

Responsible: Faculty of Physics and Astronomy



Annex SFB

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

Responsible. Faculty	
Abbreviations used:	Course types: E = field trip, K = colloquium, O = conversatorium, P = placement/lab course, R = project, S = seminar, T = tutorial, Ü = exercise, V = lecture
	Term: SS = summer semester, WS = winter semester
	Methods of grading: NUM = numerical grade, B/NB = (not) successfully completed
	Regulations: (L)ASPO = general academic and examination regulations (for teaching-degree programmes), FSB = subject-specific provisions, SFB = list of modules
	Other: A = thesis, LV = course(s), PL = assessment(s), TN = participants, VL = prerequisite(s)
Conventions for the modules in this SFB:	Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not cre- ditable for bonus.
Information on assessment procedures:	Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the me- 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.

Examination regulations version: 2020

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

ASPO2015

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

14-Nov-2019 (2019-57) 09-Jun-2021 (2021-64) 22-Dec-2021 (2021-88) 06-Sep-2022 (2022-54) 12-Jun-2024 (2024-76) 14-Nov-2024 (2024-96)

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	C	Duration	(in semesters)	Method of grading		Module level					
	Courses	<u>_</u>	To be spe	o 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	nt									
	Only after su completion c		if applica	if applicable								
	Other prereq	uisites	if applica	if applicable								
	Participants on of places		cati- if applica	if applicable								
	Additional in	formatic	on if applica	if applicable								
	Referred to in	n LPO I	if applica	ble (examination reg	gulations for teachin	g-degree programmes)						

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Compulsory Electiv Subfield Physics (#	-		-								
Advanced Laborato				-)							
11-P-FM1-161-m01	· ·			-	Master Part 1						
	ECTS	3	Duratio		1 semester	Method of grading	(not) successfully completed	Modul level	graduate		
	Course	es		P (3)							
			-11	Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two ex periments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English							
		orerequi		Preparation and safety briefing. ourse Master Part 2							
11-P-FM2-161-m01	ECTS	1	Duration		1 semester	Mothod of grading	(not) successfully completes	Modul level	graduate		
	ECTS 3 Duratio			г Р (3)							
		-	essment	practical examination Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two ex- periments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective							

				Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two ex- periments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English							
	other prerequisites				ration and safety bri	iefing.					
11-P-FM3-161-m01	Advan	ced Labo	oratory Co	ourse N	urse Master Part 3						
	ECTS	3	Duratio	n	1 semester	Method of grading	(not) successfully completed	Modul level	graduate		
	Course	es	_	P (3)							
	Metho	d of asse	essment	practical examination Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two ex- periments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English							
	other p	rerequis	sites	Preparation and safety briefing.							

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11-P-FM4-161-m01	Advance	ed Lab	oratory Co	ourse N	Aaster Part 4							
	ECTS	3	Duration	n	1 semester	Method of grading	(not) successfully complete	ed Modul level	graduate			
	Courses	5		P (3)								
	Method	l of ass	essment	Stude an ex perim modu	practical examination Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two ex- periments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English							
	other pr	rerequi	sites	Prepa	ration and safety br	riefing.						
Advanced Seminar	(5 ECTS of	credits)									
11-OSP-A-161-m01	Advance	ed Sen	ninar Phys	sics A								
	ECTS	5	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses	5		S (2) Modu	le taught in: Germa	n or English						
	Method	l of ass	essment	talk with discussion (30 to 45 minutes) Language of assessment: German and/or English								
	other pr		sites ormation	Admis	ssion prerequisite to	o assessment: regula	r attendance (minimum 85%	of sessions).				
				Registration: If a student registers for the seminar and obtains the qualification for admission to assessment, this will be con- sidered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qua- lification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an as- sessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.								
11-OSP-B-161-m01	Advanced Seminar Physics B											
	ECTS	5	Duration	1 semester Method of grading numerical grade Modul level graduate								
	Courses	5		S (2) Modu	S (2) Module taught in: German or English							
	Method	l of ass	essment	talk with discussion (30 to 45 minutes) Language of assessment: German and/or English								
	other pr	rerequi	sites	Admission prerequisite to assessment: regular attendance (minimum 85% of sessions).								
			ormation	Registration: If a student registers for the seminar and obtains the qualification for admission to assessment, this will be con- sidered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qua- lification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an as- sessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.								
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Experimental Phy	-		-										
11-BSV-161-m01	Image	and Sig	nal Proce	ssing in Physics									
	ECTS	6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	s			V (2) + Ü (2)								
				ļ	le taught in: Gern								
	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 									
11-0HL-161-m01	Organi	Organic Semiconductors											
	ECTS 6 Duration		n	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-PMM-161-m01	Physic	s of Adv	anced Ma	terials	5							
	ECTS	6	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S		V (3) + R (1) Module taught in: German or English								
	Methoo	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-SPI-161-m01	Spintro	onics										
	ECTS	6	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S			(3) + R (1) Nodule taught in: German or English							
	Method	1 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-BMT-161-m01		nysical Measurement Technology in Medical Science										
		6	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S		V (3) + R (1) Module taught in: German or English								
	Methoo	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 								

