

Guideline to doctoral studies Dr. rer. nat.

1) Doctoral Project

Admission requirements

- Applicants who have:
 - 1) completed a degree in a natural science subject (Bachelor, master's, state examination, or comparable scientific degree) at a scientific university or university of applied sciences in Germany
 - 2) received above-average results: final thesis at least ranked as "good" and the overall grade not lower than 2.5.
 - 3) meet the requirements in accordance with §6, paragraphs 1 and 5 of the general doctoral regulations of the University of Augsburg (APromO).
- Natural science subjects include in particular: physics, biology, chemistry, biochemistry, geology, pharmacy, psychology, neuroscience, food chemistry, engineering and IT sciences, agricultural and nutritional sciences, earth sciences, and related fields.
- If the admission requirement of an above-average degree completion is not met, the faculty's doctoral committee may, upon request, determine the general requirements for admission to the doctoral studies. This is possible if two of its members are entitled to participate in that in accordance with §2, paragraph 1, of the general doctoral regulations (APromO). Both authorized doctoral committee members approve the application and one of them agrees to supervise the dissertation.
- The faculty's doctoral committee shall, upon request, determine the requirements for admission to the doctoral project for applicants who can provide evidence of a degree from a foreign university.
- If the other requirements are met, individuals who have completed a diploma program at a university of applied sciences in a subject closely related to the intended doctoral subject, with at least an overall grade of 1.5, and have demonstrated the ability to conduct scientific work through the successful completion of two oral examinations, may also be admitted. The applicant must have achieved at least a rank of "good" in each examination subject. Admission to the doctoral project also requires:
 1. A university professor from the Faculty of Medicine who agrees to supervise the doctoral project.
 2. Two further professors from the Faculty of Medicine who approve the admission of the applicant to the doctoral procedure in separate statements.

Supervision agreement

- In all cases, the consent of the institution's management where the doctoral project is carried out is required for the use of the corresponding work facilities.
 - **The doctorate Dr.rer.nat. is completed over an average period of 3-4 years.**
- Before registering the doctoral project, a supervision agreement must be concluded between the doctoral candidate and the main supervisor (doctoral supervisor), in which the specific topic of the doctoral project as well as the mutual rights, obligations, and framework conditions are regulated.
 - The main supervisor for a doctoral project may be appointed from among those who academically represent the field into which the dissertation falls at the Faculty of Medicine of the University of Augsburg. The main supervisor is eligible to participate in accordance to section 2 of the general doctoral regulations (APromO) and should hold a doctorate in a natural science subject (§4 PromOMed Dr.rer.nat.). In exceptional cases, the faculty's doctoral committee may allow an external main supervisor to be appointed.
 - A research associate can be designated by the main supervisor as a direct additional contact person for the co-supervision of a doctoral project. The co-supervisor should be named in the supervision agreement as well as the supervision agreement.
 - The supervision agreement should briefly describe the doctoral project (see template, a maximum of 300 words). The following points should be addressed in the agreement:
 - Brief introduction to the topic and the scientific research question.
 - Methods and materials to be used.
 - Approach used to based and generate the hypothesis.
 - Background information on the topic (2-3 literature references).
 - Specific research question to be addressed.
 - Clearly defined timeline which includes the work already done as preliminary work and the tasks yet to be completed.

Registration of the doctoral project

- The complete application form to register the doctoral project must be submitted no later than 10 working days before the meeting date of the faculty's doctoral committee. The meeting dates and submission deadlines are publicly available on the homepage of the Faculty of Medicine. The following attachments must be included with the application form for the doctoral project:
- Copy of the supervision agreement.
- Project description.
- Copies of the academic transcript or comparable lists of achievements obtained as part of the university degree program.
- Certified copy of the university degree certificate.
- Declaration of consent to use the work facilities signed by the institution's management where the doctoral project is carried out.
- If applicable, proof of sufficient German or English proficiency to carry out a doctoral project.

