

## **Annex SFB**

## Studienfachbeschreibung (subject description, SFB) for the subject Computational Mathematics 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 Mathematics

Examination regulations version: 2016

Examination regulations version: 2016

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

= 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 Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the meassessment procedures: thod 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:

## ASP02015

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

## 13-Jan-2016 (2016-1)

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 of		l if applica	if applicable								
	Other prereq	uisites	if applica	if applicable								
	Participants on of places		ocati- if applica	if applicable								
	Additional in	formati	on if applica	if applicable								
	Referred to in	n LPO I	if applica	if applicable (examination regulations for teaching-degree programmes)								

<b>Compulsory Electiv</b>	es (90 E	CTS cre	dits)										
Subfield Numerical	Mather	natics a	nd Optim	ization	(30 ECTS credits)								
10-M=AAAN-161-	Applie	d Analys	is										
mo1	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S			V (4) + Ü (2) Module taught in: German and/or English								
	Method	d of asse	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
10-M=VOP-	Selecte	ed Topic	s in Optir	nizatio	n			'					
T-161-m01	ECTS	10	Duration	1	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			a) writh b) oracle c) oracle Langu Asses credit	emester								
10-M=VMPH-161-	Selecte	ed Topic	s in Math	ematio	al Physics								
mo1	ECTS	10	Duration	1	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			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									

10-M=AOP-	Basics in Optimization											
T-161-m01	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	·S	•	V (4) + Modu	- Ü (2) le taught in: Germar	n and/or English						
	Method	d of asse	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus							
10-M=V-	Mathe	matical (	Continuu	m Mecl	hanics							
KOM-161-mo1	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			V (3) +	- Ü (1) le taught in: Germar	n and/or English						
			essment	b) ora c) ora Langu Asses credit	a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate)  Language of assessment: German or English  Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus							
10-M=ANG-	Numeric of Large Systems of Equations											
G-161-m01	ECTS 10 Duratio			1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	·S		V (4) + Ü (2) Module taught in: German and/or English								
	Method of assessment			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
10-M=VN-	Numer	ic of Par	tial Differ	rential	Equations	1						
PE-161-mo1	ECTS	10	Duration	า	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			b) ora c) ora Langu Asses	written examination (approx. 90 to 120 minutes, usually chosen) or oral examination of one candidate each (approx. 20 minutes) or oral examination in groups (groups of 2, 15 minutes per candidate) nguage of assessment: German or English seessment offered: In the semester in which the course is offered and in the subsequent semester editable for bonus							

10-M=VOST-161-	Optimal Control											
mo1	ECTS	5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate				
	Course	S	-		V (3) + Ü (1) Module taught in: German and/or English							
	Method of assessment			b) ora c) ora Langu Asses	a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus							
10-M=VI-	Inverse	Proble	ms	•								
PR-161-mo1	ECTS	5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate				
	Course	S			- + Ü (1) le taught in: Germaı	n and/or English						
			essment	b) ora c) ora Langu Asses	a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus							
Subfield Mathema	tics (10 E	CTS cre	edits)									
10-M=AAL-	Topics in Algebra											
G-161-m01	ECTS	10	Duratio		1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course	S		V (4) + Ü (2) Module taught in: German and/or English								
	Method of assessment			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
10-M=ADG-	Differe	ntial Ge	ometry									
M-161-m01	ECTS	10	Duratio		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			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
Master's with 1 major Co	mputationa	l Mathemat	tics (2016)			JMU Würzburg • generated 19-Apr	-2025 • exam. reg. data	record 88 f24 - - H 2016 page 5 / 46				

10-M=AFT-	Complex Analysis												
H-161-mo1	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es			V (4) + Ü (2) Module taught in: German and/or English								
	Metho	d of ass	essment	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=AGMS-161-	Geome	etric Str	uctures					,					
mo1	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses				+ Ü (2) le taught in: Germa	an and/or English							
	Metho	d of ass	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
10-M=AIST-161-	Industrial Statistics 1												
mo1	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es		V (4) + $\ddot{\text{U}}$ (2) Module taught in: German and/or English									
	Method of assessment			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=ALTH-161-	Lie The	eory						·					
mo1	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es		V (4) + Ü (2) Module taught in: German and/or English									
	Metho	d of ass	essment	b) ora c) ora Langu Asses	itten examination (approx. 90 to 120 minutes, usually chosen) or all examination of one candidate each (approx. 20 minutes) or all examination in groups (groups of 2, 15 minutes per candidate) uage of assessment: German or English ssment offered: In the semester in which the course is offered and in the subsequent semester table for bonus								

10-M=ARTH-161-	Control	Control Theory											
mo1	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	S		V (4) + Modu	- Ü (2) le taught in: Germa	n and/or English							
	Method	d of asso	essment	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=ASM-	Stocha	stic Mo	dels of Ri	sk Man	agement								
R-161-m01	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses			V (4) + Modu	- Ü (2) le taught in: Germa	n and/or English							
	Method	d of asso	essment	b) ora c) oral Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
10-M=AST-	Stochastical Processes												
P-161-m01	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	Courses			V (4) + $\ddot{\text{U}}$ (2) Module taught in: German and/or English								
	Method of assessment			b) ora c) oral Langu Asses	l examination of on l examination in gro age of assessment	ne candidate each (ap oups (groups of 2, 15 : German or English	utes, usually chosen) or oprox. 20 minutes) or minutes per candidate) the course is offered and		emester				
10-M=A-	Topolog	gy											
TOP-161-m01	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	d of asse	essment	b) ora c) oral Langu Asses	l examination of on l examination in gro age of assessment	n examination (approx. 90 to 120 minutes, usually chosen) or camination of one candidate each (approx. 20 minutes) or camination in groups (groups of 2, 15 minutes per candidate) e of assessment: German or English ent offered: In the semester in which the course is offered and in the subsequent semester e for bonus							

10-M=AVS-	Insurance Mathematics 1												
M-161-mo1	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5			V (4) + Ü (2) Module taught in: German and/or English								
	Method	of asse	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
10-M=AZ-	Time Se	eries An	alysis 1										
RA-161-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		V (4) - Modu	- Ü (2) le taught in: Germaı	n and/or English							
	Method	of asse	essment	b) ora c) ora Langu Asses	) written examination (approx. 90 to 120 minutes, usually chosen) or ) oral examination of one candidate each (approx. 20 minutes) or ) oral examination in groups (groups of 2, 15 minutes per candidate) anguage of assessment: German or English assessment offered: In the semester in which the course is offered and in the subsequent semester reditable for bonus								
10-M=AZTH-161-	Number Theory												
mo1	ECTS	10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		V (4) + Ü (2) Module taught in: German and/or English									
	Method	of asse	essment	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=AGP-	Giovani	ni Prodi	Lecture (	(Maste	r)								
Cin-152-m01	ECTS	5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		V (3) + Ü (1) Module taught in: English									
	Method	of asse	essment	b) ora c) ora Langu Asses	a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								

10-M=VA-	Selecte	Selected Topics in Analysis											
NA-161-m01	ECTS	10	Duration	ı	1 semester	Method of grading numerical grade	Modul level	graduate					
	Courses	S			+ Ü (2) le taught in: Germ	an and/or English							
	Method	l of ass	essment	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=VFN-	Selecte	d Topic	s in Finan	icial M	athematics								
M-161-m01	ECTS	10	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate					
	Courses				+ Ü (2) lle taught in: Germ	an and/or English							
	Method of assessment			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=VGDS-161-	Groups	Groups and their Representations  ECTS 10 Duration 1 semester Method of grading numerical grade Modul level graduate											
mo1	ECTS	10	Duration					graduate					
	Courses	S		V (4) + Ü (2) Module taught in: German and/or English									
	Method of assessment			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=VIST-161-	Industr	ial Stat	istics 2				,						
mo1	ECTS	10	Duration	1	1 semester	Method of grading   numerical grade	Modul level	graduate					
	Courses	S			+ Ü (2) le taught in: Germ	an and/or English							
	Method	l of ass	essment	b) ora c) ora Langu Asses	n) written examination (approx. 90 to 120 minutes, usually chosen) or n) oral examination of one candidate each (approx. 20 minutes) or n) oral examination in groups (groups of 2, 15 minutes per candidate) n anguage of assessment: German or English n assessment offered: In the semester in which the course is offered and in the subsequent semester n reditable for bonus								

