

**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 Technische Hochschule Ingolstadt  
from 13.02.2023**

**Preamble**

On the basis of Art. 9, 80 Para. 1 Sentence 1 and 84 Paras. 2 and 3 of the Bavarian University Innovation Act - BayHIG - of 5 August 2022 (GVBl p. 414, BayRS 2210-1-3-WK), Ingolstadt University of Technology issues the following Statutes:

**Preliminary remark on the use of language**

For reasons of readability and clarity, all references to persons and functions are in the masculine form and apply equally to all genders.

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## **§ 1**

### **Purpose of the study and examination regulations**

These study and examination regulations serve to complete and supplement the Framework Examination Regulations for Universities of Applied Sciences (RaPO) of 17 October 2001 (GVBl p. 686, Bay RS 2210-4-1-4-1-WFK) and the General Examination Regulations of Technische Hochschule Ingolstadt (APO THI) of 25.07.2011 in their respective versions.

## **§ 2**

### **Study objective**

- (1) <sup>1</sup>The aim of the Master's degree programme AI Engineering of Autonomous Systems is to impart specialist and methodological knowledge for the development of future-oriented, autonomously acting systems by means of automation, networking and the associated AI and software skills that are required in the various phases of the development of such systems. <sup>2</sup>On the basis of scientific knowledge and methods, university graduates are prepared for specialist and management tasks in internationally operating companies and organisations. <sup>3</sup>The degree programme promotes independent scientific work with a focus on applied research.
- (2) <sup>1</sup>The degree programme enables graduates to independently analyse problems of software development in the areas of autonomous systems, software engineering, testing in dynamically changing application areas characterised by uncertain knowledge using scientific methods and to make a professional contribution to software-technical solutions of complex engineering problems in the development of autonomous systems, which fulfils high demands on robustness and safety. <sup>2</sup>The knowledge imparted qualifies the students for work in development and research areas.
- (3) The study programme is conducted in English.

## **§ 3**

### **Qualification for the study**

- (1) Qualification requirements for access to the Master's programme are
  - a. Proof of successful completion of a degree programme at a German higher education institution with at least 210 ECTS credit points or equivalent in an engineering or natural science discipline or in informatics or an equivalent successful domestic or foreign degree.
  - b. successful participation in an aptitude test. <sup>2</sup>Further details are regulated by the statutes on the aptitude procedure for the Master's degree programme AI Engineering of Autonomous Systems at Technische Hochschule Ingolstadt dated 13.02.2023 in the respective version.
- (2) <sup>1</sup>For degrees that do not have credit points, the documented time hours (workload) are converted into credit points, whereby one credit point corresponds to an hourly load of 25 time hours. <sup>2</sup>If no time hours are verified

30 ECTS are recognised per theoretical study semester. <sup>3</sup>Practical semesters are recognised with a further 30 ECTS insofar as they correspond to the practical study semester in type and scope at Technische Hochschule Ingolstadt.

- (3) <sup>1</sup>The evidence pursuant to Para. 1 must be provided on the day of enrolment at the latest. <sup>2</sup>If the evidence pursuant to Para. 1 Sentence 1 is not provided by the end of the application period, a corresponding confirmation from the higher education institution must be provided by then, which credibly confirms the fulfilment of the requirement pursuant to Para. 1 Sentence 1 by the end of the enrolment period; the obligation pursuant to Sentence 1 remains in force.
- (4) <sup>1</sup>Applicants who have completed a university degree or an equivalent degree for which less than 210 but at least 180 ECTS points have been awarded are admitted if the other requirements according to Para. 1 are fulfilled and the missing competences are proven with the application for admission. <sup>2</sup>The missing competences according to sentence 1 are the proof of the compensation of the competence gap in the scope of up to 30 ECTS credit points to the qualification requirement to be proven in paragraph 1 sentence 1 at at least Bachelor's level. <sup>3</sup>The missing competences must be demonstrated by the end of the application period at the latest and can be demonstrated as follows:
- a. by providing evidence of practical work experience outside of the degree programme, which corresponds in content and scope to the basic internship and/or practical semester of an engineering or natural science degree programme, e.g. at Technische Hochschule Ingolstadt, provided that the degree submitted shows deficits in the area of the practical competences to be demonstrated compared to the qualification requirement according to Para. 1 Sentence 1, or
  - b. by providing proof of practical or theoretical studies and examinations in addition to the first degree from a domestic or foreign university, which correspond in content and scope to the requirements of an engineering or natural science degree programme, e.g. at the Ingolstadt University of Technology, provided that the submitted degree shows deficits in the area of the theoretical or practical competences to be proven compared to the qualification requirement according to Para. 1 Sentence 1.

<sup>4</sup>The examination board shall decide on the equivalence, taking into account the principles of Art. 86 Para. 1 BayHIG. <sup>5</sup>Para. 2 applies accordingly.

- (5) The prerequisites mentioned in paragraph 1 lit. a) and lit. b) must be met cumulatively.
- (6) If an applicant is not admitted, he/she will be informed of this in writing with a statement of reasons.

#### **§ 4**

##### **Type and duration of the study programme**

- (1) The degree programme is run as a consecutive degree programme (full-time study).