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11-FK2-201-m01	Solid State Physics 2												
	ECTS	8	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	:S			V (4) + R (2) 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 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 									
	other p	orerequi	sites	Appro	Approval from examination committee required.								
11-FKS-161-m01	Solid State Spectrocopy												
	ECTS	ECTS 6 Duratio			1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	Courses			V (3) + R (1) Module taught in: German or English								
	Methoo	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-MAG-161-m01	Magne	tism									
	ECTS	6	Duratior	I	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S		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-HNS-161-m01	Optica	l Prope	rties of Se	micon	ductor Nanostruc	tures					
	ECTS	6	Duratior	1	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S			/ (3) + R (1) Aodule taught in: German or English						
				 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 change 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 					ethod of assessment is changed, date at the latest.		
11-HPH-201-m01			or Physics		1						
	ECTS	6	Duratior		1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S		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 							

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11-QTR-201-m01	Quantu	ım Tran	sport					1		
	ECTS	6	Duratior	I	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S			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 					ethod of assessment is changed, date at the latest.	
11-QIC-201-m01	Advand	ed The	ory of Qua	ntum (Computing and Q	uantum Information				
	ECTS	6	Duratior	I	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		V (3) + Modu	R (1) le taught in: Germ	an or English				
	Method of assessment			b) ora c) ora d) pro e) pre If a wr form o the le Langu	l examination of o l examination in g ject report (appro sentation/talk (ap itten examination of an oral examina cturer must inform age of assessmen	ation of one candidate n students about this b nt: German and/or Eng	pprox. 30 minutes) or prox. 30 minutes per c d of assessment, this each or an oral examir by four weeks prior to t lish	may be changed and ass		
11-NOP-161-m01	Nano-C	-								
	ECTS	6	Duratior		1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course			V (3) + R (1) Module taught in: German or English						
	Methoo	d of ass		b) ora c) ora d) pro e) pre lf a wr form o the le Langu	l examination of o l examination in g ject report (appro sentation/talk (ap itten examination of an oral examina cturer must inform age of assessmel	ation of one candidate n students about this b nt: German and/or Eng	pprox. 30 minutes) or prox. 30 minutes per c d of assessment, this each or an oral examir y four weeks prior to t lish	may be changed and ass		

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11-PTS-201-m01	Phenomenology and Theory of Superconductivity											
	ECTS	6	Duratio	า	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			V (3) · Modu	+ R (1) lle taught in: Germa	n or English						
				b) ora c) ora d) pro e) pre If a w form of the le Langu Asses	Il examination of on l examination in gro oject report (approx. sentation/talk (app ritten examination w of an oral examinati cturer must inform s uage of assessment soment offered: In th	8 to 10 pages) or rox. 30 minutes). vas chosen as method on of one candidate e students about this b German and/or Engl	prox. 30 minutes) or prox. 30 minutes per ca d of assessment, this r each or an oral examin y four weeks prior to th ish	nay be changed and ass				
08-PCM4-161-m01		st spect	roscopy	and qu	antum-control							
	ECTS 5 Duratio			า	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses			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								
	other prerequisites			Prior completion of modules o8-PCM1a and o8-PCM1b recommended.								
11-CSFM-161-m01	Advanc	anced Topics in Solid State Physics										
	ECTS	6	Duration	า	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses	s		V (3) + R (1)								
	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 								
	other p	rerequis	sites	Appro	oval from examination	on committee require	d					

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11-ASM-161-m01	Method	ds of O	bservation	al Ast	ronomy				
	ECTS	6	Duration	า	1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	S			+ R (1) lle taught in: Germ	an or English			
				 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-TPE-161-m01	Experir	nental	Particle Pl	nysics					
	ECTS	6	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	S		V (3) · Modu	+ R (1) lle taught in: Germ	an 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 asses form of an oral examination of one candidate each or an oral examination in groups. If the meth the lecturer must inform students about this by four weeks prior to the original examination dat Language of assessment: German and/or English 				ethod of assessment is changed, date at the latest.	
11-ASP-161-m01			o Space Pl		1		1		
	ECTS	6	Duratior		1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	S		V (3) + R (1) Module taught in: German or English					
	Methoo	d of ass	essment	b) ora c) ora d) pro e) pre lf a wi form o the le Langu	Il examination of o l examination in g oject report (appro esentation/talk (ap ritten examination of an oral examination cturer must inform uage of assessmen	tion of one candidate n students about this b nt: German and/or Eng	pprox. 30 minutes) or prox. 30 minutes per c d of assessment, this each or an oral examin y four weeks prior to t lish	may be changed and as:	

