By-laws of Ruprecht-Karls-Universität Heidelberg for the university's internal selection procedure for the Master's degree programme in Data and Computer Science

of 20/03/2024

based on § 63 (2) of the Act on Higher Education of the Land of Baden Württemberg (*Landeshochschulgesetz* – LHG) of 1 January 2005 (GBl. 2005 p. 1), § 60 (2) no. 2 sub-section 2 LHG, amended by Article 1 of the Act of 1 April 2014 (GBl. 2014, 99), § 6 (2) sentence 12 of the Act on Admission to Higher Education in Baden-Württemberg (Higher Education Admission Act – HZG) in the version dated 15 September 2005 (GBl. 2005 p. 629) and §§ 20 (3) sentences 3 to 5, 33 (1) sentence 2 of the Ordinance of the Ministry of Science and Research on University Admission and the Application Procedure at State Universities in Baden-Württemberg (University Admission Ordinance – HZVO) of 2 December 2019 (GBl. 2019 p. 489), the Senate of Heidelberg University (hereinafter referred to as "Heidelberg University") has adopted the following by-laws on 19 March 2024.

§ 1 Scope of application

(1) These by-laws stipulate the university's internal selection procedure for allocation of available university places in the Master's degree programme in Data and Computer Science at Heidelberg University; the provisions of the admission and enrolment regulations (*Zulassungs- und Immatrikulationsordnung*; ZImmO) of Heidelberg University applicable to the admission procedure remain unaffected, unless otherwise stipulated in these by-laws.

(2) It applies if an admission number for the Master's degree programme in Data and Computer Science at Heidelberg University is specified in the respective ordinance of the Ministry of Science and Research on the determination of admission numbers for degree programmes in the allocation procedure of universities.

§ 2 Form and deadline of the application for admission

(1) The application for admission to the course of studies in the Master's degree programme in Data and Computer Science must be submitted in the form stipulated by the ZImmO of Heidelberg University.

(2) The following documents must be enclosed with the application for admission to the course of studies:

1. evidence of a Bachelor of Science degree with above-average grades in a degree in one of the departments of computer science, computational linguistics, mathematics, or physics, or in a degree programme with essentially the same content, or a degree recognised as equivalent. At least 50% of the degree programme must be in computer science and the Bachelor's thesis must be 100% from the degree programme in computer science. Evidence of an above-average Bachelor's degree is provided with a minimum grade of 2.3,

2. Officially certified translations in German or English must be enclosed for certificates from foreign educational institutions. If the university entrance qualification and academic achievements were acquired in a country, in particular in the People's Republic of China, India, or Vietnam, in which a certificate or an attestation from the Academic Evaluation Centre (APS) is offered, this must also be submitted,

3. if the degree in accordance with paragraph 2 number 1 is not yet available by the end of the application deadline, a provisional certificate from the university on the work completed up to that point,

4. evidence of subject-specific knowledge in accordance with § 4 /(2) no. 2 in the form of the transcript of records,

5. evidence of sufficient English language proficiency at a minimum level B2 in accordance with the Common European Framework of Reference for Languages (CEFR) if the applicant is not a native speaker of English. The evidence must not be any older than five years at the end of the application phase and can be provided by:

   a) the Test of English as a Foreign Language (TOEFL), paper based, with at least 532 out of 677, or with at least 72 out of 120 points, internet based, or

   b) the International English Language Test System (IELTS Academic) with a score of 5.5 or better, or

   c) Cambridge English Scale with at least 160 points, or

   d) other evidence of at least level B2 in accordance with the Common European Framework of Reference for Languages (CEFR), e.g., by providing evidence of at least level B2 in the school leaving certificate or

   e) successful completion of a degree programmes taught in English.

6. a personal statement (self-reflection) in the form of answers to predefined questions. The modalities and questions will be determined by the selection committee and communicated during the application phase,

7. a declaration stating whether the applicant for the course of studies has definitively failed an examination required by the examination rules and regulations in the Master's degree programme in data and computer science or a related Master's degree programme before, or their entitlement to take the final exams has lapsed for any other reasons, or is currently undergoing an examination procedure in such degree programmes.

(3) Heidelberg University may require that the documents to be enclosed to the application for admission to the course of studies be submitted in the original upon enrolment.

(4) Degrees obtained in degree programmes at foreign state or state-recognised universities shall be recognised if there is no significant difference in the skills acquired compared to the degrees that are being replaced. The selection committee shall decide on recognition. The recommendations of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder and the agreement within the framework of university partnerships must be observed when recognising foreign educational certificates.

