

Subdivided Module Catalogue for the Subject

FOKUS Physics - Nanostructuring Technology

as a Master's with 1 major with the degree "Master of Science" (120 ECTS credits)

Examination regulations version: 2006 Responsible: Faculty of Physics and Astronomy

JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record 88|eo6|-|-|H|2006



Course of Studies - Contents and Objectives

No translation available.

Abbreviations used

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

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

Notes

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

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

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

In accordance with

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

frei

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

15-May-2008 (2008-16)

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.

The subject is divided into

Abbreviation	Module title	ECTS	Method of	nage
			grading	pusc
Compulsory Courses (46 E	CTS credits)			
11-PFM-072-m01	Advanced Practical Course Master	6	B/NB	68
11-FPN-072-m01	FOKUS Project Practical Course Nanostructuring Technology	10	NUM	59
11-FS-NF-072-m01	Professional Specialization FOKUS Nanostructuring Technolo- gy 1	15	NUM	60
11-MP-NF-072-m01	Scientific Methods and Project Management FOKUS Nanostruc- turing Technology 1	15	NUM	62
Compulsory Electives (44 E	CTS credits)			
Compulsory Electives Nar	nomatrix (12 ECTS credits)			
08-NM-AW-MA-072-m01	Nanomatrix Inorganic Materials Chemistry (Master)	6	NUM	9
08-NM-NS-MA-072-m01	Nanoparticle Synthesis and Structuring Technologies (Master)	6	NUM	10
11-NM-WP-MA-072-m01	Nanomatrix Heat Insulating Systems and Photovoltaics	6	NUM	67
11-NM-HM-MA-072-m01	Nanomatrix Semiconductor Materials (Master)	6	NUM	64
11-NM-HP-MA-072-m01	Nanomatrix Semiconductor Processing (Master)	6	NUM	65
11-NM-MB-MA-072-m01	Nanomatrix Micro/Nano- and Optoelectronic Devices (Master)	6	NUM	66
03-NM-BW-MA-072-m01	Nanomatrix Biomedical Materials (Master)	6	NUM	7
07-NM-BS-MA-072-m01	Nanomatrix Biocompatible Structuring Technologies (Master)	6	NUM	8
11-NM-BV-MA-072-m01	Nanomatrix Biophysical Analyzing Systems and Processes	6	NUM	63
Compulsory Electives Spe	acialisation Nanostructure Technology (10 FCTS credits)			
11-SE-4E-072-m01	Module Type /F Special Training Experimental Physics	4	NUM	70
11-51-42-072-11101	Module Type 4L Special training Interdisciplinant Posoarch	4	NOM	70
11-SF-4l-072-m01	Fields	4	NUM	71
11-SF-4T-072-m01	Module Type 4T Special Training Theoretical Physics	4	NUM	73
11-SF-5E-072-m01	Module Type 5E Special Training Experimental Physics	5	NUM	74
11-SF-5I-072-m01	Module Type 5I Special Training Interdisciplinary Research Fields	5	NUM	75
11-SF-5T-072-m01	Module Type 5T Special Training Theoretical Physics	5	NUM	77
11-SF-6E-072-m01	Module Type 6E Special Training Experimental Physics	6	NUM	78
11-SF-6l-072-m01	Module Type 6I Special Training Interdisciplinary Research Fields	6	NUM	79
11-SF-6T-072-m01	Module Type 6T Special Training Theoretical Physics	6	NUM	81
11-SF-8E-072-m01	Module Type 8E Special Training Experimental Physics	8	NUM	82
11-SF-8I-072-m01	Module Type 8I Special Training Interdisciplinary Research Fields	8	NUM	83
11-SF-8T-072-m01	Module Type 8T Special Training Theoretical Physics	8	NUM	85
11-SF-4N-072-m01	Module Type 4N Special Training Nanostructure Technology	4	NUM	72
11-SF-5N-072-m01	Module Type 5N Special Training Nanostructure Technology	5	NUM	76
11-SF-6N-072-m01	Module Type 6N Special Training Nanostructure Technology	6	NUM	80
11-SF-8N-072-m01	Module Type 8N Special Training Nanostructure Technology	8	NUM	84
Research Modules Nanos	tructure Technology (16 ECTS credits)	L	L	
11-FM-VK8E-072-m01	FOKUS Research Module Type VK8E Experimental Physics	8	NUM	19

Master's with 1 major FOKUS Physics - Nanostructu-	JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record	page 4 / 95
ring Technology (2006)	Master (120 ECTS) FOKUS Physik - Nanostrukturtechnik - 2006	

11-FM-VK8I-072-m01	FOKUS Research Module Type VK8I Interdisciplinary Research Fields		NUM	20	
11-FM-VK8T-072-mo1 FOKUS Research Module Type VK8T Theoretical Physics		0	NILINA		
11-FIM-VK81-0/2-III01	FORUS Research Module Type VK81 Theoretical Physics	8		22	
11-F/W-VK9E-072-m01	FORUS Research Module Type VK9E Experimental Physics	9	NUM	23	
11-FM-VK9I-072-m01	FORUS Research Module Type VK9I Interdisciplinary Research Fields	9	NUM	24	
11-FM-VK9T-072-m01	FOKUS Research Module Type VK9T Theoretical Physics	9	NUM	26	
11-FM-VK10E-072-m01	FOKUS Research Module Type VK10E Experimental Physics	10	NUM	11	
11-FM-VK10l-072-m01	FOKUS Research Module Type VK10I Interdisciplinary Research Fields	10	NUM	12	
11-FM-VK10T-072-m01	FOKUS Research Module Type VK10T Theoretical Physics	10	NUM	14	
11-FM-VK12E-072-m01	FOKUS Research Module Type VK12E Experimental Physics	12	NUM	15	
11-FM-VK12l-072-m01	FOKUS Research Module Type VK12I Interdisciplinary Research Fields	12	NUM	16	
11-FM-VK12T-072-m01	FOKUS Research Module Type VK12T Theoretical Physics	12	NUM	18	
11-FM-VMK12E-072-m01	FOKUS Research Module Type VMK12E Experimental Physics	12	NUM	27	
11-FM-VMK12I-072-m01	FOKUS Research Module Type VMK12I Interdisciplinary Rese- arch Fields	12	NUM	29	
11-FM-VMK12T-072-m01	FOKUS Research Module Type VKM12T Theoretical Physics	12	NUM	33	
11-FM-VMK13E-072-m01	FOKUS Research Module Type VMK13E Experimental Physics	13	NUM	35	
11-FM-VMK13I-072-m01	FOKUS Research Module Type VMK13I Interdisciplinary Rese- arch Fields	13	NUM	37	
11-FM-VMK13T-072-m01	FOKUS Research Module Type VKM13T Theoretical Physics	13	NUM	41	
11-FM-VMK14E-072-m01	FOKUS Research Module Type VMK14E Experimental Physics	14	NUM	43	
11-FM-VMK14I-072-m01	FOKUS Research Module Type VMK14I Interdisciplinary Rese-	14	NUM	45	
11 EM \/MK1/T 072 mo1	EOVIIS Pasaarch Madula Tupa VKM4/T Theoretical Dhysics	1/	NILINA	(0	
11-FM-VMK141-072-m01	EOKUS Research Module Type VKM141 Theoretical Physics	14		49	
11-FIW-VIVIN16E-0/2-11101		10	NUM	51	
11-FM-VMK16I-072-m01	arch Fields	16	NUM	53	
11-FM-VMK16T-072-m01	FOKUS Research Module Type VKM16T Theoretical Physics	16	NUM	57	
11-FM-VK8N-072-m01	FOKUS Research Module Type VK8N	8	NUM	21	
11-FM-VK9N-072-m01	FOKUS Research Module Type VK9N	9	NUM	25	
11-FM-VK10N-072-m01	FOKUS Research Module Type VK10N Nanostructure Technolo- gy	10	NUM	13	
11-FM-VK12N-072-m01	FOKUS Research Module Type VK12N Nanostructure Technolo- gy	12	NUM	17	
11-FM-VMK12N-072-m01	FOKUS Research Module Type VMK12N Nanostructure Techno- logy	12	NUM	31	
11-FM-VMK13N-072-m01	FOKUS Research Module Type VMK13N Nanostructure Techno-	13	NUM	39	
11-FM-VMK14N-072-m01	Iogy FOKUS Research Module Type VMK14N Nanostructure Techno-		NUM	47	
11-FM-VMK16N-072-m01	FOKUS Research Module Type VMK16N Nanostructure Techno- logy	16	NUM	55	
Compulsory Electives Non-technical (6 ECTS credits)					

Master's with 1 major FOKUS Physics - Nanostructu
ring Technology (2006)



41-IK-NW1-072-m01	Basic module: Competence for Acquiring Information - for stu- dents of natural sciences		B/NB	86			
41-IK-NW2-072-m01	Second module: Competence for Acquiring Information - for students of natural sciences	2	NUM	87			
42-FS3-EN_N- W1-072-m01	Fachsprache Englisch Naturwissenschaften (1)	11	NUM	88			
42-FS3-EN_N- W2-072-m01 Fachsprache Englisch Naturwissenschaften (2)		8	NUM	90			
42-FS3-FR_N- W1-072-m01	42-FS3-FR_N- W1-072-m01 Fachsprache Französisch Naturwissenschaften (1)		NUM	92			
42-FS3-FR_N- W2-072-m01	42-FS3-FR_N- W2-072-mo1 Fachsprache Französisch Naturwissenschaften (2)		NUM	94			
Thesis (30 ECTS credits)							
11-MA-NF-072-m01	Master Thesis FOKUS Nanostructuring Technology	30	NUM	61			

Module title			Abbreviation			
Nanomatrix Biomedical Materials (Master)				03-NM-BW-MA-072-m01		
Module coordinator				Module offered by		
chairpe	rson of	f examination committee	of the Master's de-	Faculty of Medicine		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Fundan nics an turing t	nentals d photo echnol	and specific knowledge onics and biophysical ap ogies and components a	for engineering work plications as well as nd system developm	in the application an the technology focus ent, especially in the	reas power engineering, electro- ses materials science, nanostruc- e area of biomedical materials.	
Intende	ed learr	ning outcomes				
Studen neering	ts have work,	e developed an advanced with a particular focus or	knowledge in at leas biomedical materia	st one application are ls.	ea or technology focus of engi-	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	o infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)	
Methoo ster, inf	l of ass formati	e ssment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writte date ea	en exar ch or o	nination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master's degree (1 major) Nanostructure Technology (2010)						
Master'	s degre	ee (1 major) FOKUS Physi	cs - Nanostructuring	Fechnology (2010)		
Master'	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)					

Module title			Abbreviation		
Nanomatrix Biocompatible Structuring Technologies (Master)			07-NM-BS-MA-072-m01		
Module	e coord	inator		Module offered by	
Dean of	f Studie	es Biologie (Biology)		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Fundan enginee science biocom	nentals ering, e e, nano patible	as well as specific know electronics and photonics -structuring technologies e structuring technologies	ledge and skills for e , and biophysical ap and components an 5.	ngineering work in t plications and the te d system developme	he application directions power echnology fields of materials ent, in particular in the area of
Intende	ed learı	ning outcomes			
Studen fields o	ts have f engin	e acquired advanced know eering work, in particula	wledge and skills in c r in the area of biocor	one or more applicat npatible structuring	ion directions or technology technologies.
Course	s (type	, number of weekly conta	ct hours, language —	· if other than Germa	n)
V + R (n	io infor	mation on SWS (weekly o	contact hours) and co	urse language avail	able)
Methoo ster, inf	l of ass formati	essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-
a) writte date ea	en exai ich or o	mination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Master'	Master's degree (1 major) Nanostructure Technology (2010)				
Master'	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)	
Master'	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)				

Module title			Abbreviation		
Nanomatrix Inorganic Materials Chemistry (Master)			08-NM-AW-MA-072-m01		
Module	e coord	inator		Module offered by	
Dean of Studies Chemie and Pharmazie (Chemistry and Pharmacy)			e (Chemistry and	Chair of Chemical T	echnology of Material Synthesis
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Fundan enginee science organic	nentals ering, e e, nano mater	as well as specific know lectronics and photonics structuring technologies als chemistry.	ledge and skills for e and biophysical app and components an	ngineering work in tl blications and the teo d system developme	he application directions power chnology fields of materials ent, in particular in the area of in-
Intende	ed learı	ning outcomes			
Studen fields o	ts have f engin	e developed advanced kn eering work, in particula	owledge and skills ir r in the area of inorga	n one or more applica inic materials chemis	ation directions or technology stry.
Course	s (type	, number of weekly conta	ct hours, language —	- if other than Germa	n)
V + R (n	o infor	mation on SWS (weekly o	contact hours) and co	ourse language availa	able)
Methoo ster, inf	l of ass formati	e ssment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-
a) writt date ea	en exai ich or o	nination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Master	Master's degree (1 major) Nanostructure Technology (2010)				
Master' Master'	's degro 's degro	ee (1 major) FOKUS Physi ee (1 major) FOKUS Physi	cs - Nanostructuring cs - Nanostructuring	Technology (2010) Technology (2006)	

Module title			Abbreviation	
Nanoparticle Synthesis and Structuring Technologies (Master)			08-NM-NS-MA-072-m01	
Module coordinator		Module offered by		
Dean of Studies Chemie and Pharmazie Pharmacy)	e (Chemistry and	Chair of Chemical T	echnology of Material Synthesis	
ECTS Method of grading	Only after succ. com	pl. of module(s)		
6 numerical grade				
Duration Module level	Other prerequisites			
1 semester graduate				
Contents				
Fundamentals as well as specific knowl engineering, electronics and photonics science, nano-structuring technologies noparticle synthesis and structuring tech	ledge and skills for e and biophysical app and components an chnologies.	ngineering work in t lications and the tee d system developme	he application directions power chnology fields of materials ent, in particular in the area of na-	
Intended learning outcomes				
Students have developed advanced known fields of engineering work, in particular	owledge and skills ir in the area of nanop	one or more application one or more application of the synthesis and	ation directions or technology d structuring technologies.	
Courses (type, number of weekly contac	ct hours, language —	if other than Germa	n)	
V + R (no information on SWS (weekly c	ontact hours) and co	urse language availa	able)	
Method of assessment (type, scope, lanster, information on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) written examination (approx. 90 min date each or oral examination in groups	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)	
Allocation of places				
Additional information				
Workload				
Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module appears in				
Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)				

Module title			Abbreviation			
FOKUS	Resear	rch Module Type VK10	E Experimental Physics		11-FM-VK10E-072-m	101
Module	e coord	inator		Module offered by		
chairpe	erson of	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
10	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi cipline cies. Ap arch pr	c and a of Expe oplicati oject (e	dvanced knowledge of erimental Physics, repr on of the acquired pro e.g. experiments, case	f independent scientific oduction of knowledge fessional knowledge ar studies etc.).	work in a current rea , acquisition of socia ad methods to new s	search area, especia Il and methodologica cientific questions in	Illy in the dis- al competen- n a mini rese-
Intende	ed learn	ning outcomes				
The stu especia apply t succes	Idents h ally in t he acqu sfully ir	nave special and advan he specialist field of Ex uired methods, to sum nplement the acquired	nced knowledge of inde operimental Physics, an marise a sub-area of th I knowledge and metho	ependent scientific w d are able to reprodu e current research ar ds in a mini research	rork in a current rese uce the acquired kno rea in an oral presen n project.	arch area, wledge, to tation and to
EOVUS	S (type)	rungemedul Experimer	talla Dhucik (EOKUS Int	roductory Modulo Ex	norimontal Dhusics)	V (a wookly
contact FOKUS contact ly held	t hours) Kompa t hours) during) + Ü/P (2 weekly conta ktseminar Experiment German or English, d semester break)	etter Physik (FORUS in act hours), details on av elle Physik (FOKUS Bloo etails on availability to	vailability to be anno k Taught Seminar Ex be announced (bloc	unced (perimental Physics) k taught seminar (3	: S (2 weekly days), usual-
Metho ster, in	d of ass formati	e ssment (type, scope, on on whether module	language — if other the can be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-
This mo 1. Topio tes) repo 2. Sem	odule h cs cove or oral e rt (appr inar: ta	as the following asses red in lectures and exe examination of one car rox. 8 pages) lk (approx. 30 to 45 mi	sment components ercises: written examina ndidate each or oral exa nutes)	ation (approx. 90 mir amination in groups	nutes) or talk (appro (approx. 30 minutes)	x. 30 minu-) or project
Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). Details on when assessment components 1 and 2 will be offered to be announced. To pass this module, students must pass both assessment component 1 and assessment component 2.					nt 2.	
Allocat	ion of p	olaces				
Additio	onal info	ormation				
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master Master Master Master	's degre 's degre 's degre 's degre	ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy	vsics - Nanostructuring vsics (2010) vsics - Nanostructuring vsics (2006)	Technology (2010) Technology (2006)		
Master's w ring Techno	ith 1 major ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. r FOKUS Physik - Nanostrukturi	eg. data record rechnik - 2006	page 11 / 95

