

## **Annex SFB**

## Studienfachbeschreibung (subject description, SFB) for the subject eXtended Artificial Intelligence (xtAI) 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

Abbreviations used: Course types:  $\mathbf{E} = \text{field trip}$ ,  $\mathbf{K} = \text{colloquium}$ ,  $\mathbf{O} = \text{conversatorium}$ ,  $\mathbf{P} = \text{placement/lab course}$ ,  $\mathbf{R} = \text{project}$ ,  $\mathbf{S} = \text{seminar}$ ,  $\mathbf{T} = \text{tutorial}$ ,  $\ddot{\mathbf{U}} = \text{exercise}$ ,  $\mathbf{V} = \text{conversatorium}$ 

= 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 Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not cre-

modules in this SFB: ditable 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.

Examination regulations version: 2020

Examination regulations version: 2020

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

## ASP02015

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

16-Sep-2020 (2020-82)

15-Feb-2023 (2023-8)

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 spe	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 as	ssessme	ent								
	Only after su completion o		l if applica	if applicable							
	Other prereq	uisites	if applica	if applicable							
	Participants and allocation of places		ocati- if applica	if applicable							
	Additional in	formati	on if applica	ble							
	Referred to in	n LPO I	if applica	ble (examination re	egulations for teachin	g-degree programmes)					

<b>Compulsory Cours</b>	es (30 E0	CTS cred	lits)								
10-xtAl=L1-202-	xtAl La	b 1									
mo1	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul leve	l graduate		
	Course	S		R (3) Modu	Module taught in: English						
	Method	d of ass	essment	Langu	Project work: report (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic Language of assessment: English creditable for bonus						
10-xtAl=L2-202-	xtAl La	b 2	·	•							
mo1	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul leve	l graduate		
	Course	Courses			le taught in: English	1		·			
	Method	d of ass	essment	Langu	Project work: report (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic Language of assessment: English Creditable for bonus						
10-xtAl=L3-202-	xtAl Lab 3										
mo1	ECTS 10 Duratio		1	1 semester	Method of grading	numerical grade	Modul leve	l graduate			
	Course	Courses		R (6) Module taught in: English							
	Method of assessment		Project work: report (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the to Language of assessment: English creditable for bonus					ent discussion on the topic			
10-xtAl=IAl-202-	Introdu	ıction in	Al								
mo1	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul leve	l graduate		
	Course	S		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							

<b>Electives Field (60</b>	ECTS cre	dits)									
xtAl Seminars (5 E	CTS cred	its)									
10-	Semina	ır 1 - Ext	ended A	tificial	cial Intelligence						
xtAl=SEM1-202-	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
m01	Course	S		S (2) Modu	Nodule taught in: English						
	Method	d of ass	essment	Langu	erm paper (10 to 15 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic anguage of assessment: English reditable for bonus						
10-	Semina	r 2 - Ex	tended A	rtificial	Intelligence						
xtAl=SEM2-202-	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
mo1	Courses			S (2) Modu							
	Method	d of ass	essment	Langu	Term paper (10 to 15 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic Language of assessment: English creditable for bonus						
Core Al Methods (1	o ECTS o	redits)									
10-xtAl=DS1-202-	Data So	ience 1									
mo1	ECTS	5	Duratio	n	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 particle).  Language of assessment: English creditable for bonus							
10-xtAl=DS2-202-	Data So	cience 2	1								
mo1	ECTS	5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S		V (2) - Modu	+ Ü (2) le taught in: Englisl	h					
	Method of assessment			If ann of one date). Langu	ounced by the lectue candidate each (a	pprox. 20 minutes) o	of the course, the writte		replaced by an oral examination s (approx. 15 minutes per candi-		

