
Statutes of the Doctoral School of Geosciences

Version 1.0 from 2020-08-06

These statutes were written by the coordination team of the Doctoral School of Geosciences. The Doctoral School constitutes the formal framework in which the members of the Doctoral School act. The members are employees with a teaching qualification for the associated institutes as well as the assigned doctoral candidates. The coordination team for the Doctoral School, together with the officer responsible for study matters, is responsible for the content-related implementation of the subject-specific details according to § 3 (4) of the currently applicable curriculum.

The curriculum for the Doctoral Programme in Technical Sciences and the curriculum for the Doctoral Programme in Natural Sciences at Graz University of Technology are applicable in the currently valid version.

The Doctoral School of Geosciences is a joint scientific Doctoral School of the Institute of Applied Geosciences and the Geodetic Institutes of the Graz University of Technology and is further subdivided into the classes *Geodesy* and *Earth Sciences*.

1. Scope of the Doctoral School of Geosciences

The doctoral programme at the Doctoral School of Geosciences (German title: *Doctoral School Geosciences*) deals with problems in the technical and natural science fields of geodesy and geosciences and closely related subject areas. The doctoral programme develops advanced abilities of the candidates in the engineering and natural sciences mentioned, not only in the field of their subject of research, but also in related areas. The training takes place alongside research activities. Students who have been admitted to the programme in accordance with § 2 (1) of the doctoral programme curriculum may be associated with the Doctoral School of Geosciences independent of their previous degree, as long as the content of their doctoral subject may be classified as belonging to the subject area of geosciences.

2. Academic degree to be awarded

Graduates of the doctoral programme at the Doctoral School of Geosciences who were admitted to the Doctoral Programme in Technical Sciences are awarded the academic degree “Doctor of Technical Sciences” (abb. Dr. techn.). Graduates who were admitted to the Doctoral Programme in Natural Sciences will be awarded the academic degree “Doctor of Natural Sciences” (abb. Dr.rer.nat.).

3. Objectives and subject-specific qualification profile

The objectives of the doctoral programme are to develop skills for independent scientific research, to advance knowledge of the graduates in the specific and related subject areas of their doctoral thesis, and to provide doctoral candidates with the abilities needed to present and defend research results at the highest level. Graduates of the Doctoral School of Geosciences have in-depth knowledge about the areas of their doctoral theses, extensive experience with the application of scientific methods in the technical and natural sciences, skills in presenting and defending research results, and the ability for teamwork. A graduate of this Doctoral School is able to independently implement the latest scientific knowledge from the fields of technical and natural sciences and their areas of application.

4. Subjects of the Doctoral School

a. Associated institutes

The following institutes are assigned to the Doctoral School of Geosciences:

Class of Geodesy:

Institute of Geodesy

Institute of Engineering Geodesy and Measurement Systems

Class of Earth Sciences:

Institute of Applied Geosciences

b. Cooperation partners

The Doctoral School is intended as a cooperation with the Institute of Geography and Regional Sciences and the Institute of Earth Sciences of the University of Graz as part of the Faculty of Natural Sciences NAWI. The guidelines of this cooperation are listed in the Statutes of the Doctoral School of Earth, Space and Environmental Science (ESES). The Statutes of the Doctoral School ESES are available at <https://erdwissenschaften.uni-graz.at/en/doctorate-school/>.

5. Structure and tasks of the coordination team

The Doctoral School of Geosciences is headed by a tripartite coordination team, consisting of two professors, two representatives of the non-professorial teaching staff (habilitated) and two representatives of the doctoral candidates in the field of geodesy and applied geosciences. A balanced representation of the two classes should be guaranteed.

The members of the coordination team of the Doctoral School of Geosciences are nominated by their respective peers. The coordination team elects a chairperson and a deputy chairperson.

Based on proposals from the members and in consultation with the officer responsible for study matters, the coordination team compiles a course catalogue and assumes the tasks specified in the curriculum for the Doctoral Programme in Technical Sciences and in the curriculum for the Doctoral Programme in Natural Sciences at Graz University of Technology.

Student representatives of the coordination team

The doctoral candidates of the Doctoral School elect a representative and a deputy representative per “class” for a three-year term. The representative participates in the preparation of the course plans for “Scientific Methods” and the doctoral seminar. The representative has the right to be heard in the event of disagreement (as outlined in § 4 (8) of the curriculum).

6. Guidelines for supervision and mentoring

Mentors should come from the Doctoral School environment and have earned at least a doctorate or equivalent academic degree. They do not have to be explicitly affiliated with the Doctoral School of Geosciences or Graz University of Technology (e.g. mentor from cooperating company). The mentor is to be nominated by the coordination team on the recommendation of the doctoral candidate. To maintain confidentiality, both the mentor and the mentee must sign a separate non-disclosure agreement before mentoring begins. Mentoring should aim to provide informal and confidential support to the doctoral candidate. The mentors should support the mentees in making progress with their studies and in dealing with the supervisor throughout the entire duration of the doctoral programme.

