

**Doctoral degree regulations of Heidelberg University
for the overall faculty of Mathematics, Engineering, and Natural Sciences**

of 29 July 2015, 29 September 2021, and last amended on 20 March 2024

Based on § 38 of the Act on Higher Education of the Land of Baden Württemberg (*Landeshochschulgesetz* - LHG) in the version of 1 January 2005 (GBl. 2005 p. 1), as amended by Article 1 of the Third Act Amending Provisions of Higher Education Law (*Drittes Hochschulrechtsänderungsgesetz* - 3. HRÄG) of 1 April 2014 (GBl. 2014 p. 99), last amended by Article 1 of the Fourth Act Amending Provisions of Higher Education Law (*Viertes Hochschulrechtsänderungsgesetz* - 4. HRÄG) of 17 December 2020 (GBl. 2020 p. 1204), the Senate of Heidelberg University adopted the following by-laws on 19 March 2024.

The Rector granted her approval in accordance with § 38 (4) LHG on 20 March 2024.

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Annex 1 (Annex to § 10)

Annex 2 (Faculty-specific provisions)

- § 1 Type, purpose, and performance of the doctorate**
 - (1) The overall faculty of Mathematics, Engineering, and Natural Sciences at Heidelberg University awards the academic degree of Doctor of Natural Sciences (Dr. rer. nat.) based on results in the doctoral degree procedure. It awards the academic degree of Doctor of Engineering (Dr.-Ing.) for doctoral theses with predominantly engineering content. Geographers who submit a doctoral thesis in the field of human geography and who do not have a degree in the natural sciences are awarded the academic degree of Doctor of Philosophy (Dr. phil.).
 - (2) The doctorate demonstrates the ability to conduct independent scientific research.
 - (3) The overall faculty of Mathematics, Engineering, and Natural Sciences is committed to the guiding recommendations of the Senate of Heidelberg University for the promotion of junior researchers and implements them in an appropriate

manner.

- (4) The faculties assigned to the overall Faculty of Mathematics, Engineering, and Natural Sciences are responsible for performing the doctorate.
- (5) The overall faculty of Mathematics, Engineering, and Natural Sciences can award the degree of Doctor honoris causa for outstanding scientific achievements on the recommendation of a faculty. § 15 of these regulations applies here.

§ 2 Results in the doctoral degree procedure

The results in the doctoral degree procedure comprise a doctoral thesis in accordance with § 7 and a defence in accordance with § 10, which also relates to the content of the doctoral thesis.

§ 3 Doctoral committees

- (1) Each faculty council from the overall faculty will elect a doctoral committee. This committee will be responsible for the tasks arising from these doctoral degree regulations and ensures that the provisions of the regulations are complied with.
- (2) The doctoral committee is made up of the dean, a vice dean or dean of studies, and at least three university or associate professors. They will elect the chair from among their number. The doctoral committee is elected for a period of two years. Re-election of individual members is possible. The start of the term of office is determined with the election.
- (3) Deviating from paragraph 2, the doctoral committee for Computer Science comprise six members in the following composition:
 - a) the dean of the Faculty of Mathematics and Computer Science as chair; if the dean does not represent the subject of computer science, a vice dean of the Faculty of Mathematics and Computer Science may assume the chair;
 - b) a vice dean of the Faculty of Mathematics and Computer Science or the dean of studies in the department of Computer Science; if the dean is represented by a vice dean (in accordance with a), the dean of studies in Computer Science will be a member;
 - c) two professors or associate professors from the Faculty of Mathematics and Computer Science who represent different fields of computer science in research and teaching, and
 - d) a professor or associate professor of the Faculty of Physics and Astronomy and
 - e) a professor or associate professor of the Faculty of Engineering Sciences.

In consultation between the deans of the three faculties, the Faculty of Mathematics and Computer Science, the Faculty of Physics and Astronomy and the Faculty of Engineering, the respective persons under items d.) and e.) are proposed to the respective faculty councils for confirmation.

The faculty council of the Faculty of Mathematics and Computer Science elects the persons under c.), d.), and e.).

- (4) The day-to-day business of the doctoral committee is conducted by the chair. The doctoral committee may revocably delegate parts of its tasks to the chair.

- (5) The members of the doctoral committee have the right to participate in the defences.
- (6) Decisions of the doctoral committee must be communicated to the applicant in writing and accompanied by information on legal remedies.

§ 4 Admission requirements

- (1) Doctoral candidates generally can be admitted to the doctorate if they:
 1. a Master's degree programme,
 2. a degree programme at a university, teaching degree college, or art college with a standard period of study of at least four years, or
 3. a degree programme based on an undergraduate degree programme at a university, university of teacher education, or another higher education institution with the right to award doctorates with an examination.

