreign Education (ZAB) should be consulted. Equivalent degrees or degrees declared to be equivalent are treated in the same manner as those in letters a-e. In addition, a degree earned outside of Germany can be recognised if the degree is to be considered equivalent to a degree that can be earned at TU Braunschweig according to § 5(1) a or b based on TU Braunschweig agreements with partner universities. For applicants with foreign degrees, the Faculty Council may also set conditions on admission that go beyond those in § 6(1) and are related to the academic area in which the dissertation will be or intends to be written.
- (2) Applicants according to § 5(1) letters c-e are given additional requirements according to § 5(2) letters a or b. These requirements must be included in the admission letter according to § 6(3). The requirements must be fulfilled at the latest by the time the doctoral examination process is initiated according to § 8.
 - a) Applicants according to § 5(1) letters c or d must sit equivalency exams in compulsory or semielective subjects offered at the FK EITP totalling at least 20 credit points. At least 10 credit points must come from the catalogue of compulsory subjects from a specialisation closely related to the topic of the dissertation. The exams must be conducted by members of the teaching staff who are examiners in the FK EITP's degree programmes. The selection of subjects and examiners is the responsibility of the member of the Dean's Office responsible for doctorates upon the suggestion of the mentor for doctorates for the degree Dr. rer. nat. and the responsibility of the Faculty Council for doctorates for the degree Dr.-Ing.

If the topic of the final thesis for the previous degree could also have been chosen by a member of the teaching staff with the right to evaluate final examinations, then upon the mentor's request for doctorates for the degree Dr. rer. nat. or upon the supervisor's requests for doctorates for the degree Dr.-Ing., 10 credit points can be recognised from the semielective area. If the applicant's final thesis for the previous degree was supervised by a member of the FK EITP's teaching staff, then the equivalency exams according to sentence 1 are reduced to 10 credit points from the catalogue of compulsory subjects in sentence 2.

- b) Applicants according to § 5(1) letter e must sit equivalency exams in compulsory or semielective subjects offered at the FK EITP totalling at least 45 credit points. At least 20 credit points must come from the catalogue of compulsory subjects from a specialisation closely related to the topic of the dissertation. The exams must be conducted by members of the teaching staff who are examiners in the FK EITP's degree programmes. The selection of subjects and examiners is the responsibility of the member of the Dean's Office responsible for doctorates upon the suggestion of the mentor for doctorates for the degree Dr. rer. nat. and the responsibility of the Faculty Council for doctorates for the degree Dr.-Ing. If the topic of the final thesis for the previous degree could also have been chosen by a member of the teaching staff with the right to evaluate final examinations, then upon the mentor's request for doctorates for the degree Dr. rer. nat. or upon the supervisor's requests for doctorates for the degree Dr.-Ing., 10 credit points can be recognised from the semi-elective area. If the applicant's final thesis for the previous degree was supervised by a member of the FK EITP's teaching staff, then the equivalency exams according to sentence 1 are reduced to 10 credit points from the catalogue of compulsory subjects in sentence 2.
- (3) Applicants without outstanding abilities who have a Bachelor's degree from a German university in a subject area represented at the FK EITP can be admitted to a doctorate based on an aptitude test. Aptitude is evaluated based on the following criteria:
 - a) The overall mark and mark of the final thesis must both be at least "very good".
 - b) Two reviews from people from among those listed in § 4(3) or § 7(1) that evaluate and determine the applicant's special academic qualification.
 - c) The standard period of study to the end of the Bachelor's degree programme should not have been exceeded by more than two semesters.
 - d) It can be proven that the candidate is among the best 5% of the cohort for the calendar year in which she or he completed the Bachelor's programme.

Additionally, equivalency exams according to § 5(2) letter b must be sat. It is not possible to recognise or reduce the requirements by 10 credit points.

- (4) Upon written request, the FK EITP Dean reviews whether the requirements in § 5(1)-(4) are already fulfilled. If this is not the case, then the FK EITP Dean or the responsible member of the Dean's Office informs the applicant whether and, if applicable, with which additional requirements or equivalency exams the admission requirements can still be fulfilled. The following are to be included with the request for review:
 - a) the degree certificates and other forms of documentation for the requirements in § 5(1)-(3);
 - b) a statement on the intended object or subject of the dissertation.

§ 6 Admission to Doctorate

- (1) Applicants who fulfil the entry requirements according to § 5 and intend to complete a dissertation should request admission to a doctorate with the FK EITP when starting work on the dissertation, thereby requesting acceptance as a doctoral candidate.
- (2) With the acceptance as a doctoral candidate, the Faculty expresses the general willingness to evaluate a dissertation on the intended topic and to supervise the doctoral candidate in completing his or her work.
- (3) The request must include:
 - a) proof that the entry requirements according to § 5 are fulfilled,
 - b) information on the intended topic of the dissertation and a doctoral supervision agreement according to Appendix 1,
 - c) a CV that includes the applicant's personal and professional history,
 - d) a declaration on ongoing or previous attempts at doctorates; if applicable, it must also be stated when, on which topic, and with which faculty the request was submitted to initiate a doctoral examination process,
 - e) if applicable, proof that any additional requirements have been fulfilled.
- (4) The Faculty typically decides on the request within three months, or for doctoral study programmes by the start of the curriculum. If the entry requirements are not fulfilled, admission to the doctorate is to be denied or admission is only granted conditionally with requirements that must still be fulfilled.
- (5) The applicant must be informed in writing of the decision about admission to the doctorate. If the application is denied, reasons and information on legal remedies must be included. Reasons for the application being denied can be in particular that the entry requirements according to §5 are not fulfilled, that the intended topic is not covered by the subjects at the FK EITP, or that the material equipment needed to carry out the dissertation cannot be provided to the extent necessary.
- (6) Admission to the doctorate can be revoked for good reasons, in particular if the applicant deceived about whether the entry requirements were fulfilled.
- (7) Admission to the doctorate expires 10 years after the date on which admission is granted. Upon request, the Faculty Council can extend admission to the doctorate.
- (8) When she or he is admitted to the doctorate, the applicant is granted the right to request the initiation of the doctoral examination process according to § 8 at the FK EITP.