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11-MAS-161-m01	Multi-v	vavelen	gth Astror	nomy						
	ECTS	6	Duration	ı	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		V (3) +		n or English				
	NA - 41				le taught in: Germa	-				
	Method	1 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 						
							the course is offered and	d in the subsequent se	emester	
11-CSAM-161-m01	Advanc	ed Top	ics in Astr	ophysi	ics					
	ECTS	6	Duration	ı	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		V (3) +	+ R (1)				·	
				 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 assessmen form of an oral examination of one candidate each or an oral examination in groups. If the method of the lecturer must inform students about this by four weeks prior to the original examination date at t Language of assessment: German and/or English 				ethod of assessment is changed,		
	•	orerequi				ion committee require	d			
11-MRI-171-m01			gnetic Res							
		6	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		V (3) + R (1) Module taught in: English						
	Methoo	l of ass		b) ora c) oral d) pro e) pre If a wr form o the let Langu	Il examination of on l examination in gro ject report (approx sentation/talk (app ritten examination v of an oral examinati cturer must inform uage of assessment	8 to 10 pages) or prox. 30 minutes) was chosen as method ion of one candidate e students about this b t: German and/or Engl	prox. 30 minutes) or prox. 30 minutes per car d of assessment, this ma each or an oral examinat y four weeks prior to the	hay be changed and ass ition in groups. If the me e original examination o		

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11-SSC-172-m01	Surface	e Scienc	ce							
	ECTS	6	Duratior	n	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		V (3) - Modu	+ R (1) le taught in: English	1		•		
	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-FPA-161-m01	Visiting	g Resea	ırch					· · ·		
			Duratior	n		Method of grading	numerical grade	Modul level	graduate	
	Course	Courses			R (o)					
	Method of assessment		essment	project report (10 to 20 pages) Language of assessment: German and/or English						
	other prerequisites			Approval from examination committee required.						
11-EXE5-161-m01	Curren	t Topics	s in Experi	menta	l Physics					
	ECTS	5	Duratior	n	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		V (2) + R (2)						
	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 						
	other p	orerequi	sites	Appro	oval from examination	on committee require	d			

11-EXE6-161-m01	Current To	pics in Experi	imental Physics							
	ECTS 6	Duratio	n 1 semester	Method of grading numerical grade	Modul level	graduate				
	Courses		V (3) + R (1)	· · ·	•	 -				
	Method of	assessment		1 (approx. 90 to 120 minutes) or						
				one candidate each (approx. 30 minutes) or						
			c) oral examination in d) project report (appr	groups (groups of 2, approx. 30 minutes per ca	indidate) or					
			e) presentation/talk (a							
				in was chosen as method of assessment, this m	nay be changed and as	sessment may instead take the				
			form of an oral examir	ation of one candidate each or an oral examina	ation in groups. If the m	nethod of assessment is changed,				
				m students about this by four weeks prior to the	e original examination	date at the latest.				
				ent: German and/or English						
	other prere	-		ation committee required.						
11-EXE7-161-m01			imental Physics							
	ECTS 7	Duratio		Method of grading numerical grade	Modul level	graduate				
	Courses		V (3) + R (1)							
	Method of	assessment	a) written examination	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							
	other prerequisites Approval from examination committee required. Current Topics in Experimental Physics									
11-EXE8-161-m01										
	ECTS 8	Duratio		Method of grading numerical grade	Modul level	graduate				
	Courses		V (4) + R (2)							
	Method of	assessment		a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or						
					ndidate) 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)							
				n was chosen as method of assessment, this m						
				nation of one candidate each or an oral examina						
				m students about this by four weeks prior to the ent: German and/or English	e original examination	uale al life idlest.				
	other prere	auisites		ation committee required.						
		quisites								

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11-EXE6A-161-m01	Current	t Topics	in Experi	menta	l Physics				
	ECTS 6 Duration			ı	1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	S		V (3) +	- R (1)			~	
	Methoo	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. 					
						nt: German and/or Engli		_	
	other p				val from examinat	tion committee required	•		
11-EXP6-161-m01			s in Physik			<u> </u>			
	ECTS	6	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	-		V (3) +		approx. 90 to 120 minu			
				 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 					
	other prerequisites			Approval from examination committee required.					
11-EIM-211-m01			on Micros					1	· .
	ECTS Course	6 s		I semester Method of grading numerical grade Modul level graduate V (3) + R (1) Module taught in: German or English					
	Methoo	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 					