A degree from a foreign university that is equivalent to a university can be recognised as equivalent by the doctoral committee, taking into account the applicable recommendations of the Central Office for Foreign Education.
- (2) The degree must demonstrate sufficient scientific aptitude. The doctoral committee decides on the degree of scientific aptitude, which is determined by the course content, scientific achievements, and the ability to work independently in a scientific capacity developed during the course of studies. The doctoral committee may stipulate conditions for the doctorate.
- (3) Upon the suggestion of the faculty concerned, the overall faculty may stipulate a minimum grade for the degree examination as a prerequisite for admission to individual degree programmes. This minimum grade is listed in Annex 2. Applicants with a grade below the minimum grade may be admitted in individual cases for special reasons by decision of the doctoral committee. The doctoral committee shall decide as part of the equivalence assessment in accordance with paragraph 1 if there are non-comparable grading scales for foreign degrees.
- (4) A candidate must prove to the doctoral committee that they have sufficient theoretical specialised knowledge and practical skills in the doctoral subject if they have not passed the degree examination in the subject in which they wish to write their doctoral thesis. As a rule, this corresponds to the standard of the usual degree examination (Diplom (German university degree), Magister, Master, state examination). This shall also apply regarding to practical skills for a candidate who has not completed the scientific work in the subject in which they wish to write their doctoral thesis when completing the State Examination or Master of Education degree. Proof can be provided by coursework and examination components already completed - as far as these are relevant to the doctoral subject and in connection with the intended doctoral thesis - or by successfully completing a preparatory programme in accordance with paragraph 6 with the provision of additional work. For admission to the department of Astronomy, a degree examination in Physics or Mathematics or proof of corresponding specialist knowledge and skills in one of these subjects is required.
- (5) Particularly qualified Bachelor's graduates and candidates without a degree examination equivalent to a Diplom, Magister, Master's, or state examination that

qualifies them for a doctorate may - if the doctoral committee determines that they have above-average scientific and examination achievements from their previous studies - be given the opportunity to qualify for a doctorate in a preparatory programme in accordance with paragraph 4 or may be referred to complete the Master's programme, provided that this is offered by the faculty in question.

- (6) The doctoral committee will decide whether the candidate has sufficient relevant specialist knowledge and skills or on admission to the preparatory programme. The work to be completed as part of the preparatory study programme - and the time available for this - is determined on a case-by-case basis by the doctoral committee in consultation with the respective subject representatives. They may comprise the attendance of courses including associated examination prerequisite or a scientific work or a combination of these. The scientific work corresponds to the requirements of a Diplom (German university degree), Master's, or state examination thesis. The doctoral committee shall appoint the evaluators for the thesis and the examiners for a final colloquium with a duration of approximately one hour. In the colloquium, the candidate must prove that they have knowledge in the doctoral subject that corresponds to the standard of the usual degree examination. The thesis and colloquium are assessed as "passed" or "failed"; the colloquium may be repeated once.
- (7) Graduates of a diploma programme at a university of applied sciences or university of cooperative education may also be admitted to the doctorate if they
- a) achieved an above-average final result and
 - b) have successfully completed an aptitude assessment procedure.

The aptitude assessment procedure is to be initiated by the responsible doctoral committee. It renders proof of the aptitude required for the doctorate in the intended doctoral thesis field. The doctoral committee will determine the study and examination results required to prove the scientific qualification. The aptitude assessment procedure generally should be completed after three semesters.

- (8) Students who have already obtained a doctorate in a doctoral subject of the overall faculty of Mathematics, Engineering, and Natural Sciences can only be admitted to a further doctoral degree procedure in another doctoral subject of the overall faculty with the approval of the overall faculty. Students who have already obtained the degree of Dr. sc. hum. cannot be admitted again unless they can submit evidence of a further scientific course of studies based on which the degree of Dr. rer. nat. can be awarded.
- (9) The authorisation procedure must be completed within a maximum of 6 months. If a candidate is only admitted to the preparatory study programme or aptitude assessment procedure subject to conditions in accordance with paragraphs 2 to 7, this period shall not be counted towards the 6-month period.

§ 5 Acceptance as a doctoral candidate

- (1) Anyone who meets the admission requirements should apply to the relevant doctoral committee for acceptance as a doctoral candidate before starting work on their doctoral thesis. Based on the documents submitted, the doctoral committee will decide whether a doctorate is generally possible. The application must include:
- a) proof that the course of studies has been completed with an examination (§ 4 (1)) or the notice of successful completion of the preparatory programme or

aptitude assessment procedure in accordance with § 4 (3) to (6). The doctoral committee may permit exceptions in particularly justified individual cases;