§ 7 Supervision for Doctorates for the Degree Dr.-Ing

- (1) For doctorates for the degree Dr.-Ing., supervisors can be:
 - a) Members of the group of FK EITP professors who work at one of the institutes in the area of electrical engineering and/or information technology,
 - b) FK EITP retired and emeritus professors who worked at one of the institutes in the area of electrical engineering and/or information technology and honorary professors at the FK EITP with the degree Dr.-Ing. in the area of electrical engineering and/or information technology,
 - c) associate lecturers (Privatdozent*innen) who are not on leave and extraordinary professors at the FK EITP with the degree Dr.-ing. or a doctoral degree that is held without a specific designation in a subject represented at one of the FK EITP electrical engineering and/or information technology institutes,

- d) if the Faculty Council grants permission, professors with the degree Dr. rer. nat. who work at one of the institutes in physics at the FK EITP,
- e) if the Faculty Council grants permission, FK EITP retired and emeritus professors who worked at one of the institutes in the area of physics with the degree Dr. rer. nat. at the FK EITP and honorary professors who work in one of the FK EITP's physics subject areas,
- f) if the Faculty Council grants permission, associate lecturers who are not on leave and extraordinary professors at the FK EITP with the degree Dr. rer. nat. or a doctoral degree that is held without a specific designation in a subject represented at one of the FK EITP physics institutes.
- (2) Heads of Junior Research Groups in an electrical engineering and/or information technology subject area who are funded based on an external evaluation process by a research funding organisation, in particular through the DFG' Emmy Noether Programme, the VW Foundation, the ERC or a comparable organisation, or heads of Junior Research Groups who were hired in an internal process with the inclusion of external reviewers can also be permitted to be supervisors for doctorates with the agreement of the Faculty Council.
- (3) Accepting responsibility for academic supervision must be documented with a doctoral supervision agreement, which represents the supervision agreement described by the Framework Doctoral Agreement of the NTH (Appendix 1).
- (4) If the supervisor leaves TU Braunschweig, admission to the doctorate is revoked. The Faculty must be informed in writing and the reasons must be described. Upon the supervisor's request, the Faculty Council can approve the supervisor continuing to supervise the doctorate. Upon the candidate's request, the Faculty Council can approve the doctorate being supervised by another supervisor.
- (5) The supervisor can withdraw the agreement to supervise the doctorate for important reasons. The Faculty must be informed in writing and the reasons must be described. If no other supervisor can be found, admission to the doctorate is revoked. The candidate must be informed of this in writing with the reasons and legal remedies. If the candidate submits a new doctoral supervision agreement, she or he may re-apply for supervision.
- (6) Cooperative forms of supervision are permitted. In this case, the supervision agreement according to § 4(3) must be signed by all supervisor(s). In cooperative supervision, the regular discussions foreseen in the agreement should be held with all supervisors (Appendix 1).

§ 8 Initiating the Doctoral Examination Process

(1) The request to initiate the doctoral examination process must be submitted in writing to the FK EITP's Dean. All submitted documents (originals and certificates only as copies made by the FK EITP) become the property of TU Braunschweig. The request must include:

- a) notification of admission to the doctorate according to § 6,
- b) if applicable, proof of degree programmes preparing the candidate for a doctorate and the fulfilment of any additional conditions,
- c) a CV that includes the applicant's personal and professional history,
- d) if applicable, a list of academic publications and academic lectures,
- e) at least three copies and an electronic version of an academic work (dissertation according to § 10) with the title page in Appendix 3. The type and format of the electronic version is defined by the respectively valid version of the Guidelines (Annex A),
- f) for dissertations written jointly as described in § 10(4), a report written together by those who wrote the dissertation on cooperation during the dissertation, information about who wrote the respective parts of the dissertation, and the names, academic degrees and addresses of the people participating in the dissertation as well as information about whether and, if applicable, which of these people have already requested or completed the doctoral examination process using part of the work being submitted,
- g) a binding legal declaration from the doctoral candidate according to Annex B,
- h) a summary of the dissertation totalling one page each in German and English,
- i) if applicable, proof that the candidate successfully obtained soft skills according to § 5(4); in exceptional cases, the Faculty Council may permit exceptions upon request,
- j) for doctorates for the degree Dr. rer. nat. suggestions for members of the doctoral committee according to § 9(1).
- (2) The Dean takes the decision on initiating the doctoral examination process for the degree Dr. rer. nat. The Faculty Council must be informed in an appropriate manner. For doctoral examination processes for Dr.-Ing., the Faculty Council takes the decision on initiating the doctoral examination process. In all cases, the Faculty Council decides if a request to initiate the doctoral examination process is to be rejected. The doctoral candidate receives written notification of the decision. If the request is denied, reasons and information on legal remedies must be included.
- (3) The request to initiate the doctoral examination process may be withdrawn as long as no reviews have been submitted for the dissertation. After at least one review has been submitted, it is only possible to withdraw from the process for important personal reasons unrelated to the doctoral examination process, and the request to do so must be approved by the Faculty Council (Dr.-Ing.) or the Dean (Dr. rer. nat.). The admission granted according to § 6 remains valid. The right to request the doctoral examination process to be initiated again remains unaffected.
- (4) By initiating the doctoral examination process, the doctoral candidate gains the right to have the dissertation assessed.
- (5) For doctorates for the degree Dr.-Ing., all professors according to § 7(1) who are members of TU Braunschweig are informed in an appropriate manner by the FK EITP Dean about the initiation of the doctoral examination process and requested to respond within two weeks as to whether they would like to participate in the doctoral examination process as a member of the doctoral committee according to § 9.

At the same time, they are asked to give notification as to whether they would like to view the dissertation and reviews from the chair of the doctoral committee after these have been submitted. For doctorates for the degree Dr. rer. nat., the process is carried out according to § 12.

(6) If the doctoral examination process is failed, it is only possible to submit a new request for initiating the doctoral examination process once, no earlier than one year after failing the first attempt. This applies even if the first failed attempt took place at another university. If the dissertation submitted in the first attempt was rejected, it may not be re-submitted for the purpose of earning a doctorate even in a revised form.

When submitting a second request to initiate the doctoral examination process, in every case notification must be given of the previous, failed attempt. The notification must include the date of the first request, the university and the faculty in which the dissertation was submitted as well as the topic of the dissertation. Admission to the doctorate granted according to § 6 remains valid for the second request to initiate the doctoral examination process.

§ 9 Doctoral Committee (Promotionskommission) and Evaluators

(1) At the FK EITP, the doctoral committees are appointed as follows:

- a) for doctorates for the degree Dr.-Ing., the Faculty Council appoints a doctoral committee and determines who will be the chair. The committee is made up of at least three members and can include up to six members; one member is the supervisor according to § 7. If more than three members are appointed to committees, an attempt should be made to appoint at least one external member;
- b) for doctorates for the degree Dr. rer. nat., with awareness of the applicants' suggestions, the Dean appoints a doctoral committee and determines who will be the chair. The committee is made up of at least three members and can include up to six members, the majority of whom must belong to the groups listed in § 4(3). At least two members of the doctoral committee must represent different natural-scientific subject areas. Another member with the right to teach independently can represent any subject taught at TU Braunschweig. The mentor as described in § 4 must be a member of the doctoral committee. If more than three members are appointed to committees, an attempt should be made to appoint at least one external member;

The chair and another member must be primarily employed by TU Braunschweig and belong to the groups listed in § 7(1) for doctorates for the degree Dr.-Ing. or to the groups listed in § 4(3) for doctorates for the degree Dr. rer. nat. Responses given according to § 8(5) sentence 1 are taken into consideration. The office responsible for appointing the committee can name a deputy for each member of the doctoral committee.

