Important note: The Artificial Intelligence for Industrial Applications master programme is legally regulated by the "Studien- und Prüfungsordnung" (Study and Examination Regulations). This document is a legally non-binding translation of the study and examination regulations.

Study and Examination Regulations

for the Full-Time Master Programme Artificial Intelligence for Industrial Applications and the Part-Time Master Programme Artificial Intelligence for Industrial Applications

at the OTH Amberg-Weiden

(convenience translation)

translated on the 30th of september 2025
from original document published on 16th of february 2023 and changed on the 26th of june 2025

Consolidated version as amended by the first amendment statute dated June 26, 2025; valid for students who commence their studies in the summer semester of 2026 or later.

(for these study and examination regulations the General Study and Examination Regulations (ASPO) of the OTH Amberg-Weiden dated 27.05.2020)

Based on Art. 9 sentence 1, Art. 80 para. 1 sentence 1 and sentence 2, Art 84 para. 2 sentence 1 Bavarian Higher Education Innovation Act (BayHIG) of 05 August 2022) (GVBl. p. 414, BayRS 2210-1-3-WK), as amended, the Ostbayerische Technische Hochschule Amberg-Weiden issues the following statutes:

§ 1
Purpose of the Study and Examination Regulations

These study and examination regulations serve to complete and supplement the General Study and Examination Regulations. Examination Regulations (ASPO) of the Ostbayerische Technische Hochschule Amberg-Weiden of 27 May 2020 in the currently valid version.

§ 2
Study Goal

(1) [1]The objective of the Master's degree programme is to enable students to act and to independently and autonomously learn and apply scientific knowledge and methods in the fields of Artificial Intelligence (AI), Machine Learning (ML) as well as Data Analytics (DA) in the areas of image, speech, sensor signal processing as well as pattern recognition. [2]They are aware of the steps leading to

successful classification or regression and can independently analyze, prepare, and process data in new application areas using AI and ML methods. [3]They can interpret and improve the results of AI and ML algorithms and place them in the context of the application. [4]Students learn to know different cultures and improve their social skills and language skills through international exchange.

(2) [1]The graduates should be enabled to act in a problem-solving, responsible, scientific and economic manner by means of methodical, analytical and technical competence with increased scientific demands. [2]They are qualified to work on application or research-oriented tasks and projects in a scientifically sound and largely independent manner. [3]They have learned to define goals, to develop knowledge independently and, in addition, to reflect systematically and critically on the possible social, economic and ethical effects of their activities and to incorporate them responsibly into their actions. [4]Furthermore, they can place the effects of their actions and procedures in a social and ethical context.

(3) [1]The interdisciplinary competencies gained enable graduates to work on or manage complex projects. In doing so, they are competent contact persons for other disciplines. [2]During their studies, graduates engage in intercultural exchange with each other and thus gain valuable experience for their work in international business. [3]They learn how to deal with English in a business-fluent manner. [4]They thus meet the requirements of international business and are prepared to take on responsibility and management tasks.

(4) The competencies acquired in the Master's programme in Artificial Intelligence can serve as a basis for further scientific qualification in a subsequent doctoral programme or enable work in scientific institutions.

§ 3
Programme Profile

The Artificial Intelligence for Industrial Applications Master's degree programme is a consecutive Master's degree programme with an application-oriented and scientific profile.

§ 4
Standard period of study, start and structure of the study programme

(1) The programme is offered as a full-time programme and part-time programme with a standard period of study of three semesters as well as a part-time programme with a standard period of study of five semesters, each with a total of 90 ECTS credits.

(2) [1]The first semesters of study serve to convey theoretical content, which is deepened through material-accompanying internships and exercises. In addition, knowledge is expanded through elective modules. [2]The last study semester serves to write the final thesis (Master Thesis).

(3) [1]The modules of the 1st and 2nd semester (for full-time studies) or of the first 4 semesters (for part-time studies) are compulsory according to the annex to these study and examination regulations in the amount of 45 ECTS. [2]In addition, modules totaling 15 ECTS credits must be taken from an elective catalog.

(4) The study programme can be started in the winter as well as in the summer semester.

(5) As it is an international study programme, the study programme is conducted in English.

(6) Detailed information on the structure of the study programme and the time schedule (study plan) can be found in the module handbook.