10-xtAl=M-	Machir	ne Leari	ning 1									
L1-202-m01	ECTS	5	Duration	า	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S			+ Ü (2) le taught in: Englis	h						
	Method	d of ass	essment	If ann of one date). Langu	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-xtAl=M-	Machir	ne Leari	ning 2									
L2-202-m01	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S			+ Ü (2) le taught in: Englis	h						
	Method of assessment			If ann of one date). Langu credit	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-xtAl=NLP1-202-	Natural Language Processing 1											
mo1	ECTS	5	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S			+ Ü (2) le taught in: Englis	h						
	Method of assessment			If ann of one date). Langu	ounced by the lect e candidate each (a	urer at the beginning oupprox. 20 minutes) or	of the course, the written ex		replaced by an oral examination s (approx. 15 minutes per candi-			
10-xtAl=NLP2-202-	Natura	l Langu	age Proce	ssing	2							
mo1	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			` ′	V (2) + Ü (2) Module taught in: English							
	Method of assessment			If ann of one date). Langu	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-xtAl=TAl1-202-	Theory	of Artif	icial Intel	elligence 1									
mo1	ECTS	5	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate					
	Courses	5			+ Ü (2) ıle taught in: Englis	h							
	Method	l of ass	essment	Writte If ann of one date) Langu	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-xtAl=TAl2-202-	Theory	of Artif	icial Intel	ligenc	e 2								
mo1	ECTS	5	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate					
	Courses	S			V (2) + Ü (2) Module taught in: English								
	Method	l of ass	essment	If ann of one date) Langu	Vritten examination (approx. 60 to 120 minutes) announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination fone candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candiate). anguage of assessment: English reditable for bonus								
10-xtAl=CV-202-	Comput	ter Visi	on										
mo1	ECTS	5	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate					
	Courses			V (2) + Ü (2) Module taught in: English									
	Method of assessment			If ann of one date) Langu	ounced by the lect e candidate each (a	prox. 60 to 120 minutes) urer at the beginning of the course, the written of the course of the written of the course of the written of the course							
10-l=IP-222-m01	Image I	Process	ing and C	ompu	tational Photograp	hy							
	ECTS	5	Duration	1	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									
	Referre	d to in I	_PO I	§ 22 l	l Nr. 3 b)								

10-I=RLCD-	Reinfo	Reinforcement Learning and Computational Decision-Making												
M-222-m01	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	!S		V (2) + Modul	·Ü (2) e taught in: Germa	an and/or English								
	Method	d of ass		If anno of one date). Langu	written examination (approx. 60 to 120 minutes) f 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-l=M-	Multili	ngual N	LP											
NLP-222-m01	ECTS	5	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	·S		V (2) + Modul	·Ü (2) e taught in: Germa	an and/or English								
				If anno of one date). Langu credita	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-xtAl=AlM1-202-	Selecte	Selected Topics in AI Methods 1												
mo1	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	·S		V (2) + Modul	· Ü (2) e taught in: Englis	sh								
	Method of assessment			If anno of one date). Langu	ounced by the lect	replaced by an oral examination s (approx. 15 minutes per candi-								
10-xtAl=AlM2-202-	Selecte	ed Topic	s in Al Me	thods	2									
mo1	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Courses				V (2) + Ü (2) Module taught in: English									
	Method	d of ass		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										

Core XR Methods (	10 ECTS	credits)									
10-HCI-PRIS-182-	Princip	les of I	nteractive	Syste	ms						
mo1	ECTS	5	Duratio	1	1 semester	Method of grading   numerical grade	Modul level	graduate			
	Course	S			V (2) + Ü (2) Module taught in: German and/or English						
	Method	d of ass	essment	Langu	vritten examination (approx. 90 minutes) .anguage of assessment: German and/or English .reditable for bonus						
10-HCI-MMI-152-	Multim	odal In	terfaces				,				
mo1	ECTS	5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate			
	Courses				+ Ü (2) ıle taught in: Germa	n and/or English	,				
	Method of assessment			Langu	vritten examination (approx. 90 minutes) or presentation of project results (approx. 30 minutes) anguage of assessment: German and/or English reditable for bonus						
10-HCl-3DUl-152-	3D Use	3D User Interfaces									
mo1	ECTS 5 Duratio		Duratio	1	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		presentation of project results (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus								
10-xtAl=XR-	Selecte	ed Topic	s in XR M	ethod	S		'				
M-202-m01	ECTS	5	Duratio		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses				V (2) + Ü (2) Module taught in: English						
	Method of assessment			b) Pro c) Ora d) ora Langu	a) Written examination (approx. 60 to 90 minutes) or b) Project work: report (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 (max. 3 candidates, each approx. 15 minutes) Language of assessment: English creditable for bonus						