- (2) The doctoral committee discusses the acceptance and mark or the rejection of a dissertation based on the written reviews. The committee carries out the oral examination and marks this oral component of the doctoral work.
- (3) Doctoral committees' meetings are not open to the public. The doctoral committee has a quorum if all members or their deputies are present. The mentor or supervisor can only be represented by a deputy with the candidate's agreement. The committee makes decisions based on a simple majority. Abstentions are not permitted. If there is a tie, the chair's vote breaks the tie. Minutes are to be taken of the decisions.
- (4) The members of the doctoral committee are obligated to uphold confidentiality about facts that are made known to them in meetings not open to the public unless the fact is already public or it is not important enough to require confidentiality. Confidentiality obligations based on the civil service or employment relationships remain unaffected.
- (5) To assess the dissertation according to § 10, evaluators are appointed as follows:

- a) For doctorates for the degree Dr.-Ing., the Faculty Council appoints two or more evaluators who become members of the doctoral committee with their appointment. The supervisor is one of the evaluators. At least one evaluator must be a professor primarily employed by the FK EITP or a retired or emeritus professor from the FK EITP in electrical engineering and/or information technology. The other evaluators can be members of the groups listed in § 7(1) or, with appropriate qualifications (that is, with the right to teach independently), can also be a member of other faculties or universities. If the Faculty Council does not appoint more than two evaluators, then besides the people to be appointed according to § 9 a sentences 2 and 3, other people with doctorates can be asked to submit a review.
- b) For doctorates for the degree Dr. rer. nat., the Dean appoints two or more evaluators to assess the dissertation. The mentor is one of the evaluators. At least one evaluator must be a person primarily employed as a university professor (*Universitätsprofessor*) or, if the FK EITP Dean approves, a retired or emeritus professor from the FK EITP in physics. The other evaluators can be members of the groups listed in § 4(3) or, with appropriate qualifications (that is, with the right to teach independently), can also be a member of other faculties or universities.

§ 10 Dissertation

- (1) With his or her dissertation, the doctoral candidate proves his or her ability to reach findings through independent scientific work that serve to further the discipline in which the dissertation is written or make a contribution to the progress of science in a subject area represented at the FK EITP.
- (2) The dissertation may have been published previously; excerpts from the dissertation that have been published are permissible with the written approval of the mentor according to § 4 (Dr. rer. nat.) or the supervisor according to § 7 (Dr.-Ing.). The FK EITP retains the right to review the dissertation, including to check whether generally accepted scientific standards were upheld, especially with the use of electronic data processing programmes. Doctoral candidates are notified of this. The notification is part of the declaration according to § 8(1) letter g.
- (3) Publication-based works, which must all fall under one single scientific research question, are permitted as a key element of a dissertation with the approval of the mentor according to § 4 (Dr. rer. nat.) or the supervisor according to § 7 (Dr.-Ing.) if they are all related to one another and, taken as a whole, correspond to the requirements in § 10(1). The relatedness of the works must be especially described in the dissertation, and a detailed description of the common research question must introduce the dissertation. Dissertations based publications must correspond to the formal minimum requirements set by the Faculty according to Appendix 5.
- (4) A scientific work written by more than one person (typically not more than two people) can be recognised as a dissertation if the topic is appropriate. The requirement is that the contributions to be considered for one of the author's doctoral examination processes can be attributed to this doctoral candidate without a doubt and that these contributions fulfil the requirements in § 10(1). The contributions of the individual authors are to be described comprehensively as part of a declaration according to § 8(1) letter f.

In these cases, a dissertation according to § 10(3) is not permitted. The suitability of the topic for a joint dissertation is to be formally determined by the Faculty Council upon the request of and after hearing the applicants and the supervising professors; whenever possible, this should be done before work on the dissertation has started. If the joint dissertation is to serve as a basis for more than one doctoral examination process, then a joint doctoral committee and joint evaluators are appointed. The assessment is made separately for each contribution. The oral examinations take place at different times.

(5) The dissertation must be written in German or English. Dissertations in other languages require the approval of the Faculty Council. In all cases, the dissertation must include a summary in German and in English.

§ 11 Assessing the Dissertation

- (1) The evaluators carefully and independently from one another decide whether the submitted dissertation can be accepted as a doctoral work. They evaluate the scientific achievement of a work submitted for acceptance and produce written, marked reviews with the following marks:
 - outstanding ,
 - very good ,
 - good ,
 - satisfactory -.

The mark - outstanding - is only used for doctorates for the degree Dr. rer. nat.

- (2) The reviews should typically be submitted to the chair of the doctoral committee within three months of initiating the doctoral examination process. If an evaluator is not able to write her or his review after a reminder with a reasonable deadline, a new evaluator can be appointed by the Faculty Council in consultation with the supervisor (Dr.-Ing.) or by the Dean in consultation with the mentor (Dr. rer. nat.).
- (3) Participation rights in assessing the dissertation are set as follows for the FK EITP members with the respective authorisation:
 - a) For doctorates for the degree Dr.-Ing., the chair of the doctoral committee presents all submitted reviews to the members of the doctoral committee and informs those professors according to § 8(5) who wish to view the dissertation and reviews. These professors have the opportunity to view the dissertation and reviews within two weeks and raise a written objection to the acceptance, rejection or marking of the dissertation. Reasons must be provided for the objection.
 - b) For doctorates for the degree Dr. rer. nat., in an appropriate form, the Dean informs the members of the doctoral committee and the evaluators as well as all professors according to § 4(3) who are members of the Faculty according to university law that all of the evaluations have been received. At the same time, the dissertation and reviews will be available for confidential viewing by this group of people in the FK EITP's office for two weeks. During this time, it is possible to submit a written objection to the assessment of the dissertation.

- (4) The dissertation is considered to be accepted if all evaluators have recommended accepting the dissertation and no written objections have been raised during the two-week viewing period. When accepting the dissertation, the doctoral committee determines the mark of the dissertation. For doctorates for the degree Dr. rer. nat., the mark -outstanding- according to § 11 (1) may only be given if all evaluators have recommended this mark. If not all evaluators have recommended accepting the dissertation or if there are written objections, then the doctoral committee takes the final decision on whether the dissertation will be accepted or rejected. Before this decision, the committee may ask the Faculty Council to request additional reviews. The FK EITP Dean informs the doctoral candidates of the decision to accept the dissertation in writing typically within one week of the decision.
- (5) If the dissertation is rejected, then the doctoral examination process is failed and ends immediately. A copy of the rejected dissertation is to be retained with all reviews. The FK EITP Dean informs the doctoral candidates of the decision to reject the dissertation in writing typically within one week of the decision. In the case of a rejection, information on legal remedies must be included. § 8(6) applies mutatis mutandis for a new request to initiate a doctoral examination process.