Module title			Abbreviation					
FOKUS	FOKUS Research Module Type VK10I Interdisciplinary Research Fields			11-FM-VK10I-072-m	01			
Module	e coord	inator		Module offered by				
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy			
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)				
10	nume	rical grade						
Duratio	on	Module level	Other prerequisites	Other prerequisites				
1 seme	ster	graduate						
Conten	ts							
Specifi terdisc licatior ject (e.	c and a iplinary of the g. expe	dvanced knowledge of subject, reproduction acquired professional riments, case studies	independent scientific of knowledge, acquisit knowledge and metho etc.).	work in a current rea ion of social and me ds to new scientific c	search area, especia thodological compe questions in a mini re	lly in an in- tencies. App- esearch pro-		
Intend	ed leari	ning outcomes						
The stu especia the acc cessful	Idents I ally in a quired r	nave special and advan n interdisciplinary spe nethods, to summarise ement the acquired kn	nced knowledge of inde cialist field, and are ab a sub-area of the curre owledge and methods	pendent scientific w le to reproduce the a ent research area in a in a mini research pr	vork in a current rese acquired knowledge, an oral presentation oject.	arch area, to apply and to suc-		
Course	s (type	, number of weekly cor	itact hours, language –	- if other than Germa	n)			
FORUS Fields) FOKUS Fields) minar (Einfuni : V (3 w Kompa : S (2 w (3 days)	eekly contact hours) + ktseminar Interdiszipl eekly contact hours), G , usually held during s	ülhare Fachgebiete (FO Ü/P (2 weekly contact l inäre Fachgebiete (FOK German or English, deta emester break)	nours), details on ava JS Block Taught Sen ils on availability to	aule interdisciplinar ailability to be annou ninar Interdisciplinar be announced (bloc	y Research unced y Research k taught se-		
Metho ster, in	d of ass formati	e ssment (type, scope, on on whether module	language — if other the can be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-		
This mo 1. Topi tes) repo 2. Sem	 This module has the following assessment components 1. Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or oral examination of one candidate each or oral examination in groups (approx. 30 minutes) or project report (approx. 8 pages) 2. Seminar: talk (approx. 30 to 45 minutes) 							
Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). Details on when assessment components 1 and 2 will be offered to be announced. To pass this module, students must pass both assessment component 1 and assessment component 2								
Allocat	ion of p	olaces						
	-							
Additio	onal info	ormation						
Worklo	ad							
Referred to in LPO L (examination regulations for teaching-degree programmes)								
Module appears in								
Master Master Master Master	's degro 's degro 's degro 's degro	ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy	vsics - Nanostructuring vsics (2010) vsics - Nanostructuring vsics (2006)	Technology (2010) Technology (2006)				
master's w ring Techno	nn 1 majoi blogy (200	FORUS PHYSICS - Nanostructu- 6)	Mo wurzburg • ger Master (120 ECTS)	FOKUS Physik - Nanostrukturi	eg. aata record technik - 2006	page 12 / 95		

Module title			Abbreviation		
FOKUS	Resear	ch Module Type VK10N N	lanostructure Techno	ology	11-FM-VK10N-072-m01
Module	e coord	inator		Module offered by	
chairpe	erson of	examination committee		Faculty of Physics a	nd Astronomy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	IO numerical grade				
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	Its				
Specifi field of tencies researc	c and a nanost . Applic ch proje	dvanced knowledge of in cructure technology, repro cation of the acquired pro ct (e.g. experiments, cas	dependent scientific oduction of knowledg ofessional knowledge e studies etc.).	work in a current res ge, acquisition of soc and methods to ne	search area, especially in the ial and methodological compe- w scientific questions in a mini
Intende	ed learr	ning outcomes			
The stu especia the acc cessful	ıdents ł ally in tl quired n lly imple	nave special and advance he field of nanostructure nethods, to summarise a ement the acquired know	ed knowledge of inde technology, and are sub-area of the curre rledge and methods i	pendent scientific w able to reproduce th ent research area in a n a mini research pro	ork in a current research area, e acquired knowledge, to apply an oral presentation and to suc- oject.
Course	s (type,	number of weekly conta	ct hours, language —	if other than Germa	n)
weekly FOKUS weekly days), Methoo ster, in	 FOKUS Einführungsmödul Nanostrukturtechnik (FOKUS Introductory Module Nanostructure Technology): V (3 weekly contact hours) + Ü/P (2 weekly contact hours), details on availability to be announced FOKUS Kompaktseminar Nanostrukturtechnik (FOKUS Block Taught Seminar Nanostructure Technology): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) Method of assessment (type, scope, language — if other than German, examination offered — if not every seme-terms because) 				
 Stee, monuation on wrether module can be chosen to earn a bonds) This module has the following assessment components 1. Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or oral examination of one candidate each or oral examination in groups (approx. 30 minutes) or project report (approx. 8 pages) 2. Seminar: talk (approx. 30 to 45 minutes) Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). 					
Details	on whe	en assessment compone	nts 1 and 2 will be off	ered to be announce	ed.
Allocat	ion of r			component i anu as	sessment component 2.
Allocal					
	1. 6				
Additio	onal Info	ormation			
Worklo	Workload				
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module	e appea	rs in			
Master Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)				

Master's with 1 major FOKUS	Physics - Nanostructu-
ring Technology (2006)	

Module title			Abbreviation			
FOKUS Research Module Type VK10T Theoretical Physics 11-FM-VK10T-072-m01				01		
Modul	e coord	inator		Module offered by		
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
10	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conter	Its					
Specifi cipline	c and a of Theo	dvanced knowledge o pretical Physics, reproc	f independent scientific luction of knowledge, a	work in a current res cquisition of social a	search area, especia and methodological	lly in the dis- competen-
cies. A	pplicati	on of the acquired pro	fessional knowledge ar	nd methods to new se	cientific questions ir	n a mini rese-
arch pi	roject (e	e.g. experiments, case	studies etc.).			
Intend	ed learı	ning outcomes				
The stu especial ply the succes	idents l ally in t acquire sfully ir	nave special and adva he specialist field of Tl ed methods, to summa nplement the acquired	nced knowledge of inden neoretical Physics, and arise a sub-area of the c I knowledge and metho	pendent scientific w are able to reproduce urrent research area ds in a mini research	ork in a current rese e the acquired know in an oral presentat n project.	arch area, 'ledge, to ap- ion and to
Course	s (type	, number of weekly cor	ntact hours, language –	· if other than Germa	n)	
FOKUS contac FOKUS contac ly held	Einführ t hours) Kompa t hours) during	rungsmodul Theoretiso) + Ü/P (2 weekly conta ktseminar Theoretisch), German or English, c semester break)	the Physik (FOKUS Intro act hours), details on av e Physik (FOKUS Block etails on availability to	ductory Module Theo ailability to be anno Taught Seminar Theo be announced (bloc	oretical Physics): V (unced oretical Physics): S (k taught seminar (3	3 weekly 2 weekly days), usual-
Metho ster, in	d of ass formati	essment (type, scope, on on whether module	language — if other that can be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-
This m 1. Topi tes) repo 2. Sem	odule h cs cove or oral o rt (appi inar: ta	as the following asses red in lectures and exe examination of one ca rox. 8 pages) lk (approx. 30 to 45 mi	sment components ercises: written examina ndidate each or oral exa nutes)	ation (approx. 90 mir amination in groups (utes) or talk (approx (approx. 30 minutes)	x. 30 minu-) or project
Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). Details on when assessment components 1 and 2 will be offered to be announced. To pass this module, students must pass both assessment component 1 and assessment component 2.						
Allocat	ion of p	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master Master Master	's degro 's degro 's degro	ee (1 major) FOKUS Ph ee (1 major) FOKUS Ph ee (1 major) FOKUS Ph ee (1 major) FOKUS Ph	ysics - Nanostructuring ysics (2010) ysics - Nanostructuring	Technology (2010) Technology (2006)		
Master's w	ith 1 maio	FOKUS Physics - Nanostructur	IMII Wiirzhurg • ger	erated 11-lan-2022 • exam	eg, data record	page 14 / oc
ring Techn	ology (200	6)	Master (120 ECTS)	FOKUS Physik - Nanostrukturt	echnik - 2006	Puse 14/ 93

Module title			Abbreviation			
FOKUS	OKUS Research Module Type VK12E Experimental Physics					
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
12	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts		· · · · · · · · · · · · · · · · · · ·			
Specifi cipline cies. Ap arch pr	c and a of Expe oplicati oject (e	dvanced knowledge of erimental Physics, repr on of the acquired pro e.g. experiments, case	independent scientific oduction of knowledge fessional knowledge ar studies etc.).	work in a current real, acquisition of socia ad methods to new s	search area, especia Il and methodologica cientific questions ir	al competen- al competen- a mini rese-
Intende	ed learı	ning outcomes				
The stu especia apply t succes	Idents I ally in t he acqu sfully ir	nave special and advan he specialist field of Ex uired methods, to sum nplement the acquirec	nced knowledge of inde perimental Physics, an marise a sub-area of th knowledge and metho	pendent scientific w d are able to reprod e current research ar ds in a mini researcl	vork in a current rese uce the acquired kno rea in an oral presen n project.	arch area, owledge, to tation and to
Course	s (type	, number of weekly cor	tact hours, language –	if other than Germa	n)	
FOKUS contact FOKUS contact ly held	Einfuhi t hours) Kompa t hours) during	rungsmodul Experimer) + Ü/P (2 weekly conta ktseminar Experiment), German or English, d semester break)	ct hours), details on av ct hours), details on av elle Physik (FOKUS Bloo etails on availability to	roductory Module Ex ailability to be anno k Taught Seminar Ex be announced (bloc	(perimental Physics) unced (perimental Physics) k taught seminar (3	: V (4 weekly : S (2 weekly days), usual-
Method ster, in	d of ass formati	essment (type, scope, on on whether module	language — if other the can be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-
This mo 1. Topio tes) o repo 2. Semi	odule h cs cove or oral o rt (appi inar: ta	as the following asses red in lectures and exe examination of one car rox. 8 pages) lk (approx. 30 to 45 mi	sment components rcises: written examina ndidate each or oral exa nutes)	ation (approx. 90 mir amination in groups	nutes) or talk (appro (approx. 30 minutes)	x. 30 minu-) or project
Assess Studen Details To pass	ment c ts mus on whe s this m	omponents 1 and 2 wil t register for assessme en assessment compo odule, students must	l be offered in German nt components 1 and 2 nents 1 and 2 will be of pass both assessment	or English. online (details to be fered to be announce component 1 and as	e announced). ed. sessment componer	nt 2.
Allocat	ion of p	olaces				
Additio	onal info	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master Master Master Master	's degro 's degro 's degro 's degro	ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy	vsics - Nanostructuring vsics (2010) vsics - Nanostructuring vsics (2006)	Technology (2010) Technology (2006)	og data record	
ring Techno	ology (200	6)	Master (120 ECTS)	FOKUS Physik - Nanostruktur	technik - 2006	page 15 / 95

Module title			Abbreviation			
FOKUS	Resear	rch Module Type VK12	Interdisciplinary Rese	arch Fields	11-FM-VK12I-072-m	01
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
12	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specific terdisci lication	c and a iplinary of the	dvanced knowledge of subject, reproduction acquired professional riments, case studies	independent scientific of knowledge, acquisit knowledge and method etc.)	work in a current rea ion of social and me ds to new scientific c	search area, especia thodological compe juestions in a mini re	Illy in an in- tencies. App- esearch pro-
Intende	d lear	ning outcomes				
Thostu	donta	ang outcomes	acad knowladge of inde	pondont scientific w	ork in a current race	arch aroa
especia the acq cessful	ally in a uired r ly impl	n interdisciplinary spe nethods, to summarise ement the acquired kn	cialist field, and are ab a sub-area of the curre owledge and methods i	le to reproduce the a ent research area in a n a mini research pr	an oral presentation oject.	to apply and to suc-
Course	s (type	, number of weekly cor	itact hours, language —	· if other than Germa	n)	
FOKUS Fields): FOKUS Fields): minar (Einfüh V (4 w Kompa S (2 w 3 days)	rungsmodul Interdiszip eekly contact hours) + ktseminar Interdiszipl eekly contact hours), (, usually held during s	olinäre Fachgebiete (FOI Ü/P (2 weekly contact H inäre Fachgebiete (FOKI German or English, deta emester break)	KUS Introductory Mo nours), details on ava JS Block Taught Sen ils on availability to	dule Interdisciplinar ailability to be annor ninar Interdisciplinar be announced (bloc	y Research unced ry Research k taught se-
Method	l of ass formati	essment (type, scope,	language — if other tha	an German, examina	tion offered — if not	every seme-
This mo 1. Topic tes) c repor 2. Semi	odule h cs cove or oral o rt (appi inar: ta	as the following asses red in lectures and exe examination of one car rox. 8 pages) lk (approx. 30 to 45 mi	sment components ercises: written examina ndidate each or oral exa nutes)	ation (approx. 90 mir amination in groups	nutes) or talk (approz (approx. 30 minutes)	x. 30 minu-) or project
Assessi Studen Details To pass	Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). Details on when assessment components 1 and 2 will be offered to be announced. To pass this module, students must pass both assessment component 1 and assessment component 2.					
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
			<u> </u>			
Module	e appea	rs in				
Master' Master' Master' Master'	's degro 's degro 's degro 's degro	ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy	vsics - Nanostructuring vsics (2010) vsics - Nanostructuring vsics (2006)	Technology (2010) Technology (2006)		
Master's wi ring Techno	th 1 major logy (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg ● gen Master (120 ECTS) I	erated 11-Jan-2023 • exam. r FOKUS Physik - Nanostrukturi	eg. data record echnik - 2006	page 16 / 95

Module title			Abbreviation		
FOKUS	FOKUS Research Module Type VK12N Nanostructure Technology 11-FM-VK12N-072-m01				11-FM-VK12N-072-m01
Module	e coord	inator		Module offered by	
chairpe	erson o	f examination committee		Faculty of Physics a	nd Astronomy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
12	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	graduate			
Conten	nts				
Specifi field of tencies researc	ic and a f nanos s. Appli ch proje	dvanced knowledge of ir tructure technology, repre cation of the acquired pro ect (e.g. experiments, cas	ndependent scientific oduction of knowledg ofessional knowledge e studies etc.).	work in a current rea ge, acquisition of soc and methods to ne	search area, especially in the cial and methodological compe- w scientific questions in a mini
Intend	ed lear	ning outcomes			
The stu especia the acc cessful	udents l ally in t quired r lly impl	have special and advance he field of nanostructure nethods, to summarise a ement the acquired know	ed knowledge of inde technology, and are sub-area of the curre /ledge and methods i	pendent scientific w able to reproduce th ent research area in a in a mini research pr	vork in a current research area, e acquired knowledge, to apply an oral presentation and to suc- oject.
Course	s (type	, number of weekly conta	ct hours, language —	· if other than Germa	n)
FOKUS FOKUS weekly days),	contac Kompa contac usually	thours) + Ü/P (2 weekly ktseminar Nanostrukturt thours), German or Engli held during semester bro	contact hours), detai echnik (FOKUS Block ish, details on availal eak)	ls on availability to k Taught Seminar Nar bility to be announce	be announced nostructure Technology): S (2 ed (block taught seminar (3
Metho ster, in	d of ass formati	sessment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-
This m 1. Topi tes) repo 2. Sem	odule h cs cove or oral ort (appi inar: ta	as the following assessm red in lectures and exerc examination of one candi rox. 8 pages) lk (approx. 30 to 45 minu	nent components ises: written examina idate each or oral exa tes)	ation (approx. 90 min amination in groups	nutes) or talk (approx. 30 minu- (approx. 30 minutes) or project
Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). Details on when assessment components 1 and 2 will be offered to be announced. To pass this module, students must pass both assessment component 1 and assessment component 2					
Allocat	tion of p	olaces			
Additio	onal inf	ormation			
Workload					
Referred to in LPO L (examination regulations for teaching-degree programmes)					
				<u> </u>	
Module	e appea	urs in			
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)	
Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2016)				

