

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Computer Science as a Master's with 1 major with the degree "Master of Science" (120 ECTS credits)

Responsible: Faculty of Mathematics and Computer Science
Responsible: Institute of Computer Science

Examination regulations version: 2023

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Abbreviations used: Course types: **E** = field trip, **K** = colloquium, **O** = conversatorium, **P** = placement/lab course, **R** = project, **S** = seminar, **T** = tutorial, **Ü** = exercise, **V** = lecture

Term: **SS** = summer semester, **WS** = winter semester

Methods of grading: **NUM** = numerical grade, **B/NB** = (not) successfully completed

Regulations: **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes), **FSB** = subject-specific provisions, **SFB** = list of modules

Other: **A** = thesis, **LV** = course(s), **PL** = assessment(s), **TN** = participants, **VL** = prerequisite(s)

Conventions for the modules in this SFB: Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Information on assessment procedures: Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should a module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with the general regulations governing the degree subject described in this module catalogue:

ASPO2015

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

22-Mar-2023 (2023-27)

13-Dec-2023 (2023-109)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.

Every module will be described using the following form:

Abbreviation	Module title						
	ECTS		Duration	(in semesters)	Method of grading		Module level
	Courses		To be specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y				
	Method of assessment						
	Only after successful completion of		if applicable				
	Other prerequisites		if applicable				
	Participants and allocation of places		if applicable				
	Additional information		if applicable				
	Referred to in LPO I		if applicable (examination regulations for teaching-degree programmes)				

Compulsory Courses (20 ECTS credits)								
10-I=SEM3-232-m01	Seminar 1 - Current Topics in Computer Science							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	S (2) Module taught in: German and English The course is offered in parallel in both German and English.						
	Method of assessment	term paper (10 to 15 pages) and presentation (30 to 45 minutes) with subsequent discussion on a topic from the field of computer science Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI,ES,LR,HCI,GE,SEC,IN						
10-I=SEM4-232-m01	Seminar 2 - Current Topics in Computer Science							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	S (2) Module taught in: German and English The course is offered in parallel in both German and English.						
	Method of assessment	term paper (10 to 15 pages) and presentation (30 to 45 minutes) with subsequent discussion on the topic of the seminar Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI,ES,LR,HCI,GE,SEC,IN						
10-I=PRAK-232-m01	Practical Course - Current Topics in Computer Science							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	graduate
	Courses	P (6) Module taught in: German and English The course is offered in parallel in both German and English.						
	Method of assessment	term paper (5 to 15 pages) Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI,ES,LR,HCI,GE,SEC,IN						

Compulsory Electives (70 ECTS credits)								
General Compulsory Electives (min. 50 ECTS credits)								
10-I=3D-232-m01	3D Point Cloud Processing							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): KI,LR,HCI,GE					
10-I=BS-232-m01	Operating Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,ES,GE,SEC					
10-I=DM-232-m01	Data Science							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,KI,HCI,GE,SEC					

10-I=DB2-212-m01	Databases 2							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,KI,HCI					
10-I=ICG-232-m01	Interactive Computer Graphics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): HCI.					
10-I=KT-232-m01	Computational Complexity							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the following semester creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,KI,ES,GE,IN					

10-I=KD-232-m01	Cryptography and Data Security							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the following semester creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI,GE,SEC,IN					
10-I=APR-212-m01	Advanced Programming							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,KI,LR, HCI, ES,GE,SEC					
10-I=SSS-232-m01	Security of Software Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,KI,LR, HCI, ES, SEC,IN					

10-I=RAK-232-m01	Computer Architecture							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE, IT, ES, LR, GE.					
10-I=SKS-232-m01	Control Principles of Modern Communication Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,ES,LR					
10-I=SEC-232-m01	Introduction to IT Security							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (2) + Ü (2) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SEC					

10-I=WBS-232-m01	Knowledge-based Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IT,KI,HCI,GE					
10-I=PRJAK-212-m01	Project - Current Topics in Computer Science							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		P (4)					
	Method of assessment		project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered (Each project is offered one time only. The project will not be repeated; there will not be another project with the same topic. Assessment can, therefore, only be offered for the project offered in the respective semester)					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI,ES,L-R,HCI,GE					
10-LU-RI=AMS-232-m01	Autonomous Mobile Systems							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (4) + Ü (2) Module taught in: German and/or English					
	Method of assessment		written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English Creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT, KI, ES, LR, GE					

10-I=A- GIS-232-m01	Algorithms for Geographic Information Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,KI,HCI,LR,IN					
10-I=AG-232-m01	Computational Geometry							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,HCI,GE,IN					
10-I=APA-161-m01	Approximation Algorithms							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,GE					