§ 12 Oral Examination

- (1) The oral examination should take place within four weeks after the dissertation has been accepted. In the doctoral examination process for the degree Dr. rer. nat., the Dean immediately sets the date for the oral examination in consultation with the chair of the doctoral committee. The date can already be set once the reviews according to § 11(3) have been received, although this date is conditional upon no objections being raised. In the doctoral examination process for the degree Dr.-Ing., the chair of the doctoral committee immediately sets the date for the oral examination. The members of the doctoral committee are to be invited.
- (2) The oral examination is carried out as an individual exam under the direction of the chair of the doctoral committee and is typically held in German or English. The Faculty Council must approve of the oral examination being held in another language.
- (3) a) The oral examination is carried out as a disputation for doctorates for the degree Dr. rer. nat. The chair of the doctoral committee invites the doctoral candidate and the members of the doctoral committee to the disputation and announces the date in the FK EITP in an appropriate form.

The disputation beings with a scientific presentation by the candidate lasting 30 minutes and is immediately followed by and concluded with a colloquium lasting 45 to 60 minutes. The scientific discussion is intended to show whether the candidate has sufficient mastery of his or her own subject area and with additional, related subject areas and whether he or she is familiar with current developments in the subject area. The colloquium is opened by questions from the doctoral committee. The chair of the doctoral committee leads the discussion. She or he should permit questions from the audience. The presentation and colloquium are open to university members. The Dean takes decisions on exceptions to this upon request by the applicant. The members of the doctoral committee are required to attend or, if they are prevented from attending, their deputies are required to attend.

a) The oral examination is carried out in two examination parts for doctorates for the degree Dr.-Ing. The examination beings with a scientific presentation by the doctoral candidate lasting around 30 minutes and followed by a discussion lasting a maximum of 15 minutes on the content of the dissertation. This part of the exam is open to university members. The chair has the right to permit the audience to ask questions.

The second part of the oral examination is not open to the public, but the chair may allow certain interested audience members to attend. Certain interested audience members may only include those people who will soon submit a request to initiate the doctoral examination process or have already submitted this request and will soon complete their own oral examination. The doctoral candidate can request that no audience members be allowed during the oral examination. This request is to be granted. The oral examination covers the subject area on which the object of the dissertation is based. The second section of the oral examination is intended to show that the applicant has thorough knowledge not only of the specific area of the dissertation but also of the general principles of the subject area. This examination section is led by the members of the doctoral committee and typically lasts 45 minutes.

- (4) Immediately after the end of the oral doctoral examination, the doctoral committee decides whether the oral examination has been passed and, if so, with what mark. The following marks can be given for an examination that has been passed:
 - outstanding -
 - very good -
 - good -
 - satisfactory -.

If the oral examination has been passed, the overall mark is calculated according to § 13 using the marks for the dissertation and the oral examination. The doctoral candidate is immediately informed of the result. Changes and additions to the dissertation can be required. Minutes must be taken of the topics in the oral examination and the result of the doctoral examination process.

- (5) If the applicant does not appear to the oral examination and offers no excuse, the examination is considered to have been failed. If the applicant is excused for not appearing to the oral examination, a new date is set according to § 12(1). The chair of the doctoral committee decides on whether the excuse will be accepted.
- (6) An oral examination that was failed or considered to have been failed may upon request be repeated one time within one year. The request must be submitted in writing to the FK EITP's Dean within one week after the oral examination date. The second attempt at the oral examination may not take place within one month of the first attempt. The Faculty Council takes decisions on exceptions to sentences 1 and 3. If the oral examination is failed at the second attempt, the attempt at the doctorate is considered failed with no further attempts possible. The FK EITP Dean informs the doctoral candidates of this in a written notification that includes information on legal remedies. § 8 applies mutatis mutandis for a new request to start a doctorate.
- (7) When the oral examination is passed, the doctorate is completed.
- (8) After the doctoral committee has taken its decision, the FK EITP's Dean will issue a certificate upon request. The certificate includes the title and overall mark of the doctorate. The certificate must include the information that it does not convey the right to carry the doctoral title.

§ 13 Overall Mark for the Doctorate

- (1) For the overall assessment, the following marks can be given (the Latin designation is to be added in parentheses):
 - passed with the highest distinction (summa cum laude) -,
 - passed with great distinction (magna cum laude) -,

- passed with distinction (magna cum laude) -,
- duly passed (rite).
- (2) The overall mark is calculated using the marks from the dissertation and the oral examination. the overall mark "passed with the highest distinction (summa cum laude)" can only be awarded for doctorates for the degree Dr. rer. nat. if the dissertation was assessed with the mark - outstanding - and for doctorates for the degree Dr.-Ing. if the dissertation was assessed with the mark - very good -.

§ 14 Completion of the Doctorate and Degree Certificate

- (1) The FK EITP Dean completes the doctorate by handing over the doctoral degree certificate. In addition to the degree earned, the certificate also includes the title of the dissertation and the overall mark of the doctorate (Latin designation in parentheses). The day of the oral examination is given as the date for the doctorate. The doctoral degree certificate is issued according to the template in the respective form in Appendix 2.
- (2) For the doctoral degree certificate to be handed over, proof that the dissertation has been published according to § 15 must be shown. Not until the doctoral degree certificate has been handed over may the doctoral title be used.
- (3) If it comes to light before the doctoral degree certificate has been handed over that the doctoral candidate cheated on the doctoral work or that key requirements for admission to the doctorate were incorrectly assumed to have been met, the Faculty Council can declare the doctoral work to be invalid. In this case, the FK EITP Dean informs the doctoral candidates in a written notification that includes information on legal remedies. With this declaration of invalidity, admission according to § 6 is also revoked. § 8 applies mutatis mutandis for a new request to start a doctorate.

§ 15 Publishing the Dissertation

- (1) The doctoral candidate is obligated to make the dissertation accessible to the scientific community in an appropriate form by copying and disseminating it. This obligation is an element of scientific achievement.
- (2) Within one year of passing the oral examination according to § 12, the doctoral candidate must make the dissertation accessible to the scientific community. Upon reasoned request, this deadline can be extended by the Dean for doctorates for the degree Dr. rer. nat. and by the FK EITP's Faculty Council for doctorates for the degree Dr.-Ing. The "General Guidelines on Publishing and Submitting Dissertations" in the respectively valid version passed by the FK EITP's Faculty Council apply to publications. At the time when these Regulations entered into force, the version in Appendix 6, Annex A.
- (3) When assessing the dissertation according to § 11 and/or in the oral examination according to § 12, the members of the doctoral committee may set requirements regarding changes and additions in terms of the dissertation's content and/or editing for the doctoral candidate. Before final publication, the proofs of the dissertation are to be shown to the members of the doctoral committee. If the requirements have been fulfilled, the chair of the doctoral committee grants permission to publish. Proof of permission to publish must be given to the Faculty using the revision form in Appendix 6, Annex C. The publication is only complete as intended by these Doctoral Regulations once permission to publish has been granted.
- (4) For the printed copies, the title page in Appendix 4 is to be used.