Master's with 1 major FOKUS Physics - Nanostructu
ring Technology (2006)

Module title			Abbreviation			
FOKUS	FOKUS Research Module Type VK12T Theoretical Physics 11-FM-VK12T-072-m01				01	
Module coordinator				Module offered by		
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
12	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conter	Its					
Specifi	c and a	dvanced knowledge o	independent scientific	work in a current res	search area, especia	lly in the dis-
cipline	of Theo nnlicati	oretical Physics, reproc	luction of knowledge, a	cquisition of social and methods to new s	and methodological	competen-
arch pi	oject (e	e.g. experiments, case	studies etc.).		cientine questions ii	i a mini iese-
Intend	ed lear	ning outcomes				
The sti	idents l	have special and adva		pendent scientific w	ork in a current rese	arch area.
especi	ally in t	he specialist field of Th	neoretical Physics, and	are able to reproduce	e the acquired know	ledge, to ap-
ply the	acquir	ed methods, to summa	rise a sub-area of the c	urrent research area	in an oral presentat	ion and to
succes	sfully i	nplement the acquired	I knowledge and metho	ds in a mini research	n project.	
Course	s (type	, number of weekly cor	ntact hours, language –	· if other than Germa	n)	
FOKUS	Einfüh	rungsmodul Theoretisc	he Physik (FOKUS Intro	ductory Module The	pretical Physics): V (4 weekly
FORUS	t nours, Komna) + U/P (2 Weekly conta ktseminar Theoretisch	e Physik (FOKUS Block	Taught Seminar The	uncea pretical Physics): S (1	2 weekly
contac	t hours)), German or English, d	etails on availability to	be announced (bloc	k taught seminar (3	days), usual-
ly held	during	semester break)				
Metho	d of ass	essment (type, scope,	language — if other tha	an German, examina	tion offered — if not	every seme-
ster, in	formati	on on whether module	can be chosen to earn	a bonus)		
This m	odule h	as the following asses	sment components			
1. 10pi	cs cove or oral	red in lectures and exe	ercises: written examinated and examinated at a second second second second second second second second second	ation (approx. 90 mir	approx 20 minutes	x. 30 minu-
repo	rt (appi	ox. 8 pages)				, or project
2. Sem	inar: ta	lk (approx. 30 to 45 mi	nutes)			
Δςςρςς	ment c	omponents 1 and 2 wil	l be offered in German	or English		
Studer	its mus	t register for assessme	nt components 1 and 2	online (details to be	announced).	
Details	on wh	en assessment compo	nents 1 and 2 will be of	fered to be announce	ed.	
To pas	s this m	odule, students must	pass both assessment	component 1 and as	sessment componer	nt 2.
Allocat	ion of p	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)						
Master	Master's degree (1 major) FOKUS Physics (2010)					
Master	s uegr 's dear	ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy	vsics - ivaliostructuring	rechnology (2006)		
Master's w	ith 1 major	FOKUS Physics - Nanostructu-	JMU Würzburg • ger	ierated 11-Jan-2023 • exam. r	eg. data record	page 18 / 95
ring Techn	ology (200	6)	Master (120 ECTS)	FOKUS Physik - Nanostrukturt	echnik - 2006	

Module title			Abbreviation			
FOKUS	Resear	rch Module Type VK8E	Experimental Physics		11-FM-VK8E-072-mc)1
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi cipline cies. Aj arch pr	c and a of Expe oplicati oject (e	dvanced knowledge of erimental Physics, repr on of the acquired pro e.g. experiments, case	f independent scientific oduction of knowledge fessional knowledge ar studies etc.).	work in a current res , acquisition of socia ad methods to new s	search area, especia Il and methodologica cientific questions ir	Illy in the dis- al competen- n a mini rese-
Intende	ed learı	ning outcomes				
The stu especia apply t succes	Idents I ally in t he acqu sfully ir	have special and advance he specialist field of Ex uired methods, to sum nplement the acquired	nced knowledge of inde operimental Physics, an marise a sub-area of th knowledge and metho	pendent scientific w d are able to reprodu e current research ar ds in a mini research	ork in a current rese uce the acquired kno rea in an oral presen n project.	arch area, owledge, to tation and to
Course	s (type	, number of weekly cor	ntact hours, language –	if other than Germa	n)	
FOKUS contact FOKUS contact ly held	Einfüh t hours) Kompa t hours) during	rungsmodul Experimer) + Ü/P (1 weekly conta ktseminar Experiment), German or English, d semester break)	ntelle Physik (FOKUS Int ct hour), details on ava elle Physik (FOKUS Bloc etails on availability to	roductory Module Ex ilability to be annou k Taught Seminar Ex be announced (bloc	xperimental Physics) nced xperimental Physics) k taught seminar (3	: V (2 weekly :: S (2 weekly days), usual-
Methor ster, in	d of ass formati	e ssment (type, scope, on on whether module	language — if other the can be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-
This mo 1. Topio tes) repo 2. Sem	odule h cs cove or oral o rt (appi inar: ta	as the following asses red in lectures and exe examination of one car rox. 8 pages) lk (approx. 30 to 45 mi	sment components ercises: written examina ndidate each or oral exa nutes)	ation (approx. 90 mir amination in groups	nutes) or talk (appro: (approx. 30 minutes)	x. 30 minu-) or project
Assess Studen Details To pass	ment c ts mus on whe s this m	omponents 1 and 2 wil t register for assessme en assessment compo iodule, students must	l be offered in German nt components 1 and 2 nents 1 and 2 will be of pass both assessment	or English. online (details to be fered to be announce component 1 and as	e announced). ed. sessment componer	nt 2.
Allocat	ion of p	olaces				
Additio	onal info	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	e appea	rs in				
Master Master Master Master	's degro 's degro 's degro 's degro	ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy	vsics - Nanostructuring vsics (2010) vsics - Nanostructuring vsics (2006)	Technology (2010) Technology (2006)		
Master's w ring Techno	ith 1 majoi blogy (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg ● ger Master (120 ECTS)	ierated 11-Jan-2023 • exam. r FOKUS Physik - Nanostrukturi	eg. data record technik - 2006	page 19 / 95

Module title			Abbreviation			
FOKUS	FOKUS Research Module Type VK8I Interdisciplinary Research Fields 11-FM-VK8I-072-m01				1	
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 Seme	ster	graduale				
Conten	ts					
specifi terdisc lication ject (e.	c and a iplinary 1 of the g. expe	dvanced knowledge of subject, reproduction acquired professional riments, case studies	of knowledge, acquisit knowledge, acquisit knowledge and method etc.).	work in a current re- ion of social and me ds to new scientific c	search area, especia thodological compe questions in a mini re	illy in an in- tencies. App- esearch pro-
Intende	ed learı	ning outcomes				
The stu especia the acc cessful	Idents I ally in a Juired r ly impl	nave special and adva n interdisciplinary spe nethods, to summarise ement the acquired kn	nced knowledge of inde cialist field, and are ab a sub-area of the curre owledge and methods i	pendent scientific w le to reproduce the a ent research area in a n a mini research pr	ork in a current rese acquired knowledge, an oral presentation oject.	arch area, to apply and to suc-
Course	s (type	, number of weekly cor	ntact hours, language —	if other than Germa	n)	
FOKUS Fields): FOKUS Fields): minar (Einfüh V (2 w Kompa S (2 w 3 days)	rungsmodul Interdiszip eekly contact hours) + ktseminar Interdiszipl eekly contact hours), (, usually held during s	blinäre Fachgebiete (FO Ü/P (1 weekly contact h inäre Fachgebiete (FOKI German or English, deta emester break)	KUS Introductory Mo our), details on avai JS Block Taught Sen ils on availability to	dule Interdisciplinar ilability to be annour ninar Interdisciplinar be announced (bloc	y Research nced ry Research k taught se-
Methoo ster, in	d of ass formati	e ssment (type, scope, on on whether module	language — if other that can be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-
This mo 1. Topio tes) o repo 2. Semi	odule h cs cove or oral o rt (appi inar: ta	as the following asses red in lectures and exe examination of one car rox. 8 pages) lk (approx. 30 to 45 mi	sment components ercises: written examina ndidate each or oral exa nutes)	tion (approx. 90 min mination in groups	nutes) or talk (appro: (approx. 30 minutes)	x. 30 minu-) or project
Assess Studen Details To pass	ment c ts mus on whe s this m	omponents 1 and 2 wil t register for assessme en assessment compo rodule, students must	l be offered in German on nt components 1 and 2 nents 1 and 2 will be off pass both assessment	or English. online (details to be ered to be announce component 1 and as	e announced). ed. sessment componer	nt 2.
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master Master Master Master	's degro 's degro 's degro 's degro	ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy	vsics - Nanostructuring vsics (2010) vsics - Nanostructuring vsics (2006)	Technology (2010) Technology (2006)		
Master's wi ring Techno	ith 1 majoi blogy (200	FUKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	erated 11-Jan-2023 • exam. r OKUS Physik - Nanostruktur	eg. aata record technik - 2006	page 20 / 95

Module title			Abbreviation		
FOKUS	FOKUS Research Module Type VK8N 11-FM-VK8N-072-m01				
Module	e coord	inator		Module offered by	
chairpe	erson o	f examination committee		Faculty of Physics a	nd Astronomy
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)	
8	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Specifi field of tencies researc	c and a nanos . Appli ch proje	dvanced knowledge of in tructure technology, repro cation of the acquired pro ect (e.g. experiments, cas	dependent scientific oduction of knowleds ofessional knowledge e studies etc.).	work in a current res ge, acquisition of soc and methods to ne	search area, especially in the cial and methodological compe- w scientific questions in a mini
Intend	ed learı	ning outcomes			
The stu especia the acc cessful	Idents I ally in t quired r	have special and advance he field of nanostructure nethods, to summarise a ement the acquired know	ed knowledge of inde technology, and are sub-area of the curre /ledge and methods	pendent scientific w able to reproduce th ent research area in a in a mini research pr	ork in a current research area, e acquired knowledge, to apply an oral presentation and to suc- oject.
Course	s (type	, number of weekly conta	ct hours, language –	· if other than Germa	n)
 FOKUS Einführungsmodul Nanostrukturtechnik (FOKUS Introductory Module Nanostructure Technology): V (2 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Nanostrukturtechnik (FOKUS Block Taught Seminar Nanostructure Technology): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) This module has the following assessment components Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or project report (approx. 8 pages) Seminar: talk (approx. 30 to 45 minutes) 					
Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). Details on when assessment components 1 and 2 will be offered to be announced. To pass this module, students must pass both assessment component 1 and assessment component 2.					
Allocat	ion of p	olaces			
Additio	onal info	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	e appea	urs in			
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)	
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2006)	

Master's with 1 major FOKUS	Physics - Nanostructu-
ring Technology (2006)	

Module title			Abbreviation			
FOKUS	FOKUS Research Module Type VK8T Theoretical Physics 11-FM-VK8T-072-m01)1	
Module coordinator			Module offered by			
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conter	Its					
Specifi	c and a	dvanced knowledge of	findependent scientific	work in a current res	search area, especia	lly in the dis-
	of Theo nnlicati	oretical Physics, reproc	luction of knowledge, a fessional knowledge ar	cquisition of social and methods to new so	and methodological	competen-
arch pi	oject (e	e.g. experiments, case	studies etc.).		cicitatic questions in	i u illini rese
Intend	ed lear	ning outcomes				
The stu	udents l	nave special and adva	nced knowledge of inde	pendent scientific w	ork in a current rese	arch area.
especi	ally in t	he specialist field of Th	neoretical Physics, and	are able to reproduce	e the acquired know	ledge, to ap-
ply the	acquir	ed methods, to summa	rise a sub-area of the c	urrent research area	in an oral presentat	ion and to
succes	sfully II	nplement the acquired	I knowledge and metho	ds in a mini research	n project.	
Course	s (type	, number of weekly cor	ntact hours, language –	if other than Germa	n)	
FOKUS	Einfüh t hourc	rungsmodul Theoretisc	the Physik (FOKUS Intro	ductory Module Theo	oretical Physics): V (2 weekly
FOKUS	Kompa	ktseminar Theoretisch	e Physik (FOKUS Block	Taught Seminar The	oretical Physics): S (2 weekly
contac	t hours)), German or English, d	etails on availability to	be announced (bloc	k taught seminar (3	days), usual-
ly held	during	semester break)				
Metho	d of ass	sessment (type, scope,	language — if other that	an German, examina	tion offered — if not	every seme-
ster, in	formati	on on whether module	can be chosen to earn	a bonus)		
Ihis m	odule h	as the following asses	sment components	ation (approx oo mir	uites) or talk (approx	x oo minu-
tes)	or oral	examination of one car	ndidate each or oral exa	amination in groups (approx. 30 minutes) or project
repo	rt (appi	rox. 8 pages)		0 1		
2. Sem	inar: ta	lk (approx. 30 to 45 mi	nutes)			
Assess	ment c	omponents 1 and 2 wil	l be offered in German	or English.		
Studer	nts mus	t register for assessme	nt components 1 and 2	online (details to be	announced).	
Details	on wh	en assessment compo	nents 1 and 2 will be of	fered to be announce	ed.	
	s this m	loade, students must	pass both assessment	component 1 and as	sessment componer	11 2.
Allocal		Jiaces				
		49				
Additio	onal Inf	ormation				
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)						
Master	's degr	ee (1 major) FOKUS Phy	isics - Nanostructuring	Technology (2006)		
Master	's degr	ee (1 major) FOKUS Phy	/sics (2006)			
Master's w	ith 1 majo	FOKUS Physics - Nanostructu-	JMU Würzburg • ger	ierated 11-Jan-2023 • exam. re	eg. data record	page 22 / 95
ring Techn	ology (200	6)	Master (120 ECTS)	FOKUS Physik - Nanostrukturt	echnik - 2006	

Module title					Abbreviation	
FOKUS	Resea	rch Module Type VK9E	Experimental Physics		11-FM-VK9E-072-mc)1
Modul	e coord	inator		Module offered by		
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
9	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Specifi cipline cies. A arch pr	Specific and advanced knowledge of independent scientific work in a current research area, especially in the dis- cipline of Experimental Physics, reproduction of knowledge, acquisition of social and methodological competen- cies. Application of the acquired professional knowledge and methods to new scientific questions in a mini rese- arch project (e.g. experiments, case studies etc.).					
Intend	ed lear	ning outcomes				
The stu especia apply t succes	idents l ally in t he acqu sfully in	nave special and adva he specialist field of E uired methods, to sum nplement the acquired	nced knowledge of inde operimental Physics, an marise a sub-area of th hknowledge and metho	pendent scientific w d are able to reprodu e current research ar ds in a mini research	rork in a current rese uce the acquired kno rea in an oral presen n project.	arch area, wledge, to tation and to
Course	s (type	, number of weekly cor	ntact hours, language –	· if other than Germa	n)	
FOKUS contac FOKUS contac ly held	FOKUS Einführungsmodul Experimentelle Physik (FOKUS Introductory Module Experimental Physics): V (3 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Experimentelle Physik (FOKUS Block Taught Seminar Experimental Physics): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break)					
Metho ster, in	d of ass formati	s essment (type, scope, on on whether module	language — if other that can be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-
This m 1. Topi tes) repo 2. Sem	odule h cs cove or oral rt (appi inar: ta	as the following asses red in lectures and exe examination of one car ox. 8 pages) lk (approx. 30 to 45 mi	sment components ercises: written examina ndidate each or oral exa nutes)	ation (approx. 90 mir amination in groups	nutes) or talk (appro (approx. 30 minutes)	x. 30 minu-) or project
Assess Studer Details To pass	ment c its mus on who s this m	omponents 1 and 2 wil t register for assessme en assessment compo odule, students must	l be offered in German ent components 1 and 2 nents 1 and 2 will be off pass both assessment	or English. online (details to be fered to be announce component 1 and as	e announced). ed. sessment componer	nt 2.
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Workload						
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	e appea	irs in				
Master Master Master Master	's degr 's degr 's degr 's degr	ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy ee (1 major) FOKUS Phy	ysics - Nanostructuring ysics (2010) ysics - Nanostructuring ysics (2006)	Technology (2010) Technology (2006)		
Master's w ring Techno	ith 1 majo ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	erated 11-Jan-2023 • exam. r FOKUS Physik - Nanostrukturt	eg. data record rechnik - 2006	page 23 / 95