The documents must be sent as one single PDF document to promotion@med.uni-augsburg.de. The originals documents must also be sent by (international) mail to the Office of Academic Affairs (Büro für Akademische Angelegenheiten)

Thesis advisory committee/ Target agreement and evaluation

- A thesis advisory committee (TAC) must be appointed no later than 3 months after admission to the doctoral project. For the composition of the advisory committee, see section 7, paragraph 1, of the Doctoral Degree Regulations of Dr. rer. nat. (PromOMed Dr.rer.nat.) or the TAC information document. In addition to the main supervisor, two other scientists must be appointed to the TAC who can provide the best possible support for the project and the candidate. It is recommended that one of the members of the TAC belongs to another faculty of the University of Augsburg or an external university. The composition of the TAC must be communicated to the Office of Academic Affairs within the specified deadline by submitting the provided form. The first TAC meeting can only take place after the TAC is officially approved by the faculty's doctoral committee.
- Further details on the required tasks by the doctoral candidate are to be specified in a **target agreement, which must be concluded within 3 months after the appointment of the TAC.** The target agreement is finalized between the candidate and the TAC members.
- Regular (annual) meetings with the TAC are recommended.
- The TAC conducts an evaluation of the doctoral project no later than 18 months after its initiation and submits this evaluation in writing to the faculty's doctoral committee. The evaluation should document the extent to which the required tasks and evidence outlined in the target agreement have been fulfilled and whether admission to the doctoral program is recommended.
- Proof of scientific competence must be provided by the time the doctoral project is completed. This can be achieved either through participation in a structured doctoral program or through equivalent scientific competencies acquired outside the university. It is the responsibility of the faculty's doctoral committee to assess and recognize the proof of scientific competence or, if necessary, impose requirements for participation in specific modules of a structured doctoral

2) Doctoral Thesis

General information

- The dissertation should be written as an independent scientific work (monograph) or a cumulative thesis in German or English.
- The dissertation must always include a summary in German and English.
- Make sure you comply with the current data protection guidelines and do not include any personal data in your dissertation.
- Abbreviations are to be introduced the first time they are mentioned in the text. Subsequently, only the abbreviation is to be used. Abbreviations should be introduced if they subsequently appear at least twice.
- Refer to each figure and table in consecutive order when mentioned in the body text of your dissertation.
- Pay attention to the use of gender-equitable language in the composition of your dissertation.
- Before submitting your dissertation, conduct a careful spell check in addition to a plagiarism check, and ensure that all aspects summarized in this guide have been considered.

Cumulative thesis

- The minimum requirement for a cumulative dissertation is three scientific publications of original research or detailed systematic reviews/meta-analyses that have been accepted for publication in recognized peer-reviewed journals (Editorial letters, case reports, and similar publications are not accepted). The doctoral candidate must have made the most significant contribution to two of the publications. For all publications, it should be clearly and comprehensibly stated in which parts did the candidate contribute (e.g., in study design, data collection, data analysis, manuscript drafting). This must be confirmed in writing by all co-authors.
- **Before preparing the cumulative dissertation, the candidate and the TAC must submit a request for approval to the faculty's doctoral committee. The application must be accompanied by a written justification, along with a list of the publications that are to be included in the thesis.**
- The cumulative dissertation must include an introduction and a discussion in German or English, which provide a comprehensive framework for the scientific question underlying the publications. These should demonstrate how the publications are connected to scientific questions.
- A cumulative dissertation must be noted on the title page (see: title page template).

Summary	The dissertation must include a summary in German and English (Maximum length: each 1-2 pages).
Directories	- All abbreviations must be listed alphabetically in a separate table specified for that. - The numbers and legends of all figures and tables must be stated in a list of figures and a list of tables. - Please use a reference management program (e.g., EndNote) to generate the references list. - The citation style must be consistent throughout the dissertation, using the international abbreviations of the respective journals.
References	In general, you should adhere to the following rules when citing: - All sources cited in your dissertation should be accessible to the public and thus verifiable. - Cite the most current version of a source (e.g., the latest edition of a book) and ensure that the version you used is listed in your bibliography. You should not cite texts that you do not have access to or only have as an abstract of the publication.
Plagiarism check	- Prior to submitting the manuscript of your dissertation and initiating the doctoral process, a plagiarism check must be conducted according to the doctoral regulations. - For this purpose, a plagiarism software endorsed by the faculty's doctoral committee must be used. At the Faculty of Medicine of the University of Augsburg, the software "<i>Similarity</i>" from <i>Turnitin</i> is designated for this purpose. The main supervisor will receive an account through which the check can be conducted. - The doctoral candidate will have only one opportunity for revision after the initial plagiarism check. The subsequent second check will be binding. The plagiarism check report as well as the declaration of release, must be attached to the application for the doctoral degree. - Guidelines and the template for the declaration of release are available on the website of the Faculty of Medicine at the University of Augsburg: (Website link will be inserted).