§ 5
Qualification requirements

(1) Qualification requirements for admission to the master's programme Artificial Intelligence for Industrial Applications are:

a. [1]A successfully completed university degree or equivalent qualification, generally comprising 210 ECTS credits, but at least 180 ECTS credits. In addition to degree programs in computer science, electrical engineering and information technology, mechatronics, and digital automation, technical computer science, comparable computer science degree programs with a technical focus are also considered relevant. [2]The examination board will decide on the relevance of the degree program.

b. 1. proof of suitability for the specific course of study according to § 6

(2) Graduates of a bachelor's degree programme with fewer than 210 (but at least 180) ECTS credits are given the opportunity to demonstrate missing theoretical skills by successfully completing modules from the undergraduate programme offered by the Ostbayerische Technische Hochschule Amberg-Weiden. 2If credits are missing at the beginning of the programme, the examination board will determine the additional coursework and examination requirements that must be completed within one year of starting the programme. 3The modules to be completed are usually part of the study and examination regulations of various degree programmes or the English-language elective catalog in the currently valid version. [3] 4In addition, proof of the missing credit points can also be provided through professional practical activities that meet the requirements of the practical semester in the degree programmes mentioned in paragraph 1. 5The missing competencies must be demonstrated within one year of commencing the degree programme. 6The examination board may specify the individual modules to be completed. 7With regard to the failure of modules and the possibility of repeating them, the general examination regulations of the Ostbayerische Technische Hochschule Amberg-Weiden apply.

(3) 1The university degree referred to in section 1 must have been completed with an overall examination grade of “good” or better (pre-selection). 2If a conversion of the overall grade is necessary due to differing grading systems, this shall be carried out according to the so-called “modified Bavarian formula” in accordance with the provisions of the general study and examination regulations of OTH Amberg-Weiden (ASPO). 3 Applicants with a degree from a foreign university are advised to submit a certificate of recognition of their degree, issued by a certified institution (e.g., uni-assist), by the end of the application period. 4The decision on admission to the programme is made by the examination board.

(4) 1Applicants for the master's programme who, at the time of the application deadline for the master's programme, cannot yet provide an overall examination result but can credibly demonstrate that they will successfully complete their first degree by the start of the master's programme will be admitted to the programme on the condition that they provide the required evidence within two semesters of commencing the master's programme. 2Proof of the degree completion shall be provided by

submitting a transcript of records (e.g., transcript of records) certifying that all academic achievements required for successful completion of the degree have been fulfilled.

(5) 1Sufficient knowledge of the English language must be demonstrated by means of a language certificate corresponding to level B2 of the Common European Framework of Reference for Languages . 2German students can provide this proof by means of their high school diploma grade in English; international applicants can alternatively provide valid/current proof of sufficient knowledge of the English language in accordance with § 3 (6) sentence 2 of the statutes governing the enrollment, leave of absence, re-registration, and de-registration procedures at OTH Amberg-Weiden. 3Proof is not required if the university entrance qualification or university degree was obtained in English.

(6) Applicants who have neither an initial degree nor a university entrance qualification in German must provide proof of sufficient knowledge of the German language in accordance with § 3 (3) and (5) of the statutes governing the enrollment procedure at the OTH.

(7) 1Applications for admission to a master's programme for the summer semester must be submitted to the university by January 15, and for the winter semester by July 15 of the relevant year. 2The university may extend these deadlines if necessary.

(8) 1If applicants are not admitted, they shall be notified in writing, stating the reasons. 2A new application is only possible once and at the earliest in the following application period.

§ 6
Proof of suitability for the study programme

The proof of programme-specific aptitude is provided by completing the aptitude procedure in accordance with the framework statutes on the implementation of aptitude procedures for Master's programmes at the OTH Amberg-Weiden.

(1) The prerequisite for participation in the aptitude test is the submission of the required application documents in English in due form and time.

(2) The application for participation in the aptitude test takes place at the same time as the application for admission to the programme and must be submitted to OTH Amberg-Weiden by the application deadlines specified in the study and examination regulations.

(3) A commission consisting of at least two full-time professors will be formed to carry out the aptitude test. The appointment of the commission is made by the Faculty Council.