10-M=V-	Statistical Analysis												
STA-161-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (4) - Modu	+ Ü (2) le taught in: Germa	n and/or English							
	Method	d of ass	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
10-M=VVS-	Insurar	ice Mat	hematics	2									
M-161-m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (4) - Modu	- Ü (2) le taught in: Germa	n and/or English							
	Method	d of ass	essment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus								
10-M=VZ-	Time Series Analysis 2												
RA-161-m01	ECTS	10	Duratio		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			a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=VD-		ical Sys	tems					,					
SY-161-m01		5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (3) + Ü (1) Module taught in: German and/or English									
	Method of assessment			b) ora c) ora Langu Asses	written examination (approx. 60 to 90 minutes, usually chosen) or								

10-M=VMB-	Mathematical Imaging													
V-161-m01	ECTS 5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate							
	Courses		V (3) ·	+ Ü (1) ıle taught in: Germa	an and/or English									
		of assessment	b) ora c) ora Langu Asses credit	a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus										
10-M=V-	Selected	<b>Topics in Cont</b>	rol The	eory										
TRT-161-m01	ECTS 1	o Duratio	n	1 semester	Method of grading   numerical grade	Modul level	graduate							
	Courses			+ Ü (2) ıle taught in: Germa	an and/or English									
	Method o	of assessment	b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus										
10-M=V-	Non-linea	Non-linear Analysis												
NAN-161-m01	ECTS 5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate							
	Courses			V (3) + Ü (1) Module taught in: German and/or English										
	Method o	of assessment	a) written examination (approx. 60 to 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus											
10-M=VV-	Networke	ed Systems												
SY-161-m01	ECTS 5	Duratio		1 semester	Method of grading   numerical grade	Modul level	graduate							
	Courses			V (3) + Ü (1) Module taught in: German and/or English										
	Method o	of assessment	b) ora c) ora Langu Asses	n) written examination (approx. 60 to 90 minutes, usually chosen) or n) oral examination of one candidate each (approx. 15 minutes) or n oral examination in groups (groups of 2, approx. 10 minutes per candidate) anguage of assessment: German or English assessment offered: In the semester in which the course is offered and in the subsequent semester areditable for bonus										

10-M=VK-	Comple	x Geom	etry						Complex Geometry											
GE-161-m01	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate											
	Courses	;		V (4) +		.,														
					le taught in: Germai				_											
	Method	of asse	essment	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or																
				c) oral	c) oral examination in groups (groups of 2, 15 minutes per candidate)															
				Langu	Language of assessment: German or English															
					Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus															
10-M=VPD-	Partial I	Differen	tial Equa		of Mathematical Phy	/sics														
P-161-mo1		10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate											
	Courses	Courses			- Ü (2)	,	-													
					le taught in: Germai															
	Method	of asse	essment				utes, usually chosen) or prox. 20 minutes) or													
							minutes per candidate)													
				Langu	Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester															
					sment offered: In th able for bonus	e semester in which	the course is offered and i	in the subsequent s	emester											
10-M=V-	Pseudo	Riemar	nnian and		annian Geometry															
PRG-161-mo1		10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate											
	Courses	;	J.	V (4) + Ü (2)																
				Module taught in: German and/or English																
	Method	of asse	essment	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or																
				b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)																
					age of assessment:	German or English														
					sment offered: In th able for bonus	e semester in which	the course is offered and i	in the subsequent s	emester											
10-M=AF-	Function	nal Ana	lvsis	creare	able for bonds															
AN-161-mo1		10	Duration	ı	1 semester	Method of grading	numerical grade	Modul level	graduate											
	Courses		<u>I</u>	V (4) +			<u> </u>		10											
					Module taught in: German and/or English															
	Method	of asse	essment				utes, usually chosen) or													
				b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)																
					Language of assessment: German or English															
				Assessment offered: In the semester in which the course is offered and in the subsequent semester																
				credit	creditable for bonus															

10-M=VAD-	Applied	Applied Differential Geometry												
G-161-mo1	ECTS	10	Duration	)	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Courses	5			V (4) + Ü (2) Module taught in: German and/or English									
	Method	of asse		b) ora c) ora Langu Asses	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=VG-	Giovani	ni Prodi	Lecture S	Selecte	ed Topics (Master)									
PSin-152-mo1	ECTS	10	Duration	)	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Courses				+ Ü (2) le taught in: English	1								
				b) ora c) ora Langu Asses credit	a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus									
10-M=VG-	Giovanni Prodi Lecture Advanced Topics (Master)													
PAin-152-mo1	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate					
	Courses	5		V (4) + Ü (2) Module taught in: English										
	Method of assessment			b) ora c) ora Langu Asses	l examination of on l examination in gro lage of assessment:	e candidate each (apups (groups of 2, 15 English	utes, usually chosen) or oprox. 20 minutes) or minutes per candidate) the course is offered an		emester					
10-	Giovani	ni Prodi	Lecture N	∕loderı	n Topics (Master)			'						
M=VGPMin-152- mo1	ECTS	10	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate					
IIIOI	Courses	5			+ Ü (2) le taught in: English	1								
	Method	of asse		a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus										

10-M=EL-	Learning by 1	eaching 1					,					
T1-161-m01	ECTS 5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses		T (o)				•					
	Method of as	sessment	Asses	sment of tutoring ac	tivities by supervisir	ng lecturers or exercise s	supervisors (1 to 2 teac	hing units)				
<b>Subfield Research</b>	in Groups and	Seminars	(10 ECT	'S credits)								
10-M=GM-	Research in Groups - Mathematics in the Sciences											
SC-161-m01	ECTS 10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses			V (2) + S (2) Module taught in: German and/or English								
	Method of as	sessment	Langi	talk (60 to 120 minutes) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=GN-	Research in G	Groups - Nu	ımerica	nerical Mathematics and Applied Analysis								
MA-161-m01	ECTS 10 Duratio			1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses			V (2) + S (2) Module taught in: German and/or English								
	Method of as	sessment	Langi	talk (60 to 120 minutes) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
10-M=GROC-161-	Research in Groups - Robotics, Optimization and Control Theory											
mo1	ECTS 10	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses		V (2) + S (2) Module taught in: German and/or English									
	Method of as	sessment										
10-M=SGP-	Giovanni Pro	di Seminar	(Mast	er)			'					
Cin-152-m01	ECTS 5 Duratio		n 1 semester		Method of grading	numerical grade	Modul level	graduate				
	Courses		S (2) Modu	S (2) Module taught in: English								
	Method of as	sessment	talk (60 to 120 minutes) Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester									

10-M=SID-	Interdi	sciplin	ary Semin	ar			,	,						
C-161-m01	ECTS	5	Duratio		1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	!S		S (2) Modu	le taught in: Germ	an and/or English								
	Metho	d of ass	sessment	Langi		t: German or English the semester in which	the course is offered a	and in the subsequent se	emester					
10-M=SM-	Seminar Mathematics in the Sciences													
SC-161-m01	ECTS	5	Duratio	n	1 semester Method of grading numerical grade Modul level graduate									
	Course	!S		S (2) Modu	le taught in: Germ	an and/or English								
				Langi	talk (60 to 120 minutes) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester									
10-M=SN-	Semina	ar in Nu	ımerical <i>N</i>	athem	atics and Applied	Analysis								
MA-161-mo1	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	!S		S (2) Modu	le taught in: Germ	an and/or English								
	Method of assessment			Langi		t: German or English the semester in which	the course is offered a	and in the subsequent se	emester					
10-M=SOP-	Semina	Seminar in Optimization												
T-161-m01	ECTS 5 Duratio			n	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	!S		S (2) Modu	le taught in: Germ	an and/or English								
	Metho	d of ass	sessment	talk (60 to 120 minutes) Language of assessment: German or English Assessment offered: In the semester in which the course is offered and in the subsequent semester										
Subfield Applicati	on Subje	ct (10 E	CTS credi	ts)										
Application Subje	ct Biolog	y and M	<b>Nedicine</b>											
07-MS2BI-152-mo	Bioinfo	rmatic	s											
	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate					
	Course	!S		V (2) Modu	+ S (1) le taught in: Germ	an and/or English								
	Metho	d of ass	sessment	c) ora d) ora	l examination of o	ne candidate each (30	dates (30 to 60 minute	•						