- b) Copy of the photo ID;
 - c) a declaration as to whether the applicant has applied for acceptance as a doctoral candidate at another institution or for opening of a doctoral degree procedure;
 - d) indication of the preliminary topic of the doctoral thesis;
 - e) indication of the workspace;
 - f) a declaration as to whether the degree of Dr. rer. nat. or, as far as this is provided for in § 1 (1), the degree of Dr. phil. or the degree of Dr.-Ing. is pursued;
 - g) a declaration by a university lecturer, university or associate professor, or honorary professor that they will provide scientific supervision for the doctoral candidate; they must be a member of the relevant faculty. In the department of computer science, this refers to the Faculty of Physics and Astronomy or the Faculty of Mathematics and Computer Science. They are responsible for ensuring appropriate working conditions and guidance on how to process the subject in a timely manner as the main person responsible for proper supervision. The doctoral committee may appoint a second supervisor, particularly for interdisciplinary doctoral theses. Supervision can also be performed by independent research group leaders, provided that they have been granted permission to conduct examinations in accordance with the regulations for granting examination permission to independent research group leaders within the Faculty of Mathematics, Engineering, and Natural Sciences. Members of the faculty who have received confirmation from the faculty council that they have the equivalent of a habilitation may also be authorised by the respective doctoral committee as supervisors and appointed as members of the examinations committee and evaluators of the doctoral candidates accepted by them.
- (2) The decision on acceptance as a doctoral candidate is made by the doctoral committee after conclusion of the doctoral agreement in accordance with § 6 (2), which must be submitted to the doctoral committee. The applicant will be informed of the decision in writing; a negative decision must be justified and accompanied by information on legal remedies.
 - (3) The doctoral committee shall also decide whether the candidate's request for the award of the degree Dr. rer. nat., Dr. phil. or Dr.-Ing. can be granted in accordance with the preliminary thesis topic in the case of paragraph 1 (f).
 - (4) Anyone working on a doctoral thesis who has been accepted as a doctoral candidate may be enrolled as doctoral candidates within the maximum permitted duration specified in § 5 (6) if they are not already members of the university based on an employment relationship.
 - (5) Acceptance as a doctoral candidate is limited to the subject-related doctoral periods according to Annex 2. An extension of the acceptance period may be authorised upon justified application by the doctoral candidate. An application for an extension can be submitted in justified exceptional cases (e.g., pregnancy, family leave). Acceptance as a doctoral candidate shall lapse if the main supervisor revokes the

acceptance for valid reasons. Such revocation must be approved by the doctoral committee.

- (6) The doctoral committee may approve a change of supervisor upon justified request. If a supervisor is unavailable, e.g., due to long-term illness or similar, the doctoral committee will appoint a new supervisor in consultation with the candidate, if necessary and if the thesis is already well advanced.
- (7) The thesis must always be completed at an institute of the faculty or at a research institution to which the supervising university teacher, university lecturer or associate professor of the faculty belongs. The doctoral committee will decide on any exceptions.

§ 6 Work plan and doctoral programme

- (1) The faculty concerned commits to assessing a doctoral thesis with the specified topic as a scientific work and to support the doctoral candidate in the preparation of the doctoral thesis upon acceptance as a doctoral candidate.
- (2) A written doctoral agreement is concluded between the doctoral candidate and the supervisor with the minimum content in accordance with § 38 (5) sentence 3 LHG. The doctoral candidate must be registered centrally when the doctoral agreement is entered into.
- (3) Doctoral candidates are encouraged to participate in any doctoral programme available in the relevant doctoral subject for the purpose of professional further education. The scope at which the candidate is obligated to participate is determined by the regulations of the individual faculties. The obligations of doctoral candidates in interdisciplinary doctoral programmes and research training groups must be considered.
- (4) If the candidate does not meet the requirements set out in the subject-specific doctoral study regulations and in the doctoral agreement, admission to the doctorate may be withdrawn.
- (5) Doctoral candidates or supervisors may turn to the independent ombudsperson for doctoral candidates, who shall act as an advisory service and mediation office at Heidelberg University, if there are any conflicts.

§ 7 Doctoral thesis

- (1) The doctoral thesis must meet scientific requirements, contain independent research work by the applicant, and contribute to the advancement of science.
- (2) The results of the doctoral thesis may be published wholly or in part before admission to the examination procedure in agreement with the supervisor(s). This includes the possibility of a cumulative doctoral thesis; further details are regulated by the individual faculties for their area (see annex).
- (3) The doctoral thesis generally must be written in German or English. A German and an English summary of the most important results should precede the actual text. In special exceptional cases, the doctoral committee will check whether another language can be authorised.

§ 8 Admission to and opening of the doctoral examination procedure

- (1) After completion of the doctoral thesis, the doctoral candidate accepted in accordance with § 5 shall apply to the relevant doctoral committee for admission to the doctoral examination procedure. The chair will decide on admission; negative decisions must be approved by the doctoral committee. The doctoral examination procedure begins with admission.
- (2) For other applicants, the doctoral committee decides on admission or rejection to the examination procedure. §§ 4 and 5 shall apply accordingly.
- (3) The application for admission to the examination procedure must be enclosed:
 - a) depending on the faculty, up to 4 copies of the printed doctoral thesis;
 - b) an electronic version of the doctoral thesis, the data format, and data carrier of which must be agreed with the respective faculty;
 - c) an affidavit by the candidate, stating that the submitted doctoral thesis was written by themselves and that they did not use any sources and aids other than those explicitly designated by them. The form provided by Heidelberg University must be used for this purpose;
 - d) a declaration as to whether the applicant has applied for an examination procedure at another institution or whether they have already used the doctoral thesis in this or another form elsewhere as an examination paper or submitted it to another faculty as a doctoral thesis;
 - e) a curriculum vitae in tabular form, stating in particular the course of studies and doctorate as well as nationality;
 - f) diplomas of state or academic examinations already completed (cf. § 4 (1)) and, if applicable, proof in accordance with § 4 (3) to (6); unless already submitted at the time of acceptance;
 - g) if applicable, a list of courses attended and supervised in accordance with § 6 (3);
 - h) a declaration of consent that the doctoral thesis may be reviewed for compliance with generally applicable scientific standards using electronic data processing programmes that are applied at the university. The doctoral committee shall decide on any exceptions upon written application.
- (4) Approval generally must be refused if the documents are incomplete. It may be refused if more than one unsuccessful attempt at acquiring a doctorate has already been made.
- (5) The candidate may withdraw the application for a doctorate as long as none of the evaluations have been submitted to the examinations committee or the faculty.”