Module title					Abbreviation	
FOKUS	OKUS Research Module Type VK9I Interdisciplinary Research Fields 11-FM-VK9I-072-m01					
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
9	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi terdisc licatior ject (e.	terdisciplinary subject, reproduction of knowledge, acquisition of social and methodological competencies. App- lication of the acquired professional knowledge and methods to new scientific questions in a mini research pro- ject (e.g. experiments, case studies etc.).					
Intend	ed learı	ning outcomes				
The stu especia the acc cessful	Idents I ally in a Juired r ly impl	nave special and adva n interdisciplinary spe nethods, to summarise ement the acquired kn	nced knowledge of inde cialist field, and are ab e a sub-area of the curre owledge and methods i	pendent scientific w le to reproduce the a ent research area in a in a mini research pr	ork in a current rese acquired knowledge, an oral presentation oject.	arch area, to apply and to suc-
Course	s (type	, number of weekly cor	ntact hours, language –	· if other than Germa	n)	
FOKUS Fields) FOKUS Fields) minar (FOKUS Einführungsmodul Interdisziplinäre Fachgebiete (FOKUS Introductory Module Interdisciplinary Research Fields): V (3 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Interdisziplinäre Fachgebiete (FOKUS Block Taught Seminar Interdisciplinary Research Fields): S (2 weekly contact hours), German or English, details on availability to be announced (block taught se- minar (2 days), usually hold during semester break).					
Metho ster, in	d of ass formati	e ssment (type, scope, on on whether module	language — if other that can be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-
This mo 1. Topi tes) repo 2. Sem	odule h cs cove or oral o rt (appi inar: ta	as the following asses red in lectures and exe examination of one car rox. 8 pages) lk (approx. 30 to 45 mi	sment components ercises: written examina ndidate each or oral exa nutes)	ation (approx. 90 min amination in groups	nutes) or talk (approx (approx. 30 minutes)	ĸ. 30 minu-) or project
Assess Studen Details To pass	ment c ts mus on whe s this m	omponents 1 and 2 wil t register for assessme en assessment compo iodule, students must	l be offered in German on nt components 1 and 2 nents 1 and 2 will be off pass both assessment	or English. online (details to be fered to be announce component 1 and as	e announced). ed. sessment componer	nt 2.
Allocat	ion of p	olaces				
Additio	onal info	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination re	gulations for teaching-	legree programmes)		
Module	e appea	ars in				
Master Master Master Master	Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)					
Master's w ring Techno	ith 1 majoi blogy (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	erated 11-Jan-2023 • exam. r FOKUS Physik - Nanostruktur	eg. data record technik - 2006	page 24 / 95

Module title				Abbreviation		
FOKUS	FOKUS Research Module Type VK9N 11-FM-VK9N-072-m01					
Module	e coordi	inator		Module offered by		
chairpe	erson of	examination committee		Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
9	numer	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specific and advanced knowledge of independent scientific work in a current research area, especially in the field of nanostructure technology, reproduction of knowledge, acquisition of social and methodological competencies. Application of the acquired professional knowledge and methods to new scientific questions in a mini research project (e.g. experiments, case studies etc.).						
Intende	ed learr	ning outcomes				
The stu especia the acc cessful	Idents h ally in th Juired n ly imple	nave special and advance he field of nanostructure nethods, to summarise a ement the acquired know	ed knowledge of inde technology, and are sub-area of the curre rledge and methods i	pendent scientific w able to reproduce the ent research area in a in a mini research pre	ork in a current research area, e acquired knowledge, to apply an oral presentation and to suc- oject.	
Course	s (type,	number of weekly conta	ct hours, language —	· if other than Germa	n)	
weekly FOKUS weekly days),	contac Kompa contac usually	t hours) + Ü/P (1 weekly o ktseminar Nanostrukturt t hours), German or Engli held during semester bre	contact hour), details echnik (FOKUS Block sh, details on availal eak)	on availability to be Taught Seminar Nar bility to be announce	e announced nostructure Technology): S (2 ed (block taught seminar (3	
ster, in	formati	on on whether module ca	nguage — if other that an be chosen to earn	an German, examina a bonus)	tion offered — If not every seme-	
This mo 1. Topio tes) repo 2. Sem	odule h cs cove or oral e rt (appr inar: tal	as the following assessm red in lectures and exerci examination of one candi ox. 8 pages) lk (approx. 30 to 45 minu	ient components ises: written examina date each or oral exa tes)	ation (approx. 90 mir amination in groups (nutes) or talk (approx. 30 minu- (approx. 30 minutes) or project	
Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). Details on when assessment components 1 and 2 will be offered to be announced. To pass this module, students must pass both assessment component 1 and assessment component 2.						
Allocat	ion of p	olaces				
Additio	nal info	ormation				
Workload						
Referre	d to in	IPOI (examination regul	lations for teaching.	legree programmec)		
Modul		re in				
Mactor	- appea	Do (1 major) EOKUS Dhusi	c. Nanoctructurina	Tochnology (2010)		
Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)					

Master's with 1 major FOKUS Physics - Nanostructu-
ring Technology (2006)

Module title					Abbreviation		
FOKUS	Resea	rch Module Type VK9T	Theoretical Physics		11-FM-VK9T-072-mc)1	
Modul	e coord	inator		Module offered by			
chairpe	erson o	f examination committ	ee	Faculty of Physics and Astronomy			
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)			
9	nume	rical grade					
Duratio	on	Module level	Other prerequisites				
1 seme	ster	graduate					
Conter	Contents						
Specifi	Specific and advanced knowledge of independent scientific work in a current research area, especially in the dis-						
	of Theo nnlicati	oretical Physics, reproc	luction of knowledge, a fessional knowledge ar	cquisition of social and methods to new so	and methodological	competen-	
arch pi	oject (e	e.g. experiments, case	studies etc.).		ciciline questions in	i u illini rese	
Intend	ed lear	ning outcomes					
The stu	udents l	nave special and adva	nced knowledge of inde	pendent scientific w	ork in a current rese	arch area.	
especi	ally in t	he specialist field of Th	neoretical Physics, and	are able to reproduce	e the acquired know	ledge, to ap-	
ply the	acquir	ed methods, to summa	rise a sub-area of the c	urrent research area	in an oral presentat	ion and to	
succes	sfully II	nplement the acquired	I knowledge and metho	ds in a mini research	n project.		
Course	s (type	, number of weekly cor	ntact hours, language –	if other than Germa	n)		
FOKUS	Einfüh t hourc	rungsmodul Theoretisc	the Physik (FOKUS Intro	ductory Module Theo	oretical Physics): V (3 weekly	
FOKUS	Kompa	ktseminar Theoretisch	e Physik (FOKUS Block	Taught Seminar The	pretical Physics): S (2 weekly	
contac	t hours)), German or English, d	etails on availability to	be announced (bloc	k taught seminar (3	days), usual-	
ly held	during	semester break)					
Metho	d of ass	essment (type, scope,	language — if other that	an German, examina	tion offered — if not	every seme-	
ster, in	formati	on on whether module	can be chosen to earn	a bonus)			
Ihis m	odule h	as the following asses	sment components	ation (approx oo mir	uites) or talk (approx	x oo minu-	
tes)	or oral	examination of one cal	ndidate each or oral exa	amination in groups (approx. 30 minutes) or project	
repo	rt (appi	rox. 8 pages)		0 1			
2. Sem	inar: ta	lk (approx. 30 to 45 mi	nutes)				
Assess	ment c	omponents 1 and 2 wil	l be offered in German	or English.			
Studer	nts mus	t register for assessme	nt components 1 and 2	online (details to be	announced).		
Details	on wh	en assessment compo	nents 1 and 2 will be of	fered to be announce	ed.		
	s this m	loade, students must	pass both assessment	component 1 and as	sessment componer	11 2.	
Allocal		Diaces					
		4 °					
Additio	onal Inf	ormation					
Workload							
Reterred to in LPO I (examination regulations for teaching-degree programmes)							
-							
Modul	e appea	ITS IN		T			
Master's degree (1 major) FUKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010)							
Master	master's degree (1 major) FOKUS Flysics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)						
Master	's degr	ee (1 major) FOKUS Phy	/sics (2006)				
Master's w	ith 1 majo	FOKUS Physics - Nanostructu-	JMU Würzburg • ger	ierated 11-Jan-2023 • exam. re	eg. data record	page 26 / 95	
ring Techn	ology (200	6)	Master (120 ECTS)	FOKUS Physik - Nanostrukturt	echnik - 2006		

Module title					Abbreviation	
FOKUS	Resear	ch Module Type VMK1	2E Experimental Physi	cs	11-FM-VMK12E-072	-m01
Module	e coord	inator		Module offered by		
chairpe	erson of	examination committe	ee	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
12	nume	rical grade				
Duratio	on	Module level	Other prerequisites	;		
1 seme	ster	graduate				
Specifi cipline cies. A arch pr	Specific and advanced knowledge of independent scientific work in a current research area, especially in the dis- cipline of Experimental Physics, reproduction of knowledge, acquisition of social and methodological competen- cies. Application of the acquired professional knowledge and methods to new scientific questions in a mini rese- arch project (e.g. experiments, case studies etc.).					
Intend	ed learr	ing outcomes				
The stu especia apply t succes	Idents I ally in t he acqu sfully ir	nave special and advar he specialist field of Ex uired methods, to sum nplement the acquired	nced knowledge of inde perimental Physics, ar marise a sub-area of th knowledge and metho	ependent scientific w nd are able to reprod e current research a ods in a mini researc	vork in a current rese uce the acquired kno rea in an oral presen h project.	earch area, owledge, to tation and to
Course	s (type	number of weekly con	tact hours, language –	– if other than Germa	an)	
 FOKUS Einführungsmodul Experimentelle Physik (FOKUS Introductory Module Experimental Physics): V (2 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Experimentelle Physik (FOKUS Block Taught Seminar Experimental Physics): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Experimentelle Physik (FOKUS Mini Research Project Experimental Physics): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) This module has the following assessment components 1. Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or project report (approx. 8 pages) 2. Seminar: talk (approx. 30 to 45 minutes) 						
Assessment components 1 through 3 will be offered in German or English. Students must register for assessment components 1 through 3 online (details to be announced). Details on when assessment components 1 through 3 will be offered to be announced. To pass this module, students must pass each of the assessment components 1 through 3.						
Allocat	ion of p	olaces				
Additional information						
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	Module appears in					
Master	's degre	ee (1 major) FOKUS Phy	sics - Nanostructuring	Technology (2010)		
Master's w ring Techno	ith 1 major ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. 1 FOKUS Physik - Nanostruktur	reg. data record technik - 2006	page 27 / 95



Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)

Module title					Abbreviation		
FOKUS	FOKUS Research Module Type VMK12I Interdisciplinary Research Fields 11-FM-VMK12I-072-m01						
Modul	e coord	inator		Module offered by			
chairperson of examination committee			ee	Faculty of Physics a	and Astronomy		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)			
12	nume	rical grade					
Duratio	on	Module level	Other prerequisites	•			
1 seme	ester	graduate					
Specifi discipl licatior ject (e.	Specific and advanced knowledge of independent scientific work in a current research area, especially in inter- disciplinary subjects, reproduction of knowledge, acquisition of social and methodological competencies. App- lication of the acquired professional knowledge and methods to new scientific questions in a mini research pro- ject (e.g. experiments, case studies etc.).						
Intend	ed learr	ning outcomes					
The stu especi acquire cessfu	udents ł ally in in ed meth lly imple	nave special and advar nterdisciplinary specia nods, to summarise a s ement the acquired kn	nced knowledge of inde list fields, and are able ub-area of the current i pwledge and methods	ependent scientific w to reproduce the ac research area in an c in a mini research pi	vork in a current rese quired knowledge, to oral presentation and roject.	arch area, o apply the I to suc-	
Course	s (type,	, number of weekly con	tact hours, language –	- if other than Germa	an)		
Fields) FOKUS Fields) minar (FOKUS search weeks,	: V (2 w Kompa : S (2 w (3 days) Minifor Fields) , part tir	eekly contact hours) + ktseminar Interdiszipli eekly contact hours), G , usually held during s schungsprojekt Interd : P (2 weekly contact ho ne)	U/P (1 weekly contact f näre Fachgebiete (FOK erman or English, deta emester break) sziplinäre Fachgebiete ours), German or Englis	nour), details on ava US Block Taught Ser ails on availability to e (FOKUS Mini Resea sh, details on availab	niability to be annous ninar Interdisciplina be announced (bloc rch Project Interdisci pility to be announce	nced ry Research k taught se- plinary Re- ed (approx. 3	
Metho ster, in	d of ass formati	e ssment (type, scope, on on whether module	language — if other th can be chosen to earn	an German, examina a bonus)	ition offered — if not	every seme-	
This m 1. Topi tes) repo 2. Sem 3. Rese	 This module has the following assessment components 1. Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or oral examination of one candidate each or oral examination in groups (approx. 30 minutes) or project report (approx. 8 pages) 2. Seminar: talk (approx. 30 to 45 minutes) 2. Research project: project report (approx. 8 pages) 						
Assessment components 1 through 3 will be offered in German or English. Students must register for assessment components 1 through 3 online (details to be announced). Details on when assessment components 1 through 3 will be offered to be announced. To pass this module, students must pass each of the assessment components 1 through 3							
Allocat	tion of p	olaces					
Additio	onal info	ormation					
Workload							
Referre	Poferred to in LPO L (examination regulations for teaching degree programmer)						
Modul	e appea	irs in					
Master's w	vith 1 major	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. FOKUS Physik - Nanostruktur	reg. data record technik - 2006	page 29 / 95	



Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)