(4) Criteria for passing the qualifying procedure are:

a. 50% grade of the first degree. If a conversion of the overall grade is necessary due to deviating grading systems, this is done according to the so-called "modified Bavarian formula" in accordance with the specifications of the General Study and Examination Regulations of the OTH Amberg-Weiden (ASPO).

b. 20% Evaluation of specific aptitude based on an online Moodle test at OTH Amberg-Weiden with scores. In the online test, math and computer science skills are tested in equal parts. The test is considered passed if at least 50 out of 100 points are achieved in both subject areas.

c. 15% of the mathematics knowledge graded by the selection committee on the basis of previous knowledge in studies and profession, proven by curriculum vitae and degree certificate. If a conversion of the overall grade is necessary due to deviating grading systems, this is done according to the so-called "modified Bavarian formula" in accordance with the specifications of the General Study and Examination Regulations of the OTH Amberg-Weiden (ASPO).

d. 15 % of computer science knowledge graded by the selection committee on the basis of previous knowledge in studies and profession, proven by curriculum vitae and diploma If a conversion of the overall grade is required due to deviating grading systems, this is done according to the so-called "modified Bavarian formula" according to the specifications of the General Study and Examination Regulations of the OTH Amberg-Weiden (ASPO).

(5) Suitability shall be deemed to have been established if the suitability procedure is assessed with at least the overall grade (weighted average of para. 4 letters a), b), c) and d) "good" (2.5).

(6) A transcript of the procedure for determining the suitability for the specific course of study shall be prepared, showing

- the name of the applicant
- date and place
- the names of the members of the selection committee involved
- the evaluation of the criteria mentioned in paragraph 4,

[2]The minutes must be signed by the members of the selection committee.

(7) The applicant will be notified in writing of admission or non-admission no later than two weeks before the start of studies. [2]Admission is only valid for the next possible enrollment date after the suitability procedure.

(8) Applicants who have completed their relevant first degree with an overall grade of "better than 1.3" or who demonstrably belong to the top 10% in the percentile rank of the degrees of their degree programme are deemed to have proven their suitability for the specific degree programme.

(9) If the applicant achieves the result "not passed" in the aptitude test, application is possible at a further date. A third application is excluded.

§ 7
Modules and certificates of achievement

(1) [1]The modules, their ECTS points and number of hours, the type of courses as well as the examinations and course-related certificates of achievement are specified in Annex 1 to these Statutes. [2]The corresponding regulations for the elective modules are specified in the module handbook.

(2) [1]The learning objectives and contents of the compulsory modules are specified in the module handbook. [2]The compulsory elective modules serve to deepen the content of the compulsory modules.

(3) [1]There is no entitlement to all compulsory elective modules and elective modules being offered. [2]Similarly, there is no entitlement to courses being held if there are insufficient participants.

(4) 1Credit points shall be awarded for examinations and course-related performance records passed in a module. 2In accordance with the European Credit Transfer System (ECTS), an average of 60 credit points are awarded per academic year. 3 One ECTS point usually corresponds to a working time of 30 hours.

§ 8
Study plan and module catalogue

(1) 1In addition to the study and examination regulations, the Faculty of Electrical Engineering, Media and Computer Science shall prepare a module handbook and a study plan, which shall be adopted by the Faculty Council and published by the university. 2The announcement of new regulations shall be made at the latest at the beginning of the lecture period of the semester which they affect for the first time.

(2) 1The modules as well as the associated study and examination achievements are described in the module handbook. 2The module catalogue contains in particular the following information on the individual modules:

a. name/designation of the module (German/English)
b. Frequency of offering
c. ECTS points (incl. distribution of workload)
d. Lecturer/Module responsible
e. Admission requirements
f. Learning objectives
g. Course contents
h. course and examination achievements
i. Applicability in the further course of studies or university-wide.

(3) 1The course of study is described in the study plan. 2The study plan contains the following information:

a. Time sequence of the study, time sequence of the modules
b. number of attendance hours (SWS) per module
c. ECTS points per module

(5) There is no right to claim that all scheduled elective and optional modules are actually offered.

§ 9
Master thesis

(1) The prerequisite for registering for the Master's thesis and issuing a topic is that at least 45 ECTS points have been achieved by the student.

(2) Registration for the Master's thesis and issue of the topic can take place at the earliest after completion of the examination period of the second (full-time) or fourth (part-time) semester and should take place at the latest in the first month of the third (full-time) or fifth (part-time) semester.

