Doctoral programme
-
Doctoral School of Mechanical Engineering

Chairperson, Coordinating Team,
Doctoral School of Mechanical Engineering :
J. Woisetschlüger

Doctoral seminar 29.10.2015
Three articles organize the programme

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Curriculum for the Doctoral Programme in Technical Sciences

Curriculum 2007 in the version of 2012

Legal novelty reserve restricted to the German original.

The changes to the curriculum for the Doctoral Programme in Technical Sciences were decided by the Senate of the Graz University of Technology.

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§ 1 Objective and Qualification Profile

(1) Beyond professional education, the objectives of the Doctoral Programme in Technical Sciences at Graz University of Technology are to develop students' abilities to do advanced, independent scientific research and to prepare them for scientific careers.

(2) The qualification profile of the Doctoral Programme in Technical Sciences is based on the following principles:

- The graduate is capable of performing independent scientific research.
- The graduate has a broad and balanced view of the interdisciplinarity and interdisciplinarity of scientific research.
- The graduate has a good understanding of the requirements and competencies in the field of research.
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§ 2 Admission, Curriculum Workload and Period of Study

(1) Applicants are admitted to the programme by the Rector. Further to the general requirements according to § 30 and § 43 of the Rector, the Senate of Graz University of Technology is responsible for the examination of the applications for admission.

- a relevant master's degree in the sciences, or
- a relevant degree in the sciences, or
- a degree of a recognized foreign or foreign higher education equivalent to number 1, 2, or 3.
Doctoral programme

Official period of the programme CURR §2: 3 years

- Yearly progress report - written statement by supervisor

Year 1
- Presentation
- Yearly progress report - written statement by supervisor

Year 2
- Yearly progress report - written statement by supervisor

Year 3
- Yearly progress report - written statement by supervisor

Year 4
- Justification! CURR §4

Year 5

Instructional classes

- Scientific Methods and Communication 4 SCH (semester course hours)
  Examples STAT Sec.12. Dean of study must accept the choice!
  included: Doctoral Seminar 2x1 SCH, one year seminar, mandatory!

- Subject-specific basic courses 8 SCH (STAT Abs. 11), dean of study
  must accept the choice! 50 % rule does apply. (max. 50% of courses
  from one institute)

- Exclusive Tutorial 2 SCH (STAT Abs.13) by supervisor.
Doctoral thesis
SSTR §28, CURR §5, STAT Abs.7

- In the course of the doctoral studies, a doctoral thesis is to be written, which proves the doctoral candidate’s ability to master new scientific problems independently.

- Support by a supervisor in all questions concerning state of the art, scientific methods and encouraging independent scientific publication. (faculty member with venia legendi: SSTR §26; duties of the supervisor: STAT Abs. 7, CURR §4)

- The student must deal seriously and intensively with the topic of her or his work. (The student may suggest the topic, has a free choice in supervision, and might change the supervisor, all within the possibilities of the university SSTR §28, CURR §4, STAT Abs. 7)
The first semester

During the first Semester you will present yourself briefly within the Doctoral Seminar, must sign the agreement (Ausbildungsvereinbarung) and choose the instructional classes (curriculare Anteil).

Ausbildungsvereinbarung
- Anmeldung einer Dissertation

Presentiert

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The Doctoral School Mechanical Engineering offers two days of seminar each semester = 1 SCH (each seminar with app. 7 x 45 min, workshop style).

- 2 x 1 SCH, **4 seminars (4 days) must be completed.**
- You **must present yourself briefly at the beginning of the doctoral program and give one 20 min presentation later on.**
Doctoral seminar

- "catch up" on seminars in the next semester is possible, an attendance list does circulate during class.
- In case of too many lecturers a 3rd class can be offered within the same semester. But, by participating in 4 seminars the 2 x 1 SCH are fulfilled anyways!
Doctoral seminar – presenting yourself

- **5 minutes maximum!** In that time you should present yourself briefly (short academic curriculum) and give an overview on the PhD project you tend to tackle. Projector und laptop are at your disposition.

**Checklist:**
- Where are you from, what did you study?
- What is the objective of your scientific work?
- Will you work experimentally or numerically?
- Who is your supervisor?
- At which institute (company) are you employed?
- In which lab will you carry out your research?
- Financing?
- Are there any research partners (external companies, internal institutes other than the one mentioned above)?
Doctoral seminar – presenting your work

- The presentation is expected to last for 20 minutes with additional 10 minutes for discussion.
- You should download your presentation to the laptop placed at the console before the seminar starts. Please test the presentation in case you have animated transparencies. Whenever special animations are required, please plug in and test your personal laptop before the seminar starts!
- At first, mention your supervisor, your supervising institute, your employee (if not identical) and the project funding.
Doctoral seminar: What can you expect from the audience?

- deepened mathematical knowledge.
- deepened scientific knowledge (physics, chemistry, informatics, diagnostics).
- basic knowledge on design and construction, mechanics, dynamics, fluid mechanics, thermodynamics, and materials science.
- basic principles of business administration.

The presentation should be easy to follow so that all members of the Doctoral School are properly informed about your scientific task. A scientific discussion on the topic shall be triggered.