xtAl Application &	Technol	ogies (1	o ECTS cr	edits)								
10-LU-	3D Poi	nt Cloud	l Processi	ing								
RI=3D-202-m01	ECTS	5	Duratio	n	1 semester	Method of gradin	g numerical grade	Modul level	graduate			
	Course	S		V (2) -								
						nan and/or English			_			
	Method	d of ass	essment			oprox. 60 to 120 minu		on evamination may be	replaced by an oral examination			
					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							
				date).								
					lage of assessme able for bonus	nt: German and/or En	glish					
10-LU-	Advanc	ed Auto	mation	credit	able for bollus							
RI=AA-202-m01		8	Duration	n	1 semester	Method of gradin	g numerical grade	Modul level	graduate			
	Course		Daration	V (4) -		Method of gradin	5   namenear grade	Modulitevel	Sidduce			
	Course	J				nan and/or English						
	Method	d of ass	essment			prox. 60 to 120 minu						
				If ann	ounced by the led	turer at the beginning	g of the course, the writte	en examination may be i	replaced by an oral examination s (approx. 15 minutes per candi-			
				date).		(approx. 20 minutes)	or an oral examination in	r groups of 2 candidates	s (approx. 15 minutes per candi-			
				Langu	Language of assessment: German and/or English							
		Dahatiaa			creditable for bonus							
10-xtAl=R01-202-	Roboti		1		1		T	1	1 .			
mo1	ECTS	5	Duratio		1 semester	Method of gradin	g numerical grade	Modul level	graduate			
	Course	S			+ Ü (2) lle taught in: Engli	sh						
	Method	d of ass	essment	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 candi-							
				date).		(upprox. 20 mmates)	or an oral examination in	1 510ups of 2 cumulation	(approx. 15 initiates per canal			
					lage of assessme	nt: English						
10 VtAL DOG 202	Robotic			credit	able for bonus							
10-xtAl=RO2-202- mo1	ECTS		Duratio	n	1 semester	Method of gradin	g numerical grade	Modul level	graduate			
	Course	5	Duration		+ Ü (2)	Method of gradin	g   numerical grade	Modul level	graduate			
	Course				le taught in: Engli	sh						
	Method	d of ass	essment			pprox. 60 to 120 minu			and and horse and the second			
									replaced by an oral examination (approx. 15 minutes per candi-			
				date).	•		or an oral examination in	1 51 oups of 2 candidates	, (approx. 15 illinutes per cultur			
				Language of assessment: English								
					able for bonus							
Master's with 1 major eX	tended Artif	icial Intelli	gence (xtAI) (2	2020)		<u> </u>	JMU Würzburg • generated	d 19-Apr-2025 • exam. reg. data re	ecord 88 j79 - - H 2020 page 9 / 16			

10-l=DB2-161-m01	Databa	ses 2									
	ECTS	5	Duration	n	1 semester	Method of grading   numerical grade	Modul level	graduate			
	Course	S		V (2) -	+ Ü (2)	·					
	Method	d of ass	essment	If ann of one date). Langu	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				reditable for bonus ocuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE, IS, HCI.						
10-I=DRLOC-221-					for Optimal Contro	, -	omputer Science, 120	o ECTS credits): SE, IS, HCI.			
mo1	ECTS	5	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses			V (2) -	(2) + Ü (2)  Nodule taught in: English						
	Method of assessment			If ann of one date). Langu	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 of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minute date).  Language of assessment: English creditable for bonus						
10-I=MLN1-221-	Machin	e Learr	ning for No	etwork	S 1						
mo1	ECTS	5	Duratio	n	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			Focus	es available for stu	dents of the Master's programme Informatik (C	omputer Science, 12	o ECTS credits): AT,IT,SE,KI,HCI			

