

36. Amendment of the Curriculum for the "Doctor of Philosophy"- PhD study programme

Objectives

§ 1. The PhD study programme at the Medical University of Vienna serves to further develop the ability to carry out independent scientific work as well as to train and promote young scientists with a scientific attitude in accordance with the guidelines of the Medical University of Vienna (GOOD SCIENTIFIC PRACTICE - Ethics in Science and Research, Guidelines of the Medical University of Vienna). Particular attention is to be placed on the interdisciplinary character of the subject matter.

The doctoral candidates are considered by the university as "early-stage researchers". PhD students are trained in the practice of science as a profession and, after successful training, have to meet the following profile:

- a. Systematic understanding of the subject of study and mastering the skills and methods associated with that subject.
- b. Ability to conceive, design, implement and adapt a research project with scientific integrity,
- c. Achievement of an original research contribution that extends the frontiers of knowledge through the development of a substantial body of research,
- d. Ability to make these contributions accessible to the scientific community according to national and international publication standards,
- e. Ability to critically analyse, evaluate and synthesise new and complex ideas,
- f. Ability to communicate with the professional and scientific community and society at large on fundamental issues of science and science policy,
- g. Ability to foster technological, social or cultural advances in a knowledge-based society within academic and professional contexts.

Admission requirements

§ 2 (1) Prerequisites for admission to the PhD study programme of the Medical University of Vienna are

- a) the completion of the diploma programme in human medicine or dentistry or the completion of a natural science/technical, relevant or related diploma programme or the completion of a recognised domestic or foreign Master's programme equivalent to the above-mentioned diploma studies, whereby the equivalence is to be determined by the Rectorate within the framework of the admission procedure, as well as

- b) the existence of a doctoral thesis within the framework of an evaluated research project, a dissertation concept (3) and a supervision commitment for the doctoral thesis.

(2) Persons who fulfil the admission requirements according to § 2 (1) lit. a are entitled to select a supervisor from the registered PhD supervisors available at the Medical University of Vienna in order to choose a dissertation topic and to prepare a doctoral thesis concept with this supervisor - provided that the latter has given his/her consent to the supervision.

(3) The chosen supervisor and the chosen doctoral thesis topic must be declared to the curriculum director prior to the admission to the PhD study programme by submitting a written dissertation concept according to the specifications of the curriculum director.

Duration of the study programme

§ 3. The PhD study programme consists of a study section with the duration of 6 semesters (180 ECTS) and is completed as a full-time study programme (guideline is a 40-hour week).

Academic degree

§ 4. Graduates of the PhD study programme shall be awarded the academic degree "Doctor of Philosophy", abbreviated "PhD", with the title following the family name. For example, the academic degree is Dr.med.univ. or Dr.med.dent. <name>, PhD (in English <name>, MD PhD or DD PhD) for graduates with an undergraduate degree in medicine.

Organisation

§ 5. The PhD study programme at the Medical University of Vienna is primarily organised in the form of interdisciplinary thematic programmes.

(1) **SCOPE OF THE PROGRAMMES:** The programmes bring together interested university members from different organisational units/clinics with the aim of offering a comprehensive and high-quality training programme in the respective thematic area. The doctoral candidates carry out their dissertation project within the framework of the programme and also complete the prescribed courses. The involvement of institutions and organisations outside the Medical University of Vienna is possible, provided their value for the training programme is evident.

(2) **NAME OF THE PROGRAMMES:** The composition and name of the programmes originates in principle from the initiative of university members interested in establishing such a programme. The programmes shall cover a broad range of topics within the spectrum of tasks of the Medical University of Vienna and include scientists from several organisational units/clinics. A list of programme topics shall be published by the Curriculum Director.

(3) **ORGANISATION OF THE PROGRAMMES:** The smallest organisational units of the programmes are the supervisors, who are project leaders experienced in the training of

doctoral candidates who bring their doctoral position(s) and the payment of the doctoral position(s) into the programme in the context of research projects and actively participate in the training programme. The supervisors are responsible for the organisation and implementation of the doctoral thesis and the accompanying courses (e.g. seminars, journal clubs). Each programme is headed by an appointed curriculum (programme) coordinator who is responsible for coordinating the programme tasks. The Curriculum Coordinator represents the programme externally and is responsible to the Curriculum Director. Since the language of biomedical research and related research fields is English, the programmes and the accompanying courses must be offered in English. In this respect, doctoral students must be proficient in English in order to complete the doctoral programme. In exceptional cases, courses can also be offered in German if justified.

