Study and examination regulations
For the Master's Programme in Artificial Intelligence
At the University of Applied Sciences
Würzburg-Schweinfurt
(SPO MAI)

As of 22 June 2021

Version includes the amendment of 13 December 2021

(Consolidated version)

**The text of this study and examination regulations has been carefully prepared according to the current status; however, no guarantee can be provided as regards correctness.
Only the German version published as an official FHWS publication
is relevant and legally binding.**

The Bavarian Higher Education Act (BayHschG) forms the framework for the following regulations decreed by the University of Applied Sciences Würzburg-Schweinfurt (FHWS).

Contents

CHAPTER 1 General Matters

Section 1

Purpose of these Study and Examination Regulations

[1]These study and examination regulations govern the course of the master's programme in Artificial Intelligence. [2]They serve to complete and supplement the General Examination Regulations for Universities of Applied Sciences (RaPO) of 17 October 2001 (GVBI p. 686), as amended by the amending regulation of 6 August 2010 (GVBI p. 688) and the General Examination Regulations of the University of Applied Sciences Würzburg-Schweinfurt (APO) of 28 January 2019 in their current version.

Section 2

Programme Objective and Profile

(1) [1]The objective of the English-taught programme is to teach intensive application-oriented knowledge in the field of Artificial Intelligence to graduates of undergraduate computer science or business informatics/Business Information Systems programmes combined with the ability to work independently in a scientific manner. In particular, graduates should be able to transfer approaches of strong Artificial Intelligence into practice. [2]In addition to the aforementioned technical specialisation, in-depth methodological competence is also achieved. [3]Scientifically based teaching of competences requires sufficient deepening of mathematical and theoretical knowledge in the field of computer science. [4]In this, the central aspects are the process of abstracting and structuring a problem and the course of action for solving it. [5]Graduates will be able to design all phases of algorithm creation and application development in Artificial Intelligence. [6]In addition to the software-based development of new algorithms and systems with the associated methodological knowledge, this also includes the adaptation and integration of existing solutions.

(2) [1]Graduates of the master's programme in Artificial Intelligence shall be empowered to advance (further) development of AI systems in science and research as well as companies and other facilities, and also to help shape the methodological basics of AI. [2]Moreover, the master's programme will increase the students awareness of taking ethical and social matters into account when implementing systems and methods of AI and Machine Learning.

(3) [1]In detail, the following skills and competences are to be further developed or deepened:

a) Application of knowledge, methods and techniques from various subfields of AI;

b) Competence to transfer scientific results into practice;

c) Ability to think abstractly and theoretically, select theoretical concepts and implement them in practical applications;

d) Leading teams; confident and convincing communication of ideas and concepts.

[2]These competences are intended to qualify graduates of this master's programme for taking on leadership tasks - disciplinary as well as conceptual - in the areas of the development, integration and secure operation of AI systems.

Section 3

Conditions for Admission to the Programme

(1) Entitled to admission to the master's programme in Artificial Intelligence are persons who possess very good or good skills and knowledge in the area of computer science through a relevant practice-oriented qualification based on science.

(2) [1]The qualification referred to in (1) shall be attested by a completed higher education degree of 210 credit points in accordance with the European Credit Transfer and Accumulation System

(ECTS, hereinafter referred to as ECTS credits) and an overall grade of 2.5 or higher in the fields of computer science, business informatics, robotics, mechatronics, mathematics or a related field of study completed at a German higher education institution or equivalent. [3]If the proven degree grade mentioned in Sentence 1 above is based on incomparable grading systems, a conversion will be carried out in accordance with the formula in Section 43 (4) Sentence 3 APO; the result is calculated to one digit after the decimal point and not rounded.

(3) Other conditions for admission to the programme, in particular with regard to the student's required language skills, and for enrolment arise out of the Regulations for the Procedure of Enrolment, Leave of Absence, and Termination of Enrolment at the University of Applied Sciences Würzburg-Schweinfurt (FHWS Enrolment Regulations, *Immatrikulationssatzung FHWS*) in its current version.

(4) [1]If admission to the master's programme in Artificial Intelligence is not restricted and notwithstanding (2), applicants with at least 180 ECTS credits, but less than 210 ECTS credits may be admitted to the degree programme on a provisional basis. [2]The missing qualification within the meaning of (2) can be made up by completing certain relevant modules from undergraduate programmes of FHWS or equivalent modules (supplementary qualification), or by proving knowledge and skills acquired outside the higher education sector. [3]The examination committee decides on a case-by-case basis on fulfilment of the admission requirements by taking into account the qualification individually missing. [4]Admission to studies is subject to the condition that the relevant qualification is proven by the end of the 1st semester. [5]The decision concerning fulfilment of admission requirements is made in accordance with the stipulations made in Section 63 (1) and Section 63 (2) Sentence 1 BayHSchG by taking into account the following factors:

a) If the first degree qualifying to enter a profession does not contain a practical semester or a corresponding practical period, relevant professional experience in the scope of at least 20 weeks of full-time employment may be provided to compensate for the non-existent admission requirement. [2]Professional experience must have been acquired after the first degree qualifying to enter a profession. [3]Professional experience should have been gained during regular employment in a company or another appropriate facility. [4]Regular employment exists, if the contracted working hours amount to at least 50 % of a full-time position. [5]Evidence of professional experience is to be provided by presenting a qualified work reference or interim work reference.