§ 9 Review of the doctoral thesis

- (1) The chair of the doctoral committee shall appoint at least two evaluators without undue delay after admission to the examination procedure, one of whom should

normally be the main supervisor in accordance with § 5 (1) (g). The major subjects concerned should be represented by the evaluators in the case of interdisciplinary doctoral theses.

- (2) The evaluators must always be university professors, university lecturers or associate professors or honorary professors. They generally should be part of the relevant faculty of the overall faculty of Mathematics, Engineering, and Natural Sciences at Heidelberg University; the doctoral committee may admit university lecturers, university professors, or associate professors from other faculties or universities as evaluators. Where external evaluators are concerned, their position should be comparable to that of a German university teacher, university lecturer or associate professor. Independent research group leaders may also be admitted. The regulations for granting examination authorisation to independent research group leaders within the overall faculty of Mathematics, Engineering, and Natural Sciences must be observed for these. Professors from the universities of applied sciences and the DHBW can also be appointed as evaluators.
- (3) The doctoral candidate may submit proposals for the appointment of evaluators and for the examinations committee in accordance with § 10. The chair shall hear the doctoral candidate about the proposals; the proposals shall not establish a legal claim.
- (4) The evaluations are to be prepared independently of each other and should be available no later than one month after the appointment of the evaluators. The evaluators will propose acceptance or rejection of the doctoral thesis and evaluate it in the case of acceptance. § 11 (2) shall apply accordingly to the assessment.
- (5) If the evaluators do not agree on acceptance or rejection or if the grades differ by more than one full grade level, the doctoral committee shall decide on the further procedure. If two evaluators propose the rejection of the doctoral thesis, the doctoral programme is terminated. The doctoral committee will issue a written notice on this.
- (6) The doctoral thesis and the evaluations must be made available for inspection by the members of the examinations committee (see § 10) and the university lecturers of the faculty for a minimum of two weeks and a maximum of six weeks. Making available may be replaced by a circulation procedure in which all persons named in sentence 1 are to be included. The duration and type of the procedure (making available and period of making available or circulation) can be regulated individually by each faculty within the above framework, but equally for all candidates. Any objections must be communicated to the doctoral committee in writing during the period of making available or the circulation procedure. In this case, the doctoral committee will decide on the further procedure. The university lecturers, university and associate professors of the faculty have the right to apply to the doctoral committee for the appointment of a further evaluation within the period of making available or the circulation procedure. The application must be justified in writing; the doctoral committee shall make the decision. The doctoral thesis will be accepted if no objections are raised.

§ 10 Examination committee and defence

- (1) If the doctoral thesis will be accepted in accordance with § 9 (6), the chair of the doctoral committee appoints the four members of the examinations committee and appoints the chair. It should include the evaluators and two further members who are university lecturers, university lecturers or associate professors; evaluators who

are not members of the faculty may, but do not have to, be appointed to the examinations committee. At least two university lecturers, university or associate professors on the examinations committee should belong to the faculty that is performing the doctoral degree procedure. It is chaired by a university lecturer, university or associate professor of the faculty. The members of the committee represent a total of at least three subject areas in accordance with the annex to § 10 that are reasonably related to the doctoral subject and/or the doctoral thesis. The doctoral committee may permit subject areas other than those listed in the annex to § 10 upon the candidate's request. The doctoral committee may decide that the defence must include a subject area from another doctoral subject that is not normally part of the faculty and that is meaningfully related to the doctoral subject and/or the doctoral thesis.

