Annex to the Study and Examination Regulations for the Bachelor degree programme "Computer Science and Artificial Intelligence" at Technische Hochschule Ingolstadt dated 22.02.2021 as amended on 19.02.2024

Overview of the modules and evidence of academic achievement

1. First degree phase

1	2	3	4	5	6	7	8	9
No. No.	Modules	WEEKLY SEMESTER HOURS	Type of course	Examinations		Accompanying certificates of achievement	Weighting for the overall examination grade	Performance Points (ECTS points)
				Type and duration in minutes	Admission requirements			
1	**Programming 1**						0,5	7
1.1	Programming 1	4	SU/Ü	schrP, 90-120	LN of no. 1.2			
1.2	Practical Course Programming 1	2	Pr			LN [1] [6]		
2	**Introduction to Computer Science 1**						0,5	7
2.1	Introduction to Computer Science I	4	SU	schrP, 90-120				
2.2	Exercise Course Introduction to Computer Science I	2	Ü					
3	**Mathematics 1**						0,5	7
3.1	Mathematics 1	4	SU	schrP, 90-120				
3.2	Exercise Course Mathematics 1	2	Ü					
4	**Probability and Statistics**						0,5	7
4.1	Probability and Statistics	4	SU	schrP, 90-120				
4.2	Exercise Course Probability and Statistics	2	Ü					

5	**Introductory Project**	2	Prj			LN [1) 5)]		2

1	2	3	4	5	6	7	8	9
No. No.	Modules	WEEKLY SEMESTER HOURS	Type of course	Examinations		Accompanying certificates of achievement	Weighting for the overall examination grade	Performance Points (ECTS points)
				Type and duration in minutes	Admission requirements			
6	**Programming 2**						0,5	7
6.1	Programming 2	4	SU	schrP, 90-120	LN of the current no. 6.2			
6.2	Practical Course Programming 2	2	Pr			LN [1] [6]		
7	**Introduction to Computer Science 2**						0,5	7
7.1	Introduction to Computer Science 2	4	SU	schrP, 90-120				
7.2	Exercise Course Introduction to Computer Science 2	2	Ü					
8	**Mathematics 2**						0,5	7
8.1	Mathematics 2	4	SU	schrP, 90-120				
8.2	Exercise Course Mathematics 2	2	Ü					
9	**Algorithms for AI 1**						0,5	7
9.1	Algorithms for AI 1	4	SU/Ü	schrP, 90-120	LN of the current no. 9.2			
9.2	Practical Course Algorithms for AI 1	2	Pr			LN [1] [6]		
10	**Scientific Research Methods**	2	SU/Ü			LN [1] [5]		2
	Total	**52**					**4**	**60**

2. Second degree phase

2.1. Theoretical study semester

1	2	3	4	5	6	7	8	9
No. No.	Modules	WEEKLY SEMESTER HOURS	Type of course	Examinations		Accompanying certificates of achievement	Weighting for the overall examination grade	Performance Points (ECTS points)
				Type and duration in minutes	Admission requirements			
11	**Software Engineering**						1	7
11.1	Software Engineering	4	SU/Ü	schrP, 90-120	LN of no. 11.2			
11.2	Practical Course Software Engineering	2	Pr			LN [1] [6]		
12	**Web Technologies**						1	7
12.1	Web Technologies	4	SU/Ü	schrP, 90-120	LN of no. 12.2			
12.2	Practical Course Web Technologies	2	Pr			LN [1] [6]		
13	**Optimisation Algorithms**	4	SU/Ü	schrP, 90-120			1	5
14	**Algorithms for AI 2**						1	7
14.1	Algorithms for AI 2	4	SU/Ü	schrP, 90-120	LN of no. 14.2			
14.2	Practical Course Algorithms for AI 2	2	Pr			LN [1] [6]		
15	**Data Visualisation and Data Analytics**	4	SU/Ü	schrP, 90-120			1	5
16	**Database Systems and Big Data Technologies**						1	7
16.1	Database Systems and Big Data Technologies	4	SU/Ü	schrP, 90-120	LN of no. 16.2			

16.2	Practical Course Database Systems and Big Data Technologies	2	Pr			LN [1] [6]		

1	2	3	4	5	6	7	8	9
No. No.	Modules	WEEKLY SEMESTER HOURS	Type of course	Examinations		Accompanying certificates of achievement	Weighting for the overall examination grade	Performance Points (ECTS points)
				Type and duration in minutes	Admission requirements			
17	**Spoken and Natural Language Understanding**						1	7
17.1	Spoken and Natural Language Understanding	4	SU/Ü	schrP, 90-120	LN of no. 17.2			
17.2	Practical Course Spoken and Natural Language Understanding	2	Pr			LN [1] [6]		
18	**Computer Vision**						1	7
18.1	Computer Vision	4	SU/Ü	schrP, 90-120	LN of no. 18.2			
18.2	Practical Course Computer Vision	2	Pr			LN [1] [6]		
19	**Algorithms for AI 3**						1	7
19.1	Algorithms for AI 3	4	SU/Ü	schrP, 90-120	LN of no. 19.2			
19.2	Practical Course Algorithms for AI 3	2	PR			LN [1] [6]		
20	**Seminar**	2	S			SA	1	3
21	**Cyber Security**						1	7
21.1	Cyber Security	4	SU/Ü	schrP, 90-120	LN of no. 21.2			
21.2	Practical Course Cyber Security	2	Pr			LN [1] [6]		