Modul	Module title						
FOKUS	Resear	rch Module Type VMK12I	N Nanostructure Tech	nology	11-FM-VMK12N-072	-m01	
Modul	e coord	inator		Module offered by			
chairperson of examination committee		2	Faculty of Physics a	and Astronomy			
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)			
12	nume	rical grade					
Durati	on	Module level	Other prerequisites				
1 seme	ester	graduate					
Specif field o tencies resear	Specific and advanced knowledge of independent scientific work in a current research area, especially in the field of nanostructure technology, reproduction of knowledge, acquisition of social and methodological competencies. Application of the acquired professional knowledge and methods to new scientific questions in a mini research project (e.g. experiments, case studies etc.).						
Intend	ed learı	ning outcomes					
The stu especi the acc cessfu	udents I ally in t quired r lly imples (type)	nave special and advanc he field of nanostructure nethods, to summarise a ement the acquired know number of weekly conta	ed knowledge of inde technology, and are sub-area of the curre vledge and methods act hours, language –	ependent scientific w able to reproduce th ent research area in a in a mini research pr - if other than Germa	vork in a current rese e acquired knowled an oral presentation oject. n)	arch area, ge, to apply and to suc-	
FORUS	Finfüh	rungsmodul Nanostruktu	urtechnik (FOKUS Intr	ductory Module Nar	nostructure Technolo	(2)	
weekly FOKUS weekly days), FOKUS (2 wee Metho	v contac Kompa v contac usually Minifor kly cont d of ass	t hours) + Ü/P (1 weekly ktseminar Nanostruktur t hours), German or Engl held during semester br rschungsprojekt Nanostr cact hours), German or En cessment (type, scope, la	contact hour), details technik (FOKUS Block ish, details on availa eak) ukturtechnik (FOKUS nglish, details on ava anguage — if other tha	on availability to be Taught Seminar Nar bility to be announce Mini Research Proje ilability to be announ an German, examina	e announced nostructure Technolo ed (block taught sem ct Nanostructure Tec nced (approx. 3 wee tion offered — if not	ogy): S (2 ninar (3 chnology): P ks, part time) every seme-	
This m 1. Topi tes) repo	odule h cs cove or oral ort (appi	as the following assessr red in lectures and exerc examination of one cand rox. 8 pages)	nent components ises: written examina idate each or oral exa	ation (approx. 90 min amination in groups	nutes) or talk (appro (approx. 30 minutes	x. 30 minu-) or project	
2. Sem 3. Rese	iinar: ta earch pr	lk (approx. 30 to 45 minu oject: project report (app	utes) prox. 8 pages)				
Assess Studer Details To pas	sment conts mus s on who s this m	omponents 1 through 3 v t register for assessment en assessment compone odule, students must pa	vill be offered in Gern components 1 throug ents 1 through 3 will b ass each of the asses	nan or English. gh 3 online (details t e offered to be anno sment components a	o be announced). unced. 1 through 3.		
Alloca	tion of p	olaces					
Additional information							
Workload							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Modul	Module appears in						
Maste	r's degr	ee (1 major) FOKUS Physi	ics - Nanostructuring	Technology (2010)			
Master's w ring Techn	vith 1 majoı ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. r FOKUS Physik - Nanostruktur	reg. data record technik - 2006	page 31 / 95	



Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)

Module title					Abbreviation		
FOKUS	FOKUS Research Module Type VKM12T Theoretical Physics 11-FM-VMK12T-072-m01						
Modul	e coord	inator		Module offered by			
chairpe	erson o	f examination committee	r	Faculty of Physics a	nd Astronomy		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)			
12	nume	rical grade					
Duratio	on stor	Module level	Other prerequisites				
Conten	its	graduate	<u> </u>				
Specifi cipline cies. A arch pr	Specific and advanced knowledge of independent scientific work in a current research area, especially in the dis- cipline of Theoretical Physics, reproduction of knowledge, acquisition of social and methodological competen- cies. Application of the acquired professional knowledge and methods to new scientific questions in a mini rese- arch project (e.g. experiments, case studies etc.).						
Intend	ed learı	ning outcomes					
The stu especia ply the succes	Idents I ally in t acquire sfully in	nave special and advance he specialist field of Thee ed methods, to summaris nplement the acquired k	ed knowledge of inde oretical Physics, and se a sub-area of the c nowledge and metho	ependent scientific w are able to reproduc current research area ods in a mini research	vork in a current rese e the acquired know in an oral presentat n project.	arch area, ledge, to ap- ion and to	
Course	s (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)		
contac FOKUS contac ly held FOKUS kly con Methor ster, in This m 1. Topi tes) repo 2. Sem	 FOKUS Einführungsmodul Theoretische Physik (FOKUS Introductory Module Theoretical Physics): V (2 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Theoretische Physik (FOKUS Block Taught Seminar Theoretical Physics): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Theoretische Physik (FOKUS Mini Research Project Theoretical Physics): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module can be chosen to earn a bonus) This module has the following assessment components Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or project report (approx. 8 pages) 						
3. Rese	earch pr	roject: project report (app	prox. 8 pages)				
Assess Studer Details To pase	Assessment components 1 through 3 will be offered in German or English. Students must register for assessment components 1 through 3 online (details to be announced). Details on when assessment components 1 through 3 will be offered to be announced. To pass this module, students must pass each of the assessment components 1 through 3						
Allocat	ion of p	olaces					
Additional information							
Worklo	ad						
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module	e appea	nrs in					
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)			
Master's w ring Techno	ith 1 majoı ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. r FOKUS Physik - Nanostruktur	eg. data record technik - 2006	page 33 / 95	



Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)

Module	Module title					Abbreviation	
FOKUS	FOKUS Research Module Type VMK13E Experimental Physics						
Module	coordi	nator		Module offered by			
chairpe	rson of	examination committe	ee	Faculty of Physics a	nd Astronomy		
ECTS	Metho	d of grading	Only after succ. con	npl. of module(s)			
13	numer	ical grade					
Duratio	n	Module level	Other prerequisites	•			
1 semes	ster	graduate					
Specific cipline cies. Ap arch pro	Specific and advanced knowledge of independent scientific work in a current research area, especially in the dis- cipline of Experimental Physics, reproduction of knowledge, acquisition of social and methodological competen- cies. Application of the acquired professional knowledge and methods to new scientific questions in a mini rese- arch project (e.g. experiments, case studies etc.).						
Intende	ed learr	ing outcomes					
The stud especia apply th success	dents ł Illy in tł ne acqu sfully ir	nave special and advar ne specialist field of Ex lired methods, to sum nplement the acquired	nced knowledge of inde perimental Physics, ar marise a sub-area of th knowledge and metho	ependent scientific w nd are able to reprod e current research an ods in a mini research	vork in a current rese uce the acquired kno rea in an oral presen n project.	earch area, owledge, to tation and to	
Courses	s (type,	number of weekly con	tact hours, language –	– if other than Germa	n)		
contact FOKUS I contact ly held o FOKUS I weekly Method ster, inf	 FOKUS Einführungsmodul Experimentelle Physik (FOKUS Introductory Module Experimental Physics): V (3 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Experimentelle Physik (FOKUS Block Taught Seminar Experimental Physics): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Experimentelle Physik (FOKUS Mini Research Project Experimental Physics): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module can be chosen to earn a bonus) 						
 This module has the following assessment components 1. Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or oral examination of one candidate each or oral examination in groups (approx. 30 minutes) or project report (approx. 8 pages) 2. Seminar: talk (approx. 30 to 45 minutes) 3. Research project: project report (approx. 8 pages) Assessment components 1 through 3 will be offered in German or English. Students must register for assessment components 1 through 3 online (details to be announced). Details on when assessment components 1 through 3 will be offered to be announced. 							
Allocati	ion of p	laces					
Additio	nal info	ormation					
Workload							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module appears in							
Master'	s degre	ee (1 major) FOKUS Phy	sics - Nanostructuring	Technology (2010)			
Master's wit ring Techno	th 1 major logy (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. r FOKUS Physik - Nanostruktur	eg. data record technik - 2006	page 35 / 95	



Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)
Module title			Abbreviation			
FOKUS	S Resea	ch Module Type VMK1	3I Interdisciplinary Re	search Fields	11-FM-VMK13I-072-	m01
Module coordinator Module of		Module offered by				
chairp	erson o	f examination committ	ee	Faculty of Physics a	and Astronomy	
ECTS Method of grading Only after succ. compl. of module(s)						
13	nume	rical grade				
Durati	on	Module level	Other prerequisites			
Conter	nts	glaudate]			
Specific and advanced knowledge of independent scientific work in a current research area, especially in inter- disciplinary subjects, reproduction of knowledge, acquisition of social and methodological competencies. App- lication of the acquired professional knowledge and methods to new scientific questions in a mini research pro- ject (e.g. experiments, case studies etc.).						
Intend	ed learı	ning outcomes				
The stu especi acquir cessfu	udents l ally in in ed meth lly impl	nave special and advar nterdisciplinary specia nods, to summarise a s ement the acquired kn	nced knowledge of inde list fields, and are able ub-area of the current i owledge and methods	ependent scientific w to reproduce the ac research area in an c in a mini research pi	vork in a current rese quired knowledge, to ral presentation and roject.	arch area, o apply the l to suc-
Course	es (type	, number of weekly cor	tact hours, language –	- if other than Germa	ın)	
Fields): V (3 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Interdisziplinäre Fachgebiete (FOKUS Block Taught Seminar Interdisciplinary Research Fields): S (2 weekly contact hours), German or English, details on availability to be announced (block taught se- minar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Interdisziplinäre Fachgebiete (FOKUS Mini Research Project Interdisciplinary Re- search Fields): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3						
Metho	d of ass	essment (type, scope,	 language — if other th	an German, examina	ition offered — if not	every seme-
ster, ir	formati	on on whether module	can be chosen to earn	a bonus)		
This m 1. Topi tes) repc 2. Sem 3. Rese	odule h ics cove or oral o ort (appr inar: ta earch pr	as the following asses red in lectures and exe examination of one car rox. 8 pages) lk (approx. 30 to 45 mi oject: project report (a	sment components rcises: written examina ndidate each or oral exa nutes) pprox. 8 pages)	ation (approx. 90 mi amination in groups	nutes) or talk (appro (approx. 30 minutes	x. 30 minu-) or project
Assess Studer Details To pas	sment conts mus nts mus s on who s this m	omponents 1 through 3 t register for assessme en assessment compo iodule, students must	will be offered in Gern nt components 1 throu nents 1 through 3 will b pass each of the asses	nan or English. gh 3 online (details t e offered to be anno sment components :	to be announced). unced. 1 through 3.	
Alloca	tion of p	olaces				
Additi	onal inf	ormation				
Workle	oad					
Referr	ed to in	LPOI (examination re	gulations for teaching-	degree programmes)		
Modul	e appea	irs in				
Master's w ring Techn	vith 1 majoi ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. FOKUS Physik - Nanostruktur	reg. data record technik - 2006	page 37 / 95



Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)

Module title			Abbreviation			
FOKUS	Resear	ch Module Type VMK13	N Nanostructure Tech	nology	11-FM-VMK13N-072-	-m01
Modul	e coord	inator		Module offered by		
chairp	erson of	examination committee	e	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
13 numerical grade						
Durati	on	Module level	Other prerequisites	i		
1 seme	ester	graduate				
Specif field o tencies resear	Specific and advanced knowledge of independent scientific work in a current research area, especially in the field of nanostructure technology, reproduction of knowledge, acquisition of social and methodological competencies. Application of the acquired professional knowledge and methods to new scientific questions in a mini research project (e.g. experiments, case studies etc.).					
Intend	ed learr	ning outcomes				
The stu especi the acc cessfu	udents H ally in th quired n lly imple	nave special and advance he field of nanostructure nethods, to summarise a ement the acquired know	ed knowledge of inde technology, and are a sub-area of the curre wledge and methods	ependent scientific w able to reproduce th ent research area in a in a mini research pr	vork in a current rese e acquired knowleds an oral presentation roject.	arch area, ge, to apply and to suc-
Course	es (type	number of weekly cont	act hours, language –	- if other than Germa	ın)	
FOKUS Einfuhrungsmodul Nanostrukturtechnik (FOKUS Introductory Module Nanostructure Technology): V (3 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Nanostrukturtechnik (FOKUS Block Taught Seminar Nanostructure Technology): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Nanostrukturtechnik (FOKUS Mini Research Project Nanostructure Technology): P (2 weekly contact hours), German or English, details on availability to be announced (approx, 3 weeks, part time)						
Metho ster, ir	d of ass Iformati	essment (type, scope, la on on whether module o	anguage — if other the	an German, examina a bonus)	tion offered — if not	every seme-
This m 1. Topi tes) repo 2. Sem 3. Reso	odule h cs cove or oral o ort (appr inar: ta earch pr	as the following assess red in lectures and exer- examination of one cano ox. 8 pages) lk (approx. 30 to 45 min oject: project report (ap	ment components cises: written examina lidate each or oral exa utes) prox. 8 pages)	ation (approx. 90 min amination in groups	nutes) or talk (appro: (approx. 30 minutes)	x. 30 minu-) or project
Assess Studer Details To pas	sment co nts mus s on whe s this m	omponents 1 through 3 v t register for assessmen en assessment compone odule, students must p	will be offered in Gern t components 1 throu ents 1 through 3 will b ass each of the asses	nan or English. gh 3 online (details t e offered to be anno sment components 1	o be announced). unced. I through 3.	
Alloca	tion of p	olaces				
Additi	onal info	ormation				
Workload						
Referr	ed to in	LPOI (examination reg	ulations for teaching-	degree programmes)		
			3	<u> </u>		
Modul	e appea	rs in				
Maste	's degre	ee (1 major) FOKUS Phys	ics - Nanostructuring	Technology (2010)		
Master's w ring Techn	vith 1 major ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. r FOKUS Physik - Nanostruktur	reg. data record technik - 2006	page 39 / 95



Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)

Module title			Abbreviation			
FOKUS	Resear	rch Module Type VKM131	Theoretical Physics		11-FM-VMK13T-072-m01	
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committee	r	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
13	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Specific and advanced knowledge of independent scientific work in a current research area, especially in the dis- cipline of Theoretical Physics, reproduction of knowledge, acquisition of social and methodological competen- cies. Application of the acquired professional knowledge and methods to new scientific questions in a mini rese- arch project (e.g. experiments, case studies etc.)						
Intend	ed learı	ning outcomes				
The stu especia ply the succes	Idents I ally in t acquire sfully in	nave special and advance he specialist field of The ed methods, to summaris nplement the acquired k	ed knowledge of inde pretical Physics, and se a sub-area of the c nowledge and metho	ependent scientific w are able to reproduc urrent research area ds in a mini researcl	rork in a current research area e the acquired knowledge, to in an oral presentation and to n project.	ap- o
Course	s (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)	
 FOKUS Einführungsmodul Theoretische Physik (FOKUS Introductory Module Theoretical Physics): V (3 weekly contact hours) + Ü/P (1 weekly contact hour), details on availability to be announced FOKUS Kompaktseminar Theoretische Physik (FOKUS Block Taught Seminar Theoretical Physics): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Theoretische Physik (FOKUS Mini Research Project Theoretical Physics): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time) Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- 						
ster, in	formati	on on whether module ca	an be chosen to earn	a bonus)		
This me 1. Topic tes) repo 2. Sem 3. Rese	odule h cs cove or oral o rt (appi inar: ta earch pr	as the following assessn red in lectures and exerc examination of one cand rox. 8 pages) lk (approx. 30 to 45 minu oject: project report (app	nent components ises: written examina idate each or oral exa ntes) prox. 8 pages)	ation (approx. 90 mir amination in groups	nutes) or talk (approx. 30 min (approx. 30 minutes) or proje	u- ct
Assess Studen Details To pass	ment co Its mus on who s this m	omponents 1 through 3 w t register for assessment en assessment compone odule, students must pa	vill be offered in Germ components 1 throug nts 1 through 3 will b uss each of the asses	nan or English. gh 3 online (details t e offered to be anno sment components 1	o be announced). unced. . through 3.	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-o	degree programmes)		
Madul						
Mactor	appea	IIS III	cc Napostructurias	Tachnology (acto)		
master	suegr			recimology (2010)		
Master's w ring Techno	ith 1 majoi plogy (200	6)	JMU Würzburg • ger Master (120 ECTS)	ierated 11-Jan-2023 • exam. r FOKUS Physik - Nanostrukturi	eg. data record page 41 / technik - 2006	95