07-MS2BIF1-152-	Bioinfo	ormatics	F1										
mo1	ECTS	10	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	!S	•		+ S (1)			•					
					le taught in: German								
	Metho	d of asse	essment	a) written examination (30 to 60 minutes, including multiple choice questions) or b) log (15 to 30 pages) or									
					c) oral examination of one candidate each (30 to 60 minutes) or								
				d) ora	d) oral examination in groups of up to 3 candidates (30 to 60 minutes) or								
					e) presentation (20 to 45 minutes)								
07-MS2BIF2-152-	Diginfo	ormatics	Fo.	Langu	Language of assessment: German and/or English								
0/-1/15261F2-152-   m01	ECTS		Duration		1 semester	Mothod of grading	(not) successfully completed	Modul level	graduate				
	Course	15	Duration			Method of grading	(110t) successfully completed	Modul level	graduate				
	Courses			P (29) + S (1) Module taught in: German and/or English									
	Metho	d of asse	essment	a) written examination (30 to 60 minutes, including multiple choice questions) or									
				b) log (15 to 30 pages) 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) or									
				e) presentation (20 to 45 minutes)									
						German and/or Engl	ish						
07-MBI-B-152-m01		rmatics	В										
	ECTS	5	Duration		1 semester	Method of grading	(not) successfully completed	Modul level	graduate				
	Courses			V (2) Module taught in: German and/or English									
	Metho	d of asse	essment	a) written examination (30 to 60 minutes, including multiple choice questions) or									
						candidate each (30							
				d) oral examination in groups of up to 3 candidates (30 to 60 minutes) Language of assessment: German and/or English									
07-MS3S-152-m01	Systen	ns Biolo	gy	0-			<u> </u>						
	ECTS	10	Duration	<u> </u>	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	es		V (2) + S (1)									
				Module taught in: German and/or English									
	Method of assessment												
				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									
				Zambarba et apparentent detiman anafot zingnon									

07-MS3SYF1-152-	Systems Biology F1												
mo1	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	!S			+ S (1)		<u> </u>	•					
					le taught in: Germ			:					
	Method	d of ass	essment				uding multiple choice question	ıs) or					
					b) log (15 to 30 pages) or c) oral examination of one candidate each (30 to 60 minutes) or								
				d) ora	d) oral examination in groups of up to 3 candidates (30 to 60 minutes) or								
					e) presentation (20 to 45 minutes) Language of assessment: German and/or English								
07 MCoCVFo 450	Constant	D'-1-		Langu									
07-MS3SYF2-152- mo1	_	ns Biolo	<del></del>		· .	AA (1 1 C 1'		Tag 1 11 1					
	ECTS	15	Duratio		1 semester	Method of grading	(not) successfully completed	Modul level	graduate				
	Course	!5			P (29) + S (1) Module taught in: German and/or English								
	Method	d of ass	essment		a) written examination (30 to 60 minutes, including multiple choice questions) or								
	Metho	u 01 u33	Coomene	b) log (15 to 30 pages) 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) or								
					ıl examınatıon in g Esentation (20 to 4		dates (30 to 60 minutes) or						
						it: German and/or Eng	lish						
07-MS-B-152-m01	Systems Biology B												
	ECTS	5	Duratio	n	1 semester	Method of grading	(not) successfully completed	Modul level	graduate				
	Course	!S	•	V (2)		•	•	•					
				Module taught in: German and/or English									
	Method	d of ass	essment				uding multiple choice question	ıs) or					
						ne candidate each (30 roups of up to 3 candi							
				d) oral examination in groups of up to 3 candidates (30 to 60 minutes) Language of assessment: German and/or English									
Application Subject	t Chemi	е											
08-PCM1a-161-	Laser S	Spectro	scopy										
mo1	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	!S	<u> </u>	S (2) + Ü (1)									
	NA - +1-	-l -E			Module taught in: German or English								
	Method	a of ass	essment	a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes)									
				Language of assessment: German and/or English									

08-PCM1b-161-	Advanc	ed Phy	sical Che	mistry	(Lab)							
mo1	ECTS	5	Duratio	n	1 semester	Method of grading (not) successfully completed	Modul level	graduate				
	Course	S		P (4) Modu	P (4) Module taught in: German or English							
	Method	d of ass	essment	and a	Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations)  Language of assessment: German and/or English							
	Additional Information			Additi	Additional information on module duration: block taught lab course with approx. 20 working days.							
08-PCM2-161-m01	Statisti	ical Med	chanics a	nd Rea	ction Dynamics							
	ECTS	5	Duratio	n	1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course	S			(2) + Ü (1) odule taught in: German or English							
	Method	d of ass	essment	b) ora c) talk	a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) talk (approx. 30 minutes) Language of assessment: German and/or English							
08-PCM3-161-m01	Nanosc	ale Ma	terials		1		,					
	ECTS	5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate				
	Course	S		S (2) + Ü (1) Module taught in: German or English								
	Method of assessment			a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) talk (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus								
08-PCM4-161-m01	Ultrafa	st spect	troscopy	and qu	antum-control							
	ECTS	5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate				
	Course	S		S (2) - Modu	+ Ü (1) le taught in: Germar	n or English						
	Method of assessment			a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) talk (approx. 30 minutes) Language of assessment: German and/or English								
	other prerequisites			Prior completion of modules o8-PCM1a and o8-PCM1b recommended.								

08-PCM5-161-m01	Physical Chemistry of Supramolecular Assemblies											
	ECTS	5	Duration	n	1 semester	Method of grading   n	umerical grade	Modul level	graduate			
	Course	S		S (2) - Modu	+ Ü (1) le taught in: Germar	n or English						
	Method of assessment			a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) talk (approx. 30 minutes) Language of assessment: German and/or English								
08-PCM6-161-m01	Physica	al Chem	istry (Adv	/anced	Lab)			'				
	ECTS	5	Duration	1	1 semester	Method of grading (r	not) successfully completed	Modul level	graduate			
	Course	S		P (4) Modu	P (4) Module taught in: German or English							
	Method	d of asse	essment		oresentation (approx. 20 minutes) Language of assessment: German and/or English							
	Additio	nal Info	rmation	Additi	onal information on	module duration: bloc	k taught lab course with app	rox. 20 working	days.			
08-TCM2-161-m01	Basics and Applications of Quantum Chemistry											
	ECTS 5 Duratio			1	1 semester	Method of grading n	umerical grade	Modul level	graduate			
	Course	S		$S(2) + \ddot{U}(2)$								
	Method of assessment			b) ora c) ora d) log e) pre	l examination of one l examination in gro (approx. 20 pages) sentation (approx. 3	e candidate each (20 to ups of up to 3 candidat or	o 30 minutes) or tes (approx. 15 minutes per c	andidate) or				
08-TCM3-161-m01	Numeri	cal Met	hods and	Progra	amming							
	ECTS	5	Duration		1 semester	Method of grading n	umerical grade	Modul level	graduate			
	Course			S (2) -								
	Method of assessment				l examination of one l examination in gro (approx. 20 pages) sentation (approx. 3	or	o 30 minutes) or tes (approx. 15 minutes per c	andidate) or				

o8-TCM4-161-mo1	Quantum Dynamics												
	ECTS	5	Duration	)	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		S (2) -	+ Ü (2)								
	Method	of asse	essment	a) wri	tten examination (a <sub>l</sub>	oprox. 90 to 180 min	utes) or						
						e candidate each (20							
							dates (approx. 15 minutes per c	andidate) or					
					(approx. 20 pages)								
				e) presentation (approx. 30 minutes) Language of assessment: German and/or English									
08-TCM1-161-m01	Selected Topics in Theoretical Chemistry												
		5	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		S (2) -	+ Ü (2)	'		•	•				
	Method	of asse	essment	a) wri	tten examination (a	pprox. 90 to 180 min	utes) or						
				b) oral examination of one candidate each (20 to 30 minutes) or									
				c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or									
					d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)								
08-TCAP1-161-m01				Langu	seniation (approx. :	German and/or Engl	lish						
	Theoret	ical Che		Project course quantum chemistry									
		5	Duration		1 semester	<del></del>	(not) successfully completed	Modul level	graduate				
	Courses			P (5)	1 Jemester	memod or grading	(not) successionly completed	moduliteret	1 S. addate				
					ntation (approx. 30	minutes)							
		. 0. 0000		Language of assessment: German and/or English									
	Addition	nal Info	rmation	Additional information on module duration: block taught lab course with approx. 20 working days.									
08-TCAP2-161-m01	Theoret	ical Che	emistry -	y - Project course quantum dynamics									
	ECTS	5	Duration	1	1 semester	Method of grading	(not) successfully completed	Modul level	graduate				
	Courses	5		P (5)									
	Method	of asse	essment	presentation (approx. 30 minutes)									
						German and/or Eng							
	Addition	nal Info	rmation	Additi	onal information on	module duration: bl	lock taught lab course with app	rox. 20 working	g days.				
Application Subject	t Computer Science and Aerospace Computer Science												
10-l=SEM3-161-	Semina	r 1 - Cur	rent Topi	cs in C	omputer Science								
mo1	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Courses	5		S (2)									
	Method	of asse	essment	term paper (10 to 15 pages) and presentation (30 to 45 minutes) with subsequent discussion on a topic from the field of com-									
				puter 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, IS, ES, LR, HCI´, GE.									
Master's with 1 major Cor	mputational	Mathomati	ics (2016)				IMII Würzhurg • generated 10-Anr-20	and a evam rea data	record 88 f24 - - H 2016				