A Feedback Form is distributed to all participants of the seminar. The result of this feedback can be reviewed by you only.
Doctoral seminar - feedback

Feedback zu den Vorträgen im Rahmen des Dissertantenseminars der Dr. School Maschinenbau (LV Nr. 300.001)

05.11.2009

Vortrag 1: Dipl.-Ing. [Name]

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Kommentar zum Vortrag:

__________________________________________________________________________

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__________________________________________________________________________
Choosing the referees

The referees should be pre-selected 2 months before submission of the PhD thesis at the latest. (CURR §5).

Vorauswahl der Gutachter/Gutachterinnen

- Doctoral School Maschinenbau
- Doctoral School Techno-Ökonomie


Pre-selection of referees

- Doctoral School Maschinenbau
- Doctoral School Techno-Ökonomie

2 month

Submission

year 3

year 4

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Referees

- According to SSTR §26 referees are **university lecturers with venia legendi**. At least **one referee** should be from a university **other than TU Graz**. The referees of a PhD thesis completed at this doctoral school must **not be all employed at the same institute**. (CURR §5, STAT Abs. 8).

- According to international conventions the assessment is by **novelty, self-reliance and consistency**.

- **Two referees** have to evaluate the doctoral thesis (manuscript) within **4 months**. (SSTR §28).

- It is good practise at TU Graz that **the first referee** is also supervisor of the work and examiner at the rigorosum. (CURR §5). The **second referee** can be choosen from a related field of expertise (SSTR §28).

- A **third referee** is needed whenever there is evidence that **no reviewed publications** in international journals or international conference proceedings can be submitted by the candidate.
Publications

- „Publication of finished parts of the PhD thesis in international scientific media, even before assessment, is recommended. If evidence of such publications cannot be provided at the time of appointment of the referees, at least three referee reports are required. At least one report must come from outside Graz University of Technology.“ CURR §5

- „The Doctoral School of Mechanical Engineering requires doctoral candidates to publish approximately two refereed articles in international journals or at international conferences prior to completing their doctoral studies. Articles must be submitted, accepted for publication or published.“ STAT Abs. 9
What is a publication?

- **Publishing finished parts of the thesis even before assessment:** To publish parts of the thesis as articles in international journals or at international conferences (full-text papers, reviewed).

- **Publico, publicare:** To make public. A valid publication is often proven by the **ISBN** (international standard book number), **ISSN** (international standard serial number), **DOI** (digital object identifier) or any digital link within the **world wide web**.

- **First author:** If several authors participate in a piece of research or in a further published work based on the previous one, they all always bear the responsibility for the contents together. (“Policy of the Rectorate of Graz University of Technology on Safeguarding Good Scientific Practice and Avoiding Misconduct in Science”:§5 Abs.2)

- **Refereed publication:** positive reports by anonymous referees are needed. These referees must work within the same field of expertise compared to the submitting authors. („Peer review“ = “Begutachtung durch Ebenbürtige”)

**The Doctoral School does not rank refereed journals or proceedings!**
...Unfortunately, the paper does not achieve enough in either of these two categories to guarantee publication and therefore I recommend rejection. ... The insights revealed are hidden in unclear text and messy presentation, so there is no message. It may be that with extra data, and further analysis, the present manuscript could be extended into a good paper, so I would also recommend to the authors to think about the issues below and re-submit a better paper at this or at another journal. It would be so different than this one, however, that I could not consider it as a "revision".

Reviewer #2: Congratulations to the important, clearly presented and accurately elaborated work.
Documentation of publications

In order to document the publications, the backside of the form “Vorauswahl der Gutachter“ has to be completed. This form must be signed by the supervisor and the chairperson of the Doctoral School.

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<th>Vorauswahl der Gutachter/Gutachterinnen</th>
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<td>TU Graz</td>
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In order to complete the form, the backside must be filled out by the supervisor and the chairperson of the Doctoral School. The form must then be signed by both parties.

Choosing the referees

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Board of examiners

- In most cases the **examiners** during the rigorosum will be identical with the referees, although this is no necessity (CURR §7). The supervisor will then be the first referee. The second referee will also act as examiner.

- **Examiners and referees must be accepted by the dean of studies.**

- The **board of examiners** must consist of **three persons**. The second examiner must be a competent university lecturer with venia legendi. In most cases the dean of study will be chairperson. In case he is prevented for any reason he will choose a qualified chairperson to replace him. (STAT Abs.14).

- During the **rigorosum** a presentation (20min) must be held by the doctoral candidate and the examiners will question the scientific work conducted. Presentation and examination are public, with only the examiners allowed to question the work (STAT Abs. 15).
An **information sheet** is available at the faculty to help when submitting the thesis and preparing the materials for the rigorosum.
Thesis submission

- The candidate must add a statement in lieu of oath to the thesis.
- A doctoral thesis must comply with the Policy of the Rectorate of Graz University of Technology on Safeguarding Good Scientific Practice and Avoiding Misconduct in Science.
- Plagiarism check: The supervisor is responsible for a digital plagiarism check of the thesis. The result must be available when the thesis is submitted.
To lock the thesis from public

- In the fields of technology the thesis can be classified for up to 5 years, by the candidate only. The supervisor and the dean must agree. This is often needed when industry partners are involved. Such a classified thesis cannot be accessed from any person outside TU Graz.