- (2) In the case of doctorates in the doctoral subject of mathematics, unless it is an interdisciplinary doctorate and the candidate therefore applies for the composition in accordance with paragraph 1, sentences 1 to 5 apply, deviating from paragraph 1: The examinations committee comprise at least three members. The two subject areas of pure and applied mathematics must be represented in it. Upon the candidate's request, an area of a subject not belonging to the Faculty of Mathematics and Computer Science that is meaningfully related to mathematics will also be included in the defence. In this case, a representative of the additional subject joins the examinations committee as an additional member. The required meaningful relationship is considered to exist for the subjects listed in the annex to § 10 under subject-specific regulations. In any other cases, the doctoral committee decides.
- (3) The chair of the doctoral committee determines the date for the defence in consultation with the members of the examinations committee and the candidate; as a rule, this should not be later than three months after admission to the examination procedure.
- (4) The defence is a scientific examination conducted by the examinations committee with the candidate. The defence is divided into a presentation and a subsequent examination discussion.
- (5) The presentation is based on the doctoral thesis and should generally last 20-30 minutes. The lecture may be held in public at the request of the doctoral candidate. The number of participants may be limited depending on the space available.
- (6) The examination interview is not public. It shall cover both subjects that are factually or methodologically related to the doctoral thesis, as well as other problems of the doctoral subject and the subject areas represented by the members of the examinations committee. Doctoral candidates of the faculty are admitted as listeners. The number of doctoral candidates participating in the examination may be limited in accordance with the space available. At the candidate's request, doctoral candidates in the audience may be excluded from the examination interview.
- (7) The defence is chaired by the chair of the examinations committee; it should last at least one and a half hours at most. The candidate may choose whether the defence is to take place in German or English. Minutes of the course of the defence must be taken and signed by the members of the examinations committee. The examiners shall discuss the grading without access for the public.

§ 10a Online defence

- (1) The chair of the respective examinations committee or the chair of the doctoral committee may, upon justified request, decide that the defence shall take place via video conference in accordance with paragraphs 2 and 3 below.
- (2) If the doctoral candidate's participation takes place on the premises of Heidelberg University and using the university's own equipment, the chair shall ensure that the examination format and the means of communication used meet the technical requirements. The rules and consequences of technical problems are agreed with the participants. The doctoral candidate will be informed about the procedure in good time before the online defence.
- (3) If the online defence for the doctoral candidate does not take place on the premises of Heidelberg University or using technical equipment of Heidelberg University, participation in an online defence is voluntary for the doctoral candidate. In these cases, the regulations in §§ 2, 3, and 4 of the "Supplementary examination rules and regulations of Heidelberg University for all Bachelor's degree programmes, Master's degree programmes, state examination programmes and the Magister Theologiae degree programme at Heidelberg University" for online defences in accordance with these regulations apply accordingly to the further requirements for implementation, technical principles and dealing with disruptions.
- (4) At least one examining person must be in the same room as the doctoral candidate during the defence by video conference. The other examining persons may participate in the examination via video transmission.
- (5) The chair is responsible for ensuring that the online defence proceeds smoothly. If any technical transmission or connection issues occur during the defence via video conference, this shall not be at the expense of the person being examined. The respective examination results shall be treated as not having been attempted in such cases. Short-term disruptions and / or problems are not considered if they do not or only insignificantly affect the examination.

§ 11 Decision on and overall assessment of the doctorate

- (1) The examinations committee shall decide following the defence whether the candidate is to be awarded a doctorate based on the expert evaluations on the doctoral thesis and the performance in the defence. All members of the examinations committee must agree to a doctorate.
- (2) If the candidate is to be awarded a doctorate, the defence is assessed by each member of the examinations committee with one of the following grades:
 - 1.0 = very good
 - 1.5 = very good to good
 - 2.0 = good
 - 2.5 = good to satisfactory
 - 3.0 = satisfactory
 - 3.5 = satisfactory to sufficient
 - 4.0 = sufficient

The mean value of the grades for the doctoral thesis and the mean value of the individual grades for the defence are averaged to form the overall grade. Only the first digit after the decimal point will be considered in the overall grade; all other

digits are cancelled without rounding.

The overall grade shall be:

at an average
up to 1.5 magna cum laude (very good) with an
average grade of
above 1.5 to 2.5 cum laude (good) with
an average of
over 2.5 to 4.0 rite.

- (3) In the case of an outstanding performance, the grade “summa cum laude” (with distinction) may be awarded by unanimous decision of the examinations committee, provided the average grade is 1.0.

§ 12 Repetition

- (1) If a doctoral thesis has not been accepted in accordance with § 9 (5), the doctoral committee may return the topic for rework or approve a new topic with the previous supervisor or a different supervisor; this is only possible once at the candidate’s request.
- (2) The defence must only be repeated once; the repeat defence should take place within six months. If the repeat defence is also failed, the examination procedure shall be terminated.
- (3) If the doctoral project is completed in accordance with para. 1 or 2, the doctoral committee shall issue a written notice on this, which must be accompanied by information on legal remedies.

§ 13 Publication

- (1) The doctoral candidate must provide proof of publication of the doctoral thesis no later than two years after the defence. Publication takes place in agreement with the supervisor. Publication is possible:
- a) through electronic publication in open access on the university repository / Heidelberg document server HeiDOK(<http://archiv.ub.uni-heidelberg.de/volltextserver/>) operated by the university library. A printed deposit copy of the same text also must be submitted to the university library. Other forms of electronic publication must be agreed with the University Library.
- or
- b) by printing in a publication series or as an independent book in a publisher’s bookshop, provided that a minimum print run of 100 copies can be documented. In this case, 3 deposit copies must be submitted to the University Library. A lower minimum print run is acceptable if the publisher fulfils further orders via the print-on-demand process. The doctoral candidate is responsible for providing proof of this.
- or
- c) in a scientific journal in printed and/or electronic form. In this case, 3 copies of

the thesis submitted in the doctoral degree procedure must be provided to the University Library. The doctoral committee reserves the right to decide which publication series, publishers, scientific journals, or collective works are suitable for publication.

or

- d) by duplication in the reproduction process. In this case, 10 deposit copies (or 5 deposit copies in the case of medical faculties) must be submitted to the university library.