(4) ESTABLISHMENT OF PROGRAMMES: Applications for the establishment of dissertation programmes may be submitted to the Curriculum Director and refer to the research areas defined in the development plan. Applications include information on

- Title,
- Speaker,
- Educational objective,
- Dissertation projects,
- Qualification profile of the supervisors,
- Form, number, content and teachers of the planned courses,
- Methodology,
- Literature.

The applications are reviewed by the Curriculum Director and modified accordingly, if appropriate. Subsequently, the Curriculum Commission for Doctoral Studies is asked for an opinion and the application is then approved or rejected.

Criteria for the evaluation of the application are:

- Structure of the proposal,
- Relationship to the scientific strategy of the university,
- internal university, national and international cooperation,
- Significance for the development of the university,
- critical mass for the supervision of doctoral candidates and the implementation of associated courses,
- peer-reviewed and funded dissertation projects,
- Qualification of supervisors.

(5) QUALITY CRITERIA FOR SUPERVISORS: The supervisors of doctoral dissertation projects

- are themselves scientifically excellent in the respective field (documented by the number of high-quality publications throughout the last 6 years),
- have a proven track record in obtaining third-party funding during the last 6 years,
- have experience in and are committed to supervising doctoral students, and can demonstrate the training of doctoral students in the last 6 years and publications with doctoral students/postdocs as first authors.

Courses

§ 6. The PhD study programme includes comprehensive training in the subject area of the respective doctoral thesis, as well as the development of general skills and abilities of the scientific profession in order to prepare graduates for a career in various academic, medical, industrial and public scientific fields. This accompanying training takes place within the framework of courses.

(1) TYPES OF COURSES

- a) **LECTURES:** They serve to introduce the basic concepts and systematics and illustrate the scientific background of the respective topic; in addition, they serve to create cross connections and explain complicated facts.
- b) **SEMINARS:** They represent an important training method for the acquisition of knowledge whereby, above all, skills are imparted to apply the acquired knowledge for the analysis and solution of questions through the active participation of the students. With this form of teaching, particularly the independent examination of theoretical problems on a scientific basis is taught.
- c) **JOURNAL CLUBS:** These are for learning how to critically evaluate and discuss the scientific literature in regular sessions, generally on a weekly basis, where recently published scientific articles are analysed and discussed.

(2) **COMPULSORY COURSES:** This refers to courses and academic achievements that are compulsory for all students of the PhD study programme.

- a) **PREPARATORY COURSE:** Introductory lectures and seminars totalling 6 semester hours are to be set aside for this purpose, whereby the focus for medical students is to be on natural science courses, and for non-medical students on medical courses. The general teachings of the preparatory course serve to acquire general skills and abilities for a professional life as a scientist.
- b) **BASIC COURSE:** An interdisciplinary interactive course cycle covering the respective programme topic in its entirety is to be established with a total of 4 semester hours.
- c) **PHD-SYMPOSIUM:** Students actively participate in at least one PhD symposium of the Medical University of Vienna and give a presentation on their doctoral thesis. The participation and presentation activity is to be confirmed by the responsible chairperson(s) of the session/workshop in which the lecture is given/the poster is presented and is assessed with 6 ECTS.
- d) **Drafting and defending the WORK PLAN (DISSERTATION PLAN):** The students have to draft a work plan (dissertation plan) together with the supervisor and defend it in front of the dissertation committee. The writing and defence of the work plan (doctoral thesis) is assessed with 10 ECTS.

(3) **COMPULSORY ELECTIVE SUBJECTS:** Within the scope of the compulsory elective part of the courses, students are required to complete dissertation seminars totalling 8 semester hours and JOURNAL CLUBS totalling 12 semester hours.

a) **DISSERTATION SEMINARS** are courses dealing with special aspects of the programme topics and specific methods.

b) **JOURNAL CLUBS** are courses dealing with programme-specific literature.

Doctoral candidates and supervisors are expected to attend seminars and journal clubs on a regular basis.

(4) **EXTERNAL STUDY COMPONENTS:** Students who wish to complete a part of their studies at a recognised domestic or foreign educational institution are entitled to have the equivalence of planned foreign study parts determined in advance by the Curriculum Director in accordance with the relevant provisions of the UG and the statutes of the Medical University of Vienna.

(5) **ECTS ACCOUNTING POINTS:** In terms of the European Credit Transfer System (ECTS), the share of the study effort for the courses mentioned in paragraph (2) is set at 1 ECTS point per semester hour each, the courses mentioned in paragraph (3) at 1.5 ECTS points per semester hour each. Thus, the preparatory course is assessed with 6, the basic courses with 4, the PhD symposium with 6, the drafting and defence of the dissertation plan with 10, the dissertation seminars with 12 and the journal clubs with 18 ECTS points, i.e. a total of 56 ECTS points. The work on the doctoral thesis represents the main part of the study achievements and is assessed with a total of 124 ECTS points.