3) Application for Doctoral Degree

Submission of the doctoral thesis	After completing the dissertation, the doctoral candidate submits the application to initiate the doctoral process according to §8 PromOMed Dr.rer.nat.: The application for the doctoral degree must be accompanied by the following documents: • 3 Copies of the Dissertation, every copy bound in DIN A4 format. • Dissertation in electronic format on a suitable data storage device. • Declaration of the plagiarism check (<i>Similarity</i>), including the check report. • Up-to-date curriculum vitae. • Copy of an official certificate of good conduct (not older than six months). • A sworn affidavit (example). • A declaration by the candidate affirming that they have independently authored the dissertation, fully cited all used literature and other sources, and clearly indicated any directly quoted passages. • A declaration by the candidate stating that they have clearly indicated all passages taken almost verbatim, paraphrased, or in a comparable manner from the used literature and other sources. • A declaration by the candidate stating that no commercial promotion intervention and/or advice has been sought. • A statement by the applicant regarding whether the dissertation has been submitted to or is currently under consideration by another national or international university, college, or faculty. • Consent statement from the applicant allowing the electronic version of the dissertation to be subjected to separate check while preserving their copyright and privacy rights. • Proof of academic competence as per §7, paragraph 3 PromOMed Dr.rer.nat. • Evaluation as per §7, paragraph 2 PromOMed Dr.rer.nat.
Evaluation process	• The faculty's doctoral committee initiates the examination process by appointing two reviewers to evaluate the dissertation. The primary reviewer of the dissertation is the main supervisor of the doctoral project. The second reviewer is an expert from a related field to the topic of the doctoral work and should be authorized to participate according to §2, paragraphs 1 and 2 PromOMed Dr.rer.nat. Further details on the review process are outlined in §10, paragraph 2 PromOMed Dr.rer.nat. • If both reviewers provide a rank of "summa cum laude," the chairperson of the faculty's doctoral committee appoints an additional reviewer. • If the dissertation pertains to the field of multiple faculties, the faculty's doctoral committee may appoint a second reviewer from another faculty.
Oral defense	• The oral defense takes place after a period of 3 weeks of the acceptance of the dissertation and the submission of the reviewers' evaluations.

	• The faculty's doctoral committee appoints an examination committee to conduct the oral defense. Further information regarding the composition of the examination committee is outlined in §14 PromOMed Dr.rer.nat. • The doctoral candidate will be promptly informed by the doctoral office about the determined composition of the examination committee and will independently organize the oral defense, including scheduling it in coordination with the examiners. • The Office for Academic Affairs must be notified at least 6 weeks before the oral defense. The Office for Academic Affairs will arrange a room and inform all participants of the date, time, and location of the oral defense.
Overall evaluation	• Following the oral defense, the faculty's doctoral committee determines the overall assessment of the doctoral candidate's performance (see §20, 27, and 28 (APromO) and §14 PromOMed Dr.rer.nat.). • The completion of the doctoral degree is marked by the publication of the dissertation according to §16 PromOMed Dr.rer.nat.
Publication of the dissertation	• The doctoral candidate must make the dissertation accessible to the scientific community within a period of 2 years after the successful oral defense. • The publication is regulated in §16 APromO. • Information on electronic publication via the OPUS publication server of the University Library of the University of Augsburg can be found here.
Binational doctoral procedure	• In the case of binational doctoral procedures, the oral defense should be conducted in accordance with §13 and §14 PromOMed Dr.rer.nat.. However, the cooperation agreement between the universities may specify alternative provisions. • The languages used for the dissertation and the oral examination are German and the national language of the partner university. The cooperation agreement may include the possibility of conducting certain parts of the oral defense in a different language.
Completion of the procedure and certificates	• The doctorate is completed with the award of the doctoral certificate, granting the doctoral candidate the right to utilize the title of Dr.rer.nat.
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