Module title			Abbreviation			
FOKUS	FOKUS Research Module Type VMK14E Experimental Physics				11-FM-VMK14E-072-	-m01
Module	e coord	nator		Module offered by		
chairpe	erson of	examination committe	ee	Faculty of Physics a	nd Astronomy	
ECTS	Metho	d of grading	Only after succ. con	npl. of module(s)		
14	nume	ical grade				
Duratio	on	Module level	Other prerequisites	;		
1 seme	ster	graduate				
Specifi cipline cies. A arch pr	c and a of Expe pplicati oject (e	dvanced knowledge of rimental Physics, repr on of the acquired proi .g. experiments, case s	independent scientific oduction of knowledge essional knowledge ar studies etc.).	c work in a current re , acquisition of socia nd methods to new s	search area, especia al and methodologic cientific questions in	ally in the dis- al competen- n a mini rese-
Intend	ed learr	ing outcomes				
The stu especia apply t succes	Idents ł ally in tl he acqu sfully ir	nave special and advar ne specialist field of Ex lired methods, to sum nplement the acquired	nced knowledge of inde perimental Physics, ar marise a sub-area of th knowledge and metho	ependent scientific w nd are able to reprod e current research an ods in a mini researcl	vork in a current rese uce the acquired kno rea in an oral presen n project.	earch area, owledge, to tation and to
Course	s (type,	number of weekly con	tact hours, language –	- if other than Germa	n)	
 FOKUS Einführungsmodul Experimentelle Physik (FOKUS Introductory Module Experimental Physics): V (3 weekly contact hours) + Ü/P (2 weekly contact hours), details on availability to be announced FOKUS Kompaktseminar Experimentelle Physik (FOKUS Block Taught Seminar Experimental Physics): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Experimentelle Physik (FOKUS Mini Research Project Experimental Physics): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module can be chosen to earn a bonus) This module has the following assessment components 						
1. Topi tes) repo 2. Sem 3. Rese Assess Studer Details To pas	cs cove or oral e rt (appr inar: tal earch pr ment co sts must on whe s this m	red in lectures and exe examination of one car ox. 8 pages) k (approx. 30 to 45 mi oject: project report (a omponents 1 through 3 c register for assessme en assessment compor odule, students must	rcises: written examina adidate each or oral exa nutes) pprox. 8 pages) will be offered in Gern nt components 1 throu nents 1 through 3 will b pass each of the asses	ation (approx. 90 min amination in groups nan or English. gh 3 online (details t re offered to be anno sment components a	nutes) or talk (appro (approx. 30 minutes) o be announced). unced. through 3.	x. 30 minu-) or project
Allocat	ion of p	laces				
Additio	onal info	ormation				
Workload						
Referre	ed to in	LPOI (examination reg	gulations for teaching-	degree programmes)		
Modul	e appea	rs in				
Master	's degre	ee (1 major) FOKUS Phy	sics - Nanostructuring	Technology (2010)		
Master's w ring Techno	ith 1 major ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. r FOKUS Physik - Nanostruktur	eg. data record technik - 2006	page 43 / 95



Module title			Abbreviation			
FOKUS	5 Reseau	ch Module Type VMK1	4I Interdisciplinary Re	search Fields	11-FM-VMK14I-072-1	m01
Module coordinator Module		Module offered by				
chairp	erson of	examination committ	ee	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
14	nume	rical grade				
Durati	on	Module level	Other prerequisites	•		
Conter	nts	graduate				
Specific and advanced knowledge of independent scientific work in a current research area, especially in inter- disciplinary subjects, reproduction of knowledge, acquisition of social and methodological competencies. App- lication of the acquired professional knowledge and methods to new scientific questions in a mini research pro- ject (e.g. experiments, case studies etc.).						
Intend	ed learr	ning outcomes				
The stu especi acquir cessfu	udents ł ially in in ed metł Illy imple	nave special and advan nterdisciplinary specia lods, to summarise a s ement the acquired kn	nced knowledge of inde list fields, and are able ub-area of the current owledge and methods	ependent scientific w to reproduce the ac research area in an c in a mini research pi	vork in a current rese quired knowledge, to ral presentation and roject.	arch area, o apply the l to suc-
Course	es (type,	number of weekly cor	ntact hours, language –	– if other than Germa	ın)	
Fields): V (3 weekly contact hours) + Ü/P (2 weekly contact hours), details on availability to be announced FOKUS Kompaktseminar Interdisziplinäre Fachgebiete (FOKUS Block Taught Seminar Interdisciplinary Research Fields): S (2 weekly contact hours), German or English, details on availability to be announced (block taught se- minar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Interdisziplinäre Fachgebiete (FOKUS Mini Research Project Interdisciplinary Re- search Fields): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3						
Metho	d of ass	essment (type, scope,	language — if other th	an German, examina	ition offered — if not	every seme-
ster, ir	nformati	on on whether module	can be chosen to earn	a bonus)		
This m 1. Topi tes) repc 2. Sem 3. Rese	odule h ics cove or oral o ort (appr ninar: ta earch pr	as the following asses red in lectures and exe examination of one car ox. 8 pages) lk (approx. 30 to 45 mi oject: project report (a	sment components ercises: written examina ndidate each or oral exa nutes) pprox. 8 pages)	ation (approx. 90 mi amination in groups	nutes) or talk (appro (approx. 30 minutes)	x. 30 minu-) or project
Assess Studer Details To pas	sment co nts mus s on whe ss this m	omponents 1 through 3 t register for assessme en assessment compo odule, students must	will be offered in Gern nt components 1 throu nents 1 through 3 will b pass each of the asses	nan or English. gh 3 online (details t e offered to be anno sment components :	to be announced). unced. 1 through 3.	
Alloca	tion of p	olaces				
Additi	onal info	ormation				
Worklo	oad					
Referr	ed to in	LPOI (examination re	gulations for teaching-	degree programmes)		
Modul	e appea	rs in				
Master's w ring Techn	vith 1 major iology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. FOKUS Physik - Nanostruktur	reg. data record technik - 2006	page 45 / 95



Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)

Module title			Abbreviation			
FOKUS	S Resea	rch Module Type VMK14N	Nanostructure Tech	nology	11-FM-VMK14N-072	-m01
Modul	e coord	inator		Module offered by	Module offered by	
chairp	erson o	f examination committee	1	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
14	nume	rical grade				
Durati	on	Module level	Other prerequisites			
Conte	nts	graduate	<u> </u>			
Specific and advanced knowledge of independent scientific work in a current research area, especially in the field of nanostructure technology, reproduction of knowledge, acquisition of social and methodological competencies. Application of the acquired professional knowledge and methods to new scientific questions in a mini research project (e.g. experiments, case studies etc.).						
Intend	ed learı	ning outcomes				
The stu especi the acc cessfu	udents I ally in t quired r lly impl	nave special and advance he field of nanostructure nethods, to summarise a ement the acquired know	ed knowledge of inde technology, and are sub-area of the curre vledge and methods	ependent scientific w able to reproduce th ent research area in in a mini research pr	vork in a current rese le acquired knowledg an oral presentation roject.	arch area, ge, to apply and to suc-
Course	es (type	, number of weekly conta	ict hours, language –	- if other than Germa	n)	
weekly contact hours) + Ü/P (2 weekly contact hours), details on availability to be announced FOKUS Kompaktseminar Nanostrukturtechnik (FOKUS Block Taught Seminar Nanostructure Technology): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Nanostrukturtechnik (FOKUS Mini Research Project Nanostructure Technology): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time) Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus)						
 Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or oral examination of one candidate each or oral examination in groups (approx. 30 minutes) or project report (approx. 8 pages) Seminar: talk (approx. 30 to 45 minutes) Research project: project report (approx. 8 pages) Assessment components 1 through 3 will be offered in German or English. Students must register for assessment components 1 through 3 online (details to be announced). Details on when assessment components 1 through 3 will be offered to be announced. 						
Alloca	tion of p	olaces		·	6 9	
Additi	onal inf	ormation	-			
Workle	oad					
Referr	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)		
Modul	e appea	in in				
Maste	r's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master's v ring Techn	vith 1 majoi ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. I FOKUS Physik - Nanostruktur	reg. data record technik - 2006	page 47 / 95



Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)

Module title			Abbreviation	
FOKUS Res	earch Module Type VKM14T	Theoretical Physics		11-FM-VMK14T-072-m01
Module co	ordinator		Module offered by	
chairperso	n of examination committee		Faculty of Physics a	nd Astronomy
ECTS Me	thod of grading	Only after succ. com	pl. of module(s)	
14 nu	merical grade			
Duration	Module level	Other prerequisites		
Contents	graduate			
Specific and advanced knowledge of independent scientific work in a current research area, especially in the dis- cipline of Theoretical Physics, reproduction of knowledge, acquisition of social and methodological competen- cies. Application of the acquired professional knowledge and methods to new scientific questions in a mini rese- arch project (e.g. experiments, case studies etc.).				
Intended le	earning outcomes			
The studen especially ply the acq successful	ts have special and advance in the specialist field of Theo uired methods, to summaris ly implement the acquired k	ed knowledge of inde pretical Physics, and se a sub-area of the c nowledge and metho	pendent scientific w are able to reproduc urrent research area ds in a mini researcl	rork in a current research area, e the acquired knowledge, to ap- in an oral presentation and to n project.
Courses (ty	pe, number of weekly conta	ct hours, language —	if other than Germa	n)
FOKUS Einführungsmodul Theoretische Physik (FOKUS Introductory Module Theoretical Physics): V (3 weekly contact hours) + Ü/P (2 weekly contact hours), details on availability to be announced FOKUS Kompaktseminar Theoretische Physik (FOKUS Block Taught Seminar Theoretical Physics): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usual- ly held during semester break) FOKUS Miniforschungsprojekt Theoretische Physik (FOKUS Mini Research Project Theoretical Physics): P (2 wee- kly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time)				
ster, inform	nation on whether module ca	an be chosen to earn	a bonus)	tion oncice in not every senie
This modul 1. Topics co tes) or or report (a 2. Seminar 3. Research	e has the following assessm overed in lectures and exerc ral examination of one cand pprox. 8 pages) talk (approx. 30 to 45 minu project: project report (app	nent components ises: written examina idate each or oral exa tes) prox. 8 pages)	ation (approx. 90 min amination in groups	nutes) or talk (approx. 30 minu- (approx. 30 minutes) or project
Assessmer Students m Details on To pass thi	nt components 1 through 3 w nust register for assessment when assessment compone s module, students must pa	rill be offered in Germ components 1 throug nts 1 through 3 will b ss each of the asses	nan or English. gh 3 online (details t e offered to be anno sment components 1	o be announced). unced. . through 3.
Allocation	of places			
Additional	information			
Workload				
Referred to in LPO I (examination regulations for teaching-degree programmes)				
 Modulo an	nears in			
Master's de	pears III	cs - Nanostructuring	Technology (2010)	
Master's with 1 n	najor FOKUS Physics - Nanostructu-	JMU Würzburg • ger	erated 11-Jan-2023 • exam. r	eg. data record page 49 / 95



Module title			Abbreviation			
FOKUS Research Module Type VMK16E Experimental Physics				-m01		
Module	e coord	inator		Module offered by		
chairpe	erson of	f examination committ	ee	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)		
16	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ster	graduate				
Conten	its					
Specifi	Specific and advanced knowledge of independent scientific work in a current research area, especially in the dis-					
cipilite of Experimental Physics, reproduction of knowledge, acquisition of social and methodological competen-						
arch pr	oject (e	e.g. experiments, case	studies etc.).			
Intend	ed learr	ning outcomes				
The stu	udents l	nave special and advar	nced knowledge of inde	ependent scientific w	vork in a current rese	earch area,
especi	ally in t	he specialist field of E>	perimental Physics, ar	nd are able to reprod	uce the acquired kno	owledge, to
apply t	ne acqu sfully ir	lired methods, to sum notement the acquired	marise a sub-area of th I knowledge and metho	e current research a ods in a mini researc	rea in an oral presen h project	tation and to
Course	s (type	number of weekly cor	itact hours language -	- if other than Germa	an)	
FOKUS	Finfüh	rungsmodul Experimer	itelle Physik (FOKUS In	troductory Module E	xperimental Physics)). V (4 weekly
contac	t hours)) + Ü/P (2 weekly conta	ict hours), details on av	vailability to be anno	ounced	· • (4 Weekty
FOKUS	Kompa	ktseminar Experiment	elle Physik (FOKUS Blo	ck Taught Seminar E	xperimental Physics)): S (2 weekly
contac	t hours)), German or English, d	etails on availability to	be announced (bloc	ck taught seminar (3	days), usual-
IV NEID	Minifor	semester break) rschungsprojekt Experi	mentelle Physik (FOKI)	S Mini Research Proi	iect Experimental Ph	vsics)·P(2
weekly	contac	t hours), German or En	glish, details on availa	bility to be announce	ed (approx. 3 weeks,	, part time)
Metho	d of ass	essment (type, scope,	language — if other th	an German, examina	ition offered — if not	every seme-
ster, in	formati	on on whether module	can be chosen to earn	a bonus)		
This m	odule h	as the following asses	sment components	ation (approx. oo mi	nutac) ar talk (annra	x ao minu
tes)	or oral e	examination of one car	ididate each or oral ex	amination in groups	(approx. 30 minutes)) or project
repo	rt (appr	rox. 8 pages)		0		, - F -J
2. Sem	inar: ta	lk (approx. 30 to 45 mi	nutes)			
3. Rese	earch pr	oject: project report (a	pprox. 8 pages)			
Assess	ment c	omponents 1 through 3	will be offered in Gerr	nan or English.		
Studer	its mus	t register for assessme	nt components 1 throu	gh 3 online (details t	to be announced).	
Details	on whe s this m	en assessment compoi iodule, students must	1ents 1 through 3 will b pass each of the asses	e offered to be anno	unced. 1 through 2	
	tion of r	laces		sment components .		
Additio	nal inf	ormation				
Workload						
Referre	d to in	IPOI (examination re		degree programmes)		
Modul	e annea	irs in				
Master	's degre	ee (1 major) FOKUS Phy	sics - Nanostructuring	Technology (2010)		
Master's w	ith 1 maior	FOKUS Physics - Nanostructu-	IMU Würzburg • ge	nerated 11-lan-2023 • examin	reg, data record	page 51 / 95
ring Techno	ology (200	6)	Master (120 ECTS)	FOKUS Physik - Nanostruktur	technik - 2006	



Module title			Abbreviation			
FOKUS	FOKUS Research Module Type VMK16I Interdisciplinary Research Fields				m01	
Module coordinator Modu			Module offered by			
chairperson of examination committee		Faculty of Physics a	and Astronomy			
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)		
16	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	graduate				
Conte	nts					
Specific and advanced knowledge of independent scientific work in a current research area, especially in inter- disciplinary subjects, reproduction of knowledge, acquisition of social and methodological competencies. App- lication of the acquired professional knowledge and methods to new scientific questions in a mini research pro- ject (e.g. experiments, case studies etc.).						
Intend	ed lear	ning outcomes				
The st espect acquir cessfu	udents ially in i ed meth Ily impl	nave special and advar nterdisciplinary specia nods, to summarise a s ement the acquired kn	nced knowledge of inde list fields, and are able ub-area of the current owledge and methods	ependent scientific v to reproduce the ac research area in an c in a mini research p	vork in a current rese quired knowledge, t oral presentation and roject.	earch area, o apply the to suc-
Course	es (type	, number of weekly cor	tact hours, language –	- if other than Germa	an)	
Focus S (2 weekly contact nours) + 0/P (2 weekly contact nours), details on availability to be announced FOKUS Kompaktseminar Interdisziplinäre Fachgebiete (FOKUS Block Taught Seminar Interdisciplinary Research Fields): S (2 weekly contact hours), German or English, details on availability to be announced (block taught se- minar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Interdisziplinäre Fachgebiete (FOKUS Mini Research Project Interdisciplinary Re- search Fields): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3						
Metho ster, ir	d of ass formati	essment (type, scope, on on whether module	language — if other th can be chosen to earn	an German, examina a bonus)	ition offered — if not	every seme-
This m 1. Top tes) repo 2. Sem 3. Res	odule h ics cove or oral ort (app ninar: ta earch pi	as the following asses red in lectures and exe examination of one car rox. 8 pages) lk (approx. 30 to 45 mi roject: project report (a	sment components prcises: written examina ndidate each or oral exa nutes) pprox. 8 pages)	ation (approx. 90 mi amination in groups	nutes) or talk (appro (approx. 30 minutes	x. 30 minu-) or project
Asses Stude Details To pas	sment c nts mus s on wh s this m	omponents 1 through 3 t register for assessme en assessment compo odule, students must	will be offered in Gern nt components 1 throu nents 1 through 3 will b pass each of the asses	nan or English. gh 3 online (details t e offered to be anno sment components	to be announced). unced. 1 through 3.	
Alloca	tion of p	olaces				
Additi	onal inf	ormation				
Workl	oad					
Referr	ed to in	IPOI (examination re	gulations for teaching.	degree programmes		
Modul	e annes	ors in				
mouu	e apped					1
Master's v ring Techr	vith 1 majo iology (200	r FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ge Master (120 ECTS)	nerated 11-Jan-2023 • exam. FOKUS Physik - Nanostruktur	reg. data record technik - 2006	page 53 / 95



Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)

Module title			Abbreviation			
FOKUS	Resear	ch Module Type VMK16I	Nanostructure Tech	nology	11-FM-VMK16N-072-	-m01
Modul	e coord	inator		Module offered by	Module offered by	
chairp	erson of	f examination committee		Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
16	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	graduate				
Specific and advanced knowledge of independent scientific work in a current research area, especially in the field of nanostructure technology, reproduction of knowledge, acquisition of social and methodological competencies. Application of the acquired professional knowledge and methods to new scientific questions in a mini research project (e.g. experiments, case studies etc.).						
Intend	ed learr	ning outcomes				
The stu especi the acc cessfu	udents ł ally in t quired n lly imple	nave special and advanc he field of nanostructure nethods, to summarise a ement the acquired knov	ed knowledge of inde technology, and are sub-area of the curre vledge and methods	pendent scientific w able to reproduce th ent research area in a in a mini research pr	ork in a current rese e acquired knowledg an oral presentation oject.	arch area, ge, to apply and to suc-
Course	es (type	, number of weekly conta	ct hours, language –	if other than Germa	n)	
 FOKUS Einführungsmödul Nanostrukturtechnik (FOKUS introductory Module Nanostructure Technology): V (4 weekly contact hours) + Ü/P (2 weekly contact hours), details on availability to be announced FOKUS Kompaktseminar Nanostrukturtechnik (FOKUS Block Taught Seminar Nanostructure Technology): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Nanostrukturtechnik (FOKUS Mini Research Project Nanostructure Technology): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time) 						
Metho ster, in	d of ass Iformati	essment (type, scope, la on on whether module c	inguage — if other the an be chosen to earn	an German, examina a bonus)	tion offered — if not	every seme-
This m 1. Topi tes) repc 2. Sem 3. Rese	odule h cs cove or oral o ort (appr inar: ta earch pr	as the following assessn red in lectures and exerc examination of one cand rox. 8 pages) lk (approx. 30 to 45 minu oject: project report (app	nent components ises: written examina idate each or oral exa ntes) prox. 8 pages)	ation (approx. 90 mir amination in groups	nutes) or talk (appro) (approx. 30 minutes)	«. 30 minu-) or project
Assess Studer Details To pas	sment co nts mus s on whe s this m	omponents 1 through 3 w t register for assessment en assessment compone odule, students must pa	vill be offered in Germ components 1 throug nts 1 through 3 will b lss each of the assess	nan or English. gh 3 online (details t e offered to be anno sment components 1	o be announced). unced. . through 3.	
Alloca	tion of p	olaces				
Additio	onal info	ormation				
Worklo	Workload					
Referre	ed to in	LPOI (examination regu	lations for teaching-	legree programmes)		
Modul	e appea	in in				
Master	r's degre	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master's w ring Techn	vith 1 major ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	ierated 11-Jan-2023 • exam. r FOKUS Physik - Nanostrukturl	eg. data record technik - 2006	page 55 / 95



Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)

Module title			Abbreviation		
FOKUS	Resear	rch Module Type VKM161	Theoretical Physics		11-FM-VMK16T-072-m01
Module	e coord	inator		Module offered by	
chairpe	erson of	f examination committee	r	Faculty of Physics a	nd Astronomy
ECTS Method of grading Only after succ. compl. of module(s)					
16	nume	rical grade			
Duratio	on stor	Module level	Other prerequisites		
Conten	ts	gladuate			
Specific and advanced knowledge of independent scientific work in a current research area, especially in the discipline of Theoretical Physics, reproduction of knowledge, acquisition of social and methodological competencies. Application of the acquired professional knowledge and methods to new scientific questions in a mini research project (e.g. experiments, case studies etc.).					
Intende	ed learr	ning outcomes			
The stu especia ply the succes	Idents H ally in t acquire sfully ir	nave special and advance he specialist field of Theo ed methods, to summaris nplement the acquired k	ed knowledge of inde pretical Physics, and se a sub-area of the c nowledge and metho	ependent scientific w are able to reproduc urrent research area ds in a mini research	vork in a current research area, e the acquired knowledge, to ap- in an oral presentation and to n project.
Course	s (type,	, number of weekly conta	ct hours, language —	- if other than Germa	n)
 FOKUS Einführungsmodul Theoretische Physik (FOKUS Introductory Module Theoretical Physics): V (4 weekly contact hours) + Ü/P (2 weekly contact hours), details on availability to be announced FOKUS Kompaktseminar Theoretische Physik (FOKUS Block Taught Seminar Theoretical Physics): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break) FOKUS Miniforschungsprojekt Theoretische Physik (FOKUS Mini Research Project Theoretical Physics): P (2 weekly contact hours), German or English, details on availability to be announced (approx. 3 weeks, part time) Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- 					
ster, in	formati	on on whether module c	an be chosen to earn	a bonus)	
This mo 1. Topio tes) o repo 2. Sem 3. Rese	odule h cs cove or oral e rt (appr inar: ta earch pr	as the following assessn red in lectures and exerc examination of one cand rox. 8 pages) lk (approx. 30 to 45 minu roject: project report (app	nent components ises: written examina idate each or oral exa ntes) prox. 8 pages)	ation (approx. 90 mir amination in groups	nutes) or talk (approx. 30 minu- (approx. 30 minutes) or project
Assess Studen Details To pass	ment co its mus on whe s this m	omponents 1 through 3 w t register for assessment en assessment compone odule, students must pa	vill be offered in Germ components 1 throug nts 1 through 3 will b uss each of the asses:	nan or English. gh 3 online (details t e offered to be anno sment components 1	o be announced). unced. 1 through 3.
Allocat	ion of p	olaces			
Additio	onal info	ormation			
Worklo	ad				
Referre	ed to in	LPOI (examination regu	lations for teaching-o	degree programmes)	
Module	e appea		oo Nonestructuut	Technology (correl)	
master	saegre	ee (1 major) FUKUS Physi	cs - Nanostructuring	recnnology (2010)	
Master's w ring Techno	ith 1 major plogy (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	ierated 11-Jan-2023 • exam. r FOKUS Physik - Nanostruktur	eg. data record page 57 / 95 technik - 2006



Module	Module title				Abbreviation
FOKUS	Projec	t Practical Course Nanos	tructuring Technolog	SY.	11-FPN-072-m01
Module	e coord	inator		Module offered by	
chairpe	erson o	f examination committee		Faculty of Physics a	nd Astronomy
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
10 numerical grade					
Duration Module level Other prerequisites					
1 seme	ster	graduate			
Conten	ts				
Indepe perime	ndent v nts incl	vork on a current researc luding analysis and docu	h topic of nanostruct mentation of the res	ure technology and i ults.	mplementation of scientific ex-
Intende	ed learı	ning outcomes			
The stu and and	dents a alyse s	are able to independently cientific experiments and	y work on a current re to document the res	search area of nano sults.	structure technology, to conduct
Course	s (type	, number of weekly conta	ict hours, language –	- if other than Germa	n)
P (no in	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	e)
Methoo ster, in	d of ass formati	e ssment (type, scope, la on on whether module c	inguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-
a) proje ject	ect repo	ort (approx. 20 pages) an	d b) talk (approx. 30	minutes) with discus	ssion on topic researched in pro-
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module	Module appears in				
Master Master	's degr 's degr	ee (1 major) FOKUS Physi ee (1 major) FOKUS Physi	cs - Nanostructuring cs - Nanostructuring	Technology (2010) Technology (2006)	

Module title					Abbreviation	
Professional Specialization FOKUS Nanostructuring Techno			nostructuring Techno	ology 1	11-FS-NF-072-m01	
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committee		Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	,	
15	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Introdu techno mental	ction to logy wi topics	o current experimental, th th special relevance to th in a seminar presentatio	neoretical or enginee ne planned topic of th n.	ring questions from the Master's thesis. S	a subdiscipline of nanostructure ummary of the required funda-	
Intende	ed lear	ning outcomes				
The stu neering topic of	idents l g subdi f the M	nave advanced scientific scipline of the current res aster's thesis and are ab	knowledge of the pri search on nanostruct le to summarise their	nciples of a current e ure technology with ^r knowledge in an ora	experimental, theoretical or engi- special relevance to the intended al presentation.	
Course	s (type	, number of weekly conta	ict hours, language –	- if other than Germa	n)	
S (no ir	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	e)	
Methoo ster, in	d of ass formati	s essment (type, scope, la on on whether module ca	inguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
talk (ap	prox. 3	o to 45 minutes) with dis	scussion			
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)					

Master Thesis FOKUS Nanostructuring Technology 11-MA-NF-072-m01 Module cordinator Module offered by chairp=ron of examination committee Faculty of Physics and Astronomy ECTS Method of grading Only after succ. compl. of module(s) 30 num=rical grade	Module title					Abbreviation
Module coordinator Module offered by chairprerson of examination committee Faculty of Physics and Astronomy ECTS Method of grading Only after succ. compl. of module(s) 30 numerical grade Duration Module level Other prerequisites 1 semester graduate Registration for assessment to be carried out electronically. Deadlines will be announced separately. Please consult with your supervisor. Contents Module level Other prerequisites Mostly independent processing of an experimental, theoretical or engineering task in a current research area of nanostructure technology, especially according to known procedures and scientific aspects; writing of the thesis. Intended learning outcomes Intended learning outcomes The students are able to independently work on an experimental, theoretical and engineering task from the current research on anostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) Into every semester, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: Germa or English Allocation of places	Master Thesis FOKUS Nanostructuring Technology					11-MA-NF-072-m01
chairprise Faculty of Physics and Astronomy ECTS Method of grading Only after succ. compl. of module(s) 30 numerical grade Duration Module level Other prerequisites semestal graduate Registration for assessment to be carried out electronically. Deadlines will be announced separately. Please consult with your supervisor. Contents Module level Registration for assessment to be carried out electronically. Deadlines will be announced separately. Please consult with your supervisor. Intended tearning outcomes Intended separately. Please consult with your supervisor. The students are able to independently work on an experimental, theoretical or engineering task in a current research and nonstructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) or ourses assigned Method of assessment: German or English Alditional information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language Intended serees sement: German or English Alditicater Interded serees sement: German or English Interded serees sement: German or English Alditicater Interded serees sement: German or English Interded serees sement: Ge	Module	e coord	inator		Module offered by	
ECTS Metrod of grading Only after succ. compl. of module(s) 30 numerical grade Duration Module level Other prerequisites 1 semestar graduate Registration for assessment to be carried out electronically. Deadlines will be announced separately. Please consult with your supervisor. Contents Registration for assessment to be carried out electronically. Deadlines in a current research area of nanostructure technology, especially according to known procedures and scientific aspects; writing of the thesis. Intended learning outcomes The students are able to independently work on an experimental, theoretical and engineering task from the current research on nanostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Additional information Workload Method of assessment: German or English Additional information	chairpe	erson o	f examination committee		Faculty of Physics a	nd Astronomy
30 numerical grade Duration Module level Other prerequisites 1 semester graduate Registration for assessment to be carried out electronically. Deadlines will be announced separately. Please consult with your supervisor. Contents Mostly independent processing of an experimental, theoretical or engineering task in a current research area of nanostructure technology, especially according to known procedures and scientific aspects; writing of the thesis. Intended learning outcomes The students are able to independently work on an experimental, theoretical and engineering task from the current research on nanostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of place	ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
Duration Module level Other prerequisites 1 semester graduate Registration for assessment to be carried out electronically. Deadlines will be announced separately. Please consult with your supervisor. Contents Mostly independent processing of an experimental, theoretical or engineering task in a current research area of nanostructure technology, especially according to known procedures and scientific aspects; writing of the thesis. Intended learning outcomes The students are able to independently work on an experimental, theoretical and engineering task from the cur- rent research on nanostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Aldicional information 4dditional information Workload Module appears in Moaster's degree (n major) FOKUS Physics - Nanostructuring Technolog	30	nume	rical grade			
1 semester graduate Registration for assessment to be carried out electronically. Deadlines will be announced separately. Please consult with your supervisor. Contents Mostly independent processing of an experimental, theoretical or engineering task in a current research area of nanostructure technology, especially according to known procedures and scientific aspects; writing of the thesis. Intended learning outcomes Intended learning outcomes The students are able to independently work on an experimental, theoretical and engineering task from the current research on nanostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places	Duratio	on	Module level	Other prerequisites		
Contents Mostly independent processing of an experimental, theoretical or engineering task in a current research area of nanostructure technology, especially according to known procedures and scientific aspects; writing of the thesis. Intended learning outcomes The students are able to independently work on an experimental, theoretical and engineering task from the current research on nanostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)	1 seme	ster	graduate	Registration for asse will be announced s	essment to be carried eparately. Please co	d out electronically. Deadlines nsult with your supervisor.
Mostly independent processing of an experimental, theoretical or engineering task in a current research area of nanostructure technology, especially according to known procedures and scientific aspects; writing of the thesis. Intended learning outcomes The students are able to independently work on an experimental, theoretical and engineering task from the current research on nanostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places Additional information Workload Referred to in LPO 1 (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2000)	Conten	Its				
Intended learning outcomes The students are able to independently work on an experimental, theoretical and engineering task from the cur- rent research on nanostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)	Mostly nanost	indepe ructure	ndent processing of an e technology, especially a	experimental, theoret ccording to known pr	ical or engineering ta ocedures and scient	ask in a current research area of tific aspects; writing of the thesis.
The students are able to independently work on an experimental, theoretical and engineering task from the cur- rent research on nanostructure technology, especially in accordance with known methods and scientific aspects and to summarise their results in a final paper. Courses (type, number of weekly contact hours, language — if other than German) no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)	Intende	ed learı	ning outcomes			
Courses (type, number of weekly contact hours, language — if other than German) no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	The sture rent rest and to	idents a search (summa	are able to independently on nanostructure technol arise their results in a fina	/ work on an experim logy, especially in acc al paper.	ental, theoretical an cordance with knowr	d engineering task from the cur- n methods and scientific aspects
no courses assigned Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	Course	s (type	, number of weekly conta	ct hours, language —	· if other than Germa	n)
Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus) written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	no cou	rses as	signed			
written thesis (approx. 75 pages) Language of assessment: German or English Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	Metho ster, in	d of ass formati	sessment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-
Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	written Langua	thesis age of a	(approx. 75 pages) ssessment: German or Ei	nglish		
Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	Allocat	ion of p	olaces			
Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)						
Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	Additio	onal inf	ormation			
Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)						
Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)						
 Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)						
Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)	Module appears in					
	Master Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)				

Module title					Abbreviation
Scienti	fic Met	hods and Project Manag	ement FOKUS Nanost	tructuring Techno-	11-MP-NF-072-m01
logy 1		•		Madula off	
Module	e coord	inator		Module offered by	
chairpe	rson o	f examination committee		Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
15	nume	rical grade			
Duratio	n stor	Module level	Other prerequisites		
1 semes	ster	graduale			
Conten	ts				
Introdu theoret plan foi	ction to ical, ex r the pl	o the methods of scientifi perimental or engineerin anned Master's thesis.	ic work, taking into a g questions of nanos	ccount methods of p tructure technology	project planning. Application to . Writing of a scientific project
Intende	ed learı	ning outcomes			
The stu plannin special ster's th	dents l ng of a releva hesis, t	nave knowledge of the so current experimental, the nce to the intended topic o plan the required work	ientific methods, the oretical or engineerir of the Master's thesi and to summarise th	methodological wo ng subdiscipline of n is and are able to de eir knowledge in an	rk and the methods of project anostructure technology with velop a project plan for the Ma- oral presentation.
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)
R (no in	format	ion on SWS (weekly cont	act hours) and course	e language available	<u>e)</u>
Methoo ster, inf	l of ass formati	s essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-
talk (ap	prox. 3	30 to 45 minutes) with dis	scussion		
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Master' Master'	's degr 's degr	ee (1 major) FOKUS Physi ee (1 major) FOKUS Physi	cs - Nanostructuring cs - Nanostructuring	Fechnology (2010) Fechnology (2006)	

