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Regulations on admission to the master's degree program Computational Sciences of the Faculty of Mathematics and Natural Sciences of the University of Cologne

from 09.03.2022

Based on § 2 paragraph 4 sentence 1 of the Act on the Universities of the State of North Rhine-Westphalia (Higher Education Act - HG) in the version of the Higher Education Act (HZG NRW) of September 16, 2014 (GV. NRW. p. 547), last amended by Article 1 of the Act on the Further Amendment of the Higher Education Act and the Higher Education Act for the Arts of 25. November 2021 (GV. NRW. S. 1210a), and of § 4 paragraph 1 of the Examination Regulations for the Master's Degree Program Computational Sciences of the Faculty of Mathematics and Natural Sciences of the University of Cologne dated 09.03.2022 (Official Notices xx/zzzz), the Faculty of Mathematics and Natural Sciences of the University of Cologne enacts the following regulations:

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§ 1

Scope

These regulations govern access and admission to the Master's program in Computational Sciences (M. Sc.) at the Faculty of Mathematics and Natural Sciences of the University of Cologne (hereinafter: Master's program).

§ 2

Access requirements

(1)¹ The admission requirement for the Master's degree program, also in the case of an application to a higher semester, is a first professional degree in a mathematical-scientific degree program of at least six semesters in which at least 180 credit points have been earned, or an equivalent relevant degree program. ²Degrees obtained abroad are classified by the

admissions committee on the basis of the evaluation proposals provided by the Central Office for Foreign Education in the Secretariat of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the anabin database.

(2) Within the framework of the first professional qualification according to Paragraph 1, the following achievements must have been made:

1. A minimum of 21 credit hours from mathematics and/or computer science,
2. Knowledge of a higher programming language evidenced by a performance record (e.g. certificate or bachelor thesis) and
3. A minimum of 12 credit hours from one of the following subject areas:
 - Computational Astro- and Space Physics: theoretical physics, classical mechanics, electromagnetism (or equivalent),
 - Computational Biology: Biology,
 - Earth System Sciences: earth sciences, meteorology, or physics,
 - Theoretical Chemistry: Inorganic Chemistry, Quantum Chemistry, or
 - Theoretical Condensed Matter Physics: Quantum Physics and Statistical Physics.

(3)¹ If the underlying study program has not yet been completed at the time of application, an application is possible in deviation from paragraph 1 if at least 80 percent of the credit points to be acquired or the achievements recognized as equivalent have already been proven and all examinations will have been taken by September 30 of the same year. ²In this case, a result calculated and certified by the examination office of the bachelor's degree program on the basis of the examinations taken up to that point shall take the place of the degree according to paragraph 1. ³In this case, the further admission requirements of paragraph 2 must be fulfilled within the framework of the previous performance.

(4) Applicants who have neither their university entrance qualification nor their first professional qualification in English must provide proof of knowledge of the English language at level B2 of the Common European Framework of Reference for Languages.

§ 3

Admission requirements

(1) The selection and admission of applicants is based on the relevant provisions of the Law on Admission to University Studies in North Rhine-Westphalia, the Ordinance on the Allocation of Study Places in North Rhine-Westphalia, the Framework Regulations for the Implementation of Selection Procedures in Admission-restricted Study Programs at the University of Cologne, and the provisions of the Regulations on the Admission to Studies of Foreign Students at the University of Cologne, as amended from time to time.

(2)¹ The number of study places may be limited and shall be determined anew each year in this case. ²In this case, if the number of applicants entitled to admission exceeds the number of available study places, the selection among the applicants for study places of the first semester shall be made according to the overall grade of the first professional qualification or, in the case of an application according to § 2 paragraph 3, according to the grade point average achieved at the time of the application as well as according to the result of a selection interview. ³The result of the first professional qualification is included in the evaluation with up to 60 points and the result of the selection interview with up to 40 points; further details are

given in the appendix [Appendix Selection Criteria]. ⁴Available study places in higher semesters are awarded exclusively according to the degree of qualification. ⁵In case of equal rank, the order of admission is decided by lot.

(3) Admission to the Master's degree program shall be denied if

1. the access requirements according to § 2 are not fulfilled or
2. the applicant has already obtained the degree of Master of Science or an equivalent degree in the same course of study at a higher education institution within the area of application of the Basic Law, or
3. the applicant has definitively failed an examination required by the examination regulations in the Master's degree program in question at a higher education institution within the area of application of the Basic Law; this applies accordingly to degree programs that have a considerable proximity in terms of content.

§ 4

Application, application deadline

(1)¹ The application for admission must be submitted by July 15 of each year for the master's degree program (cut-off deadline). ²It is only valid for the allocation of study places for the coming semester.

(2) The application shall be accompanied by the following documents in German or a certified translation:

1. Evidence of the access requirements according to § 2,
2. Presentation of the (previous) course of studies (Transcript of Records) and
3. Preferred Specialization Direction.