10-I=APR-161-m01	Advanc	ed Prog	gramming				,				
	ECTS	5	Duration	1	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).	ounced by the lecti e candidate each (a	prox. 60 to 120 minutes).  urer at the beginning of the course, the written exapprox. 20 minutes) or an oral examination in grounds.	amination may be ups of 2 candidate	replaced by an oral examination s (approx. 15 minutes per candi-			
				Language of assessment: German and/or English creditable for bonus							
	Additio	nal Info	rmation		es available for stu LR, HCI, ES,GE	idents of the Master's programme Informatik (Cor	nputer Science, 12	o ECTS credits):			
10-l=AA-152-m01	Advanc	ed Auto	mation			'					
	ECTS	8	Duration	1	1 semester	Method of grading   numerical grade	Modul level	graduate			
	Course	S		V (4) -	+ Ü (2)						
	Method of assessment				n examination (appable for bonus	prox. 60 to 120 minutes)					
	Additional Information			Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,IS,ES,LR,GE							
	Referred to in LPO I			§ 22 II Nr. 3 b)							
10-I=AGIS-161-m01	Algorit	hms for	Geograp	hic Info	ormation Systems						
	ECTS	5	Duration	ı	1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	S		V (2) -	+ Ü (2)						
		If a of da La		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: 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,IS,HCI							

10-l=AG-161-m01	Compu	tationa	l Geometr	у								
	ECTS	5	Duration	1	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 candi- date). Language of assessment: German and/or English creditable for bonus							
			- (-	AT,HC		udents of the Master's programme Informatik ((	Computer Science, 12	o ECTS credits):				
10-l=APA-161-m01			n Algorith		1							
	ECTS	5	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course	S		V (2)	$(2) + \ddot{U}(2)$							
	Method of assessment			If ann of one date) Langu	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								
		d to in I		§ 22 l	§ 22 II Nr. 3 b)							
10-I=AUT-161-m01	Automa	ata The	ory									
	ECTS	5	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course			• • •	+ Ü (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	Focus	es available for st	udents of the Master's programme Informatik (	Computer Science, 12	o ECTS credits): AT, IT, ES, HCI, GE				

10-l=AVS-161-m01													
	ECTS 5	Duration		nester	Method of grading	numerical grade	Modul level	graduate					
	Courses	,	V (2) + Ü (2)		•		•						
	Method of as	ssessment	If announce of one cand date).	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  Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits):									
	Additional In	formation	creditable fo										
			ES,LR	illable ioi s		programme imormat		o ecis dedits).					
10-HCI=M-	Multimodal I	User Interfa	ces										
MUI-161-m01	ECTS 5	Duration		nester	Method of grading	numerical grade	Modul level	graduate					
	Courses		V (2) + Ü (2)										
	Method of as	ssessment	Language of	presentation of project results (approx. 40 minutes) Language of assessment: German and/or English creditable for bonus									
	Additional In	formation	Focuses ava	ilable for s	tudents of the Master's	programme Informat	ik (Computer Science, 12	o ECTS credits): HCI,GE.					
	Referred to in	n LPO I	§ 22 II Nr. 3	b)									
10-I=BER-161-m01	Computability Theory												
	ECTS 5	Duration	ı 1 sem	nester	Method of grading	numerical grade	Modul level	graduate					
	Courses		V (2) + Ü (2)				*						
	Method of as	ssessment	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 exam of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per date).  Language of assessment: German and/or English creditable for bonus										
	Additional In	formation	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,SE,IT,IS,GE										
07-BI-161-m01	Bioinformati	cs											
	ECTS 5	Duration	ı 1 sem	nester	Method of grading	numerical grade	Modul level	undergraduate					
	Courses		V (2) + Ü (2)										
	Method of as	ssessment	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=CB-161-m01	Compi	ler Cons	struction									
	ECTS	5	Duration	า	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	es		V (2)	+ Ü (2)			•				
	Metho	d of ass	essment	If ann of on date) Langu	_anguage of assessment: German and/or English							
	Additional Information			Focus	reditable for bonus  Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits):  SE,IT,IS,GE							
10-I=DDB-161-m01	Deduct	tive Dat	abases					'				
	ECTS 8 Duratio			1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	es		V (4)	+ 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								
	Additio	onal Info	ormation	Focus AT,SE		udents of the Master's	s programme Informatik	(Computer Science, 12	o ECTS credits):			
10-l=EL-161-m01	E-Learning											
	ECTS	5	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	25		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 cadate).  Language of assessment: German and/or English creditable for bonus								
	Additio	onal Info	ormation		ses available for sti IS,HCI,GE	udents of the Master's	s programme Informatik	(Computer Science, 12	o ECTS credits):			
10-MCS=H-	Introd	uction i	nto Humai	1-Com	puter Interaction							
Cl-161-mo1	ECTS	5	Duration	า	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	25		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=ES-161-m01	Embed	ded Sys	stems									
	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	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 creditable for bonus							
				AT,SE	,ES,LR,GE	tudents of the Master's programme Informatik (Com	puter Science, 12	o ECTS credits):				
10-l=PA-161-m01	Analys	is and [	esign of l	Progra	ms			-				
	ECTS 5 Duratio			1	1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course	S		V (2) ·	(2) + Ü (2)							
		Method of assessment			If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral exami of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per date).  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,IS,ES,GE								
10-l=IR-161-m01	Informa	ation R	etrieval									
	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	rmation	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT,IS,HCI,GE								

_	3D User Interl	aces				'				
mo1	ECTS 5	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate			
	Courses		V (2) ·	+ Ü (2)		•				
	Method of ass	sessment		presentation of project results (approx. 30 minutes)						
				Language of assessment: German and/or English creditable for bonus						
	Additional Inf	ormation		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): HCI,GE.						
	Referred to in									
10-l=KT2-161-m01	Computationa			§ 22    Nr. 3 b)						
101 112 101 11101	ECTS 5	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses	2 4.46.0	V (2)	<u> </u>	method of glading hamolical grade	, moder to tot	Januaria			
	Method of ass	sessment			rox. 60 to 120 minutes).					
			If ann	ounced by the lectu	irer at the beginning of the course, the written e					
			of one	•	pprox. 20 minutes) or an oral examination in gro	oups of 2 candidate	s (approx. 15 minutes per candi-			
					: German and/or English					
			credit	able for bonus	-					
	Additional Inf		Focus	es available for stu	mputer Science, 12	o ECTS credits): AT, SE, IT, ES				
10-l=Kl1-161-m01	Artificial Intelligence 1									
	ECTS 5	Duratio		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses		V (2) ·				_			
	Method of ass	sessment		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	of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candi-						
			date).	date).						
				anguage of assessment: German and/or English reditable for bonus						
	Additional Inf	ormation			dents of the Master's programme Informatik (Co	mnutar Science 42	o ECTC crodits).			
	Additional iiii	Ulliation		,IS,HCI	dents of the master's programme informatik (CC	imputer Science, 12	o EC13 credits):			
10-l=Kl2-161-m01	Artificial Intel	ligence 2								
	ECTS 5	Duratio		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses		V (2) ·			,				
	Method of ass	sessment			rox. 60 to 120 minutes).					
			of one	ounced by the lectle e candidate each (a	rer at the beginning of the course, the written e	xamination may be ouns of 2 candidate	replaced by an oral examination s (approx. 15 minutes per candi-			
			date).	f one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candiate).						
				Language of assessment: German and/or English creditable for bonus						
	Additional Inf	ormation		es available for stu ,IS,HCI,GE	dents of the Master's programme Informatik (Co	omputer Science, 12	o ECTS credits):			