1	2	3	4	5	6	7	8	9
No. No.	Modules	WEEKLY SEMESTER HOURS	Type of course	Examinations		Accompanying certificates of achievement	Weighting for the overall examination grade	Performance Points (ECTS points)
				Type and duration in minutes	Admission requirements			
22	**Human-Computer Interaction and Explainable AI**						1	7
22.1	Human-Computer Interaction and Explainable AI	4	SU/Ü	schrP, 90-120	LN of no. 22.2			
22.2	Practical Course Human-Computer Interaction and Explainable AI	2	Pr			LN [1) 6)]		
23	**Business Administration and Entrepreneurship**	4	SU/Ü			LN [2) 4)]	1	5
24	**Project Management**	4	SU/Ü	schrP, 90-120			1	5
25	**Project**	2	Pr			ProjA	1	5
26	**Ethics and Law**	4	SU/Ü			LN [4)]	1	5
27	**Elective Modules**	8	SU/Ü/Pr			2 LN [2) 3) 4)]	total 2	10
28	**Bachelor's Thesis**						3	
28.1	Seminar Bachelor's Thesis	2	S	SA1				3
28.2	Bachelor's Thesis			BA				12
	Total	**88**					**21**	**121**

Annex SPO Bachelor "Computer Science and Artificial Intelligence"

2.2.	Practical study semester

1	2	3	4	5	6	7	8	9
No. No.	Modules	WEEKLY SEMESTER HOURS	Type of course	Examinations		Accompanying certificates of achievement	Weighting for the overall examination grade	Performance Points (ECTS points)
				Type and duration in minutes	Admission requirements			
29	**Pre-Internship Seminar**	1	S			LN [1] [5]		2
30	**Internship** (18 weeks)		Pr			PrB [1]		25
31	**Post-Internship Seminar**	1	S			LN [1] [5]		2
	Total	2						29

3. Overview

1	2	3	4	5	6	7	8	9
No. No.	Modules	WEEKLY SEMESTER HOURS	Type of course	Examinations		Accompanying certificates of achievement	Weighting for the overall examination grade	Performance Points (ECTS points)
				Type and duration in minutes	Admission requirements			
	First degree phase	52					4	60
	Theoretical study semesters in the second degree phase	88					21	121
	Practical study semester	2						29
	Total	142					27	210

Notes

[1]) Assessment by the rating "successfully passed" or "unsuccessfully passed". The evidence of academic achievement must be passed.

[2]) Each individual piece of evidence of academic achievement must be passed.

[3]) Specialised compulsory elective modules (elective modules) should be completed in modules of 4 weekly semester hours or can be completed in modules of 2 weekly semester hours. If specialised compulsory elective modules with 2 weekly semester hours are completed, the number of performance assessments to be completed increases accordingly. Specialised compulsory elective modules are closely related to the study course and have the following objectives in particular:
   - Scientific deepening of knowledge already acquired in the study course
   - Teaching of specialised skills in specific thematic or interdisciplinary areas that are not covered or only covered to a lesser extent by compulsory modules.
   The detailed qualification objectives of the compulsory elective modules can be found in the respective module descriptions.

[4]) The evidence of academic achievement is alternatively a written examination (90-120 minutes), an oral examination (15-45 minutes) or a presentation (15- 30 minutes) with a written elaboration of 10-15 pages (to be provided during the semester). The details are determined by the Faculty Council in the curriculum.

[5]) The evidence of academic achievement involves completing a module-specific number of practical tasks, short written texts or presentations. A fixed proportion of these must be successfully completed in order to pass the evidence of academic achievement. The details are determined by the Faculty Council in the curriculum.

[6]) Practical work or carrying out experiments in the laboratory or carrying out programming tasks in the laboratory or Computer lab. The details are determined by the Faculty Council in the curriculum.

Annex SPO Bachelor "Computer Science and Artificial Intelligence"

Type of lectures

Pr	Internship
Prj	Project
S	Seminar
SU	Lectures
Ü	Exercise

Type of examination

written exam		Written examination The written examination is a written exam lasting 90 minutes, unless explicitly stated otherwise.
mdlP	Oral examination	The oral examination is an interview lasting 15 minutes per person, unless explicitly stated otherwise.
prP	Practical examination	Inthe practical examination, students must demonstrate that they have mastered the practical application of the competences taught using the example of a "real" problem. The duration is 15 minutes unless explicitly stated otherwise.
StA		Student research projectThe student research project is a term paper without an oral presentation. According to the APO, the scope of the term paper is 3000 to 6000 words and approx. 10 to 20 pages. The term paper must be written using word processing software.
SA	Seminar	paperThe seminar paper is a term paper with an oral presentation. According to the APO, the scope of the term paper is 3000 to 6000 words and approx. 10 to 20 pages The term paper must be written using word processing software. The oral presentation lasts 30 to 45 minutes and can also take place during the semester.
Prj	Project work	Project work is group work in which several students work on a joint task as a team. Each student must contribute individually to the joint assignment, submit a project report and, if necessary, present the results orally. In accordance with the APO, the scope of the project report is 1500 words to 7500 words or approx. 5 to 25 pages; the scope of the oral presentation is 15 to 45 minutes in accordance with the APO. The project report must be created using a word processing programme.
PrB		Internship reportThe internship report should provide information about the activities carried out during the internship. It should be between 8 and 25 pages long (excluding cover sheets and lists). Further details are specified in the curriculum. The report must be written using a word processing programme.
Colloquium		ColloquiumThe colloquium is an oral examination lasting 15 - 45 minutes in which the student defends the results of his or her thesis.
BA	Bachelor's Thesis	Written thesis in the Bachelor degree programme, length 40-60 pages (excluding cover sheets, lists and appendices).