10-I=AUT-212-m01	Automata Theory							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the following semester					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,ES,HCI,GE					
10-I=AVS-161-m01	Avionics Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): ES,LR					
10-HCI=M-MUI-161-m01	Multimodal User Interfaces							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		presentation of project results (approx. 40 minutes) Language of assessment: German and/or English creditable for bonus					
10-I=BER-212-m01	Computability Theory							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the following semester					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI,GE					

07-MS2BI-152-m01	Bioinformatics							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + S (1) Module taught in: German and/or English					
	Method of assessment		a) written examination (30 to 60 minutes, including multiple choice questions) or c) oral examination of one candidate each (30 to 60 minutes) or d) oral examination in groups of up to 3 candidates (30 to 60 minutes) Language of assessment: German and/or English					
10-I=DDB-212-m01	Deductive Databases							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI					
10-I=LP-212-m01	Logic Programming							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI					
10-I=EL-212-m01	E-Learning							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IT,KI,HCI,GE					

10-I=PNN-212-m01	Programming with neural nets							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,KI,HCI,GE					
10-I=NLP-212-m01	Machine Learning for Natural Language Processing							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,KI,HCI					
10-I=IR-212-m01	Information Retrieval							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,KI,HCI,GE					
10-HCI=3DUI-161-m01	3D User Interfaces							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		presentation of project results (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus					

10-I=KT2-212-m01	Computational Complexity II							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the following semester					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,ES					
10-I=KI1-212-m01	Artificial Intelligence 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,KI,HCI					
10-I=KI2-212-m01	Artificial Intelligence 2							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,KI,HCI,GE					

10-I=LVS-232-m01	Performance Evaluation of Distributed Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,GE,IN					
10-I=ML-212-m01	Mathematical Logic							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the following semester					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,KI,ES					
10-I=MI-212-m01	Medical Informatics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IT,KI,HCI,GE					

10-I=SB-212-m01	Systems Benchmarking							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	V (2) + Ü (2)						
	Method of assessment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IT,ES,HCI,GE						
10-I=PM-212-m01	Professional Project Management							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (4)						
	Method of assessment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English						
	other prerequisites	We recommend completing module 10-I=PRJAK in parallel.						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IT,KI,ES,LR,HCI,GE						
10-LU-RI=RO1-232-m01	Robotics 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + Ü (2) Module taught in: German and/or English						
	Method of assessment	written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): KI, ES, LR, HCI, GE						

10-LU-RI=RO2-232-m01	Robotics 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (4) + Ü (2) + P (1) Module taught in: German and/or English					
	Method of assessment		written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): KI, ES, LR, HCI, GE					
10-l=ST-232-m01	Discrete Event Simulation							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,KI,ES,GE,IN					
10-l=El1-232-m01	Energy Informatics 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2) Module taught in: German and/or English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IN					

10-HCI=RIS-182-m01	Real-Time Interactive Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): HCI. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).					
10-I=SAR-161-m01	Software Architecture							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IT,ES					
10-LURI=S-SA-232-m01	Spacecraft System Analysis							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (4) + Ü (2) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): ES, LR					
10-HCI=M-LUI-161-m01	Machine Learning (for User Interfaces)							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		presentation of project results (approx. 40 minutes) Language of assessment: German and/or English creditable for bonus					

10-I=VG-161-m01	Visualization of Graphs							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,HCI,GE					
10-I=AGE-232-m01	Selected Topics in Games Engineering							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): GE.					
10-I=AKA-232-m01	Selected Topics in Algorithms							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT					

10-I=AKT-232-m01	Selected Topics in Theory							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT					
10-I=AK-SE-232-m01	Selected Topics in Software Engineering							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE.					
10-I=A-KITS-232-m01	Selected Topics in IT Security							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2) Module taught in: English					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE, KI, LR, HCI, ES, SEC					

10-I=AKIT-232-m01	Selected Topics in Internet Technologies							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT.					
10-I=A-KIS-232-m01	Selected Topics in Intelligent Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): KI					
10-I=A-KES-232-m01	Selected Topics in Embedded Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): ES.					

10-I=STM-162-mo1	NLP and Text Mining							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT, IT, HCI.					
10-I=AKL-R-232-mo1	Selected Topics in Aerospace Engineering							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR.					
10-I=AKH-CI-232-mo1	Selected Topics in HCI							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü/S (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): HCI.					