§ 16 Revoking or Rescinding the Doctoral Degree

- (1) A doctoral degree that has already been awarded can be revoked or rescinded. The revocation or rescission of the doctoral degree is done according to the relevant, valid legal provisions. Except in cases under the purview of §§ 48, 49 of the Administrative Procedures Act (*Verwaltungsverfahrensgesetz*), the doctoral degree can also be revoked or rescinded if the holder abused the standards of scientific integrity linked to the university degree.
- (2) If the requirements for admission to an examination were not fulfilled without the candidate being guilty of deception, and if this fact is only revealed after the degree certificate has been issued, this defect is remedied by the submitted and recognised dissertation and the passed oral examination. In this case, the doctoral degree will not be rescinded.
- (3) The possible decisions described in § 16(1) are taken by the Faculty Council. TU Braunschweig's Executive Committee is to be informed in advance before the measures in § 17(1) are carried out. The FK EITP Dean carries out the measures in § 17(1) by sending a notification that includes the reasons and information on legal remedies.

§ 17 Viewing the Doctoral Files

After the conclusion of the doctoral examination process, the doctoral candidate is to be permitted to view the doctoral files upon request. The request is to be made by the doctoral candidate at the latest three months after the doctoral degree certificate has been handed over. § 32 of the Administrative Procedures Act (*Verwaltungsverfahrensgesetz*) applies mutatis mutandis.

§ 18 Rights Regarding Decisions Taken in the Doctoral Examination Process

- (1) The candidate is to be informed in writing of decisions about admission to the doctoral examination process, acceptance or rejection of the dissertation, and the oral examination. Each of the negative notifications issued by a responsible FK EITP office during the doctoral examination process must include reasons and information on legal remedies.
- (2) According to §§ 68 ff. of the Administrative Procedure Code (*Verwaltungsgerichtsordnung*), the affected person has the right to appeal the decision in writing or orally to be recorded in writing to the FK EITP office that issued the notification of the relevant decision. The appeal can also be made to the FK EITP Dean in writing or orally to be recorded in writing. The FK EITP Faculty Council decides on the appeal.
- (3) If the appeal is made against a decision by the doctoral committee (*Promotionskommission*) according to § 9 or the Doctoral Board (*Promotionsausschuss*) according to § 22, the FK EITP Dean forwards the appeal to the doctoral committee or the Doctoral Board for review. If the doctoral committee or the Doctoral Board changes their decision in agreement with the appeal, the FK EITP Faculty Council upholds the appeal. Otherwise, the FK EITP Faculty Council reviews the decision to determine whether
 - a) incorrect requirements or irrelevant considerations were assumed,
 - b) generally recognised principles or marking standards were violated, or
 - c) legal provisions were violated.

A final decision should be reached on the appeal within three months. If the appeal is denied, reasons and information on legal remedies must be included.

(4) Legal action is possible against the other decisions taken according to these Regulations in the doctoral examination process.

§ 19 Renewing the Doctoral Degree Certificate

It is possible to renew the doctoral degree certificate after 50 years if this seems appropriate based on the person's outstanding scientific achievements or close ties to TU Braunschweig. The FK EITP Faculty Council decides on the renewal of the doctoral degree certificate.

§ 20 Honorary Doctorate

- (1) a) In recognition of remarkable scientific achievements characterised by research work that has significantly contributed to the development of an area of physics, with the Senate's agreement the FK EITP can award the degree and honour of an Honorary Doctor of Natural Sciences (Dr. rer. nat. h. c.) in the natural-scientific areas within its purview as an outstanding award.
 - b) In recognition of remarkable scientific achievements characterised by
 - a) research work or
 - b) the application of scientific insights to technical problems or
 - c) the creative planning and design of plants, machines and apparatuses that have contributed to ground-breaking developments in the subject area, with the Senate's agreement the FK EITP can award the degree and honour of an Honorary Doctor of Engineering (Dr.-Ing. E. h.) in the engineering areas within its purview as an outstanding award.
- (2) The request to award an honorary doctorate according to § 20(1) letter a or b is to be submitted by at least three professors from the FK EITP. The request must describe the scientific achievements and include a CV and list of publications from the person who is to receive the award.
- (3) An honorary doctoral committee appointed by the FK EITP's Faculty Council discusses the request. The FK EITP Dean is the chair of this committee. For honorary doctoral processes for the degree Dr. rer. nat. h. c., at least three other members from among those groups described in § 4(3) belong to the committee, and for honorary doctoral processes for the degree Dr.-Ing. E. h., at least three other members from among those groups described in § 7(1) belong to the committee. The committee produces a written report on the personality and scientific achievements of the person who is to be honoured. At least two external scientific reviews are to be obtained.
- (4) In the Faculty Council meeting preceding the decision, the FK EITP Dean announces that a decision will be taken on an honorary doctorate. At the same time, she or he points out that the request, reviews, and report from the honorary doctoral committee can be viewed confidentially in the FK EITP office by members of the Faculty Council and FK EITP professors.
- (5) The FK EITP Faculty Council holds two readings. At the first reading, all members of the professor group described in § 4(3) or § 7(1) who are members of TU Braunschweig according to higher education law and are primarily employed by the FK EITP are invited in an advisory capacity. Following the second reading, the FK EITP's Faculty Council decides on the honour by secret ballot.

To accept the request for the honorary doctorate, a four-fifths majority of the voting members of the FK EITP's Faculty Council with doctorates is required.

- (6) If the request is granted, the FK EITP Dean presents the request for an honorary doctorate including all supporting documents to TU Braunschweig's Executive Committee for an approving resolution from the Senate. As the chair of the Executive Committee, in the Senate session at least two weeks before the resolution the President of TU Braunschweig announces that the request for an honorary doctorate is being presented and that the documents will be available for confidential viewing in the President's Office for the Senate members until the following Senate session.
- (7) The Senate decides whether to approve the resolution with the majority of the voting members.
- (8) After the Senate has approved the resolution, the FK EITP Dean carries out the honorary doctorate by awarding the certificate issued by the President of TU Braunschweig and the FK EITP Dean. The FK EITP Dean issues an invitation to a festive tribute and determines who will give the laudatory speech. The President of TU Braunschweig has the right to participate in awarding the certificate.
- (9) German scientific universities and the Lower Saxon Ministry of Science and Culture are to be notified of the honorary doctorate.
- (10) Those who submitted the request are to be informed if the resolution is rejected.
- (11)§ 16 applies mutatis mutandis for the revocation or rescission of the honorary doctorate. In addition, the honorary doctorate can be revoked if the personal honouring of the person receiving the honorary doctorate has retroactively lost its basis and the reputation of the FK EITP and TU Braunschweig would be damaged if the person were to continue holding the honorary doctoral title. This would be the case in particular if the holder has seriously damaged the honour conveyed with the award, especially with a criminal act, or if the holder abused the standards of scientific integrity linked to the honorary degree. A criminal act may only be considered if it is recorded in the Federal Central Criminal Register. The FK EITP Faculty Council decides on the revocation of the honorary doctoral degree with the approval of the Senate. The decision requires a two-thirds majority of the voting members in each of these two bodies.