10-l=LVS-161-m01	Perforn	nance E	valuation	of Dis	tributed Systems						
	ECTS	8	Duration	n	1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	S		V (4)	+ Ü (2)						
	Method	d of ass	essment	If anr of on date) Lang	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	Focus AT,IT,		dents of the Master's programme Informatik (Co	mputer Science, 12	o ECTS credits):			
10-l=ML-161-m01	Mather	natical	Logic								
	ECTS 5 Duration			n	1 semester	Method of grading   numerical grade	Modul level	graduate			
	Course	S		V (2)	+ Ü (2)						
	Method of assessment			If anr of on date) Langu credi	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,IS,ES							
10-l=Ml-161-m01	Medica	l Inforr	natics								
	ECTS	5	Duration	1	1 semester	Method of grading   numerical grade	Modul level	graduate			
	Course	S		V (2)	(2) + Ü (2)						
	Method	d of ass	essment	If anr of on date) Lange	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): SE,IT,IS,HCI,GE						

10-I=PEB-161-mo1	Perform	ance E	ngineerin	g & Benchmarking of C	omputer Systems	-					
	ECTS	5	Duration	1 semester	Method of grading numerical grade	Modul level	graduate				
	Courses	5		V (2) + Ü (2)	·	•					
	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: German and/or English creditable for bonus							
	Addition	nal Info		Focuses available for s SE,IT,ES,HCI,GE	students of the Master's programme Informatik (	Computer Science, 12	o ECTS credits):				
10-I=RAM-161-m01	Comput	er Arith	metic								
	ECTS	5	Duration	1 semester	Method of grading   numerical grade	Modul level	graduate				
	Courses	5		V (2) + Ü (2)							
	Method	of asse		If announced by the le of one candidate each date).	anguage of assessment: German and/or English						
	Addition	nal Info		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits):  AT,ES							
10-l=R01-152-m01	Robotic	S 1									
	ECTS	8	Duration	1 semester	Method of grading   numerical grade	Modul level	graduate				
	Courses	5		V (4) + Ü (2)							
	Method	of asse	essment	written examination (a creditable for bonus	pprox. 60 to 90 minutes)						
	Addition	nal Info	rmation	Focuses available for s IS,ES,LR,HCI	students of the Master's programme Informatik (	Computer Science, 12	o ECTS credits):				
	Referred	d to in L	PO I	§ 22 II Nr. 3 b)							
10-l=RO2-152-m01	Robotic	S 2									
	ECTS	8	Duration	1 semester	Method of grading numerical grade	Modul level	graduate				
	Courses	;		V (4) + Ü (2)		,					
	Method of assessment			written examination (a creditable for bonus	written examination (approx. 60 to 90 minutes) creditable for bonus						
	Addition	nal Info	rmation	Focuses available for s	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): IT, ES, LR						
	Referred	d to in L	PO I	§ 22 II Nr. 3 b)							

10-l=ST-161-m01	Discrete	Event	Simulatio	on			Discrete Event Simulation										
	ECTS	8	Duration	ı	1 semester	Method of grading numerical grade	Modul level	graduate									
	Courses		•	V (4)	+ Ü (2)		•										
	Method	of ass	essment	written examination (approx. 60 to 120 minutes).													
				If ann	If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination												
				date)	of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).												
				Langu	Language of assessment: German and/or English												
	A 1 1:1:	11.6			able for bonus			ECTC III )									
	Addition	iai info	rmation	IT,IS,I		dents of the Master's programme Informatik (Comp	outer Science, 12	o ECIS credits):									
10-HCI=RIS-161-	Real-Tin	ne Inte	ractive Sy	/stems													
mo1	ECTS	5	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate									
	Courses			V (2)	+ Ü (2)												
	Method	of asso	essment	writte	n examination (app	rox. 60 to 120 minutes).											
				If ann	ounced by the lectu	rer at the beginning of the course, the written exar oprox. 20 minutes) or an oral examination in group	nination may be	replaced by an oral examination									
				date)		pprox. 20 minutes) of an oral examination in group	os or 2 carididate.	s (approx. 15 illiliates per callul-									
					anguage of assessment: German and/or English												
				credit	able for bonus												
10-I=SAR-161-m01			1		1												
	ECTS 5 Duratio				1 semester	Method of grading   numerical grade	Modul level	graduate									
	Courses				+ Ü (2)												
	Method	of asso	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													
	Addition	nal Info	rmation	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IT,ES													
	Referred	l to in L	PO I	§ 22 II Nr. 3 b)													
10-HCI=M-	Machine	e Learn	ing (for U	ser In	erfaces)												
LUI-161-m01	ECTS	5	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate									
	Courses			V (2)	+ Ü (2)												
	Method	of ass	essment			sults (approx. 40 minutes)											
				Language of assessment: German and/or English creditable for bonus													
	Addition	nal Info	rmation	Focus	ocuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): HCI,GE.												
	Referred	l to in L	PO I	§ 22 II Nr. 3 b)													

10-l=VG-161-m01	Visuali	zation (	of Graphs								
	ECTS	5	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	S		V (2)	+ Ü (2)		•				
	Method of assessment			If ann of one date) Langu	vritten 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						
				AT,IT,	HCI,GE	tudents of the Master's programme Informatik	(Computer Science, 120	o ECTS credits):			
	Referre				l Nr. 3 b)						
10-I=AKA-161-m01		ed Topic	s in Algo	ithms							
	ECTS	5	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate			
L	Course	S		V (2)	+ Ü (2)						
	Method of assessment			If ann of one date) Langu	f announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examir of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per c						
	Additional Information			Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT							
10-l=AKT-161-m01	Selecte	ed Topio	s in Theo	ry	·		,				
	ECTS	5	Duration	1	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).  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						
	Additio	nal Info	rmation	Focus AT	Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits):						

Application Subject	t Physik										
11-BSV-161-m01	Image and	Signal Proce	ssing	in Physics							
	ECTS 6	Duratio	า	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			+ Ü (2) ıle taught in: Germa	n or English						
	Method of	assessment	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes).  If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.  Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
11-QUI-161-m01	Quantum Information Technology										
	ECTS 6	Duratio	1	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses		V (3) + R (1) Module taught in: German or English								
	Method of	assessment	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester								

11-PMM-161-m01	Physics of Advanced Materials												
	ECTS 6	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate						
	Courses	·	V (3) +										
				Module taught in: German or English									
	Method o	of assessment		a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or									
			d) pro	d) project report (approx. 8 to 10 pages) or									
			e) pre	sentation/talk (app	orox. 30 minutes).								
					was chosen as method of assessment, this may be ion of one candidate each or an oral examination in								
					students about this by four weeks prior to the origin								
					t: German and/or English								
		,	Asses	sment offered: In t	he semester in which the course is offered and in th	ie subsequent se	emester						
11-SPI-161-m01	Spintroni					1							
	ECTS 6	Duratio		1 semester	Method of grading numerical grade	Modul level	graduate						
	Courses		Modu	(3) + R (1)  Module taught in: German or English									
	Method o	of assessment		a) written examination (approx. 90 to 120 minutes) or									
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or									
				d) project report (approx. 8 to 10 pages) or									
			e) pre	e) presentation/talk (approx. 30 minutes).									
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed,									
				chin of an oral examination of one candidate each of an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.  Language of assessment: German and/or English  Assessment offered: In the semester in which the course is offered and in the subsequent semester									
			Langu										
		1	Asses										
11-FK2-161-m01		te Physics 2											
	ECTS 8	Duratio		1 semester	Method of grading   numerical grade	Modul level	graduate						
	Courses		V (4) + R (2)										
	Mathaala		Module taught in: German or English  a) written examination (approx. 90 to 120 minutes) or										
	Method d	or assessment	h) ora	tten examination (a Lexamination of or	ne candidate each (approx. 30 minutes) or								
			c) oral	l examination in gr	oups (groups of 2, approx. 30 minutes per candidat	e) or							
				ject report (approx									
				sentation/talk (app	orox. 30 minutes). was chosen as method of assessment, this may be	changed and acc	sossment may instead take the						
					ion of one candidate each or an oral examination in								
			the le	cturer must inform	students about this by four weeks prior to the origin								
					t: German and/or English	o guboosuses -	am actor						
			Asses	Silient offerea: In t	he semester in which the course is offered and in th	<u> subsequent se</u>	emester						