10-I=AKDS-232-m01	Selected Topics in Data Science							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (2) + Ü/S (2) Module taught in: German and/or English					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): KI.					
10-I=A-KAMS-232-m01	Selected Topics in Autonomous Mobile Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (2) + Ü/S (2) Module taught in: German and/or English					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR, ES, KI.					
10-I=AKII-232-m01	Selected Topics in Computer Science							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü/S (2)					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					

10-I=TSD-232-m01	Telecommunication Systems							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (4) + Ü (2) Module taught in: German and/or English					
	Method of assessment		written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR					
10-I=RRS-232-m01	Remote Sensing							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (2) + Ü (2) Module taught in: German and/or English					
	Method of assessment		written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or EnglishCreditable for bonus					
	Additional Information		possible majors for MA 120 Computer Science: LR,IN					
10-I=QC-221-m01	Quantum Communications							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (2) + V (2) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR					

10-I=DRLOC-221-m01	Deep Reinforcement Learning for Optimal Control							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	V (2) + Ü (2) Module taught in: English						
	Method of assessment	written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English creditable for bonus						
10-xtAI=CV-202-m01	Computer Vision							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + Ü (2) Module taught in: English						
	Method of assessment	Written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English Creditable for bonus						
10-I=M-SIE-232-m01	Modeling and Simulation of Smart Energy Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	V (2) + Ü (2)						
	Method of assessment	written examination (approx. 90 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IN						
10-I=NA-MO-232-m01	Sustainable Mobility							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	V (2) + Ü (2)						
	Method of assessment	written examination (approx. 90 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IN						

10-I=MLN1-232-m01	Machine Learning for Networks 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (2) + Ü (2) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,SE,KI,HCI,IN					
10-I=MLN2-232-m01	Machine Learning for Networks 2							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (2) + Ü (2) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,SE,KI,HCI,IN					
10-I=SNA-232-m01	Statistical Network Analysis							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IN					

10-I=IP-222-m01	Image Processing and Computational Photography							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	V (2) + Ü (2) Module taught in: English						
	Method of assessment	written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English Creditable for bonus						
10-I=RLCD-M-232-m01	Reinforcement Learning and Computational Decision Making							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + Ü (2) Module taught in: German and/or English						
	Method of assessment	written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English Creditable for bonus						
10-I=MIR-232-m01	Music Information Retrieval							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	V (2) + Ü (2) Module taught in: German and/or English						
	Method of assessment	a) written examination (approx. 60 to 120 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes) Language of assessment: German and/or English Creditable for bonus						
10-I=OR-232-m01	Operations Research							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	V (2) + Ü (2) Module taught in: German and/or English						
	Method of assessment	written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IN						

10-I=AK- NA-232-m01	Selected Topics in Computer Science and Sustainability							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (2) + Ü (2) Module taught in: German and/or English					
	Method of assessment		a) written examination (approx. 60 to 120 minutes) or b) practical project (project documentation (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IN					
10-I=M- NLP-232-m01	Multilingual NLP							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2) Module taught in: German and/or English					
	Method of assessment		written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: English Creditable for bonus					
10-I=ES-231-m01	Embedded Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		V (2) + Ü (2) Module taught in: German and/or English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,ES,LR,GE					

10-I=V- PES-232-m01	Virtual Prototyping of Embedded Systems							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	V (2) + Ü (2) Module taught in: German and/or English						
	Method of assessment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): ES						
Projects and Tarning (max. 20 ECTS credits)								
10-I=RSE-182-m01	Space Systems Design							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	R (6)						
	Method of assessment	project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Assessment offered: In the semester in which the course is offered (The project will not be repeated; there will not be another project with the same topic. Assessment can, therefore, only be offered for the project offered in the respective semester.) Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).						
10-I=EPB-182-m01	Design of Planetary Bases and Orbital Stations							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	R (6)						
	Method of assessment	project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Assessment offered: In the semester in which the course is offered (The project will not be repeated; there will not be another project with the same topic. Assessment can, therefore, only be offered for the project offered in the respective semester.) Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).						
10-I=PRT-232-m01	Practical course - Space Technology							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses	P (8) Module taught in: German and/or English						
	Method of assessment	report on practical course (10 to 15 pages) and presentation of results (15 to 30 minutes) Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).						

10-I=FZB-182-m01	Aircraft Construction							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		R (6)					
	Method of assessment		project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).					
10-I=F-SIM-232-m01	Flight Simulator							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		R (6)					
	Method of assessment		project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Separate written examination for Master's students. Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).					
10-I=GRL-T-182-m01	Game Research Lab - Theory							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		R (4)					
	Method of assessment		project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): GE. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).					
10-I=GRAR-182-m01	Game Research Lab - Architectures							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		R (4)					
	Method of assessment		project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): GE. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).					