7. Instructional classes

7.a) Scope: The scope of the curricular workload totals 14 semester course hours per week (SWS) and consists of subject-specific basic courses totalling 6 SWS, courses from Scientific Methods and Communication totalling 6 SWS, and an exclusive tutorial for doctoral programmes totalling 2 SWS (§ 6 (4) of the curriculum).

7.b) Subject-specific basic courses: The course catalogue of subject-specific basic courses includes all courses (with the exception of those of the bachelor’s programme) offered at the institutes associated with the Doctoral School and commissioned by the officer responsible for study matters. All of the courses in the catalogue may be chosen, provided they have not already been completed for the master’s degree programme.

Each doctoral candidate must submit a list of the courses selected for the curricular workload, which must then be discussed with the supervisor and confirmed by the officer responsible for study matters. This course plan should include courses relevant for and support the work on the doctoral thesis. To support the concept of a broad basic educational foundation at a high level, doctoral candidates should not only choose lectures that are given at the institute of their supervisor.

It is expressly stated that doctoral candidates also have the option of choosing courses from outside the course catalogue of the Doctoral School (see § 6 (2) 4 of the curriculum¹).

Examinations completed at recognised national or international post-secondary educational institutions, universities or non-university research institutions (for instance summer schools or specialist courses) may also be approved by the officer responsible for study matters if equivalence is met. Courses that doctoral candidates have already completed as part of their master's degree programme are not admissible.

7.c) Scientific Methods and Communication: The “Scientific Methods and Communication” part of the curriculum aims at teaching the theoretical knowledge and practical skills required for obtaining research results using scientific methods and to present and defend these results.

The subjects “PhD Seminar I” (2 SWS) and “PhD Seminar II” (2 SWS) are jointly held as a block session. All doctoral students take part and give presentations; all members of the Doctoral School are invited to participate as listeners. All doctoral candidates present their research objectives in the PhD Seminar I at the beginning of the Doctoral School. During the doctoral degree programme, intermediary results of their research must be presented twice in the context of the PhD Seminar II. For the PhD Seminar II, it is recommended to hold the first research progress presentation after the first year and the second after two years of the doctoral degree programme.

In the seminar “Scientific Work” (2 SWS), the doctoral candidates learn the methodology necessary for carrying out scientific work. The basic procedures and practices of research in the fields of geodesy and earth sciences are deepened and discussed.

In addition, doctoral candidates must complete the Soft Skills course with one semester course hour per week. Internally or externally completed courses in the field of soft skills can be recognised for the course “Soft Skills Doctoral School Geosciences”. Courses completed as part of university-internal continuing education or external further training institutions can also be recognised for the Doctoral School after prior approval by the Dean of Studies or the supervisor.

Possible courses:

- Rhetoric and Presentation Advanced, course no. 373.483
- Communication Styles, Discussion Techniques and Rhetoric, course no.940.942/943
- Scientific Writing Skills for Master and PhD students (C1), course no.940.085/086

Possible courses for university-internal continuing education:

- Tips and Tricks for Conducting your Dissertation Work
- Rhetorik für Gespräche und Meetings: Argumentation, Gesprächstechniken, Moderation (Rhetoric for conversations and meetings: argumentation, conversation techniques, moderation)
- Präsentation und Rhetorik (Presentation and rhetoric)

¹ Curriculum in the version approved by the Senate of Graz University of Technology on January 15, 2019.

- Effective Scientific Writing in English
- Scientific Writing: From a Blank Page to the Finished Paper without Burning Out in the Process
- Intercultural Interaction
- Self-Leadership
- English for Scientific and Academic Purposes

Overview of instructional classes:

§ 6 (1) Total 14 SWS

Class of Geodesy:

- § 6 (2) Subject-specific basic courses (6 SWS)
- § 6 (3) Scientific Methods and Communication (6 SWS)
 - Scientific Work (2 SWS)
 - Doctoral seminar
 - Presentation of the doctoral project - PhD Seminar I (1 SWS)
 - 2x participation in the PhD Seminar II (2x 1 SWS)
 - Soft Skills Doctoral School Geosciences (1 SWS)
- § 6 (4) Exclusive tutorial for doctoral programmes (2 SWS)

Class of Earth Sciences:

- § 6 (2) Subject-specific basic courses (6 SWS)
- § 6 (3) Scientific Methods and Communication (6 SWS)
 - Scientific Work (2 SWS)
Geosciences workshop
 - Doctoral seminar
 - Presentation of the doctoral project - PhD Seminar I (1 SWS)
 - 2x participation in the PhD Seminar II (2x 1 SWS)
 - Soft Skills Doctoral School Geosciences (1 SWS)
- § 6 (4) Exclusive tutorial for doctoral programmes (2 SWS)

8. Publication guidelines at the Doctoral School

At least one publication on the topic of the doctoral thesis in an international, peer-reviewed scientific journal must be provided by each doctoral candidate. Acceptance of the publication is deemed sufficient as proof of publication. The coordination team may, together with the officer responsible for study matters, also accept a publication in international conference proceedings by majority vote. If no publication exists, at least three reviews must be obtained for assessments of the doctoral thesis.