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11-AAI-212-m01	Advan	ced Astr	ro Imaging	{						
	ECTS	6	Duratior	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	es.		V (3) + R (1) Module taught in: German or English						
				b) oral examination of c) oral examination in g d) project report (appro- e) presentation/talk (a If a written examination form of an oral examin- the lecturer must inform Language of assessme Assessment offered: In	pprox. 30 minutes). h was chosen as metho ation of one candidate e n students about this b nt: German and/or Engl	prox. 30 minutes) or prox. 30 minutes per ca d of assessment, this m each or an oral examina y four weeks prior to th ish	nay be changed and ass			
11-CTA-212-m01	Advan		nputer Ton	nography						
	ECTS	6	Duratior	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	25		V (3) + R (1) Module taught in: Gern	nan or English					
	Metho	u oi ass		a) written examination b) oral examination of c) oral examination in g d) project report (appro e) presentation/talk (a If a written examination form of an oral examin- the lecturer must inform Language of assessme Assessment offered: In						
11-SPT-211-m01			pe Technol	-		· · ·				
	ECTS 6 Duratio			I semester Method of grading numerical grade Modul level graduate V (3) + R (1) Module taught in: German or English						
	Metho	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 						

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Theory of Physics) hanics II								
	ECTS	8	Duratio	n	1 semester	Method of grading numerical grade	Modul level	undergraduate			
	Course	Courses			V (4) + R (2) Module taught in: German or English						
	Metho	d of asso	essment								
11-TQO-221-m01	Theoretical Quantum Optics										
	ECTS 8 Duratio		n	1 semester	Method of grading numerical grade	Modul level	graduate				
	Courses			V (4) + R (2) Module taught in: German or English							
	Metho	d of asso	essment	Module taught in: German or Englisha) written examination (approx. 90 to 120 minutes) orb) oral examination of one candidate each (approx. 30 minutes) orc) oral examination in groups (groups of 2, approx. 30 minutes per candidate) ord) project report (approx. 8 to 10 pages) ore) presentation/talk (approx. 30 minutes).If a written examination was chosen as method of assessment, this may be changed and assessment may instead take theform 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 EnglishAssessment offered: In the semester in which the course is offered and in the subsequent semester							

11-RTT-161-m01	Theory	of Rela	tivity						
	ECTS	6	Duratior	1 semester	Method of grading numeric	al grade	Modul level	graduate	
	Course	S		V (3) + R (1) Module taught in: German or English					
				 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-RMFT-161-m01				Methods in Field Theory					
	ECTS	8	Duratior		Method of grading numeric	al grade	Modul level	graduate	
	Course	! S		V (4) + R (2) Module taught in: Germ	an or English				
	Metho	u ui 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 inster form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment 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			nplex Sys						
	ECTS	6	Duratior		Method of grading numeric	al grade	Modul level	graduate	
	Course	es.		V (2) + R (2) 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 					

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11-QIC-201-m01	Advand	ed The	ory of Qua	ntum Computing and Q	uantum Information				
	ECTS 6 Duration			1 semester	Method of grading numerical g	rade Mo	dul level	graduate	
	Course	S		V (3) + R (1) Module taught in: Gern	nan or English				
	Metho	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-TFK-161-m01	Theore	tical So	lid State I	Physics					
	ECTS	8	Duratior	1 semester	Method of grading numerical g	rade Mo	dul level	graduate	
	Course	S		V (4) + R (2) Module taught in: Gern	nan or English				
	Metho		essment						
11-TFK2-161-m01		-	olid State I						
	ECTS	8	Duratior		Method of grading numerical g	rade Mo	dul level	graduate	
	Course	S		V (4) + R (2) 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 					

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11-TEFK-201-m01	Topological Effects in Solid State Physics											
	ECTS	8	Duration	1 semester	Method of gradi	ng numerical grade	Modul level	graduate				
	Course	S		V (4) + R (1) Module taught in: German or English								
	Methoo	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-FFK-201-m01	Field Th	neory in	Solid Sta	te Physics								
	ECTS	8	Duration	1 semester	Method of gradi	ng numerical grade	Modul level	graduate				
	Course	S		V (4) + R (2) Module taught in: G	erman or English							
	Methoo	l of asse										
11-AKTF-201-m01				retical Solid State Pl								
		6	Duration		Method of gradi	ng numerical grade	Modul level	graduate				
	Course	S		V (3) + R (1) Module taught in: German or English								
	Methoo	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 								