b) If - for reasons of supplementary qualification - modules from the undergraduate programme of FHWS are completed, the regulations of the respective undergraduate programme apply to the type and procedure of examinations; within supplementary qualification, there is one re-sit possible for each examination.

(5) [1]Notwithstanding (2), applicants can be provisionally admitted to the master's programme in Artificial Intelligence if admission to the master's programme is unrestricted and if at the time of application the degree certificate is not yet available; in this case, the applicant must prove that a maximum of 30 ECTS credits of the overall number of ECTS credits available in the undergraduate programme is missing and that, in general, achieving the degree grade according to (2) is possible. [2]A written confirmation by the higher education institution shall provide proof that the degree grade can generally be achieved. [3]Admission to studies is subject to the condition that the degree certificate containing the required degree grade is presented as proof within one semester after the start of studies.

CHAPTER 2 Programme Structure

Section 4

Standard Time to Degree and Start of the Programme

(1) [1]The standard time to degree is three semesters with a total of 90 ECTS credits.

(2) The programme commences in the summer semester.

Section 5

Programme Structure and Modules

(1) The programme structure is laid down in the appendix to these study and examination regulations.

(2) [1]Core Electives (FWPM) in accordance with Section 7 (3) APO serve the development of advanced competences; therefore, they have an immediate thematic relation to other modules of the master's programme in Artificial Intelligence. [2]Each student has to select Core Electives with a total of 10 ECTS credits as well as one project module of 10 ECTS credits. [3]The modules with the best grades up to the total of ECTS credits mentioned above are included in the calculation of the degree grade, unless the student makes a different binding selection to the Department of Student Affairs (HSST) before the degree certificate is issued.

CHAPTER 3 Exams and Deadlines

Section 6

Supplementary Regulations for Other Types of Assessments (*sonstige Prüfungsleistungen*)

(1) [1]If the module affected is assigned ten ECTS credits, the topic of the research project set should be such that the work can generally be completed in eight weeks when it is worked on continuously to the exclusion of everything else. [2] After the project paper has been submitted, the work is presented by the student in person in accordance with Section 26 (4) APO.

(2) [1]In deviation from Section 27 (1) Sentence 1 APO, a presentation may take 20 to 30 minutes. [2]In deviation from Section 27 (1) Sentence 2 APO, a multimedia presentation may take 20 to 30 minutes. Deviating from Section 27 (1) Sentence 3 APO, documentation reports may have 15 to 25 pages. [4]In deviation from Section 27 (1) Sentence 4 APO, a colloquium may take 15 to 30 minutes. [5]In deviation from Section 27 (1) Sentence 5 APO, a written assignment/term paper may have approximately 20 pages.

(3) [1]Students from the master's programme in Artificial Intelligence should be admitted to oral examinations as listeners, unless a student objects. [2]The admission of listeners does not extend to the discussion of the examinee's performance and the announcement of the examination result.

(4) Assessment criteria for other types of assessments (*sonstige Prüfungsleistungen*) must be determined and communicated before the start of the assessment(s).

Section 7

Master's Thesis

(1) [1]Students may not start work on their master's thesis before they have achieved at least 50 ECTS credits.

(2) After master's thesis is submitted, the paper is presented by the student in person with oral explanations. [2]The presentation takes place in the presence of the responsible examiners who may ask supplementary questions. [3]The presentation is included in the assessment of the master's thesis.

Section 8

Standard Deadlines

[1]Any examination for modules/courses scheduled for the first two semesters (according to the appendix to these Study and Examination Regulations) must be taken for the first time within the first four programme semesters. [2]Each examination in modules/courses scheduled for the 2nd semester must be taken for the first time no later than by the end of the first five programme semesters. [3]If students have exceeded one of these deadlines for reasons for which they are responsible, any examination/assessment that has not been taken on-time is regarded as having been taken for the first time and is awarded the grade "non-sufficient" (*Fristfünf*).

CHAPTER 4 Organisational Matters

Organisational Matters

Section 9

Examination Committee (*Prüfungskommission*)

In accordance with Section 20 (1) Sentence 3 APO, the number of additional members of the examination committee for the master's programme in Artificial Intelligence is three.

CHAPTER 5 Academic Degree, Concluding Provisions

Academic Degree, Concluding Provisions

Section 10

Academic Degree

After successful completion of the master's examination, graduates are awarded the academic degree Master of Science (abbrev. M.Sc.).