(3) 1The processing time for the Master's thesis is six months. 2The Examination Committee may, upon application, grant an appropriate grace period if the processing time cannot be met due to illness or other reasons for which the student is not responsible. 3The grace period should not exceed two months.

(4) The Master's thesis must be written in English.

§ 10
Assessment of examination performance and overall examination grade

(1) For each module that has been evaluated with at least the grade "sufficient" as well as for the Master's thesis that has been evaluated with at least the grade "sufficient", the ECTS points according to Annex 1 are awarded in full.

(2) The weighting of grades in the calculation of the overall grade is based on the weighting according to the ECTS points of the modules as specified in the appendix and the correspondingly weighted grade of the master's thesis.

(3) The Master's examination is successfully completed if at least the grade "sufficient" has been achieved in all modules and in the Master's thesis.

§ 11
Certificate, documents and academic degree

(1) On the basis of the successful completion of the study programme, the academic degree of "Master of Science", "M.Sc." in short is awarded.

§ 12
Examination board

The examination board responsible for the study programme is the examination board of the Faculty of Electrical Engineering, Media and Computer Science with a chairing member and additional members appointed by the Faculty Council.

§ 13
Entry into force

These study and examination regulations shall come into force with effect from 01.10.2023 and shall apply to students who commence their studies in the winter semester 2023/2024 or later.

Amberg,

Prof. Dr. Clemens Bulitta

president

Appendix 1: Study plan and forms of examination

1	2	3	4	5	6	7
Nr.	Modulbezeichnung	ECTS-Punkte	SWS	Art der Lehrveran-staltung	Modulprüfung[2)]	Gewicht für Prüfungs-gesamtnote
1	**Compulsory modules**	**35**	**28**			
1.1	Deep Learning	5	4	SU/Ü	Kl 90	
1.2	Computer Vision and AI	5	4	SU/Ü	PrA	
1.3	Machine Learning	5	4	SU/Ü	Kl 90	
1.4	Modern Databases and NoSQL	5	4	SU/Ü	ModA	
1.5	Natural Language Processing and Information Retrieval	5	4	SU/Ü	ModA	
1.6	AI Project	5	4	Proj	ModA	
1.7	Interdisciplinary Topic	5	4	SU/Ü	ModA	
2	**Elective modules**	**15**	**12**			
2.1	3 Optional Modules [1)]	je 5	je 4	SU/Ü	Kl oder mdlP oder Präs oder ModA oder praP	
4	**Scientific Training**	**40**	**8**			
4.1	AI Conference	5	4	Sem	ModA	
4.2	Scientific Research and Methods	5	4	Sem	ModA	
4.3	Master Thesis	30	0	MA	MA	
	Summe ECTS / SWS	**90**	**48**			

[1)] Programme-specific elective modules:

Each of these is a module group with several elective modules, for each of which ECTS points are acquired upon successful completion of the respective module. In total, the ECTS points defined in the SPO must be acquired for each group.

Elective modules for teaching subject/methodological competences have a close subject-related connection to the study programme and serve to acquire subject and methodological competences in selected areas (cf. HQR of 16.02.2017).

Elective modules for teaching social/self-competencies serve to convey and deepen interdisciplinary competencies and qualifications (cf. HQR dated 16.02.2017).

The detailed qualification objectives of the elective compulsory modules result from the respective module descriptions.

2) Module examinations can be supplemented via a bonus system on a voluntary basis (see General Study and Examination Regulations (ASPO) of OTH Amberg-Weiden).

3) Total SWS and ECTS for the study programme

Appendix 2: Confirmation of suitability for the course of study

(Original form, not intended to be translated)

Bewertungsschema für Eignungsverfahren nach §6

BewerberIn Name, Vorname _____

Studiengang Vorstudium (optional) _____

Bewertung Eignungsverfahren

Kriterium	Note	Anmerkung
Abschlussnote Vorstudium		
Online-Test, Kompetenzfeld "Mathematik"		
Online-Test, Kompetenzfeld "Informatik"		
Note für Kompetenz "Mathematik" auf Basis von Lebenslauf/Abschlusszeugnis		
Note für Kompetenz "Informatik" auf Basis von Lebenslauf/Abschlusszeugnis		

Durchschnittsnote	

Zulassung möglich? ja / nein

Amberg/Weiden, den _____

_____ _____

Unterschrift Auswahlkommission