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11-CMS-161-m01	Compu	tational	Material	s Scier	ice (DFT)					
	ECTS 8 Duration			า	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		V (4) + Modu	- R (2) le taught in: Germ	ıan or English				
	Metho	d of asse		b) ora c) oral d) pro e) pre If a wr form c the lee Langu	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-KFT-161-m01	Confor	mal Fiel	d Theory							
	ECTS	6	Duration	า	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		V (3) + Modu	· R (1) le taught in: Germ	an 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 asses form of an oral examination of one candidate each or an oral examination in groups. If the meth the lecturer must inform students about this by four weeks prior to the original examination dat Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent seme 					ethod of assessment is changed, date at the latest.	
11-KFT2-161-m01			d Theory :				1			
		6	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	S		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 						

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11-GRTM-201-m01	Group	Theory										
	ECTS	6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	!S			V (3) + R (1) Module taught in: German or English							
	Methoo	d of asse	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 								
	other p	orerequis	sites	÷	Approval from examination committee required.							
11-TPSM-201-m01	Particle Physics (Standard Model)											
	ECTS	ECTS 6 Duratio		n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	!5		V (3) + R (1) Module taught in: German or English								
	Methoo	d of asse	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 								
	other p	orerequis	sites	Appro	val from examination	on committee require	d.					

11-CRP-161-m01	Renormalization Group and Critical Phenomena											
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (3) + R (1) Module taught in: German or English								
	Method	l 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-BWW-161-m01	Bosoni	sation a	and Intera	ctions in One Dimensio	on							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (3) + R (1) Module taught in: Gerr	nan or English			·				
	Method	1 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-GGD-161-m01	Introduction to Gauge/Gravity Duality											
	ECTS	8	Duration		Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (4) + R (2) Module taught in: German or English								
	Methoo	l 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 								

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11-AKM-161-m01	Cosmo	Cosmology										
	ECTS	6	Duratior	1 semester	Method of grading numerical grade	Modul level	graduate					
	Course	S		V (3) + R (1) Module taught in: German or English								
	Metho	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-AST-161-m01	Theore	tical As	strophysic	5								
	ECTS	6	Duratior	1 semester	Method of grading numerical grade	Modul level	graduate					
	Course	S		V (2) + R (2) Module taught in: Gen	man or English							
	Metho	u 01 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-EPP-161-m01			o Plasma I									
	ECTS	6	Duratior		Method of grading numerical grade	Modul level	graduate					
	Course	2S		V (2) + R (2) Module taught in: German or English								
	Metho	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 								

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11-APL-161-m01	High E	nergy A	strophysi	cs								
	ECTS	6	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	25			V (3) + R (1) Module taught in: German or English							
	Metho	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-NMA-161-m01	Computational Astrophysics											
	ECTS 6 Duratio		n	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 asse	essment	b) ora c) ora d) pro e) pre If a wr form c the le Langu	Il examination of one l examination in gro ject report (approx. sentation/talk (appritten examination w of an oral examination cturer must inform s lage of assessment:	8 to 10 pages) or rox. 30 minutes) vas chosen as method on of one candidate e students about this by German and/or Engli	prox. 30 minutes) or prox. 30 minutes per candidate) d of assessment, this may be ch each or an oral examination in g y four weeks prior to the origina	hanged and ass groups. If the mo al examination o	ethod of assessment is changed, date at the latest.			

11-QFT1-201-m01	Quantu	um Field	l Theory I								
	ECTS	8	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	:S			V (4) + R (2) Module taught in: German or English						
	Method	d of ass	essment	b) ora c) ora d) pro e) pre If a wi form o the le Langu	 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 						
	other prerequisites			Appro	oval from examinati	on committee require	ed.				
11-QFT2-161-m01	Quantum Field Theory II										
	ECTS	8	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	!S		V (4) + 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. 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	Theore	Theoretical Elementary Particle Physics											
	ECTS	8	Duration	ı [1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S			V (4) + R (2) Module taught in: German or English								
	Methoo	d of asse		b) oral c) oral d) proj e) pres If a wri form o the lec Langua	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-ATTP-161-m01	Selecte	d Topic	s of Theor	retical	Elementary Partic	cle Physics							
	ECTS	6	Duration	ı [1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (3) + Modul	R (1) e taught in: Germ	an or English		I					
				 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-BSM-161-m01						ary Particle Physics							
		6	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (3) + R (1) Module taught in: German or English									
	Methoo	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 									

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11-STRG1-171-m01	String	Theory 1	í								
	ECTS	8	Duration	n	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S			V (4) + R (2) Module taught in: German or English						
	Method	l of asse	essment	b) ora c) oral d) pro e) pre If a wr form c the lee Langu	 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-STRG2-171-m01		Theory 2	2								
	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							
	Methoc	l of asse	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-FPA-161-m01		g Resear									
	ECTS	10	Duration			Method of grading	numerical grade	Modul level	graduate		
	Course			R (o)							
	Methoo	Method of assessment			project report (10 to 20 pages) Language of assessment: German and/or English						
	other p	rerequis	sites	Appro	val from examinatio	on committee require	d.				