§ 21 Joint Doctoral Examination Processes

- (1) Joint doctoral examination processes carried out with one or possibly several other universities with the right to award doctorates in Germany or abroad and/or with a research facility or several research facilities outside of TU Braunschweig is possible based on an agreement between TU Braunschweig and the other university and/or research facility.
- (2) Agreements according to § 21(1) can deviate from §§ 1-19 of these Regulations. The purpose of the doctorate according to § 3(1) and the participation rights of the professors according to §§ 8 and 11 must be ensured in the agreement made according to § 21(1). Agreements made according to § 21(1) should typically be oriented on the contents of these Doctoral Regulations.
- (3) To promote the mobility of young researchers, doctorates can also be carried out together with foreign universities and a joint doctoral degree can be awarded. The requirement is that the foreign university has the right to award doctorates and that the degrees it awards are equivalent to those at German universities.

- (4) Applicants who would like to carry out a doctorate supervised by the FK EITP and one or more foreign universities should request this in advance from the FK EITP Dean and the director of the faculty at the other university. To be able to grant the request, an agreement must first be made with the foreign university on how the joint doctorate will be carried out.
- (5) In particular, the agreement should regulate the examination process and the scope of the faculties' rights in assessing the work and determining the final mark. It must be ensured that the professors' participation rights according to §§ 8 and 11 are guaranteed. If work must be done according to the foreign university's doctoral regulations besides that detailed in § 3 at TU Braunschweig, this must also be set down in the agreement. The agreement must also clarify that only a joint degree can be awarded based on the doctoral candidate's academic work.
- (6) The applicant has the right to use the doctoral degree either in the German or the foreign form. The participating universities can be included in parentheses.

§ 22 Doctoral Board (Promotionsausschuss)

- (1) The Faculty Council may create a standing Doctoral Board to prepare its decisions. The Doctoral Board is made up of two members who are professors and one academic staff member who holds a doctorate. One of the professorial members is the chair of the Doctoral Board. The Doctoral Board may consult additional, advisory members.
- (2) The Faculty Council may revocably delegate decision-making authority on doctoral matters to the Doctoral Board. Decision-making authority may not be delegated for appeals.
- (3) The sessions of the Doctoral Board are not open to the public. Its members are obligated to maintain confidentiality.
- (4) The Doctoral Board has a quorum if at least two members are present. Votes are decided based on a simple majority of its members. If there is a tie, the chair's vote breaks the tie. Minutes must be taken of the Doctoral Board's sessions. The minutes are to be treated confidentially.

§ 23 Entry into Force and Transitional Provisions

- (1) The Doctoral Regulations enter into force on the day after they are made public to the university. At the same time, the previously valid Doctoral Regulations for the Faculty of Electrical Engineering and Information Technology from October 24, 2005 (TU Publication of Announcements no. 392), and the Doctoral Regulations for the Faculty of Physics and Geosciences from September 21, 2005 (TU Publication of Announcements no. 375) are no longer in effect.
- (2) Doctoral candidates who were enrolled for a doctorate, or who requested admission to a doctorate or to initiate the doctoral examination process before these Regulations entered into force may continue their doctorate under the previously valid regulations upon request. In deviation from the provisions of the previously valid regulations, the provisions in these Regulations on publishing the dissertation and issuing the doctoral degree certificate apply.

Appendix 1 Template for Supervision Agreement (Dr.-Ing. or Dr. rer. nat.)

This agreement template should be used according to § 4 (Dr. rer. nat.) or § 7 (Dr.-Ing.). It can be modified and supplemented for subject-specific purposes. When modifying or supplementing the agreement, the basic elements should be retained. If the doctorate is being done in the context of a structured doctoral programme or a similar programme, then an agreement corresponding to the relevant programme should be made according to sentence 2.

Supervisior	n Agreement

Between

[Doctoral candidate] and

[Supervisor] [Mentor]

[Doctoral candidate] intends to carry out a doctorate at the Faculty of Electrical Engineering, Information Technology, Physics (FK EITP) at Technische Universität Braunschweig. The doctorate will be supervised by [Supervisor] [Mentor]. The [Supervisor] [Mentor] agrees to ensure supervision of the doctorate in adherence to the provisions in the FK EITP's Doctoral Regulations (PromO). This agreement is intended to ensure the academic supervision by [Supervisor] [Mentor] necessary for the success of the doctorate is given and to enable [Doctoral candidate] to participate in an adequate (comprehensive) preparation of the doctorate in terms of content and methods. For this purpose, the following is agreed:

Timely Selection of Topic

The topic of the doctorate, or at least an area on which the doctorate will focus, is set as follows:

[Topic [XY]_ or Area [XY]]

The topic/area permit the doctorate to be carried out in a focused manner.

• Adherence to Principles

The [Supervisor] [Mentor] and the doctoral candidate recognise that proof of independent scientific work is the fundamental requirement for a successful doctorate. Typically, proof of the candidate's own work as first author in international scientific journals is expected as proof of this in accordance with the provisions in § 10 PromO. Besides this, the topic of the doctorate should be presented at expert conferences. To the extent possible, a budget should be provided for participation at expert conferences. The [Supervisor] [Mentor] assists in developing the candidate's ability to conduct independent scientific work.

The [Supervisor] [Mentor] and the doctoral candidate acknowledge that this scientific work is generally to be done outside of any tasks that are part of an employment agreement with TU Braunschweig. As part of the employment agreement, the doctoral candidate will be given sufficient time to work on the doctorate.

The doctoral candidate declares the willingness to work openly and communicatively in an international environment and to push work forward within a team. The supervisor and doctoral candidate declare that they will treat each other and other members of the research group respectfully.

This supervision agreement includes adherence to the principles of good scientific practice (cf. <u>www.tu-bs.de</u> or <u>www.dfg.de</u>); in particular, the doctoral candidate commits to adhering to the principles and [Supervisor] [Mentor] commits to ensuring these principles are upheld.

[Doctoral candidate] declares her/his consent to the dissertation also being used to check whether generally accepted scientific standards were upheld, especially with the use of electronic data processing programmes.

Regular Discussions

Doctorates at the FK EITP are characterised by cooperative collaboration. For this, at least once per year an in-depth discussion on the progress of the work takes place only between the doctoral candidate and the supervisor/mentor. The [supervisor] [mentor] will take time to discuss the work, improve the quality of the doctorate with advice and discussions, and to the extent possible offer assistance contributing to the success of the project. The doctoral candidate commits to keeping the [Supervisor] [Mentor] up to date on the status of the work; for this purpose, interim reports may also be agreed on.