The deposit copies must be made of age-resistant, wood- and acid-free paper and be durably bound or stitched.

- (2) All rights acquired through the doctorate shall expire if the doctoral thesis is not published on time. Awarding of the doctorate is no longer possible using the submitted doctoral thesis at the overall faculty of Mathematics, Engineering, and Natural Sciences. The deadline may be extended in special cases if the doctoral candidate submits a justified application by the doctoral candidate in time. The chair of the doctoral committee shall decide on an extension of up to 12 months, and the doctoral committee shall decide on any extensions beyond this.

§ 14 Conferral of the doctorate

- (1) After publication of the doctoral thesis (§ 13), the candidate is awarded the doctorate by handing over or delivering the doctoral certificate. The doctoral certificate contains the topic of the doctoral thesis and the overall grade in accordance with § 11 (2) and (3) (if the doctorate is passed “rite”, no distinction is awarded on the degree certificate) and states the date of the defence as the date of the doctorate. The degree certificate is signed by the dean of the overall faculty of Mathematics, Engineering, and Natural Sciences and the Rector of the University.
- (2) Each faculty may also issue a doctoral certificate by resolution of the faculty council. It must contain the title of the doctoral thesis, the date of the defence, the names of the examiners, all individual grades, and the unrounded overall grade (arithmetic mean of the individual grades) in figures. Only the first digit after the decimal point will be considered in this; all other digits are cancelled without rounding. The diploma will be signed by the dean of the relevant faculty.
- (3) The right to use the doctorate is only acquired upon receipt of the doctoral certificate.
- (4) An English translation of the doctoral certificate and the doctoral diploma will be prepared by the overall faculty upon the candidate’s request and signed by the persons named in paragraph 1 sentence 3. The English translation will state that it is a translation of the German original. The Latin name of the overall grade is also given on the English-language document, but the explanatory English terms listed below are added in brackets:

Grading scale	Overall grade	English term
1.0*	summa cum laude	excellent
to 1.5	magna cum laude	very good
above 1.5 to 2.5	cum laude	good
* see § 11 (3)		

§ 15 Honorary doctorate, renewal of the doctorate

- (1) The Faculty of Mathematics, Engineering, and Natural Sciences may, with the senate's approval, award the degree of Dr. rer. nat. h.c., Dr.-Ing. E.h. or, in the case of geographers specialising in human geography as defined in § 1, the degree of Dr. phil. h.c. for outstanding scientific achievements in the natural sciences, including their border areas.
- (2) An application for an honorary doctorate must be submitted by at least three professors, university lecturers or associate professors of a faculty. The faculty council of the relevant faculty will decide on the forwarding of the application to the overall faculty of Mathematics, Engineering, and Natural Sciences by a three-quarters majority. The dean of the overall faculty of Mathematics, Engineering, and Natural Sciences appoints two rapporteurs in agreement with the applicant faculty upon receipt of the application. The overall faculty of Mathematics, Engineering, and Natural Sciences decides on the award of the honorary doctorate by a three-quarters majority after hearing the rapporteurs.
- (3) The Dr. rer. nat. h.c., Dr. phil. h.c. or Dr.-Ing. E.h. degree is awarded by the Dean of the Overall Faculty of Mathematics, Engineering, and Natural Sciences by presenting an honorary diploma in which the achievements of the doctoral candidate are emphasised.
- (4) In special cases, a faculty may renew the doctorate on the occasion of the fiftieth anniversary of the date of the doctorate.

§ 16 Withdrawal of acceptance as a doctoral candidate or of admission to the examination procedure; invalidity of results in the doctoral degree procedure

- (1) If it becomes known before the doctoral certificate is issued that the doctoral candidate has misled the doctoral committee about an admission requirement or that essential admission requirements have been incorrectly assumed to have been met, the doctoral committee may withdraw admission of the doctoral candidate or admission to the doctorate. The same shall apply if any facts become known that would justify revocation of the doctorate under state law.
- (2) If it becomes known that the candidate has cheated in achieving one of the results of the doctoral degree procedure before the doctoral certificate is issued, the doctoral committee may declare this doctoral performance or all previous results in the doctoral degree procedure invalid or, in serious cases, withdraw admission to the examination procedure.
- (3) The person concerned must be heard before the resolution is passed. The decision must be substantiated and sent to the person concerned with information on legal remedies.

§ 17 Withdrawal of the doctorate

- (1) Withdrawal of the doctorate shall be subject to the provisions of state law. The faculty council of the faculty in which the doctorate was obtained shall be responsible if there is no regulation on responsibility.