11-FKS-161-m01	Solid Sta	ate Spect	trocopy	•							
	ECTS	6 C	Ouration	)	1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses				+ R (1)						
				Module taught in: German or English							
	Method	of assess		a) wri	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or						
				d) pro							
				e) pre	esentation/talk (a	pprox. 30 minutes)	h - ah				
						n was chosen as method of assessment, this may ation of one candidate each or an oral examinatio					
						n students about this by four weeks prior to the o					
						nt: German and/or English					
				Asses	ssment offered: In	the semester in which the course is offered and i	n the subsequent se	emester			
11-MAG-161-m01	Magneti						1				
			Ouration		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses				/ (3) + R (1) Module taught in: German or English						
	Method	of assess		a) written examination (approx. 90 to 120 minutes) or							
					o) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or						
					d) project report (approx. 8 to 10 pages) or						
				e) pre	e) presentation/talk (approx. 30 minutes).  If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.						
					anguage of assessment: German and/or English						
				Asses	Assessment offered: In the semester in which the course is offered and in the subsequent semester						
11-HLPH-161-m01	Semicon	nductor P	hysics				'				
	ECTS	6 [	Ouration	)	1 semester	Method of grading numerical grade	Modul level	graduate			
	Courses				+ R (1)						
				Module taught in: German or English							
	Method	of assess				(approx. 90 to 120 minutes) or one candidate each (approx. 30 minutes) or					
						groups (groups of 2, approx. 30 minutes) of	date) or				
				d) pro	oject report (appro	ox. 8 to 10 pages) or	2010) 0.				
					e) presentation/talk (approx. 30 minutes).						
						n was chosen as method of assessment, this may ation of one candidate each or an oral examinatio					
						n students about this by four weeks prior to the o					
				Langu	uage of assessme	nt: German and/or English					
				Asses	sment offered: In	the semester in which the course is offered and i	n the subsequent se	emester			

11-HNS-161-m01	Optical	Optical Properties of Semiconductor Nanostructures												
	ECTS	6	Duration	1 semester	Method of grading numerical grade	Modul level	graduate							
	Courses			V (3) + R (1)		,								
				Module taught in: German or English										
	Method	of asse		) written examination (approx. 90 to 120 minutes) or ) oral examination of one candidate each (approx. 30 minutes) or ) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or										
				project report (approx. 8 to 10 pages) or										
				e) presentation/talk (a	presentation/talk (approx. 30 minutes). a written examination was chosen as method of assessment, this may be changed and assessment may instead take the									
					nation of one candidate each or an oral examinati									
				the lecturer must info	rm students about this by four weeks prior to the									
					ent: German and/or English n the semester in which the course is offered and	Lin the subsequent s	omastar							
11-QTH-161-m01	Quantur	n Trans		Assessment onereu: 1	il the selliester in which the course is offered and	i iii tiie subsequeiit se	eniestei							
		6	Duration	1 semester	Method of grading   numerical grade	Modul level	graduate							
	Courses		J	V (3) + R (1)	method of glading humened glade	Modulitevel	Sidduce							
					V (3) + R (1)  Module taught in: German or English									
	Method	of asse		a) written examination (approx. 90 to 120 minutes) or										
				b) oral examination of	oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or									
				d) project report (approx. 8 to 10 pages) or										
				e) presentation/talk (a	e) presentation/talk (approx. 30 minutes).									
				f a written examination was chosen as method of assessment, this may be changed and assessment may instead take the orm of an oral examination in groups. If the method of assessment is changed,										
				he lecturer must inform students about this by four weeks prior to the original examination date at the latest. anguage of assessment: German and/or English										
				Assessment offered: In the semester in which the course is offered and in the subsequent semester										
11-ASM-161-mo1				al Astronomy										
	ECTS	6	Duration		Method of grading numerical grade	Modul level	graduate							
	Courses			V (3) + R (1)										
	Mathad	of occo		Module taught in: German or English  a) written examination (approx. 90 to 120 minutes) or										
	Method	oi asse			f one candidate each (approx. 30 minutes) or									
				c) oral examination in	groups (groups of 2, approx. 30 minutes per cand	didate) or								
				d) project report (appr										
				e) presentation/talk (a	approx. 30 minutes). on was chosen as method of assessment, this ma	y he changed and as	sessment may instead take the							
					nation of one candidate each or an oral examinati									
					rm students about this by four weeks prior to the	original examination	date at the latest.							
					Inguage of assessment: German and/or English SSESSMENT Offered: In the semester in which the course is offered and in the subsequent semester									
				Assessment unerea: 1	in the semester in which the course is offered and	i iii tiie subsequelit st	emester							

11-TPE-161-m01	Experimenta	Experimental Particle Physics												
	ECTS 6	Duratio	n 1	semester	Method of grading numerical grade	Modul level	graduate							
	Courses		V (3) + R											
				Module taught in: German or English										
	Method of as	ssessment	a) writte	a) written examination (approx. 90 to 120 minutes) or										
				o) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes).										
			d) projed											
			e) prese											
					n was chosen as method of assessment, this may be ation of one candidate each or an oral examination									
					n students about this by four weeks prior to the original to t									
			Languag	ge of assessme	nt: German and/or English									
				nent offered: In	the semester in which the course is offered and in	the subsequent se	emester							
11-ASP-161-m01	Introduction													
	ECTS 6	Duratio		semester	Method of grading numerical grade	Modul level	graduate							
	Courses		V (3) + R Module	(1) taught in: Germ	nan or English									
	Method of as	ssessment	a) writte	a) written examination (approx. 90 to 120 minutes) or										
			b) oral e	b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or										
			d) projec	d) project report (approx. 8 to 10 pages) or										
			e) prese	e) presentation/talk (approx. 30 minutes).										
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.										
				Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester										
			Assessm											
11-MAS-161-mo1	Multi-wavele	ength Astro	nomy			1								
	ECTS 6	Duratio	n 1	semester	Method of grading numerical grade	Modul level	graduate							
	Courses		V (3) + R											
			Module taught in: German or English											
	Method of as	ssessment			(approx. 90 to 120 minutes) or one candidate each (approx. 30 minutes) or									
					groups (groups of 2, approx. 30 minutes) of	ate) or								
			d) projec	ct report (appro	x. 8 to 10 pages) or	200, 0.								
					oprox. 30 minutes).									
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed										
					n students about this by four weeks prior to the orig									
			Languag	ge of assessme	nt: German and/or English									
			Assessm	nent offered: In	the semester in which the course is offered and in	the subsequent s	emester							

11-QM2-161-m01	Quantu	Quantum Mechanics II												
	ECTS	8	Duration	ı	1 semester	Method of grading numerical grade	Modul level	undergraduate						
	Courses	S	,		+ R (2)		,							
	20.01				Module taught in: German or English									
	Method	l of ass	essment	a) wr	a) written examination (approx. 90 to 120 minutes) or o) oral examination of one candidate each (approx. 30 minutes) or									
				c) ora	ıl examination in g	roups (groups of 2, approx. 30 minutes per candi	date) or							
					) project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes).									
				e) pre	esentation/taik (a) ritten examinatior	oprox. 30 minutes). I was chosen as method of assessment, this may	he changed and ass	sessment may instead take the						
				form	of an oral examina	ation of one candidate each or an oral examinatio	n in groups. If the m	ethod of assessment is changed,						
						n students about this by four weeks prior to the o	riginal examination	date at the latest.						
						nt: German and/or English the semester in which the course is offered and i	n the subsequent se	emester						
11-RTT-161-m01	Theory	of Rela	tivity	7.000			······································							
		6	Duration	ı	1 semester	Method of grading   numerical grade	Modul level	graduate						
	Courses	S	•		(3) + R (1) lodule taught in: German or English									
	Method of assessment			b) ora c) ora d) pro e) pro If a w	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester									
				Langi										
11-QVTP-161-m01	Many B	ody Qu	ıantum Th		- dicied: iii	the semester in which the course is offered and i	The Subsequent so	- Intester						
	ECTS	8	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate						
	Courses	S	,	V (4) + R (2) Module taught in: German or English										
	Method	l of ass	essment	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester										

11-PKS-161-m01	Physics of Complex Systems											
	ECTS	6	Duration	)	1 semester	Method of grading numerical grade	Modul level	graduate				
	Course	S		V (2) + R (2) Module taught in: German or English								
	Method	d of asse		a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
11-QIC-161-m01	Quantum Information and Quantum Computing											
	ECTS	6	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course	Courses			V (3) + R (1) Module taught in: German or English							
	Method of assessment  Modules successfully			a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester								
	comple			211								