10-I=GRDE-182-m01	Game Research Lab - Design							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		R (4)					
	Method of assessment		project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): GE. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).					
10-I=GRAP-182-m01	Game Research Lab - Applications							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		R (4)					
	Method of assessment		project report (10 to 15 pages) and presentation of project (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): GE. Cf. Section 3 Subsection 3 Sentence 8 FSB (subject-specific provisions).					
10-I-PAT1-182-m01	Practical Course - Algorithms and Theory 1							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT.					
10-I-PAT2-182-m01	Practical Course - Algorithms and Theory 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT.					
10-I-PSE1-182-m01	Practical Course - Software Engineering 1							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE.					

10-I-PSE2-182-m01	Practical Course - Software Engineering 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE.					
10-I-PIT1-182-m01	Practical Course - Internet Technology 1							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT.					
10-I-PIT2-182-m01	Practical Course - Internet Technology 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT.					
10-I-PIS1-212-m01	Practical Course - Intelligent Systems 1							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) creditable for bonus Language of assessment: German and/or English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): KI					
10-I-PIS2-212-m01	Practical Course - Intelligent Systems 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): KI.					

10-I-PES1-182-m01	Practical Course - Embedded Systems 1							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): ES.					
10-I-PES2-182-m01	Practical Course - Embedded Systems 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): ES.					
10-I-PHCl1-182-m01	Practical Course - Human Computer Interaction 1							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): HCI.					
10-I-PHCl2-182-m01	Practical Course - Human Computer Interaction 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		R (6)					
	Method of assessment		report (3 to 5 pages) and presentation of results (approx. 5 to 10 minutes) Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): HCI.					

10-I-EHL1-212-m01	Practical Course - Ethical Hacking Lab / Software							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		R (6) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). and report (5-8 pages), weighting: written examination: 100%; The report just has to be passed creditable for bonus Language of assessment: English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SEC					
10-I-EHL2-212-m01	Practical Course - Ethical Hacking Lab / Networks							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		R (6) Module taught in: English					
	Method of assessment		written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). and report (5-8 pages), weighting: written examination: 100%; The report just has to be passed creditable for bonus Language of assessment: English					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SEC					
10-I=PDS1-232-m01	Practical Course - Data Science 1							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		R (6)					
	Method of assessment		report (10 to 15 pages) and presentation of results (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus					
10-I=PDS2-232-m01	Practical Course - Data Science 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		R (6)					
	Method of assessment		report (10 to 15 pages) and presentation of results (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus					

10-I=PIN1-232-mo1	Practical Course - Computer Science and Sustainability 1							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	R (6)						
	Method of assessment	report (10 to 15 pages) and presentation of results (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IN						
10-I=PIN2-232-mo1	Practical Course - Computer Science and Sustainability 2							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	R (6)						
	Method of assessment	report (10 to 15 pages) and presentation of results (15 to 30 minutes) Language of assessment: German and/or English creditable for bonus						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IN						
10-I=TEL-232-mo1	Telecommunication Systems Lab							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	R (8) Module taught in: German and/or English						
	Method of assessment	a) written examination (approx. 20 minutes) or b) oral group examination (max. 3 candidates, approx. 15 minutes each) or c) report (4-8 pages) Language of assessment: German and/or English						
	Additional Information	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): LR						
10-LURI=R-SP-232-mo1	Radar Signal Processing							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses	V (2) + Ü (2) Module taught in: German and/or English						
	Method of assessment	written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus						

10-I=PCV-232-m01	Practical Computer Vision							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		R (8) Module taught in: German and/or English					
	Method of assessment		a) practical report (10 to 15 pages) and presentation of results (approx. 15 to 30 minutes) or b) written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
	Additional Information		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): KI,LR;HCI					
10-I=PIP-232-m01	Image Processing and Computational Photography Lab							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		R (8) Module taught in: German and/or English					
	Method of assessment		a) practical report (10 to 15 pages) and presentation of results (approx. 15 to 30 minutes) or b) written examination (approx. 60 to 120 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Language of assessment: German and/or English creditable for bonus					
Thesis (30 ECTS credits)								
10-I-MA-MK-212-m01	Concluding Colloquium Computer Science							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		K (0)					
	Method of assessment		final colloquium (approx. 60 minutes) Language of assessment: German and/or English					
10-I-MA-161-m01	Master's Thesis Computer Science							
	ECTS	25	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate
	Courses		No courses assigned to module					
	Method of assessment		Master's thesis (50 to 100 pages) Language of assessment: German and/or English					
	Additional Information		Time to complete: 6 months					