

Statutes of the Doctoral School of Electrical Engineering at the Faculty of Electrical and Information Engineering at Graz University of Technology

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(1) Aims and content of the Doctoral Programme at the Doctoral School of Electrical Engineering.

The doctoral programme offered by the Doctoral School of Electrical Engineering focuses on scientific-technical issues. These are assigned to the engineering sciences subject of electrical engineering as well as to closely related fields. The programme aims at consolidating students' knowledge not just in the fields of electrical engineering, but also in neighbouring fields. The doctoral programme introduces students to advanced knowledge in the said engineering and natural sciences, not only in the context of their research, but also in adjacent areas. The programme reflects current research. Students who have been admitted to the programme in accordance with § 2, section 1 of the doctoral programme curriculum may be assigned to the Doctoral School of Electrical Engineering independent of their previous degree, as long as the content of their doctoral subject may be classified as belonging to the subject area of electrical engineering.

(2) Academic Degree

Graduates of the doctoral programme at the *Doctoral School of Electrical Engineering* who were admitted to the Doctoral Programme in Engineering Sciences will be awarded the degree of "Doctor of Engineering Sciences", abbreviated "Dr. techn".

(3) Objectives and Subject-Specific Qualification Profile

The objective of the doctoral programme is to provide students with the skills required for undertaking independent scientific work in their specific field of engineering and natural sciences as well as in related areas, in addition to the skills required for presenting and defending results at the very highest level.

Graduates of the Doctoral Programme in Electrical Engineering will have in-depth knowledge of the subject area of their dissertation, extensive experience in applying the scientific methods pertaining to electrical science, the ability to present and defend results and the ability to work constructively within a team. Graduates will have acquired the skills to apply latest scientific findings from the fields of engineering and natural sciences independently and in a wide range of applications.

(4) List of Member Institutes at Graz University of Technology

The Doctoral School of Electrical Engineering consists of the following institutes:

4310 Electric Drives and Machines Institute

4320 Institute of Electrical Power Systems

4330 Institute of High Voltage Engineering and System Performance

4340 Institute of Electricity Economics and Energy Innovation

4370 Institute of Fundamentals and Theory in Electrical Engineering

4430 Institute of Automation and Control

4520 Institute of Electronic Sensor Systems

(5) Inter-University Cooperation

The doctoral school welcomes inter-university cooperation initiatives as well as cooperation initiatives with research laboratories and industrial players. When students spend some time at external research institutions, it is recommended that they attend the subject-specific training or doctoral seminars offered at these research institutions. This attendance will, as a rule, be recognised as equivalent to the attendance of doctoral seminars offered at the doctoral school, to the extent that such attendance is required. Attendance of lectures and tutorials that are connected to the dissertation and are not offered at TU Graz shall also be recognised. No further special stipulations apply to this doctoral school.

(6) Structure and Tasks of the Coordinating Team

The Coordinating Team of the Doctoral School of Electrical Engineering is structured as follows: (Professors: Mid-level faculty members: Doctoral candidates) as in (1:1:1) with deputies (1:1:1). The members of the Coordinating Team shall be elected by the curiae every two years. The team appoints a chairperson and a deputy chair from among its members.

The tasks of the Coordinating Team are defined by § 3(4) of the doctoral study plan. Furthermore, the Doctoral School of Electrical Engineering recommends a trial presentation to be held prior to the viva voce. The date and time for this trial run must be communicated to the Doctoral School of Electrical Engineering as well as to the students allocated to this school. The dates and times of the viva voce must be communicated to all students allocated to the Doctoral School of Electrical Engineering as well as to all institutes allocated to the doctoral school.

7) Guidelines for the Supervision of Doctoral Candidates at the Doctoral School of Electrical Engineering

As a rule, supervisors of doctoral candidates will be lecturers holding a habilitation at the institute to which the doctoral candidate is allocated. A regular exchange between the doctoral candidate and his/her supervisor based on progress reports provided by the doctoral candidate shall be agreed on in writing at the beginning of the working relationship and adhered to throughout. It is the task of all doctoral supervisors to challenge and support doctoral candidates in equal measure. This support is for instance given in the form of targeted, timely feedback on presented results, in the mediation of subject-specific contacts within and outside the university and in the provision of opportunities for representing interim and final results.

(8) Guidelines for the Assessment of the Doctoral Dissertation

In accordance with the regulations of the doctoral curriculum, the assessors of a dissertation completed at this doctoral school must not be employed at the same institute. It is recommended that a colleague from a different university is consulted in the role of second assessor. Exceptions may be granted subject to approval of the supervisor and the Dean of Studies of the nearest related subject.

(9) Publication Guidelines at the Doctoral School of Electrical Engineering

As a rule, the Doctoral School of Electrical Engineering requires that doctoral candidates publish approximately two articles in international journals prior to completing their doctoral programme or have demonstrably submitted two such articles for publication and have had them accepted. In application-oriented research areas that are closely related to the student's field of research, a minimum of two articles should be published, submitted for publication and have been accepted either in relevant international journals or international conferences (subject to review procedures).