- (2) The person concerned must be heard before the resolution is passed. The decision must be substantiated and sent to the person concerned with information on legal remedies.
- (3) Paragraphs 1 and 2 shall apply accordingly to the withdrawal of an honorary doctorate. The faculty council concerned (paragraph 1, sentence 2) shall be replaced by the overall faculty of Mathematics, Engineering, and Natural Sciences.

§ 18 Exemptions

The doctoral committee may decide by a two-thirds majority of all voting members to make exceptions to the above provisions in individual cases at a duly convened meeting, provided this does not conflict with the Act on Higher Education of the Land of Baden Württemberg. This applies in particular to interdisciplinary and international doctorates.

Annex 1 (for § 10)

Doctoral subjects	(subject areas):
Astronomy	Observational astronomy Theoretical astronomy
Biology Chemistry	Inorganic chemistry Biochemistry Organic chemistry Physical chemistry Theoretical chemistry
Earth sciences	
Geography	Human geography Geoinformatics Physical geography Regional research
Earth sciences	Geochemistry Geology Palaeontology Mineralogy Environmental Geochemistry
Computer science	Applied and practical computer science Image processing and machine learning Computer engineering Theoretical computer science
Mathematics	Applied mathematics Pure mathematics
Pharmaceutics Physics	Applied physics Experimental physics Theoretical physics

Doctoral subjects at the Faculty of Engineering

Biosystems Engineering
Computational Science and Engineering
Computer Engineering
Matter to Life
Medical
Engineering
Molecular Biotechnology
Molecular Systems Science and Engineering
Pharmaceutical Sciences

Annex 2 (Faculty-specific provisions)

Biosciences

Re § 6 (4): Acceptance as a doctoral candidate shall be limited to five years. It may be extended upon justified request.

Re § 6 (1) to (4)

1. Hosts, goals, and participants of the doctoral programme
 - (1) The Faculty of Biosciences organises a doctoral programme with a research-oriented offer of programmes in accordance with § 6.
 - (2) The goals of the doctoral programme are in continuous supervision of doctoral thesis work and professional continuing education in order to prepare the doctoral candidate for their later independent scientific work.
 - (3) Doctoral candidates who are registered in a doctoral subject at the Faculty of Biosciences in accordance with § 5 are obligated to participate.
2. Supervision of the doctoral thesis
 - (1) If accepted as a doctoral candidate in a doctoral subject at the Faculty of Biosciences, an additional supervisor must be named together with the main supervisor (see § 5 (1) (g)). The additional supervisor always must be a university lecturer, university or associate professor. They generally should be a member of the Faculty of Biosciences at Heidelberg University; the doctoral committee may appoint a university lecturer, university lecturer or associate professor from another faculty or university as an additional supervisor. In the case of external additional supervisors, their position should be comparable to that of a German university lecturer, university or associate professor; the same applies to independent research group leaders. Refer to

- the regulations for evaluators of the doctoral thesis in § 9 (2).
- (2) The doctoral candidate shall submit a written work plan for the doctoral thesis to the doctoral committee in consultation with the main and additional supervisor within six months of commencing the work. A written report updating the work plan must be submitted by the end of the second year after the start of the work. Applications for extension of acceptance as a doctoral candidate in accordance with § 5, (4) must be accompanied by a further written report.

3. Study programme

- (1) Compulsory courses are literature and research seminars of at least 1-2 weekly contact hours each, as well as compulsory elective courses such as methods practicals and seminars, laboratory rotations, self-organised doctoral candidate forums and poster sessions for the presentation of own work of 1-2 weekly contact hours. Successful participation in the compulsory (elective) courses must be certified.
- (2) The doctoral programme's offer also includes the lecture series of the scientific facilities representing the doctoral subject areas of the Faculty of Biosciences in accordance with the annex to § 10. Doctoral candidates are encouraged to participate in these department seminars and colloquia (§ 6 (3)). They should focus on topics and methods related to their doctoral thesis in this while also attending lectures in which problems from other subject areas of biosciences are dealt with. Please refer to the regulations on the content of defences (§ 10 (4)).
- (3) Successful participation in the doctoral programme is certified in the doctoral certificate (§ 14 (2)).

Re § 7 (2)

Cumulative doctoral theses are not permitted in the Faculty of Biosciences.

Re § 10 (1)

In the case of doctorates in the doctoral subjects of biology and pharmacy, all evaluators and - if different - the supervisor must confirm that they are scientifically independent of at least two members of the examinations committee and have no family ties with them. This will be reviewed by the doctoral committee of the Faculty of Biosciences. §§ 10 (1) sentences 5 and 6 no longer apply.

Chemistry and earth sciences

Re § 6 (4):

Acceptance as a doctoral candidate shall be limited to three years. It may be extended upon justified request.

Re § 7 (2)

Cumulative doctoral theses are permitted with the mutual agreement of the doctoral candidate and supervisor if the publications used for this comprise the results in the doctoral degree procedure and can be clearly attributed to the doctoral candidate. The doctoral thesis must present the doctoral candidate's research achievements in a scientific context by means of a meaningful introduction and summary. Details and further requirements are regulated by the faculty guidelines for the respective specialisations.