11-TFK-161-m01	Theoretical Solid State Physics											
	ECTS	8	Duration	)	1 semester	Method of grading numerical grade	Modul level	graduate				
	Course	S		V (4) +								
					e taught in: Germa							
	Method	d of asso				approx. 90 to 120 minutes) or ne candidate each (approx. 30 minutes) or						
						oups (groups of 2, approx. 30 minutes) of	e) or					
				d) proj	ect report (approx	. 8 to 10 pages) or	-,					
						prox. 30 minutes).						
						was chosen as method of assessment, this may be considered in the contraction in the contraction in						
						students about this by four weeks prior to the origin						
						t: German and/or English						
						he semester in which the course is offered and in th	e subsequent se	emester				
11-TFK2-161-m01			lid State F	<u> </u>								
		8	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course			Module	V (4) + R (2) Module taught in: German or English							
	Method	d of asso		a) written examination (approx. 90 to 120 minutes) or								
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or								
				d) project report (approx. 8 to 10 pages) or								
				e) presentation/talk (approx. 30 minutes).								
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the								
				form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English								
				Assessment offered: In the semester in which the course is offered and in the subsequent semester								
11-FTFK-161-m01		heory in	Solid Sta	<u>-</u> _	sics							
	ECTS	8	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course	S		V (4) +		- II.						
		1 6		Module taught in: German or English								
	Method	d of asso	essment	a) writt	ten examination (a	approx. 90 to 120 minutes) or ne candidate each (approx. 30 minutes) or						
				c) oral	examination in gr	oups (groups of 2, approx. 30 minutes) of	e) or					
				d) proj	ect report (approx	. 8 to 10 pages) or						
						prox. 30 minutes).						
					If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed,							
						students about this by four weeks prior to the origin						
				Langua	age of assessmen	t: German and/or English						
				Assess	sment offered: In t	he semester in which the course is offered and in the	e subsequent se	emester				

11-TOPO-161-mo1	Topolo	gical O	rder				,					
	ECTS	6	Duration	ı	1 semester	Method of grading numerical grade	Modul level	graduate				
	Course	:S	·	V (3) + R (1) Module taught in: German or English								
	20 11	1 (										
	Method	d or ass	essment	b) ora c) ora d) pro e) pro If a w form	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed,							
				Langu	he lecturer must inform students about this by four weeks prior to the original examination date at the latest.  Language of assessment: German and/or English  Language of States and Stat							
11-TFP-161-m01	Topolo	gy in S	olid State	Physic	CS .		,					
	ECTS	6	Duration	ı	1 semester	Method of grading numerical grade	Modul level	graduate				
	Course	·S			/ (3) + R (1)  Module taught in: German or English							
	Method	d of ass	essment	b) ora c) ora d) pro e) pro If a w form the le Langu	al examination of only examination in going the second of	(approx. 90 to 120 minutes) or one candidate each (approx. 30 minutes) or groups (groups of 2, approx. 30 minutes per candid ix. 8 to 10 pages) or oprox. 30 minutes).  In was chosen as method of assessment, this may lation of one candidate each or an oral examination in students about this by four weeks prior to the orant: German and/or English the semester in which the course is offered and in	be changed and as n in groups. If the m iginal examination	ethod of assessment is changed, date at the latest.				
11-TSL-161-m01			erconduct									
	ECTS	6	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate				
	Course	Courses			V (3) + R (1) Module taught in: German or English							
	Metho	d of ass	essment	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester								

11-CMS-161-mo1	Comput	Computational Materials Science (DFT)												
	ECTS	8	Duration		1 semester	Method of grading numerical grade	Modul level	graduate						
	Courses	5			V (4) + R (2)									
			-	Module taught in: German or English										
	Method	of ass	essment	a) writt	ten examination	(approx. 90 to 120 minutes) or one candidate each (approx. 30 minutes) or								
							date) or							
				d) proj	c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or									
				e) pres	entation/talk (ap	oprox. 30 minutes).								
						n was chosen as method of assessment, this may bation of one candidate each or an oral examination								
						n students about this by four weeks prior to the or								
						nt: German and/or English								
				Assess	sment offered: In	the semester in which the course is offered and in	the subsequent se	emester						
11-KFT-161-m01			d Theory											
		6	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate						
	Courses			Modul	V (3) + R (1) Module taught in: German or English									
	Method	of ass	essment	a) written examination (approx. 90 to 120 minutes) or										
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or										
				d) project report (approx. 8 to 10 pages) or										
				e) presentation/talk (approx. 30 minutes).										
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.										
				Language of assessment: German and/or English										
				Assessment offered: In the semester in which the course is offered and in the subsequent semester										
11-KFT2-161-m01			d Theory 2											
	ECTS	6	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate						
	Courses	5		V (3) + R (1)										
į	AA - 411			Module taught in: German or English										
	Method	Method of assessment				(approx. 90 to 120 minutes) or one candidate each (approx. 30 minutes) or								
						groups (groups of 2, approx. 30 minutes per candid	date) or							
				d) project report (approx. 8 to 10 pages) or										
				e) presentation/talk (approx. 30 minutes).  If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the										
						ation of one candidate each or an oral examination								
						n students about this by four weeks prior to the ori								
				Langua	age of assessme	nt: German and/or English								
				Assess	sment offered: In	the semester in which the course is offered and in	the subsequent se	emester						

11-MSF-161-m01	Magnetism and Spin Fluids											
	ECTS 6	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate					
	Courses			V (3) + R (1)								
				le taught in: Germ								
	Method of	assessment			approx. 90 to 120 minutes) or							
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or								
			d) pro	ject report (approx	k. 8 to 10 pages) or	,						
			e) pre	sentation/talk (ap	prox. 30 minutes). was chosen as method of assessment, this may be	schanged and ac	coccment may instead take the					
					tion of one candidate each or an oral examination i							
			the le	cturer must inform	students about this by four weeks prior to the orig							
					t: German and/or English		_					
TOD		10 1 0			the semester in which the course is offered and in t	he subsequent so	emester					
11-TQP-161-m01		al Quantum P		1								
	ECTS 6	Duratio		1 semester	Method of grading   numerical grade	Modul level	graduate					
	Courses		Modu	V (3) + R (1) Module taught in: German or English								
	Method of	assessment		a) written examination (approx. 90 to 120 minutes) or								
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or								
			d) project report (approx. 8 to 10 pages) or									
			e) presentation/talk (approx. 30 minutes).									
			If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the									
				form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed the lecturer must inform students about this by four weeks prior to the original examination date at the latest.								
				Language of assessment: German and/or English								
			Asses	Assessment offered: In the semester in which the course is offered and in the subsequent semester								
11-CRP-161-m01	Renormaliz	zation Group	and Cr	itical Phenomena								
	ECTS 6	Duratio		1 semester	Method of grading   numerical grade	Modul level	graduate					
	Courses		V (3) -		- W.							
	11 L C		Module taught in: German or English									
	Method of	assessment	a) wri	tten examination (	approx. 90 to 120 minutes) or ne candidate each (approx. 30 minutes) or							
			c) ora	l examination in gr	oups (groups of 2, approx. 30 minutes) of	te) or						
			d) pro	d) project report (approx. 8 to 10 pages) or								
				e) presentation/talk (approx. 30 minutes).								
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed,								
					students about this by four weeks prior to the orig							
			Langu	lage of assessmen	t: German and/or English							
			Asses	sment offered: In t	the semester in which the course is offered and in t	he subsequent se	emester					

11-BWW-161-mo1	Bosonisation and Interactions in One Dimension												
	ECTS	6	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate					
	Courses				V (3) + R (1)								
				Module taught in: German or English									
	Method	of ass	essment	a) wri	tten examination (a	approx. 90 to 120 minutes) or ne candidate each (approx. 30 minutes) or							
						oups (groups of 2, approx. 30 minutes) or	late) or						
				d) pro	ject report (approx	. 8 to 10 pages) or							
				e) pre	sentation/talk (app	orox. 30 minutes).							
						was chosen as method of assessment, this may be ion of one candidate each or an oral examination							
						students about this by four weeks prior to the ori							
						: German and/or English							
FIT. (	-			Asses	ssment offered: In t	he semester in which the course is offered and in	the subsequent se	emester					
11-EIT-161-m01	Gauge T					Tak it I c it I c it I		·					
	ECTS		Duration		1 semester	Method of grading   numerical grade	Modul level	graduate					
	Courses				V (3) + R (1) Module taught in: German or English								
	Method	of ass	essment	a) written examination (approx. 90 to 120 minutes) or									
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or									
				d) project report (approx. 8 to 10 pages) or									
				e) presentation/talk (approx. 30 minutes).									
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed,									
				the lecturer must inform students about this by four weeks prior to the original examination date at the latest.									
				Language of assessment: German and/or English									
				Assessment offered: In the semester in which the course is offered and in the subsequent semester									
11-GGD-161-mo1			Gauge/G		Duality								
		8	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate					
	Courses			V (4) + R (2) Module taught in: German or English									
	Method	of ass	essment			approx. 90 to 120 minutes) or							
						ne candidate each (approx. 30 minutes) or	late) or						
				c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or									
				e) pre	sentation/talk (app	prox. 30 minutes).							
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed,									
						students about this by four weeks prior to the ori							
				Langu	uage of assessment	:: German and/or English							
				Asses	sment offered: In t	he semester in which the course is offered and in	the subsequent se	emester					