(6) **SUGGESTION FOR THE DIVISION OF THE SEMESTERS**

<i>Courses</i>	<i>Semester hours</i>	<i>ECTS Points</i>
1. Semester:		
Preparatory course	4	4
Basic course	2	2
Journal Club	2	3
Doctoral thesis – work schedule/dissertation plan (compilation and defence)	-	10
2. Semester:		
Preparatory course	2	2
Basic course	2	2

Journal Club	2	3
3. Semester:		
Journal Club	2	3
Dissertation seminar	2	3
4. Semester:		
Journal Club	2	3
Dissertation seminar	2	3
Doctoral thesis - Presentation PhD Symposium		6
5. Semester:		
Journal Club	2	3
Dissertation seminar	2	3
	-	
6. Semester:		
Journal Club	2	3
Dissertation seminar	2	3
Doctoral thesis - drafting the paper	-	124
Total	30	180

Doctoral thesis

§ 7. (1) The written and publicly defended doctoral thesis provides the final proof that the candidate has acquired the knowledge and skills to work independently and competently in science. With the doctoral thesis, the candidate demonstrates that he/she can solve an essential scientific problem successfully and with increasing independence and understands how the new results are to be placed in the framework of the current state of knowledge.

(2) The topic of the doctoral thesis shall be taken from one of the thematic programmes (§ 5) or be meaningfully related to one of them. In case of topics that are processed in teamwork, the intellectual and experimental contribution of the candidate must be clearly evident and independently assessable.

(3) The student is entitled to apply for a topic from the proposals of the available registered PhD supervisors. Upon admission to the PhD study programme (§ 2), a work plan (dissertation plan) has to be prepared together with the supervisor must be defended before the dissertation committee and submitted together with the opinion of the dissertation committee to the curriculum director for approval. The writing and defence of the work plan (dissertation plan) is assessed with 10 ECTS points. The dissertation has to be integrated into a research project approved by a strict review system. If the supervisor does not have such a research project, a project proposal prepared according to FWF guidelines can be submitted to the curriculum director, who will carry out a review procedure with regard to scientific quality, priority and available resources.

(4) The available project funds or other resources in terms of material expenses must suffice to enable the doctoral thesis to be carried out and to enable the dissertation candidate to be employed and paid in accordance with FWF guidelines.

(5) The provisions of the Copyright Act have to be observed when working on the topic and supervising the students.

(6) All members of the Medical University of Vienna (§ 94 (1) UG) with a teaching authorisation or an equivalent qualification are entitled to supervise and assess a dissertation from the subject of their teaching authorisation within the framework of a doctoral study programme, provided that they fulfil the prerequisites and qualification criteria required under § 5 (5).

(7) The curriculum director is also entitled to call upon persons with a teaching authorisation at a recognised foreign university or at another domestic or foreign institution of equal rank to universities to supervise and assess dissertations, if their teaching authorisation is equivalent to a teaching authorisation pursuant to § 7 (6), provided they fulfil the prerequisites and qualification criteria specified under § 5 (5).

(8) The curriculum director is entitled to call upon persons without a teaching authorisation, who, however, fulfil the requirements and qualification criteria required according to § 5 (5), to supervise and assess dissertations. Persons at the post-doctoral stage who can be expected to fulfil the qualification criteria required under § 5 (5) based on their previous

performance may be called upon to supervise dissertations as junior supervisors. However, they shall be assisted by experienced supervisors for the purpose of promotion.

(9) For one or more doctoral candidates, the curriculum director shall set up a dissertation committee at the beginning of the doctoral programme, consisting of the supervisor and at least two other members, one of whom may not belong to the organisational unit to which the topic of the dissertation is assigned. The members of the dissertation committee shall be announced to the doctoral candidates immediately after acceptance of the topic. The dissertation committee shall monitor the progress of the dissertation at regular intervals, but at least once a year, and, if necessary, issue an opinion on it and serve as a mediator in case of problems between the dissertation candidate and the supervisor.

(10) The dissertation completed according to the dissertation plan is to be submitted to the curriculum director. Without undue delay, the Curriculum Director has to appoint two reviewers to review and assess the dissertation (one reviewer must be a member of MedUni Vienna and one reviewer must be an external reviewer), who shall review and assess the dissertation within a maximum of four months from submission. The supervisor of the dissertation may not be consulted as a reviewer. If the dissertation is not reviewed and assessed within the deadline, the curriculum director shall assign the dissertation to one or two other reviewers for review and assessment at the request of the student.