(5) The application for admission to the course of studies, including the documents required under paragraph 2, must be submitted to Heidelberg University by 15 March of each year for the winter semester and by 15 September of the previous year for the summer semester (cut-off period). The application for admission to the course of studies, including the documents required under paragraph 2, must be submitted to Ruprecht-Karls-Universität Heidelberg by 15/05/2024 for the winter semester 2024/25.

§ 3 Selection committee

(1) A selection committee is appointed for the Master's degree programme in data and computer science to prepare the selection decision. It comprises ten members elected by the faculty who belong to the full-time scientific personnel. At least two members must come from the group of professors.

(2) The members of the selection committee shall be appointed by the faculty council of the Faculty of Mathematics and Computer Science. The faculty shall appoint a chairperson and a deputy chairperson from among the members, who must come from the group of professors. The term of office of the members shall be two years. Re-appointment shall be possible.

§ 4 Selection procedure

(1) The selection decision shall be made based on a ranking list in accordance with the degree of aptitude of the applicant for the course of studies in the Master's degree programme in Data and Computer Science and typically subsequent professional activities. The ranking list shall be drawn up by the selection committee from all persons who participate in the selection procedure in accordance with an overall score calculated in accordance with the selection criteria for the selection decision and determines the ranking of applicants for the course of studies. The ranking list is drawn up in a two-stage procedure in accordance with § 4 (3) nos. 1 to 3.

(2) The selection criteria for the selection decision are as follows:

1. a Bachelor of Science degree with above-average grades in one of the departments of computer science, computational linguistics, mathematics, or physics or in a degree programme with essentially the same content for which a standard period of study of at least three years is specified or a degree recognised as equivalent. At least 50% of the degree programme must be in computer science and the Bachelor's thesis must be 100% from the degree programme in computer science. Evidence of an above-average Bachelor's degree is provided with a minimum grade of 2.3,

2. subject-specific knowledge of at least 56 CP in computer science and 16 CP in mathematics; the knowledge in computer science must be documented with content from practical computer science, technical computer science, algorithms and data structures, operating systems and networks, software engineering, theoretical computer science, databases, and other in-depth areas of computer science; this knowledge must be accompanied to an appropriate extent by programming knowledge; in addition, mathematics knowledge from the contents of linear algebra, analysis and other in-depth areas of mathematics must be proven,

3. a personal statement (self-reflection) in the form of answers to predefined questions,

4. the result of a selection interview, which provides information about suitability for the chosen course of studies and the desired profession.

(3) The selection criteria in accordance with paragraph 2 shall be taken into account when determining the overall score with the following assessment:

1. A pre-selection shall be made based on the selection criteria of the grade of the university degree (§ 4 (2) no. 1), the specialist knowledge (§ 4 (2) no. 2) and the personal statement (§ 4 (2) no. 3).

a) The overall grade of the academic degree examination relevant to the degree programme (§ 4 (2) no. 1) is converted into a number of points in accordance with the following key:

1.0 to 1.2 corresponds to 10 points,
1.3 to 1.4 corresponds to 9 points,
1.5 to 1.6 corresponds to 8 points,
1.7 to 1.8 corresponds to 7 points,
1.9 to 2.0 corresponds to 5 points,
2.1 to 2.3 corresponds to 3 points.

The provisional grade resulting from the work completed up to that point will be converted into a number of points in accordance with the above-mentioned key for applicants in accordance with § 2 (2) no. 3 who have not yet completed their Bachelor's degree programme. If they have achieved a grade lower than 2.3 based on their performance up to that point, they will receive 2 points for participation in the selection procedure.

b) The technical knowledge in accordance with § 4 (2) no. 2 is assessed on a scale of 0 to 15 points.

c) The personal statement in accordance with § 4 (2) no. 3 is assessed on a scale of 0 to 10 points.

d) The total score of the preselection is calculated as the sum of the points in accordance with letters a) to c). A ranking list is drawn up on the basis of this score.

2. The assessment of the selection interview in accordance with § 4 (2) no. 4 will be performed in accordance with § 5.

3. The scores from the pre-selection in accordance with § 4 (3) no. 1 (maximum 35 points) and the selection interview in accordance with § 5 (maximum 15 points) will be added up and the final ranking list will be drawn up based on this score (maximum 50 points in total).