10-l=MLN2-221-	Machine Learning for Networks 2										
mo1	ECTS 5	Duration	1 semester	Method of grading numerical grade	Modul level	graduate					
	Courses		V (2) + Ü (2) Module taught in: Engl	ish							
	Method of asse		If announced by the led of one candidate each date).	anguage of assessment: English							
	Additional Info	mation	ocuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,SE,KI,HCI								
10-xtAl=SAC-202-	Self-aware Com	puting									
mo1	ECTS 5	Duration		Method of grading numerical grade	Modul level	graduate					
	Courses		V (2) + Ü (2) Module taught in: Engl	ish							
	Method of asse		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								
	Interactive Computer Graphics										
10-l=ICG-161-m01	Interactive Com	puter Gr	aphics								
10-l=ICG-161-m01	Interactive Com ECTS 5	<b>Duration</b>	<del>·                                      </del>	Method of grading   numerical grade	Modul level	graduate					
10-I=ICG-161-m01		Duration		Method of grading   numerical grade	Modul level	graduate					
10-I=ICG-161-m01	ECTS 5 Courses	Duration	1 semester V (2) + Ü (2) written examination (a) If announced by the led of one candidate each date). Separate written exami	Method of grading numerical grade  pprox. 60 to 120 minutes).  cturer at the beginning of the course, the written of (approx. 20 minutes) or an oral examination in gradination for Master's students.  nt: German and/or English	examination may be	replaced by an oral examination					
	ECTS 5 Courses Method of asse	Duration ssment	1 semester  V (2) + Ü (2)  written examination (a If announced by the led of one candidate each date).  Separate written exami Language of assessme creditable for bonus  Focuses available for s	pprox. 60 to 120 minutes). Eturer at the beginning of the course, the written of (approx. 20 minutes) or an oral examination in granting for Master's students.	examination may be roups of 2 candidates	replaced by an oral examination s (approx. 15 minutes per candi-					
10-xtAl=WPrak-	ECTS 5 Courses Method of asse	Duration ssment	1 semester  V (2) + Ü (2)  written examination (a  If announced by the lec  of one candidate each date).  Separate written exami Language of assessme creditable for bonus  Focuses available for s	pprox. 60 to 120 minutes). Eturer at the beginning of the course, the written of (approx. 20 minutes) or an oral examination in grantion for Master's students. Int: German and/or English  tudents of the Master's programme Informatik (C	examination may be roups of 2 candidates	replaced by an oral examination s (approx. 15 minutes per candi-					
	ECTS 5  Courses  Method of asse  Additional Information Scientific Intermediate  ECTS 10	ssment mation nship xtA	1 semester  V (2) + Ü (2)  written examination (a  If announced by the lec  of one candidate each  date).  Separate written exami  Language of assessme  creditable for bonus  Focuses available for s  I  1 semester	pprox. 60 to 120 minutes). Eturer at the beginning of the course, the written of the writt	examination may be roups of 2 candidates	replaced by an oral examination s (approx. 15 minutes per candi-					
10-xtAl=WPrak-	ECTS 5 Courses Method of asse  Additional Information Scientific Interrect ECTS 10 Courses	Ssment  rmation nship xtA  Duratior	1 semester  V (2) + Ü (2)  written examination (a) If announced by the led of one candidate each date).  Separate written exami Language of assessme creditable for bonus  Focuses available for s  I  1 semester  P (0)	pprox. 60 to 120 minutes). cturer at the beginning of the course, the written of (approx. 20 minutes) or an oral examination in gration for Master's students. nt: German and/or English tudents of the Master's programme Informatik (C	examination may be roups of 2 candidates	replaced by an oral examination s (approx. 15 minutes per candi- o ECTS credits): HCI.					
10-xtAl=WPrak-	ECTS 5  Courses  Method of asse  Additional Information Scientific Intermediate  ECTS 10	ssment mation nship xtA Duratior ssment	1 semester  V (2) + Ü (2)  written examination (a  If announced by the led of one candidate each date).  Separate written exami Language of assessme creditable for bonus  Focuses available for s  I  1 semester  P (0)  report on work placeme	pprox. 60 to 120 minutes). cturer at the beginning of the course, the written of (approx. 20 minutes) or an oral examination in gration for Master's students. nt: German and/or English tudents of the Master's programme Informatik (C	examination may be roups of 2 candidates	replaced by an oral examination s (approx. 15 minutes per candi- o ECTS credits): HCI.					