11-EXT5-161-m01	Current Topics of Theoretical Physics											
	ECTS	5	Duratior	n 1 semester	Method of grading numeric	al grade	Modul level	graduate				
	Courses	5		V (2) + R (2)	· · · ·							
	Method	l of ass	essment	b) oral examination of	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 assessm	ent: German and/or Englísh							
	other p				ation committee required.							
11-EXT6-161-m01	ļ,	-	of Theore	etical Physics								
	ECTS 6 Duratio			n 1 semester	Method of grading numeric	al grade:	Modul level	graduate				
	Courses			V (3) + R (1)								
	Method of assessment			 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 								
	other p			Approval from examination committee required.								
11-EXT7-161-m01				etical Physics								
		7	Duration		Method of grading numeric	al grade	Modul level	graduate				
	Courses Method of assessment other prerequisites			V (3) + R (1) 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 Approval from examination committee required.								
	other p	rerequi	sites	Approval from examin	ation committee required.							

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11-EXT8-161-m01	Current	Current Topics of Theoretical Physics											
	ECTS	8	Duratior	1 semester	Method of grading numerica	al grade	Modul level	graduate					
	Courses	;		V (4) + R (2)	· · ·		•	·					
	Method	of asse	ssment	a) written examination (approx. 90 to 120 minutes) or									
				b) oral examination of	one candidate each (approx. 30 n	ninutes) 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 examin	ation of one candidate each or an	oral examination in	n groups. If the m	ethod of assessment is changed,					
					m students about this by four wee	eks prior to the origi	nal examination	date at the latest.					
					nt: German and/or English								
	other pr	· · ·			ation committee required.								
11-EXT6A-161-m01				etical Physics									
		6	Duratior		Method of grading numerica	al grade	Modul level	graduate					
	Courses			V (3) + R (1)									
	Method	of asse	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 Approval from examination committee required.									
	other pr	ereauis	ites										
11-EXP6A-161-m01	Current Topics in Physik												
		6	Duratior		Method of grading numerica	al grade	Modul level	graduate					
	Courses	;		V (3) + R (1)									
	Method	of asse	ssment		(approx. 90 to 120 minutes) or								
					one candidate each (approx. 30 n								
				 c) oral examination in ; d) project report (approximation) 	groups (groups of 2, approx. 30 m	linutes per candidat	te) or						
				e) presentation/talk (a									
						sment, this may be	changed and as	sessment may instead take the					
				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,									
					m students about this by four wee	eks prior to the origi	nal examination	date at the latest.					
			••		nt: German and/or English								
	other pr	rerequis	ites	Approval from examina	ation committee required.								

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11-RAI-211-m01	Radio Astronomical Interferometry												
	ECTS	6	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate					
	Course	S		V (3) - Modu	⊦ R (1) le 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-SLQ-232-m01	Black H	loles	1										
	ECTS	6	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate					
	Course	S		V (3) + R (1) Module taught in: German or English									
	Methoo	d of asse		b) ora c) ora d) pro e) pre If a wi form o the le Langu	l examination of on l examination in gro ject report (approx. sentation/talk (app ritten examination v of an oral examinati cturer must inform s lage of assessment:	pprox. 90 to 120 minutes) or e candidate each (approx. 30 minutes) or ups (groups of 2, approx. 30 minutes per candidate 8 to 10 pages) or rox. 30 minutes). vas chosen as method of assessment, this may be c on of one candidate each or an oral examination in g students about this by four weeks prior to the origina German and/or English we semester in which the course is offered and in the	hanged and ass groups. If the m al examination o	ethod of assessment is changed, date at the latest.					