(3)¹ For applicants who obtain their first professional degree in the current summer semester, it is sufficient, in deviation from paragraph 2 number 1 in conjunction with § 2 paragraph 1, to submit the achievements proven by July 15 with an indication of the grade point average as well as proof of the expected date of acceptance of the outstanding examination achievements. ²The certificate of the first professional qualification must be submitted by December 31. ³If the certificate is not submitted in time, the enrollment in the Master's program expires.

(4)¹ Applications are submitted via the campus management system KLIPS 2.0 of the University of Cologne. ²Applicants who did not obtain their first professional degree within the area of application of the German Basic Law (Grundgesetz) must apply to the Arbeits- und Servicestelle für internationale Studienbewerbungen (uni-assist) e.V. for a Preliminary Verification Documentation (VPD) of the application documents and submit this VPD together with the application via the campus management system KLIPS 2.0.

§ 5

Admission / rejection notice

(1)¹ Applicants will be informed of an existing offer of admission via the e-mail address they have submitted as part of their application as well as via the application portal of the University of Cologne. ²The applicant will be given a period of seven days in which to submit a declaration of acceptance of the present offer of admission. ³The period begins with the announcement of the offer of admission. ⁴If the declaration of acceptance of the offer of admission is not made or is not made within the deadline, the study places that have become free will be reallocated. ⁵The applicants are excluded from the further procedure.

(2)¹ If not all of the applicants admitted according to paragraph 1 declare their acceptance of the offer of admission within the set deadline, a corresponding number of applicants who initially did not receive an offer of admission will be admitted in the order of the rank they achieved according to § 3 paragraph 2 (move-up procedure), insofar as free study places are available within the framework of the admission number determined by the Ministry of Culture and Science of the State of North Rhine-Westphalia for the Master's degree program. ²Applicants will be informed of an available offer of admission in the move-up procedure via the e-mail address they submitted as part of their application as well as via the application portal of the University of Cologne. ³The applicant will be given a period of four days in which to submit a declaration of acceptance of the available offer of admission. ⁴The period begins with the announcement of the offer of admission. ⁵If the declaration of acceptance of the offer of admission is not made or is not made within the time limit, the study places that have become free will be reallocated in accordance with sentence 1. ⁶The applicants are excluded from the further procedure.

(3) Applicants who cannot be admitted at the end of the selection procedure will receive a rejection notice with instructions on how to appeal.

(4) The admission of secondary students is governed by the enrollment regulations of the University of Cologne as amended from time to time.

§ 6

Withdrawal, revocation

¹Admission can be withdrawn or revoked if it subsequently transpires that the applicant was wrongly admitted to the program, in particular if this was done on the basis of false information in the application process. ²If the applicant has already been enrolled, he or she will be de-registered from the Master's program. ³The person concerned must be given the opportunity to comment before a decision is made by the admissions committee.

§ 7

Admissions Committee

The examination board for the Master's program in Computational Sciences of the Faculty of Mathematics and Natural Sciences (Admissions Committee) is responsible for conducting the award procedure.

§ 8

Entry into force, publication

¹These regulations come into force on the day following their publication in the Official Notices of the University of Cologne. ²It applies for the first time for admission to the winter semester 2022/2023.

Issued on the basis of the resolution of the Narrow Faculty of the Faculty of Mathematics and Natural Sciences of 27.01.2022 and after examination of the legality by the Rectorate of 15.02.2022.

Cologne, 09.03.2022

The dean
of the Faculty of Mathematics and Natural Sciences of the University of Cologne
University Professor Dr. Ir. Paul H. M. van Loosdrecht

Appendix selection criteria

In the selection procedure according to § 3 paragraph 2, a point value is calculated for the result of the first professional qualification or the average grade as well as the result of the selection interview. The point values of the individual criteria are added together to form the admission score (maximum 100 points).

a) Result of the first professional qualification or average grade

The final grade according to § 2 paragraph 1 or the average grade according to § 2 paragraph 3 counts between 19 and 60 points. The resulting distribution of points is shown in the following table:

Bachelor grade	Points
1,0	60
Linear interpolation between the boundaries.	
4,0	19

b) Selection interview

During the selection interview, up to 10 points will be awarded in each of the following criteria:

- Criterion 1: Training,
- Criterion 2: Willingness to perform and motivation,
- Criterion 3: Analytical skills and
- Criterion 4: Interdisciplinary focus.

To conduct and evaluate the selection interviews, the admissions committee appoints an assessment group of suitable subject representatives, usually consisting of three members. One member is appointed from each of the following groups:

- Group of university teachers,
- Group of academic employees or group of technical and administrative employees, and
- Group of students.

The individual point value for each applicant is calculated as the average of the point values determined by the individual members of the assessment group. These document the content and result of the oral suitability assessment procedure in writing.