10-xtAl=IS-	Interna	tional	Summer S	chool	xtAl							
S-202-m01	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S	•	R (6) Modu	(6) Nodule taught in: English							
				b) Pro c) Ora d) ora Lango	Written examination (approx. 60 to 90 minutes) or  Project work: report (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic or  Oral examination of one candidate each (approx. 20 minutes) or  oral examination in groups (max. 3 candidates, each approx. 15 minutes)  anguage of assessment: English							
				<u> </u>	ct will be block tau	ght, 4 - 6 weeks						
07-MLBI-202-m01		<u>ie Lear</u>	ning in Bio		natics							
	ECTS	5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S			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								
	Participants and allo- cation of places			10 pl	10 places. Should the number of applications exceed the number of available places, places will be allocated by lot.							
10-xtAl=ST-202-	Selecte	ed Topi	cs in xtAl	Applic	ation & Technolog	ies						
mo1	ECTS	5	Duratio	n	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 90 minutes) or b) project work: report (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 (max. 3 candidates, each approx. 15 minutes) Language of assessment: English creditable for bonus								

10 I-MIP 222 mos	Music	Ausic Information Retrieval											
10-1-1/11/18-222-11101	ECTS	5	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate					
	Course		Duration	V (2) -		Method of grading   numerical grade	Modulitevel	graduate					
	Course	3			le taught in: Germa	an and/or English							
	Method	d of ass	essment			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								
					able for bonus	: German and/or English							
	Additio	nal Info	rmation	possi	possible majors for MA 120 Computer Science: GE								
10-I=RRS-222-m01	Remote	e Sensi	ng	•									
	ECTS	5	Duration		1 semester	Method of grading numerical grade	Modul level	graduate					
	Course	S			2) + Ü (2)								
					odule taught in: German and/or English								
	Method	d of ass	essment		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 candi-								
				date).	date).								
				Language of assessment: German and/or English creditable for bonus									
	Additio	nal Info	rmation	possible majors for MA 120 Computer Science: LR,IN									
<b>Computer Science</b>													
10-I=ST-161-m01	Discret	e Event	Simulatio	on									
	ECTS	8	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate					
	Course	S		V (4) -	+ Ü (2)								
	Method	d of ass	essment			prox. 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 candi-								
				date).									
				Language of assessment: German and/or English									
		.,		creditable for bonus									
	Additio	nal Info		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,IS,ES,GE									

10-I=SSS-172-m01	Security of Software Systems											
	ECTS 5 Duration		n	1 semester	Method of grading numerical grade	Modul level	graduate					
	Course	S	•	V (2) + Ü (2) Module taught in: English								
	Method	d of ass	essment	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								
	Additio	nal Info	ormation	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE, IS, LR, HCI, ES.  Basic programming knowledge in C is required.								
10-I=DDB-172-m01	Deduct	ive Dat	abases									
	ECTS 5 Duration				1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course	S		$V(2) + \ddot{U}(2)$								
	Method	d of ass	essment	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								
	Additio	nal Info	ormation	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT, SE, IT, IS.								
10-l=LP-212-m01	Logic Programming											
	ECTS 5 Duratio				1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course			V (2) -								
				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								
	Additio	nal Info	ormation	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,KI								
	Referred to in LPO I			§ 22 II Nr. 3 b)								

10-l=SB-212-m01	Systems Benchmarking											
	ECTS 5 Duration			ı	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S		V (2) -	+ Ü (2)							
	Metho	d of ass	essment	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								
	Additio	nal Info	rmation	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IT,ES,HCI,GE								
10-I=APR-212-m01	Advanced Programming											
	ECTS 5 Duratio			1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S		V (2) -	+ Ü (2)			•				
	Metho	d of ass	essment	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								
	Additio	nal Info	rmation	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,KI,LR, HCI, ES,GE,SEC								
10-l=AKII-182-m01	Selected Topics in Computer Science											
	ECTS 5 Duration			ı	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			V (2) + Ü/S (2)								
	Method	d of ass	essment	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								
Master Project Mod												
10-xtAl=MA-202-		's Thes	1									
mo1	ECTS	25	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course											
	Metho	d of ass	essment	Master's thesis (50 to 100 pages) Language of assessment: English								
	Additio	nal Info	rmation	Time to complete: 6 months								

	Conclu	Concluding Colloquium xtAI									
K-202-m01	ECTS	ECTS 5 Duration		1	1 semester	Method of grading	(not) successfully completed	Modul level	graduate		
	Course	Courses			K (o)						
	Metho	d of ass	essment	Final colloquium (approx. 60 minutes)							
				Language of assessment: English							