(11) Within the framework of the dissertation, the student has to deal with the international specialist literature, apply and select adequate methods for the research question with the support of the supervisor, and document the progress of the dissertation and the results in a suitable form (project book). The dissertation has to be written in English, whereby the abstract has to be written in English and German. The structure of the dissertation should correspond to that of a scientific paper according to the "Vancouver Guidelines".

Examination regulations

§ 8. Examinations are to be designed methodically in a comprehensible, objective and valid manner.

(1) The preparatory courses and the basic course are to be concluded with a course examination.

(2) The journal clubs, dissertation seminars and the PhD symposium are courses with an immanent examination character. The assessment of the students is therefore not based on a single examination act at the end of the course, but on the basis of regular written and/or oral contributions of the students, ongoing observation and/or verification of the fulfilment of the attendance obligation. Justified absences can be tolerated within a certain framework (guideline: 15% of the total course duration). The assessment of active participation in the PhD symposium, which also includes a presentation on the dissertation project (cf. § 6 (2) lit. c), shall be "attended successfully" in the case of a positive assessment or "attended unsuccessfully" in the case of a negative assessment.

(3) Section 72 UG applies to the assessment of the examinations and the dissertation.

(4) The dissertation plan prepared together with the supervisor (§ 7 (3)) shall be defended before the dissertation committee and shall be assessed by the curriculum director with a grade ("1" to "5") according to § 72 (2) UG.

(5) The positive completion of all courses, the defence of the dissertation plan, the interim assessments by the dissertation committee and the positive assessment of the dissertation thesis are prerequisites for admission to the viva voce examination.

(6) At the time of the viva, at least one publication with the doctoral candidate as first author must be available in an internationally recognised peer-reviewed journal or accepted for printing. If this is not the case, this fact has to be especially justified to the curriculum director.

(7) In the viva voce examination, the candidate's comprehensive knowledge in the subject area is examined by an examination committee consisting of a chairperson and two examiners. The examiners are to be appointed by the curriculum director based on the subject proximity to the dissertation topic, but should not have a close relationship to the candidate. The supervisor of the dissertation may not be considered as a member of the examination committee. The curriculum director may, for good cause, appoint another examiner instead of a proposed examiner on the basis of a justified application by the student. The viva is intended to assess whether the candidate has the ability to apply the acquired knowledge in the field of the respective programme topic.

(8) The viva includes topics

1. from the dissertation including the current state of knowledge relevant to the respective scientific question as well as
2. from the subject area of the dissertation topic.

(9) The viva is conducted in the form of a public lecture ("Defensio dissertationis") followed by a scientific discussion, in which primarily the examination committee has to ask questions, but in which the auditorium may also participate. The examination board has to assess the scientific nature of the work and the professional knowledge of the candidate. In justified cases (e.g. patent proceedings), the curriculum director is entitled to admit only a qualified audience at the request of the student and/or the supervisor.

(10) The viva is held in English.

(11) The PhD study programme is concluded successfully if

1. all courses,
2. the dissertation and
3. the viva voce examination in the dissertation

have been successfully completed. All parts are essential components of the assessment. A negative assessment in one area cannot be compensated for by the performance in the other area.

Crediting between the doctoral studies of the Medical University of Vienna

§ 9. (1) Courses (preparatory course, basic lecture, basic seminar, basic course, dissertation seminars, journal clubs, participation in the PhD/dissertation symposium as well as defence of the work plan/dissertation plan) completed in one of the doctoral studies of the Medical University of Vienna shall be mutually recognised in full.

(2) In the event of a transfer from the PhD programme (N094) to the doctoral programme in applied medical science (N790), students who have successfully completed all courses according to the study plan N094 and whose dissertation has been approved shall have their achievements fully recognised.

(3) The achievements of students who have successfully completed all courses according to the curriculum N790 and whose dissertation has been approved shall be fully recognised when transferring from the doctoral programme in applied medical science (N790) to the PhD programme (N094), provided that the following requirements are met:

- Existence of a first author publication by the student in the field of the dissertation topic in a top journal (ISI ranking).
- Employment from a research project for at least one year (without any involvement in possible routine clinical activities).

Entry into force and transitional regulations

§ 10. (1) This amendment to the curriculum shall enter into force on 1.10.2019.

(2) Students who have started the PhD study programme N 094 at the Medical University of Vienna prior to the entry into force of this curriculum shall be entitled to complete their studies still in accordance with the respective study regulations applicable to them until the end of the grace period of the fifth academic year after the entry into force of this curriculum, i.e. 30. 11. 2024. Otherwise, students may voluntarily submit to the provisions of the present, new curriculum by means of a simple written declaration. The courses completed according to the previously applicable study regulations (preparatory course, basic course, journal clubs and dissertation seminars) are recognised for the PhD study programme according to the present curriculum.

The Chairperson of the Senate

Harald Sitte