- (2) <sup>1</sup>The programme comprises a standard period of study of three theoretical semesters with a workload of 90 ECTS. <sup>2</sup>The Master's thesis is also to be written during this standard period of study.
- (3) <sup>1</sup>The higher education institution may also offer its courses supported by virtual forms of teaching. <sup>2</sup>Further details are regulated in the curriculum.
- (4) <sup>1</sup>Parts of the degree programme can be offered in cooperation with partner universities and completed there. <sup>2</sup>Further details are regulated in the study plan.

## **§ 5** **Credit points**

<sup>1</sup>Credit points are awarded according to the European Credit Transfer System (ECTS) for examinations passed and course-related certificates of achievement per module. <sup>2</sup>As a rule, a maximum of 60 credit points are awarded per academic year. <sup>3</sup>One credit point corresponds to a study load of 25 time hours, which are made up of attendance events and distance learning phases. <sup>4</sup>The number of credit points results from Appendix 1 to these study and examination regulations.

## **§ 6** **Modules and credits**

- (1) The modules, their number of hours, the type of courses, the examinations, the course-related certificates of achievement as well as further provisions are set out in Annex 1 to these Statutes.
- (2) All modules are either compulsory, elective or optional:
  1. Compulsory modules are those modules of the degree programme that are compulsory for all students.
  2. <sup>1</sup>Compulsory elective modules are those modules of the degree programme which are offered as alternatives, either individually or in groups. <sup>2</sup>Each student must make a specific selection from among them in accordance with these regulations. <sup>3</sup>The chosen modules are treated as compulsory modules.
  3. <sup>1</sup>Elective modules are modules that are not compulsory for the achievement of the degree objective. <sup>2</sup>They can be additionally selected by the students from the entire range of courses offered by the university.
- (3) Selected modules, including examinations and/or performance records, may be held in German as specified in more detail in the curriculum.
- (4) <sup>1</sup>There is no entitlement to the Master's degree programme being carried out if there is an insufficient number of qualified students. <sup>2</sup>Likewise, there is no claim that all modules will be offered in every semester.

## **§ 7** **Curriculum**

- (1) <sup>1</sup>In order to ensure that the courses are offered and to inform the students, the faculty responsible shall draw up a study plan detailing the course of study. <sup>2</sup>The study plan is decided by the responsible faculty council and is to be made public at the university. <sup>3</sup>The announcement of new regulations must be made at the latest at the beginning of the lecture period of the semester in which the regulations are to be applied for the first time.
- (2) The curriculum contains, in particular, regulations and information about:
1. the distribution of the semester hours per module and study semester,
  2. the catalogue of elective modules that can be selected with the name of the modules and their number of semester hours per week,
  3. more detailed provisions on the performance and participation certificates accompanying the course of study,
  4. the form and organisation of courses,
  5. the type of course in the individual modules, insofar as it has not been conclusively defined in Annex 1,
  6. the study objectives (learning outcomes) and contents of the individual modules,
  7. more detailed provisions on the type and scope of the module examinations, insofar as these have not been conclusively defined in Annex 1,
  8. more detailed provisions for courses offered via new media,
  9. more detailed provisions on the final colloquium,
  10. the language of instruction and examination in the individual modules, insofar as this is not in English.

## **§ 8** **Master thesis**

- (1) In the Master's thesis, students should demonstrate their ability to apply the knowledge acquired during their studies to complex practical tasks in an independent scientific work.
- (2) <sup>1</sup>The topic of the Master's thesis is issued at the beginning of the second semester at the earliest. <sup>2</sup>The issue of the topic of the Master's thesis requires that at least study and examination achievements to the extent of 30 ECTS have been successfully completed.
- (3) The processing time for the Master's thesis is six months.
- (4) In all other respects, the regulations for the final thesis in the General Examination Regulations of Technische Hochschule Ingolstadt apply.

## **§ 9**

### **Assessment of performances, overall examination grade**

- (1) The Master's examination is deemed to have been passed if all prescribed modules and the Master's thesis have been passed with at least the grade "sufficient".
- (2) The formation of the overall examination grade results from the weighting of the individual grades according to Annex 1.

## **§ 10**

### **Master's examination certificate**

- (1) <sup>1</sup>A certificate is issued for the passed Master's examination in accordance with the model contained in the General Examination Regulations of Technische Hochschule Ingolstadt (APO THI) in the respective version. <sup>2</sup>The certificate sample is specified according to these study and examination regulations.
- (2) Together with the certificate of the passed Master's examination, a Diploma Supplement is issued according to the model contained in the APO THI.

## **§ 11**

### **Academic degree**

- (1) For the successful completion of the Master's examination, the academic degree "Master of Engineering", short form: "M.Eng.", is awarded by Technische Hochschule Ingolstadt.
- (2) A certificate is issued on the award of the academic degree in accordance with the model contained in the appendix to the APO THI.

## **§ 12**

### **Entry into force**

<sup>1</sup>These study and examination regulations come into force upon signature. <sup>2</sup>They apply to all students who commence their studies in this degree programme from the winter semester 2023/2024.

Issued on the basis of the resolution of the Senate of Technische Hochschule Ingolstadt of 13.02.2023, the resolution of the University Council of 02.03.2023 and approved by the President.

Ingolstadt, 28.03.2023

Prof. Dr. Walter Schober

President

These Statutes were deposited at Ingolstadt University of Technology on 29.03.2023. The laying was publicly announced digitally on 29.03.2023 by posting on the homepage of Ingolstadt University of Technology. The date of the announcement is therefore 29.03.2023.