11-EFQ-161-m01	Introdu	Introduction to Fractional Quantisation												
	ECTS	6	Duration	1 semester	Method of grading numerical grade	Modul level	graduate							
	Course	S		V (3) + R (1)										
			-	Module taught in: Ger										
	Method	d of ass	essment	a) written examination of	n (approx. 90 to 120 minutes) or									
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or										
				d) project report (appr	rox. 8 to 10 pages) or	,								
				e) presentation/talk (	approx. 30 minutes). on was chosen as method of assessment, this may	he changed and acc	sassment may instead take the							
					nation of one candidate each or an oral examination									
				the lecturer must info	rm students about this by four weeks prior to the o									
					ent: German and/or English	in the subsequent so	master							
11-TEF-161-m01	Topolo	Assessment offered: In the semester in which the course is offered and in the subsequent semester  Topological Effects in Electronic Systems												
11-161-101-11101		6	Duration		Method of grading   numerical grade	Modul level	graduate							
	Course		J	V (3) + R (1)	Method of grading Indinencal grade	Modulitevel	graduate							
	Course	3		Module taught in: Ger	man or English									
	Method	d of ass		a) written examination (approx. 90 to 120 minutes) or										
				b) oral examination of one candidate each (approx. 30 minutes) or										
				c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or										
				e) presentation/talk (approx. 30 minutes).										
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the										
				form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.  Language of assessment: German and/or English										
				Assessment offered: In the semester in which the course is offered and in the subsequent semester										
11-FTAS-161-m01				s of Solid State Physic	<del>.</del>									
	ECTS	6	Duration		Method of grading   numerical grade	Modul level	graduate							
	Course	S		V(3) + R(1)										
	NA - 41			Module taught in: German or English  a) written examination (approx. 90 to 120 minutes) or										
	Method	or ass			n (approx. 90 to 120 minutes) or fone candidate each (approx. 30 minutes) or									
					groups (groups of 2, approx. 30 minutes per cand	idate) or								
				d) project report (appr										
				e) presentation/talk (	approx. 30 minutes). On was chosen as method of assessment, this may	ho changed and acc	sossment may instead take the							
				form of an oral examin	nation of one candidate each or an oral examination	on in groups. If the m	nethod of assessment is changed.							
				the lecturer must info	rm students about this by four weeks prior to the o									
					ent: German and/or English	:								
				Assessment offered: I	n the semester in which the course is offered and i	in the subsequent se	emester							

11-AKM-161-mo1	Cosmolo	ogy	1		,		<u>'</u>				
	ECTS	6	Duration	)	1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses			V (3) + R (1)							
				Module taught in: German or English							
	Method	of asses	ssment	a) wri	tten examination	(approx. 90 to 120 minutes) or					
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or							
				d) pro	ject report (appro	x. 8 to 10 pages) or					
				e) pre	esentation/talk (a	oprox. 30 minutes).	he changed and ac	sassment may instead take the			
						n was chosen as method of assessment, this may ation of one candidate each or an oral examinatio					
				the le	cturer must inforr	n students about this by four weeks prior to the o					
						nt: German and/or English					
ACT	Th 4	1 A -4			ssment offered: In	the semester in which the course is offered and i	in the subsequent se	emester			
11-AST-161-m01	Theoreti		<u> </u>		1	Mathadafawadina luuwawiaalawada	Madulland	Lawa du ata			
			Duration		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses				V (2) + R (2) Module taught in: German or English						
	Method of assessment			a) written examination (approx. 90 to 120 minutes) or							
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or							
				d) project report (approx. 8 to 10 pages) or							
				e) presentation/talk (approx. 30 minutes).							
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.							
				Langu	Language of assessment: German and/or English						
				Assessment offered: In the semester in which the course is offered and in the subsequent semester							
11-APL-161-m01	High Ene										
	ECTS	6	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses			V (3) + R (1)							
	24 (1 1			Module taught in: German or English							
	Method	of asses				(approx. 90 to 120 minutes) or one candidate each (approx. 30 minutes) or					
						groups (groups of 2, approx. 30 minutes) of	idate) or				
				d) pro	ject report (appro	x. 8 to 10 pages) or	,				
					e) presentation/talk (approx. 30 minutes).  If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the						
						ation of one candidate each or an oral examinatio					
						n students about this by four weeks prior to the o					
						nt: German and/or English					
				Asses	sment offered: In	the semester in which the course is offered and i	n the subsequent se	emester			

11-RQFT-161-mo1	Relativi	stic Qua	antum Fie	ld Theory			,					
	ECTS	8	Duration	1 se	mester	Method of grading numerical grade	Modul level	graduate				
	Courses	5		V (4) + R (2) Module taught in Corman or English								
	00 a 4 la a al	l - 6		Module taught in: German or English								
	Method	i or asse		a) written e	examination mination of (	(approx. 90 to 120 minutes) or one candidate each (approx. 30 minutes) or						
				c) oral exam	mination in g	groups (groups of 2, approx. 30 minutes per ca	andidate) or					
				d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes).								
				If a written	examination	pprox. 30 minutes). I was chosen as method of assessment, this n	nav be changed and ass	sessment may instead take the				
				form of an	oral examina	ation of one candidate each or an oral examina	ation in groups. If the m	ethod of assessment is changed,				
						n students about this by four weeks prior to th nt: German and/or English	e original examination	date at the latest.				
						the semester in which the course is offered ar	nd in the subsequent se	emester				
11-QFT2-161-m01	Quantu	m Field	Theory II									
	ECTS	8	Duration	1 se	mester	Method of grading numerical grade	Modul level	graduate				
	Courses	5		V (4) + R (2 Module tau								
	Method	l of asse		a) written examination (approx. 90 to 120 minutes) or								
				b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or								
				d) project report (approx. 8 to 10 pages) or								
				e) presentation/talk (approx. 30 minutes).								
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed,								
				the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English								
				Assessment offered: In the semester in which the course is offered and in the subsequent semester								
11-TEP-161-m01				Particle Phy		Made de Complination de Compli	AA = d	Lauradorata				
		8	Duration		mester	Method of grading   numerical grade	Modul level	graduate				
	Courses			V (4) + R (2) Module taught in: German or English								
	Method	l of asse				(approx. 90 to 120 minutes) or						
						one candidate each (approx. 30 minutes) or groups (groups of 2, approx. 30 minutes per ca	andidate) or					
				d) project r	eport (appro	ox. 8 to 10 pages) or	maraute) or					
				e) presentation/talk (approx. 30 minutes).  If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the								
						n was chosen as method of assessment, this nation of one candidate each or an oral examina						
						n students about this by four weeks prior to th						
				Language of	of assessme	nt: German and/or English	•					
				Assessmer	it offered: In	the semester in which the course is offered ar	na in the subsequent se	emester				

11-ATTP-161-m01	Selecte	d Topic	cs of Theo	retical	Elementary Partic	le Physics	,				
	ECTS	6	Duration	า	1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	S			V (3) + R (1)						
				Module taught in: German or English							
	Method	d of ass	essment	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or							
					oject report (approx esentation/talk (ap	k. 8 to 10 pages) or prox. 30 minutes).					
				If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
11-BSM-161-mo1			d the Sta	ndard	Model of Elementa	ry Particle Physics	,				
	ECTS	6	Duration		1 semester	Method of grading   numerical grade	Modul level	graduate			
	Courses			Modu	V (3) + R (1) Module taught in: German or English						
	Method	d of ass	essment	b) ora c) ora d) pro e) pre If a w form the le Langu							
Thesis (30 ECTS cre	edits)										
10-M=MACM-161-	Master	Thesis	Computa	tional	Mathematics						
mo1	ECTS	30	Duration	1	1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	S		No co	urses assigned to	module		==			
	Method of assessment			Master's thesis (750 to 900 hours total) Registration and assignment of topic in consultation with supervisor. Language of assessment: German or English							
	other prerequisites				upervisor may mak the assignment of	te the successful completion of certain mode the topic.	dules that are relevant fo	r the respective topic a prerequisi-			
	Additio	nal Info	ormation	Time	to complete: 6 mor	nths					