Section 11

Coming into Effect, Expiration

(1) These Study and Examination Regulations shall come into effect on 15 March 2022.

Section 12

Transitional Provisions

(1) The current version of these Study and Examination Regulations applies in connection with the General Examination Regulations (APO) of 28 January 2019 in their current version to all students in the master's programme in Artificial Intelligence.

Drawn up on the basis of the resolution of the Senate of the University of Applied Sciences Würzburg-Schweinfurt of 14 June 2021 and the legal approval of the President of the University of Applied Sciences Würzburg-Schweinfurt as of 22 June 2021

Würzburg, 22 June 2021

sgd. Professor Dr. Robert Grebner
President

These Study and Examination Regulations for the master's programme in Artificial Intelligence were set down on 22 June 2021 at the University of Applied Sciences Würzburg-Schweinfurt. This was communicated on 22 June 2021 by notice. The date of publication is 22 June 202

Abbreviations:

APO	General Examination Regulations
BayHSchG	Bavarian Higher Education Act
BayHSchPG	Bavarian Higher Education Personnel Act
BEEG	Federal Parental Benefit Act
BGBl	Federal Law Gazette
bZv	Particular conditions for admission (to an examination)
d	German (as language of examination)
e	English (as language of examination)
ECTS	European Credit Transfer and Accumulation System
Ex	Field trip
FHWS	University of Applied Sciences Würzburg-Schweinfurt
FWPM	Core elective module
GVBl	Bavarian Law Gazette
HSST	Department of Student Affairs (HSST)
MA	Master's Thesis
m.E./o.E.	passed successfully/failed
mP	Oral examination
M.Sc.	Master of Science
MuSchG	Maternity Protection Act
PflegeZG	Family Caregiver Leave Act
P	Internship
Pro	Project
RaPO	State Examination Regulations
S	Seminar
SGB XI	Social Security Code Volume 11
soP	Other types of assessment: The actual type of assessment is laid down in the study plan and announced **at the start of the semester** by the responsible lecturers. Only one type of assessment per module is to be completed.
sP	Written examination
SPO	Study and examination regulations
SU	Seminar-like lecture
SWS	Hours per week and semester
Tpf	In accordance with Section 22 (1) APO, attendance is mandatory. Attendance is documented by signing the attendance list. The person responsible for the module is also responsible for the attendance lists.
Ü	Practical course/exercise course
V	Lecture

Abbreviations for other types of assessment:

A	Project paper
B	Presentation
C	Multimedia presentation
D	Documentation report
E	Colloquium
F	Written assignment / term paper
G	Portfolio assignment
H	Practical assignment

Study and Examination Regulations for the Master's in Artificial Intelligence
at the University of Applied Sciences Würzburg-Schweinfurt
valid from 15 March 2022, Appendix 1

This appendix applies to all students taking up studies in the Master's in Artificial Intelligence from 15 March 2022 or are assigned to this period by credit transfer.

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
Nr.	**Exam number**	**Module name[1)]**	**Semes-ter**	**SWS**	**ECTS credits**	**Course type**	**Condition**	**Examination**					**Grade weight**	
								Type	**Duration / Form**	**Langua ge**	**bZv**	**Final grade**	**Factor**	**Actual weight**
1		Mathematical and Theoretical Foundations of AI	1	4	5	SU		sP	90	e		yes	1	5
2		Artificial Intelligence and Machine Learning	1	4	5	SU		sP	90	e		yes	1	5
3		Artificial Neural Networks and Cognitive Models	1	4	5	SU		soP	G	e		yes	1	5
4		Reasoning and Decision Making under Uncertainty	1	4	5	SU		soP	G	e		yes	1	5
5		FWPM I / Elective I	1 or 3	4	5	2)		2)	2)	e		yes	1	5
6		Project Module	1 + 2	8	10	Pro		soP	A	e		yes	1	10
7		Trustworthy AI and AI Regulations	2	4	5	SU		sP	90	e		yes	1	5
8		Artificial Intelligence in Robotics	2	4	5	SU		soP	G	e		yes	1	5
9		Semantic Data Processing and Representation	2	4	5	SU		soP	G	e		yes	1	5
10		Learning of Structured Data	2	4	5	SU		soP	G	e		yes	1	5
11		Scientific Seminar	2	2	5	S		soP	G	e		yes	1	5
12		FWPM II / Elective II	3 or 1	4	5	2)		2)	2)	e		yes	1	5
13		Master's Thesis	3		25	MA	50 ECTS credits			e/d		yes	1	25
		Total		**50**	**90**									**90**

1) In general, all modules are suitable for studies abroad

2) The Core Modules are to be selected from the Faculty's catalogue. The respective course type as well as exam type depends on the Core Module chosen. Details are stipulated by the study plan.

Exam form: A = Project paper G = Portfolio assignment