The doctoral committee decides on admission as a cumulative doctoral thesis.

Engineering sciences

Re § 5 (1) (g)

At the Faculty of Engineering, scientific supervision can also be provided by non-faculty members from other faculties of Heidelberg University or external research institutions. In these cases, the doctoral committee shall appoint a second supervisor, who must be a member of the Faculty of Engineering.

Re § 6 (1) to (4)

The progress of the doctoral candidates is regularly reviewed by a Thesis Advisory Committee appointed by the doctoral committee.

Re § 6 (3)

In the course of the doctoral degree procedure, the doctoral committee may, at the request of the supervisor, decide to change the degree to be awarded to Dr. rer. nat. or Dr.-Ing. The decision shall be made based on the evaluations by the Thesis Advisory Committee and after consultation with the supervisor and the doctoral candidate.

Re § 6 (4):

Acceptance as a doctoral candidate shall be limited to five years. It may be extended upon justified request.

Re § 7 (1) to (3)

The progress of the doctoral candidates is regularly reviewed by a Thesis Advisory Committee (TAC) appointed by the doctoral committee. TAC shall comprise three members: The main supervisor of the doctoral candidate and two members of the overall faculty. Additional guests can be invited. The TAC meets annually with the doctoral candidate to review the progress of the doctoral candidate's research project, provide feedback on its strengths and weaknesses, opportunities, and threats, and discuss any scientific or other issues related to the doctoral thesis. In particular, the TAC comments on the continuation of the proceedings. The first meeting should take place within the first six months after acceptance as a doctoral candidate. An evaluation form is completed and submitted to the dean's office for each of the TAC meetings with the doctoral candidate.

Re § 7 (2)

Cumulative doctoral theses in the faculty of Engineering Sciences require the approval of the doctoral committee. The cumulative doctoral thesis must place the doctoral candidate's research achievements in their scientific context by means of a meaningful introduction and summary. Details are regulated by the guidelines of the Faculty of Engineering. A cumulative doctoral thesis is not possible in the doctoral subject Matter to Life.

Re § 10 (1)

Since the doctoral subjects in the Faculty of Engineering do not have a subject area, sentences 5 and 6 do not apply. The doctoral committee must ensure that the examinations committee has a sufficient breadth of expertise.

Mathematics and computer science

Re § 6 (2) and (3)

The submission of a work plan is not required in the subject Mathematics and

Computer Science. There is currently no doctoral programme.

Re § 6 (4)

Acceptance as a doctoral candidate is limited to five years. The doctoral committee will decide on an extension of acceptance after discussion and examination of these mandatory documents:

- Application with justification by the doctoral candidate
- Official report from the supervisor
- structured work plan
- current status of the doctoral thesis (at least table of contents and abstract)

Re § 7 (2)

Cumulative doctoral theses are not permitted in the Faculty of Mathematics and Computer Science.

Re § 10 (2)

If a candidate applies to include an additional subject in the defence in accordance with § 10 (2), the required meaningful relationship to mathematics - in addition to the subjects listed in the annex to § 10 - is considered to be given for the following subjects: Medicine, philosophy, psychology, economics.

Re § 10 (5) sentence 2

The following applies instead: The presentation is open to the public. The public must only be excluded for important reasons (e.g., blocking notice) or at the justified request of the examination candidate; the doctoral committee will decide on this.

Physics and astronomy

Re § 4 (2)

The minimum grade for admission to the doctorate is the unrounded overall grade of 2.0 for the Faculty of Physics and Astronomy. Applicants with a grade below the minimum grade may be admitted in individual cases for special reasons by decision of the doctoral committee. For admission to the department of Astronomy, a degree examination in Physics or Mathematics or proof of corresponding specialist knowledge and skills in one of these subjects is required.

Re § 6 (2)

A doctoral candidate in physics or astronomy should submit a work plan to the doctoral committee in consultation with the supervisor no later than 6 months after the start of the thesis.

Re § 6 (3)

Doctoral candidates in physics are obligated to participate in a doctoral programme (e.g., also in a research training group) of the faculty, comprising regularly offered block courses and specially designated courses during the semester, for their professional continuing education. When applying for admission to the examination procedure, the courses attended must be listed (§ 8 (3) f). A minimum of 16 semester hours is expected, whereby a block course during the Graduate Days counts as 1 semester hour. The content of the events listed is part of the dispute. Doctoral candidates in Astronomy are subject to the special regulations in the Astronomy curriculum.

Re § 6 (4):

Acceptance as a doctoral candidate is limited to four years. It may be extended upon justified request.

Re § 7 (2)

Cumulative doctoral theses are permitted if the publications used for them include the results in the doctoral degree procedure and can be clearly attributed to the doctoral candidate. The doctoral thesis must place the doctoral candidate's research achievements in their scientific context by means of a meaningful introduction and summary. Details are regulated by the guidelines of the Faculty of Physics and Astronomy.

Entering into effect

These by-laws shall enter into effect on the day following their publication in the Rector's Gazette.

Heidelberg, 20 March 2024

Prof. Dr. Frauke Melchior
Rector