The dissertation may be written in German or English and, where applicable, must also contain a section highlighting any work completed jointly with third parties.

(10) Scope of the Curricular Workload within the Doctoral Programme

The basic extent of the curricular workload is 14 semester course hours, which are allocated down as follows: subject-specific basic modules acc. to § 6(2): 8 semester course hours; modules from "Scientific Methods and Communication" acc. to § 6(3): 4 semester course hours, of which 2 hours must be made up by the doctoral seminar; private tutorial acc. to § 6(4): 2 semester course hours. The sections and paragraphs specified here refer to the doctoral study plan.

(11) Subject-Related Basic Modules

Subject-specific basic modules must be selected by the doctoral candidate in close cooperation with his/her supervisor from the range of modules offered by Graz University of Technology.

The subject plan is subject to approval by the Dean of Studies of the most closely related study course. The selected subjects must correspond to the scope of the specific dissertation project as closely as possible, with the goal of providing doctoral candidates with the best possible level of qualification. The doctoral school recommends for instance modules from § 5a in the study programme for the master's degree course in Electrical Engineering. Modules that were completed as part of the course that qualified the doctoral candidate for admission to the doctoral programme (e.g. master's degree course) may not be chosen as subject-specific basic modules.

To support the concept of a broad basic educational foundation at a high level, students are strongly discouraged from choosing only lectures that take place at their supervisor's institute.

(12) Modules within "Scientific Methods and Communication"

The "Scientific Methods and Communication" part of the curriculum aims at teaching the theoretical knowledge and practical skills required for developing research results using scientific methods and to present and defend these results as illustrated by the following modules.

Due to the size of the doctoral school, the modules offered within the broader context of "Scientific Methods and Communication" shall be offered in a doctoral seminar that comprises 4 semester course hours in total and is not confined to a given semester. Mandatory attendance is required throughout the course of the dissertation. Every doctoral candidate at the doctoral school must present a progress report on his/her dissertation at least once per semester and attend the seminar as a listener at least one further time per semester. Attendance is confirmed by the conducting lecturer on an attendance sheet kept by the student. The certificate of attendance shall be issued by the conducting lecturer upon presentation of the attendance sheet.

As part of this seminar, progress and results of doctoral projects that are currently in progress at the Doctoral School of Electrical Engineering are presented. The seminar is partly offered as a block session, with four four-hour blocks to take place each semester. In these sessions, doctoral candidates will report on the progress of their projects. All doctoral candidates in the first semester of their doctoral degree must introduce their project outline to the doctoral seminar.

The Dean of Studies may accept applications to include other modules or courses in the most closely related field of studies if they are equivalent in terms of content.

(13) Private Tutorial

This is an opportunity for one-to-one engagement with the student's work offered by the supervisor and entails the studying and discussion of presented concepts, interim results, formulations etc. and concrete feedback provided by the supervisor.

(14) Rules for the Composition of the Board of Examiners for the Viva Voce

The board of examiners consists of 3-5 persons and shall function in the capacity outlined by § 7, section 2. The Dean of Studies for Electrical Engineering chairs the board or appoints a habilitated member of the faculty as a stand-in. Furthermore, the examination board comprises the supervisor and at least one further member, usually one of the assessors. At least one member of the board of examiners must come from outside TU Graz.

If the supervisor or the candidate requests this, the board of examiners may be extended from 3 to 4 or 5 members. If the candidate and the supervisor fail to agree on the desired number of board members, the largest suggested board of examiners will be formed to ensure the broadest possible range of opinion. If no publications according to section 9 of these statutes have been presented, the board of examiners shall comprise 5 members.

All members of the board of examiners must have a scientific qualification that is equivalent to habilitation.

(15) Rules for Conducting the Viva Voce

The date and time for the viva voce as well as the composition of the board of examiners must be announced at least two weeks in advance via e-mail to all members of the doctoral school.

The viva voce is open to the public. As a rule, the viva voce consists of a presentation given by the doctoral candidate of the research work that he/she has completed and the content of his/her dissertation, e.g. the scientific problem formulation, the selected research methodology, the main areas of emphasis and the main results.

Furthermore, there will be an examination during which questions are asked on the dissertation and its presentation as well as closely related subject areas. The examination will be conducted by the board of examiners.

All persons present shall have the right to ask questions on the presentational part of the viva voce, at the discretion of the chairperson.

(16) Confidentiality Agreements

In many cases, the work that the doctoral candidate completes during his/her studies is financed through cooperation projects with industry players or other partners (universities, research laboratories etc.) who usually require the results obtained during the programme and documented in the dissertation to be treated confidentially.

Dissertations, however, are subject to the disclosure requirement stipulated in § 86, University Studies and Organisation Act 2002. In well-founded exceptional cases, access to the dissertation may be blocked by mutual agreement between the doctoral candidate, his/her supervisor and the industrial partner in question, thus ensuring confidentiality for the duration of the block.

However, in accordance with section (9), all partners should still aim for publication of dissertation results to an extent that is acceptable to all parties concerned. Any confidentiality agreements that must be concluded should also regulate the doctoral candidates' right to present results at conferences and at the doctoral seminar.