11-APM-242-m01	Astrop	hysics								
	ECTS	6	Duratio	n	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 ass	essment	b) ora c) ora d) pro e) pre If a wi form o the le Langu	 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 					
	Additic	onal Info	ormation	Approval from examination committee required.						
11-ATP-242-m01	Atmospheric Physics									
	ECTS	ECTS 6 Duratio		n	1 semester	Method of grading	numerical grade	Modul level	graduate	
	Course	!S		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. Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester 						

11-0QS-242-m01	Open Quantum Systems										
	ECTS	6	Duration	1	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Course	S			(3) + R(1)						
				Module taught in: German or English							
	Methoo	d of ass	essment	b) ora c) ora d) pro e) pre If a w form o the le	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-TPSM-211-m01	Particle	e Physic	cs (Standa	ard Mo	del)						
	ECTS	8	Duration	า	1 semester	Method of grading	numerical grade	Modul level	graduate		
	Courses			V (4) + 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 ta form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is 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 						
	other p	rerequi	sites	Approval from examination committee required.							
Subfield Non-physi	ical Min	or									
10-M-OR-	Operat	ions Re	search fo	r stude	ents of other subjec	ts					
Saf-152-m01	ECTS Course	10 S	Duration	ו V (4) י	1 semester + Ü (2)	Method of grading	numerical grade	Modul level	undergraduate		
	Methoo	d of ass	essment	a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus							

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10-M-VAN-152-m01	Advand	Advanced Analysis										
	ECTS	7	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S		V (4) ·	/ (4) + Ü (2)							
	Method of assessment			b) ora c) ora Langı	a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus							
10-M=AAAN-161-	Applie	d Analy	sis									
m01	ECTS	10	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses				+ Ü (2) Ile taught in: Germar	n and/or English						
	Methoo	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=ADG-	Differential Geometry											
M-161-m01	ECTS 10 Duratio		Duratio	n	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=AFT-	Comple	ex Analy	/sis									
H-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			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							

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10-M=ALTH-161-	Lie The	eory						1	_		
m01	ECTS	10	Duratio	n	1 semester	Method of grading numeric	al grade	Modul level	graduate		
	Course	S			V (4) + Ü (2) Module taught in: German and/or English						
	Methoo	d of asso	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) anguage 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=A-	Topolo	gy									
TOP-161-m01	ECTS	10	Duratio	n	1 semester	Method of grading numeric	al grade	Modul level	graduate		
	Course	S			+ Ü (2) lle taught in: Germa	an and/or English					
	Methoo	d of asso	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=AZTH-161-	Numbe	Number Theory									
m01	ECTS	10	Duratio	n	1 semester	Method of grading numeric	al grade	Modul level	graduate		
	Courses			V (4) + Ü (2) Module taught in: German and/or English							
	Methoo	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) anguage 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	and the	eir Repres	sentati	ons						
m01	ECTS	10	Duratio	n	1 semester	Method of grading numeric	al grade	Modul level	graduate		
	Course	S			V (4) + Ü (2) Module taught in: German and/or English						
	Methoo	d of asso	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) nguage of assessment: German or English sessment offered: In the semester in which the course is offered and in the subsequent semester editable for bonus						

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10-M=V-	Geometrical Mechanics										
GEM-161-m01	ECTS	10	Duratio	n	1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	25			V (4) + Ü (2)						
						nan and/or English					
	Metho	d of ass	essment	a) wri b) ora	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 Pa	rtial Diffei	rential	Equations						
PE-161-m01	ECTS	10	Duration		1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	25		V (4)	+ Ü (2)						
	Matha					nan and/or English					
	Metho	d of ass	essment	b) ora	l examination	(approx. 90 to 120 minutes, usually chosen) or one candidate each (approx. 20 minutes) or					
				c) ora	l examination in g	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-	Discret	Discrete Mathematics									
DIM-161-m01	ECTS	5	Duration	n	1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	es			+ Ü (1) Ile taught in: Gern	nan and/or English					
	Metho	d of ass	essment	a) wri	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)							
						nt: German or English	nuale)				
					Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus						
10-M=VMPH-161-	Select	ed Topic	s in Math	emati	cal Physics						
m01	ECTS	10	Duratio		1 semester	Method of grading numerical grade	Modul level	graduate			
	Course	25		V (4) + Ü (2) Module taught in: German and/or English							
	Metho	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)							
						nt: German or English the semester in which the course is offered and	in the subsequent s	emester			
					able for bonus						

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10-M=VPD-	Partial Differential Equations of Mathematical Physics									
P-161-m01	ECTS 10 Duration			n	1 semester	Method of grading numerical grade	Modul level	graduate		
	Course	!S			+ Ü (2) ıle taught in: Gern	nan and/or English				
	Metho	d of ass	essment							
10-M=V-	Pseudo	o Riema	nnian and	l Riem	annian Geometry					
PRG-161-m01	ECTS	10	Duratio	n	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-I=DB-161-m01										
	ECTS	5	Duratio		1 semester	Method of grading numerical grade	Modul level	graduate		
	Courses			$V(2) + \ddot{U}(2)$						
	Metho	d of ass	essment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candi- date). Separate written examination for Master's students. Language of assessment: German and/or English creditable for bonus						
	Additio	onal Info	ormation	Focu	ses available for s	tudents of the Master's programme Informatik (Co	mputer Science, 12	o ECTS credits): SE, IS, HCI, GE.		

