Statutes on the aptitude test

for the master programme of the Faculty of Electrical Engineering and

Information Technology M.Eng. AI Engineering of Autonomous Systems

at the Technische Hochschule Ingolstadt from

13/02/2023

in the version of the amended articles of association dated 29 April 2024

Preamble

Based on Art. 9 sentence 1 and Art. 90 para. 1 sentence 2 of the Bavarian Higher Education Innovation Act (BayHIG) of 5 August 2022 (GVBl. p. 414; BayRS 2210-1-3-WK), as amended, Technische Hochschule Ingolstadt issues the following statutes:

Table of contents

§ 1
Purpose of the aptitude test

(1) Admission to the AI Engineering of Autonomous Systems master's programme at Technische Hochschule Ingolstadt requires, in addition to the requirements listed in the Study and Examination Regulations for the Master's Programme of the Faculty of Electrical Engineering and Information Technology M.Eng. AI Engineering of Autonomous Systems at the Technische Hochschule Ingolstadt dated 13 February 2023 (SPO) in the currently valid version, proof of the corresponding aptitude in accordance with these statutes.

(2) [1]In the aptitude test, the applicant should prove whether, in addition to the qualifications proven by the completion of a degree in an Electrical Engineering and Information Technology or Mathematics discipline or Computer Science, he or she has the aptitude for the special qualitative knowledge and requirements of the master programme AI Engineering of Autonomous Systems, which can be expected to lead to a successful course of study. [2]For this study course, the following aptitude requirements must be met in addition to the completion of an engineering or natural science degree or the academic study of Computer Science:

   1. strong mathematical skills as well as the ability to think abstractly and system-oriented and to formalise solution approaches and

   2. Expertise in Engineering Sciences and the methods and processes of software development.

§ 2
Selection committee

The aptitude test is carried out by a selection committee consisting of at least two professors appointed by the Faculty Council of the Faculty of Electrical Engineering and Information Technology.

§ 3
aptitude test

(1) The aptitude test takes place in the summer semester for the following winter semester and in the winter semester for the following summer semester.

(2) [1]The documents for the aptitude test must be added to the application for admission by the deadline specified in the current version of the Statutes for Admission to Academic Studies, the Enrolment, Assessment, Re-registration and Exmatriculation Procedure at Technische Hochschule Ingolstadt (Enrolment Articles THI) dated 11 December 2023 in the online application procedure to Technische Hochschule Ingolstadt. [2]In justified exceptional cases, an extension of the application period is possible.

(3) [1]The following documents must be enclosed with the application

    a. a completed questionnaire prepared by the Faculty of Electrical Engineering and Information Technology and made available via the online application process,

    b. if already available, a copy of the degree certificate from the first degree according to § 3 para. 1 lit. a) SPO, alternatively a current grade sheet and

    c. a copy of the cover sheet, a summary (abstract) and a structure of the thesis for the assessment of knowledge of the methods of independent scientific work and experience in the field of Engineering Sciences problem solving.

[2]If possible, appropriate evidence of other skills, including those acquired outside the university, should be enclosed. [3]The accuracy of the information provided must be confirmed.

§ 4
Admission requirements

[1]All applicants who have applied for admission to the programme in accordance with Section 3 (2) and (3) in due form and time and who meet the general qualification requirements in accordance with Section 3 SPO will be admitted to the aptitude test. [2]If this is not the case, admission to the aptitude test will not be granted.

§ 5
Content of the aptitude test

(1) The aptitude test is carried out by the selection committee by evaluating the documents submitted in accordance with § 3 (3) with regard to the following criteria areas

    a. Grade of a Bachelor's degree in an electrical/information technology or mathematical discipline or Computer Science,

    b. Expertise in information technology, programming and software development and mathematics, and

    c. independent scientific work and experience in the field of engineering problem solving.

(2) [1]For the assessment of suitability, a grade is formed from two weighted partial grades:

    a. the final grade of the Bachelor's degree programme in an Electrical Engineering and Information Technology or Mathematics discipline or Computer Science with a weighting of 0.6

b. a grade with a weighting of 0.4, which assesses Engineering Sciences competence, independent scientific work and experience in the field of engineering sciences and software-orientated problem solving. To calculate this partial grade, the sum of the following assessment points is first determined:

aa) Credit points (ECTS, CP) for modules teaching specialist skills from the following areas of Engineering Sciences and Computer Science: Systems Theory, Signal Processing, Control Engineering, Data Transmission, Communication Networks, Modelling and Simulation, Microcomputer Technology, Machine Learning and Artificial Intelligence, Computer Science Systems (max. 30 points)

bb) Credit points (ECTS, CP) of the modules for teaching competences in programming, methods and processes of software development (max. 20 points)

cc) Credit points (ECTS) of the modules for teaching additional mathematical skills (beyond the usual scope of a Bachelor's degree in Electrical Engineering and Information Technology or Computer Science): Probability theory, statistics, graph theory, numerics (max. 10 points)

dd) Points for the evaluation of the thematic and subject-specific reference of the final thesis in the Bachelor's programme to Engineering Sciences problem solving, which required knowledge of software development methods:
  - 0 points: no thematic or subject-specific reference
  - 3 points: thematic reference and subject-specific reference of up to 30%
  - 6 points: thematic reference and subject-specific reference from 31% - 60%
  - 10 points: thematic reference and subject-specific reference over 60%

The final sub-score is determined as follows:

- 60 - 70 points: Grade 1.0
- 47 - 59 points: Grade 2.0
- 34 - 46 points: Grade 3.0
- 21 - 33 points: Grade 4.0
- 0 - 20 points: Grade 5.0

[2]The grade levels of § 24 APO apply accordingly for the assessment.

(3) [1]Aptitude is deemed to have been established if the overall grade in the aptitude test is at least "good" (2.5). [2]Applicants with an overall grade of less than "good" (2.5) cannot be considered suitable for the master programme AI Engineering of Autonomous Systems. [3]A new application is possible at the earliest for the next application procedure.

§ 6
Transcript

A transcript of the aptitude test must be prepared, showing the date and place of the aptitude test, the names of the applicants and the assessments made by the selection committee in accordance with § 5.

§ 7
Determination and announcement of the result

[1]The result of the aptitude test for the master programme AI Engineering of Autonomous Systems will be communicated by the Service Center Study Affairs. [2]Rejection notices must be justified and include information on legal remedies.

§ 8
entry into force

The Articles of Association enter into force on the day after publication.

Issued on the basis of the resolution of the Senate of Technische Hochschule Ingolstadt dated 13 February 2023 and the approval of the President of Technische Hochschule Ingolstadt.

Ingolstadt, 28/03/2023

Prof Dr Walter Schober President

The Articles of Association were deposited at Technische Hochschule Ingolstadt on 29 March 2023. The resignation was announced on 29 March 2023 by means of a notice. The date of announcement is therefore 29/03/2023.