Support with General Continuing Education Measures

To the extent possible, the [Supervisor] [Mentor] enables the doctoral candidate to participate in continuing education events to obtain additional soft skills. These measures should be agreed on together in the personnel meetings that should take place annually.

Efficient Processing of Submitted Dissertations

The [Supervisor] [Mentor] will process the submitted dissertation immediately in order to enable the doctoral examination process to be concluded as quickly as possible.

Date and signatures:

(Doctoral candidate), (Supervisor) (Mentor)

Appendix 2	Degree Certificate Template (should be adapted to the current TU B	Braunschweig Corporate Design)
(seal)	TECHNISCHE UNIVERSITÄT WILHELMINA ZU BRAUNS	
	The Faculty of Electrical Engineering Technology, Physics at Technische Braunschweig	
	under President Professor	
	and under the Dean's Off	ice of Professor
	awards Mr/Ms (title,	
	name) from (place of birth)	
((* Doktorin der	the degree Naturwissenschaften or Doktors der Naturw Ingenieurin or Doktor-Ingenieurs after the proper doctoral examinatio completed with the disserta (Topic)	s (DrIng.) on process was
	and the oral examination on	(date),
	proving academic ability and r	esulting
	in the overall mark	
	Braunschweig, (date)	
President ((* Use CORRECT ((official seal) CHOICE	Dean of the Faculty of Electrical Engineering, Information Technology, Physics

Appendix 3 Title Page Tem	plate— <u>Submitted</u> Dissertation
	(Title of the dissertation)
	rical Engineering, Information Technology, iische Universität Carolo-Wilhelmina zu Braunschweig
	ree of Doctor)* of Natural Sciences (Dr. rer. nat.)) ineering Sciences (DrIng.) *)
	submitted dissertation
by (F	irst name(s), Surname) from (place of birth)
 Evaluator: *) Evaluator: (if applicable, additional evaluators): 	(please do not enter anything here) (please do not enter anything here)
Submitted on:	(please do not enter anything here)
oral examination/disputation *) on:	(please do not enter anything here)
Braunschweig,	

*) Use correct choice / cross out or delete other choice

Appendix 4	Title Page Template— <u>Approved</u> Dissertation
	(Title of the
	dissertation)
	From the Faculty of Electrical Engineering, Information Technology, Physics at Technische Universität Carolo- Wilhelmina zu Braunschweig
	to obtain the degree of Doctor)* of Natural Sciences (Dr. rer. nat.)) of Engineering Sciences (DrIng.) *)
	approved dissertation
by (First name(s), s	Surname) from
(place of birth)	
submitted on: DD/	/MM/YYYY
	disputation) *) on: DD/MM/YYYY
1. Evaluator: *) 2. Evaluator: (if applicable, addi	
evaluators) Year d	issertation was
printed: YYYY	
*) Use correct cho	ice/cross out or delete other choice
=======================================	
(Please note: If pu appropriate place:	blished with a publishing company, the book's ISBN should be included in an

Technology, Physics)

Appendix 5 Formal Minimum Requirements for Publication-Based Dissertations (cumulative dissertation) according to § 10(3)

Statement from Supervisor (Dr.-Ing.) or Mentor (Dr. rer. nat.)

A written declaration of agreement from the supervisor (Dr.-Ing.) or mentor (Dr. rer. nat.) for cumulative dissertations is required according to § 10(3). The declaration of agreement should include a statement on the quality and quantity of publications submitted as elements of the dissertation. This means the supervisor or mentor is included in a responsible position in the doctoral examination process.

Number of Publications, Language, Format

Typically, three publications must have been published in peer-reviewed academic journals or at least have been accepted for publication. In these articles, the doctoral candidate must have prominent position on the author list (first or last author); in other cases, the supervisor (Dr.-Ing.) or mentor (Dr. rer. nat.) must submit a statement that describes in detail the doctoral candidate's independent contribution to this publication and justifies why this contribution should be recognised as part of the dissertation.

There is no maximum number of publications. After fulfilling the condition listed above, articles that have only been submitted for publication may also be included. In the case of additional publications, the doctoral candidate does not need to be the first or last author.

The publications should be submitted. The title page is designed according to the template in Appendix 4 of the Doctoral Regulations.

Summary according to § 10(3) of the Doctoral Regulations

The summary, which describes the internal cohesion of the articles in a substantial manner, must be permanently bound at the beginning of the dissertation. There are no requirements as to the length of this summary.

Language Used for the Summary, Introduction and Discussion

For publication-based dissertations, the language used for the summary, introduction, and summarising discussion (outlook and future prospects) should be the language in which the majority of the publications included were written.

Additional Publications after Submitting the Dissertation

If additional, significant publications are made after submitting the dissertation, then they can be included in the later, final print of the mandatory copies of the dissertation.

These must be identified on an inserted sheet with the following statement:

"After submitting the dissertation and concluding the examination process, additional publications" ...(list)

Appendix 6, Annex A:

General Guidelines—Publication/Delivery of Dissertations

General Guidelines on Publishing and Submitting Dissertations (on § 15)

The FK EITP's Faculty Council passed these Guidelines on the day on which is passed the FK EITP Doctoral Regulations. The Guidelines go into effect at the same time as the Doctoral Regulations and are valid as of that date in the form last passed by the FK EITP's Faculty Council.

Possibilities for Publication

- a) <u>Publication with a Publishing Company (with ISBN)</u> The following is to be submitted to TU Braunschweig—University Library—Dissertation Office (UB):
 - For no charge, 4 copies of the dissertation in DIN A5 format with the title page shown in Appendix 4 of the Doctoral Regulations; (UB will issue confirmation);

The following are to be submitted to the FK EITP (only originals; if necessary, the FK EITP will make copies):

- Revision form (Appendix C);
 Chair of the doctoral committee submits form, permission to print from the FK EITP Dean
- UB confirmation that mandatory copies have been submitted;
- Written proof from publisher that at least 150 copies will be printed with IBSN;
- Summary of the dissertation (1 DIN A4 page) with supervisor's signature (Dr.-Ing.).
 - An additional, online publication is permitted with the publisher's approval.
 - Members of the doctoral committee each receive 1 printed copy.

b) Self-Published (without ISBN)

The following is to be submitted to TU Braunschweig— University Library—Dissertation Office (UB):

 For no charge, 40 copies of the dissertation in DIN A5 format with the title page shown in Appendix 4 of the Doctoral Regulations; (UB will issue confirmation);

The following are to be submitted to the FK EITP (only originals; if necessary, the FK EITP will make copies):

- Revision form (Appendix C);
 Chair of the doctoral committee submits form, permission to print from the FK EITP Dean
- UB confirmation that mandatory copies have been submitted;
- 20 copies of the dissertation in DIN A5 format with the title page shown in Appendix 4 of the Doctoral Regulations.
 - Of these, 10 go to the supervisor and 10 are circulated at the FK EITP
- Summary of the dissertation (1 DIN A4 page) with supervisor's signature (Dr.-Ing.).
 - Additional online publication is permitted.
 - Members of the doctoral committee each receive 1 additional printed copy.
- c) Publication of Significant Parts of the Dissertation in an Academic Journal. The following is to be submitted to TU Braunschweig— University Library— Dissertation Office (UB) and the FK EITP:
 - 6 copies of the dissertation with the title page shown in Appendix 4 of the Doctoral Regulations (UB will issue confirmation).
 - For doctorates for the degree Dr. rer. nat., the mentor's written confirmation of the publication must also be submitted.
 - For doctorates for the degree Dr.-Ing., the supervisor's written confirmation of the publication must also be submitted.