9. Guidelines for writing the doctoral thesis

A doctoral thesis must be written as part of the Doctoral Programme in Technical Sciences and the Doctoral Programme in Natural Sciences at Graz University of Technology (see § 5 of the curricula). The doctoral thesis may be written in either English or German and can take the form of a monograph or a collection of several papers.

If the doctoral thesis is a collection of papers, it must include at least three peer-reviewed papers with first authorship that have already been accepted for publication in recognised specialist journals, or two with first authorship and two with co-authorship and a substantial portion from the doctoral thesis subject area. In the case of a collection of several papers, the doctoral candidate's share of work must be clearly stated in the introductory chapter.

The publication of monographs in international peer-reviewed publication media is also recommended. If publication of the doctoral thesis was not possible, at least three reviews must be obtained for the evaluation of the doctoral thesis (see § 10, Guidelines for the assessment of the doctoral thesis).

The doctoral candidate must submit four hard-bound copies of the doctoral thesis. If a third reviewer has to be consulted, five hard-bound copies of the doctoral thesis must be submitted.

A checklist from the Dean's Office for registering for the doctoral examination of the "Class of Geodesy" can be found on TU4U.

<https://tu4u.tugraz.at/studierende/organisation-und-administration/studienadministration-durch-dekanate/dekanat-fuer-mathematik-physik-und-geodaesie-dev/studienrichtung-vermessung-und-geoinformation-geospatial-technologies/doctoral-school-geosciences-class-of-geodesy/>

A checklist from the Dean's Office for registering for the doctoral examination of the "Class of Earth Sciences" can be found on TU4U.

<https://tu4u.tugraz.at/studierende/organisation-und-administration/studienadministration-durch-dekanate/dekanat-fuer-bauingenieurwissenschaften/doctoral-school-geosciences-class-of-earth-sciences/>

10. Guidelines for the assessment of the doctoral thesis

The doctoral thesis is assessed by two evaluators in accordance with § 31 (4) of the Excerpt of Statutes Legal Regulations for Academic Affairs. If no publication exists, at least three reviews must be obtained for assessments of the doctoral thesis. The pre-selection of the evaluators according to § 5 (2) of the curriculum¹ is carried out by the coordination team members of the Doctoral School. The habilitated members of the Doctoral School must be informed of the pre-selection and have the option of giving their opinion on the selection. Pre-selection of the evaluators should be completed at least two months before submitting the doctoral thesis. From this point on, all evaluators must familiarise themselves with the preliminary version of the doctoral thesis. This enables the doctoral candidate to take any suggestions for improvement into consideration in good time.

¹ Curriculum in the version approved by the Senate of Graz University of Technology on January 15, 2019.

11. Guidelines for the doctoral examination

a. Guidelines for the doctoral examination process

The doctoral examination consists of two parts:

- a presentation by the doctoral candidate on their doctoral work lasting 30-45 minutes. All members of the Doctoral School of Geosciences are invited to this presentation. After the presentation, the audience must be given the opportunity to ask general questions about the presentation. Answering these questions from the audience is not part of the overall grading process for the doctoral examination.
- an oral examination by two examiners from the subject area. A 20-25 minute period is allocated for each of these oral examinations.

12. Confidentiality agreement

The habilitated members of the Doctoral School and the doctoral candidate representative on the coordination team must provide a written confidentiality agreement. This agreement refers in particular to (i) reports and statements issued by the doctoral candidate and his/her supervisor (§ 4 (4, 6) of the curriculum), (ii) any aspects regarding the assessment of a doctoral thesis (§ 5 (2) of the curriculum), and (iii) the overall scope of the doctoral project and the doctoral thesis as whole, if access to the doctoral thesis is blocked or restricted by the officer responsible for study matters (§ 5 (1, 7) of the curriculum).

13. Transitional arrangement

The present statutes are applicable to doctoral candidates who are subject to the curriculum for the Doctoral Programme in Technical Sciences and the curriculum for the Doctoral Programme in Natural Sciences at Graz University of Technology, version 2019, which came into effect on October 1, 2020. Regular doctoral candidates who began the Doctoral Programme in Technical Sciences or the Doctoral Programme in Natural Sciences at Graz University of Technology before October 1, 2020 and did not submit to the curriculum in the 2019 version are entitled to continue and complete their doctoral programme in accordance with the statutes that were previously valid until September 30, 2024.