§ 5   Selection interview

(1) The selection interview is intended to provide information on the extent to which the applicant for the course of studies is qualified and open-minded for the Master's degree programme in data and computer science. The interview behaviour of the applicant for the course of studies will also be assessed in terms of the approach taken when discussing technical problems and the coherence of the argumentation.

(2) At least three times the number of applicants as there are university places available will be invited to the selection interview. Invitation to the selection interviews will depend on the result of the pre-selection in accordance with § 4 (3) no. 1d). If there is a tie in the pre-selection, all eligible applicants will be invited to the selection interviews.

(3) The selection interview will take place after the application deadline, either in person or via the university's own video conferencing system. The precise dates and location of the selection interview will be announced in advance by Heidelberg University. Applicants for the course of studies will be invited to a selection interview by Heidelberg University in time.

(4) The selection interview will be conducted by members of the selection committee or by authorised examiners of the data and computer science degree programme appointed by the selection committee. They are the members conducting the selection interview. Other full-time scientific personnel may also participate in the selection interviews.

(5) The members conducting the selection interview shall conduct an interview of approx. 8 minutes with each applicant for the course of studies (typically two members per interview). Group interviews with up to three applicants for the course of studies at the same time are permitted (i.e., with a total duration of up to approx. 24 minutes). The answers of the individual persons must remain recognisable and shall be assessed separately.

(6) Minutes of the main questions and answers of the selection interview shall be kept. They shall be signed by the persons conducting the selection interview. Furthermore, the minutes must include the date and location of the selection interview, the names of the persons conducting the selection interview, the names of the persons applying for the course of studies and the assessments made by the persons conducting the selection interview.

(7) The members of the selection committee shall assess the applicant for the course of studies on a scale of 0 to 15 points in accordance with their aptitude and open-mindedness for the Master's degree programme in data and computer science immediately after the selection interview. The selection committee shall evaluate the criteria in accordance with paragraph 1 in accordance with the following assessment criteria:

1. Specialised interests and aptitude:

a) a technical task is accurately analysed and ways to solve it are presented in a convincing manner. Further professional interests are presented in a convincing manner = 10 points;

b) a technical task is logically analysed and ways to solve it are presented in a plausible manner. Further professional interests are evident = 7 points;

c) a technical task is analysed and ways to solve it are identified. Further professional interests are suggested = 4 points;

d) analysis of a technical task with a solution and the formulation of further technical interests is not successful = 0 points.

2. Career prospects:

a) The professional perspective is clearly evident. It offers a conclusive and good reason to study the Master's degree programme in data and computer science at Heidelberg University = 2 points;

b) A professional perspective is evident to a degree = 1 point;

c) A professional perspective is not evident = 0 points.

3. Interview behaviour:

a) The participant is confident in the interview and fully convincing in terms of their approach to discussing problems and their argumentation is logical = 3 points;

b) The participant's interview conduct shows deficits in the approach to discussing tasks or logic of the argumentation = 1 point;

c) The interview conduct is inadequate in terms of the approach to discussing problems and the logic of argumentation = 0 points.

(8) The selection interview will be assessed with 0 points if the applicant for the course of studies does not appear for an interview without important reasons.

§ 6   Allocation of university places

(1) The Rector shall decide on the allocation of university places upon recommendation by the selection committee. The Rector has delegated the selection decision to the responsible organisational unit in the university administration.

(2) Allocation of a university place must be refused if

1. the documents in accordance with § 2 (2) were not submitted on time or in full, or

2. the applicant for the course of studies has lost their entitlement to take the final exams in the Master's degree programme in data and computer science or in related degree programmes with essentially the same content with a subject component in computer science of at least 50% or is in an ongoing examination procedure for such a degree programme.

(3) In the case of an application in accordance with § 2 (2) no. 3, admission shall be granted subject to the proviso that evidence of the degree and related requirements is provided within a deadline set by Heidelberg University. The authorisation shall expire if evidence is not provided in due time.

(4) If there is a tie, selection shall be based on the overall result of the selection interviews; if there continues to be a tie, lots shall be cast.

§ 7 Entering into effect/expiry

(1) These by-laws shall enter into effect on the day following their publication in the Rector's Gazette. They shall apply for the first time for the winter semester 2024/2025.

(2) The by-laws of Heidelberg University for the university's own selection procedure in the Master's degree programme in Data and Computer Science of 9 December 2021 (Rector's Gazette No. 26/2021 p. 1645) shall cease to be in effect at the same time.

Heidelberg, 20 March 2024

Prof. Dr. Melchior
Rector