Appendix 6, Annex A 2. Page:

d) Cumulative dissertation

Only self-publication is possible. In addition, the title page in Appendix 4 is to be used with the note "cumulative dissertation".

The following is to be submitted to the TU Braunschweig— University Library— Dissertation Office (UB) and the FK EITP:

6 copies of the dissertation, typically in DIN A5 format. The individual publications must be clearly identifiable, and the dissertation must include a summary according to § 10(3).

e) Online Publication (without ISBN)

The following is to be submitted to TU Braunschweig— University Library— Dissertation Office (UB):

<u>General:</u> The corresponding UB guidelines according to the current "Guidelines on Publishing Dissertations in Electronic Form" of TU Braunschweig's UB apply (see UB homepage)

- For no charge, 4 printed copies of the dissertation in DIN A5 format with the title page shown in Appendix 4 of the Doctoral Regulations.

- Computer readable version on a data carrier (number, formats, type of data carriers, etc. according to the UB guidelines named above).

The following are to be submitted to the FK EITP (only originals; if necessary, the FK EITP will make copies):

- Revision form (Appendix C);
- Chair of the doctoral committee submits form, permission to print from the FK EITP Dean;
- UB confirmation that mandatory copies have been submitted;
- Printed copies and data carriers of the dissertation corresponding to the number of members in the doctoral committee in DIN A5 format with the title page shown in Appendix 4 of the Doctoral Regulations to be forwarded to the doctoral committee members;
- Summary of the dissertation (1 DIN A4 page) with supervisor's signature (Dr.-Ing;);
- A declaration of the equivalency of the printed and electronic versions of the dissertation.

Appendix 6, Annex B: Template for the Legally Binding Declaration (per § 8 of the Doctoral Regulations)

(Sender's information) First name Surname Street, House number, Postal code, City

Legally Binding Declaration according to § 8 of the Doctoral Regulations of the Faculty of Electrical Engineering, Information Technology, Physics at TU Braunschweig

For my dissertation with the title "(Title of the Dissertation)*", I hereby declare in a

legally binding manner that

- I have not yet submitted a request to obtain a doctorate,
- I wrote the dissertation myself (declaration of independent writing), that no text passages have been used from third parties or my own works without being marked as such, and that I have listed all of the aid and sources I have used in my work,
- I have not submitted the dissertation previously as part of an examination for a state or other academic examination,
- Third parties have not directly or indirectly received benefits in kind from me for brokering activities or work related to the content of the dissertation being submitted, that is, that the academic work has not been purchased or brokered in whole or in part by third parties for remuneration or other consideration,
- I have not yet submitted the same or a significantly similar work at another university as a dissertation),
- I have not yet submitted any other work at another university as a dissertation *),
- I have submitted the same or a significantly similar work at another university as a dissertation, and this work was marked with (XXXX) *),
- I have submitted a different work at another university as a dissertation, and this work was marked with (XXXX) *),
- I have not yet published the dissertation submitted *),
- I have published parts of this dissertation with the approval of the Faculty of Electrical Engineering, Information Technology, Physics at Technische Universität Braunschweig on DD/MM/YYYY *),
- I am aware of and have adhered to the principles of good scientific practice at TU Braunschweig,
- I am aware of and have adhered to the provisions in the valid Doctoral Regulations and consent to an examination according to the provisions in the Doctoral Regulations,
- I consent to the dissertation also being used to check whether generally accepted scientific standards were upheld, especially with the use of electronic data processing programmes.

Place, DD/MM/YYYY *)

Doctoral candidate's signature *)

) Use correct choice/Delete other choices

Appendix 6, Annex C:

Revision Form Template (for § 15 of the Doctoral Regulations)

Certification according to § 15 of the Doctoral Regulations of the Faculty of Electrical Engineering, Information Technology, Physics

Dear Ms/Mr <First name> <Surname>,

Before you have your dissertation printed, please present this revision form to the evaluators and the chair of the doctoral committee to be signed. The signed revision form gives you permission to publish the dissertation in the approved form.

Please submit the signed revision form together with the confirmation received from TU Braunschweig's University Library—Dissertation Office after submitting the mandatory copies of your dissertation to the Dean's Office of the Faculty of Electrical Engineering, Information Technology, Physics.

Braunschweig, DD/MM/YYYY

(Signature of the chair of the doctoral committee)

Revision Form

Date:

(Please note: Only letter A or letter B is possible). For the

dissertation by

Ms/Mr <First name> <Additional names> <Surname>, <Title>

A)

I hereby confirm that no changes or additions to the content of the dissertation have been recommended or required and that the changes made are limited to editing corrections.

Signature of the chair of the doctoral committee *)

B)

I hereby confirm that the changes made are changes and additions related to those recommended or required by the members of the doctoral committee or evaluators, and that all other changes are limited to editing corrections. All changes and additions to the content have been listed as an annex.

Signatures (evaluators and chair of the doctoral committee) *)

*) Fill out the appropriate section, delete the other section (include the letter A or B)

Certification according to § 15 of the Doctoral RegulationsPage 2of the Faculty of Electrical Engineering, Information Technology, Physics		
Please give this sheet to the candidate		
Approval of the type of publication by the doctoral committee		
In consultation with Ms/Mr <first name=""> <surname></surname></first> , this dissertation is to be made available to the scientific community according to the "General Guidelines for Publishing and Submitting Dissertations" of the Faculty of Electrical Engineering, Information Technology, Physics by		
• publication by a publisher (Appendix 6, Annex A, Letter a , Doctoral Regulations) *) or		
• self-publication (Appendix 6, Annex A, Letter b , Doctoral Regulations) *) or		
• publication in academic journals (Appendix 6, Annex A, Letter c , Doctoral Regulations) *) or		
o online publication (Appendix 6, Annex A, Letter e , Doctoral Regulations) *) or		
special regulation for the publication of publication-based dissertations ("cumulative dissertation")		
 self-publication (Appendix 6, Annex A, Letter d, Doctoral Regulations) *) 		
Braunschweig, DD/MM/YYYY		
(Signature of the chair of the doctoral committee) *)		
<u>*) Please fill out or tick the appropriate choice</u>		