10-I=PA-161-m01	Analys	Analysis and Design of Programs											
	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	graduate				
	Course	S		V (2) ·	+ Ü (2)								
	Methoo	d of ass	essment	lf ann of on 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								
	Additio	onal Info	ormation		Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): SE,IS,ES,GE								
10-I-RAK-152-m01	Compu	ter Arch	nitecture										
	ECTS	5	Duratio	1	1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Course	S		V (2)	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 candi- date). Language of assessment: German and/or English creditable for bonus									
	Referred to in LPO I			§ 22 ll Nr. 3 b) § 69 l Nr. 1 c): Rechnerarchitektur									
10-I-APR-172-m01	Advanced Programming												
	ECTS	5	Duratio		1 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Course	-	_	V (2) + Ü (2)									
				written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candi- date). Language of assessment: German and/or English creditable for bonus									
	Referre	d to in	LPO I	§ 22	l Nr. 3 b)								

10-I-BS-191-m01	Operati	Operating Systems										
	ECTS	5	Duration	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	5			+ Ü (2) le taught in: Englisl	ı						
	Methoo	l of ass	essment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candi- date). Language of assessment: German and/or English creditable for bonus								
10-l=Kl1-161-m01			igence 1									
	ECTS	5	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Course	S		V (2) ·	+ Ü (2)							
	Method	l of ass	essment	written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candi- date). 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): AT,SE,IS,HCI							
08-FU-SAM-161-	Sensor and Actor Materials - Functional Ceramics and Magnetic Particles											
m01	ECTS	5	Duration		1 semester	Method of grading	numerical grade	Modul level	graduate			
	Courses	S		V (2) + P (2)								
	Method of assessment			a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) Language of assessment: German and/or English Assessment offered: Once a year, summer semester P: creditable for bonus								
08-FU-EEW-152-	Electro	chemic	al Energy	Storage and Conversion								
m01	ECTS	5	Duration	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	5		V (2) ·	+ P (1) + E (1)							
	Method of assessment			a) assessment and b) Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical assignments (2 to 4 random examinations), weighted 7:3 Language of assessment: German and/or English Assessment offered: Once a year, summer semester								

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08-FU-MW-161-	Structure	e and P	roperties	s of Modern Materials: Experiments vs. Simulations						
m01	ECTS 5 Duratio		Duration		1 semester	Method of grading	numerical grade	Modul level	graduate	
	Courses			V (2) +	+ S (1)		•		-	
	Method of	ofasse			k (approx. 30 minut					
						ie candidate each (ap				
							prox. 30 minutes total)			
						: German and/or Eng ce a year, winter seme				
11-EXNP6-161-m01	Nonphys	ical Mi				e a year, winter senie				
11-EXNPO-101-1101						Mathad of grading	numerical grade	Madullaval	graduata	
			Duration		1 semester	Method of grading	numerical grade	Modul level	graduate	
	Courses			V (3) +						
	Method	of asses	ssment	a) writ	tten examination (a	pprox. 90 to 120 min 1e candidate each (ap	utes) or			
							prox. 30 minutes per candidate)) or		
					ject report (approx) 01		
				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						
									ethod of assessment is changed,	
						students about this b : German and/or Eng	y four weeks prior to the origina	al examination of	date at the latest.	
	other pre	ereauisi		-	-	on committee require				
Thesis (60 ECTS cro	· ·	erequisi		<u>, (ppio</u>						
		1.0	• • • •		•					
11-FS-P-161-m01	Professio	<u> </u>			r			1		
	ECTS 1	15	Duration		1 semester	Method of grading	(not) successfully completed	Modul level	graduate	
	Courses			S (4)						
				Module taught in: German or English						
	Method o	of asses		talk with discussion (30 to 45 minutes)						
	C			Language of assessment: German and/or English						
11-MP-P-161-m01		ï			t Management Phy			1		
			Duration		1 semester	Method of grading	(not) successfully completed	Modul level	graduate	
	Courses			R (4)						
	NA (1 1	6			le taught in: Germa					
	Method o	of asses			ith discussion (30)		lich			
				Language of assessment: German and/or English						

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11-MA-P-161-m01	Master	Thesis	Physics						
	ECTS 30 Duration				1 semester	Method of grading	numerical grade	Modul level	graduate
	Course	s		No co	urses assigned to m	odule			
	Method	d of asse			r's thesis (750 to 90				
				Langu	nguage of assessment: German and/or English				
	Additional Information Time to complete: 6 months.								

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