Module title					Abbreviation	
Nanom	atrix Bi	iophysical Analyzing Sys	tems and Processes	(Master)	11-NM-BV-MA-072-m01	
Module	e coord	inator		Module offered by		
Manag	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Princip nics, pl structu proced	les and hotonic ring, cc ures.	specific knowledge of en s and biophysics as well omponents and system d	ngineering work in th as in the technology evelopment, especia	e application fields o -oriented materials s lly in the field of biop	of energy engineering, electro- sciences, technologies of nano- physical analysis systems and	
Intende	ed learı	ning outcomes				
The stu especia	idents l ally in t	nave advanced knowledg he field of biophysical an	e of one or more app alysis systems and to	lication or technolog echniques.	gy areas of engineering work,	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	in)	
V + R (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
Metho ster, in	d of ass formati	e ssment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ach or o	mination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor) oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
Additio	onal info	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master	's degr	ee (1 major) Nanostructur	e Technology (2010)			
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2006)		

Module title					Abbreviation
Nanomatrix Semiconductor Materials (Master)					11-NM-HM-MA-072-m01
Module	e coord	inator		Module offered by	
Manag	ing Dire	ector of the Institute of Ap	oplied Physics	Faculty of Physics a	nd Astronomy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	Its				
Princip nics, p structu	les and hotonic ring, co	l specific knowledge of en s and biophysics as well omponents and system d	ngineering work in th as in the technology evelopment, especia	e application fields o -oriented materials s lly in the field of sem	of energy engineering, electro- sciences, technologies of nano- niconductor materials.
Intend	ed lear	ning outcomes			
The stu especia	idents l ally in t	have advanced knowledg he field of semiconducto	e of one or more app r materials.	lication or technoloន្	gy areas of engineering work,
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)
V + R (r	no infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)
Metho ster, in	d of ass formati	sessment (type, scope, la ion on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-
a) writt date ea	en exa ach or c	mination (approx. 90 min oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)
Allocat	ion of p	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Nanostructure Technology (2010)					
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)	
Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)				

Module title				Abbreviation		
Nanomatrix Semiconductor Processing (Master)					11-NM-HP-MA-072-m01	
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Princip nics, pł structu	les and hotonic ring, cc	l specific knowledge of en s and biophysics as well omponents and system d	ngineering work in th as in the technology evelopment, especia	e application fields o -oriented materials s lly in the field of sem	of energy engineering, electro- sciences, technologies of nano- iiconductor processes.	
Intende	ed learı	ning outcomes				
The stu especia	idents l ally in t	have advanced knowledg he field of semiconducto	e of one or more app r processes.	lication or technoloខ្	gy areas of engineering work,	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)	
Methoo ster, in	d of ass formati	essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ich or o	mination (approx. 90 min oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master	's degr	ee (1 major) Nanostructur	e Technology (2010)			
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2006)		

Module title Abbreviation					Abbreviation	
Nanomatrix Micro/Nano- and Optoelectronic Devices (Master)					11-NM-MB-MA-072-m01	
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ap	oplied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Princip nics, pł structu compor	les and hotonic ring, co nents.	l specific knowledge of en s and biophysics as well omponents and system d	ngineering work in th as in the technology evelopment, especia	e application fields o -oriented materials s lly in the field of mic	of energy engineering, electro- sciences, technologies of nano- ro-/nano- and opto-electronic	
Intende	ed lear	ning outcomes				
The stu especia	dents l ally in t	have advanced knowledg he field of micro-, nano- a	e of one or more app and optoelectronic cc	lication or technolog omponents.	gy areas of engineering work,	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language avail	able)	
Methoo ster, in	d of ass formati	essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ach or c	mination (approx. 90 min oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master	Master's degree (1 major) Nanostructure Technology (2010)					
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2006)		

Module title Abbreviation				Abbreviation		
Nanomatrix Heat Insulating Systems and Photovoltaics					11-NM-WP-MA-072-m01	
Module	e coord	inator		Module offered by		
Manag	ing Dire	ector of the Institute of Ap	oplied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Princip nics, pl structu tovolta	les and hotonic ring, co ics.	l specific knowledge of en s and biophysics as well omponents and system d	ngineering work in th as in the technology evelopment, especia	e application fields o -oriented materials s lly in the field of the	of energy engineering, electro- sciences, technologies of nano- mal insulation systems and pho-	
Intende	ed lear	ning outcomes				
The stu especia	dents l ally in t	have advanced knowledg he field of thermal insula	e of one or more app tion systems and pho	lication or technolog ptovoltaics.	gy areas of engineering work,	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (r	no infor	mation on SWS (weekly o	contact hours) and co	urse language avail	able)	
Methoo ster, in	d of ass formati	sessment (type, scope, la ion on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ach or c	mination (approx. 90 min oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master	Master's degree (1 major) Nanostructure Technology (2010)					
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2006)		

Module title			Abbreviation			
Advanced Practical Course Master 11-PFM-072-m01					11-PFM-072-m01	
Module coordinator				Module offered by		
Manag	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
6	(not) s	successfully completed	11-E1, 11-E2			
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate	11-A3			
Conten	ts					
Princip stems, tic reso superce	les of N proper onance onduct	luclear, Atomic and Mole ties of solids, surfaces ar (NMR) - quantum Hall eff ivity - laser - solid-state o	cular Physics, experi nd interfaces. Experir ect - optical pumping ptics	ments on cryogenic t nents on the followir g and spectroscopy in	temperatures and correlated sy- ng topics: X-rays - nuclear magne- n the field of optics - Hall effect -	
Intende	ed learı	ning outcomes				
Knowle suing s ons and	edge of cientifi d acqui	conducting experiments, c publications, application ring practical experiment	analysing and docu on of modern evaluat al methods.	menting experimenta ion systems, working	al results, basic knowledge of is- g on a task based on publicati-	
Course	s (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)	
Fortges man or Fortges man or	chritte Englisi chritte Fnglisi	nen-Praktikum Master (A n nen-Praktikum Master (A n	dvanced Practical Co	urse Master) Part 1: I urse Master) Part 2:	P (3 weekly contact hours), Ger- P (3 weekly contact hours), Ger-	
Method	d of ass	essment (type, scope, la	nguage — if other the	an German, examina	tion offered — if not every seme-	
This mo 1. Lab o ring t prior ted if 2. Lab o ring t prior ted if	odule h course the exp to the f a test course the exp to the f a test	as the following assessm in part 1 (Fortgeschrittene eriment will be considere experiment. b) Performin is passed. Students mus in part 2 (Fortgeschrittene eriment will be considere experiment. b) Performin is passed. Students mus	nent components en-Praktikum Master, ed successfully comp g and evaluating the t prepare an experim en-Praktikum Master ed successfully comp g and evaluating the t prepare an experim	/Advanced Practical pleted if an oral test (experiment will be c ent log (approx. 8 pa /Advanced Practical pleted if an oral test (experiment will be c ent log (approx. 8 pa	Course Master Part 1): a) Prepa- (approx. 30 minutes) is passed considered successfully comple- ages). Course Master Part 2): a) Prepa- (approx. 30 minutes) is passed considered successfully comple- ages).	
Langua Studen Studen pass ar To pass Allocat	Language of assessment: German or English Students must register for assessment components 1 and 2 online (details to be announced). Students will be offered one opportunity to retake element a) and/or element b) in the respective semester. To pass an assessment component, they must pass both elements (a and b) in the same semester. To pass this module, students must pass both assessment component 1 and assessment component 2.					
Additio	nal inf	ormation				
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	e appea	nrs in				
Master	's degr	ee (1 major) Physics (201	0)			
Master's wi ring Techno	ith 1 majoı ology (200	FOKUS Physics - Nanostructu- 6)	JMU Würzburg • ger Master (120 ECTS)	nerated 11-Jan-2023 • exam. r FOKUS Physik - Nanostruktur	eg. data record page 68 / 95 technik - 2006	

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Subdivided Module Catalogue for the Subject FOKUS Physics - Nanostructuring Technology Master's with 1 major, 120 ECTS credits

Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)

Module title					Abbreviation	
Module Type 4E Special Training Experimental Physics					11-SF-4E-072-m01	
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
4	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi Physics	c, adva 5.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of Experimental	
Intende	ed learı	ning outcomes				
The stu field of	dents l Experi	nave specific and advanc mental Physics.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language —	· if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)	
Methoo ster, in	d of ass formati	essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ich or o	mination (approx. 90 min rral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 8 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-c	legree programmes)		
Module appears in						
Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)						

Module title					Abbreviation	
Module	е Туре и	I Special Training Interd	isciplinary Research	Fields	11-SF-4l-072-m01	
Module	e coord	inator		Module offered by		
Managi the Inst	ing Dire titute o	ectors of the Institute of A f Theoretical Physics and	pplied Physics and Astrophysics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
4	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi	c, adva	nced knowledge of one c	or more of the Faculty	's current research a	reas.	
Intende	ed learı	ning outcomes				
The stu terdisci	dents l iplinary	nave specific and advanc field.	ed knowledge of one	or more current rese	earch areas of the faculty in an in-	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)	
Method ster, in	l of ass formati	e ssment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ich or o	nination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 8 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-c	legree programmes)		
Module appears in						
Master Master Master Master Master	Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)					
master	Master's degree (1 major) FUKUS Physics (2006)					

Module title					Abbreviation	
Module Type 4N Special Training Nanostructure Technology				y	11-SF-4N-072-m01	
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ar	oplied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
4	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi techno	c, adva logy.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of nanostructure	
Intende	ed learı	ning outcomes				
The stu field of	dents l nanos	have specific and advanc tructure technology.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language —	· if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
Methoo ster, in	d of ass formati	sessment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ach or o	mination (approx. 90 min oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 8 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in						
Master's degree (1 major) Nanostructure Technology (2010)						
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)					
Module title					Abbreviation	
---	---	---	--	---	---	--
Module Type 4T Special Training Theoretical Physics					11-SF-4T-072-m01	
Module	e coord	inator		Module offered by		
Managi and Ast	ing Dire trophys	ector of the Institute of Th sics	eoretical Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
4	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi Physics	c, adva 5.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of Theoretical	
Intende	ed leari	ning outcomes	,			
The stu field of	dents l Theore	nave specific and advanc tical Physics.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	ourse language availa	able)	
Methoo ster, in	l of ass formati	e ssment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ich or o	mination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 8 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-o	degree programmes)		
Module appears in						
Master	's degr	ee (1 major) Physics (201	0)			
Master	's degr	ee (1 major) Nanostructur	re Technology (2010)			
Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)					
Master	's degr	ee (1 major) FOKUS Physi	cs (2010)			
Master	's degro	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2006)		
Master	Master's degree (1 major) FOKUS Physics (2006)					

Module title					Abbreviation	
Module Type 5E Special Training Experimental Physics					11-SF-5E-072-m01	
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi Physics	c, adva 5.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of Experimental	
Intende	ed lear	ning outcomes				
The stu field of	dents l Experi	nave specific and advanc mental Physics.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)	
Method ster, in	d of ass formati	s essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exa ach or c	mination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
	-					
Additio	nal inf	ormation				
Worklo	ad					
Referre	ed to in	LPO I (examination regu	lations for teaching-c	legree programmes)		
Module appears in						
Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)						

Module title					Abbreviation	
Module	e Type <u>e</u>	51 Special Training Interd	lisciplinary Research	Fields	11-SF-5I-072-m01	
Module	e coord	inator		Module offered by		
Managi the Inst	ing Dire titute o	ectors of the Institute of A f Theoretical Physics and	Applied Physics and Astrophysics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi	c, adva	nced knowledge of one c	or more of the Faculty	's current research a	reas.	
Intende	ed learr	ning outcomes				
The stu terdisci	dents ł iplinary	nave specific and advanc field.	ed knowledge of one	or more current rese	earch areas of the faculty in an in-	
Course	s (type,	, number of weekly conta	ct hours, language —	· if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language avail	able)	
Methoo ster, in	l of ass formati	e ssment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exar ich or o	nination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor) oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
Additio	nal info	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-c	legree programmes)		
Module	e appea	irs in				
Master Master Master Master Master Master	Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)					

Module title					Abbreviation	
Module Type 5N Special Training Nanostructure Technology				y	11-SF-5N-072-m01	
Module	e coord	inator		Module offered by		
Manag	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi Techno	c, adva logy.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of Nanostructure	
Intende	ed lear	ning outcomes				
The stu field of	dents l nanos	have specific and advanc tructure technology.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language –	if other than Germa	n)	
V + R (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language availa	able)	
Method ster, in	d of ass formati	sessment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exa ach or c	mination (approx. 90 min oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
	2					
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master's degree (1 major) Nanostructure Technology (2010)						
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)					

Module title					Abbreviation	
Module Type 5T Special Training Theoretical Physics					11-SF-5T-072-m01	
Module	coord	inator		Module offered by		
Managi and Ast	ng Dire trophys	ector of the Institute of Th ics	eoretical Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specific Physics	c, adva 5.	nced knowledge of one c	r more of the Faculty	's current research a	reas in the field of Theoretical	
Intende	ed leari	ning outcomes				
The stu field of	dents l Theore	nave specific and advanc tical Physics.	ed knowledge of one	e or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language —	- if other than Germa	n)	
V + R (n	o infor	mation on SWS (weekly o	contact hours) and co	ourse language availa	able)	
Methoo ster, inf	l of ass formati	e ssment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina [.] a bonus)	tion offered — if not every seme-	
a) writte date ea	en exai ch or o	nination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 10 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-o	degree programmes)		
Module appears in						
Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)						

Module title Abbreviation					Abbreviation	
Module Type 6E Special Training Experimental Physics					11-SF-6E-072-m01	
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi Physics	c, adva 5.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of Experimental	
Intende	ed lear	ning outcomes				
The stu field of	dents l Experi	nave specific and advanc mental Physics.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)	
Methoo ster, in	d of ass formati	s essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exa ach or c	mination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 12 pages)	
Allocat	ion of p	olaces				
	-					
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regu	lations for teaching-c	legree programmes)		
Module appears in						
Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)						

Module title					Abbreviation	
Module	e Type (5I Special Training Interd	lisciplinary Research	Fields	11-SF-6l-072-m01	
Module	e coord	inator		Module offered by		
Managi the Inst	ing Dire titute o	ectors of the Institute of A f Theoretical Physics and	pplied Physics and Astrophysics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi	c, adva	nced knowledge of one o	or more of the Faculty	's current research a	reas.	
Intende	ed learr	ning outcomes				
The stu terdisci	dents l iplinary	nave specific and advanc field.	ed knowledge of one	or more current rese	earch areas of the faculty in an in-	
Course	s (type,	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language avail	able)	
Method ster, in	l of ass formati	e ssment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exar ich or o	nination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor) oral examination of one candi- t (approx. 12 pages)	
Allocat	ion of p	olaces				
Additio	nal info	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-c	legree programmes)		
Module appears in						
Master	's degre	ee (1 major) Physics (201	0)			
Master	Master's degree (1 major) Nanostructure Technology (2010)					
Master	's degre	ee (1 major) FOKUS Physi	cs - Nanostructuring	lechnology (2010)		
Master	s aegre	ee (1 major) FUKUS Physi	cs (2010)	Tochnology (2006)		
Master	s uegre 's degre	e (1 major) FOKUS Physi	cs (2006)	reciniology (2006)		
iviasier 5 uegree (1 IIIajui) FUNUS FITYSIUS (2000)						

Module title				Abbreviation		
Module	еТуре	6N Special Training Nano	structure Technolog	у	11-SF-6N-072-m01	
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ap	oplied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi techno	c, adva logy.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of nanostructure	
Intende	ed lear	ning outcomes				
The stu field of	dents l nanos	have specific and advanc tructure technology.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language —	- if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
Methoo ster, in	d of ass formati	sessment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exa ach or c	mination (approx. 90 min oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 12 pages)	
Allocat	ion of p	olaces				
	-					
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Master's degree (1 major) Nanostructure Technology (2010)						
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2006)		

Module title					Abbreviation	
Module Type 6T Special Training Theoretical Physics					11-SF-6T-072-m01	
Module	e coord	inator		Module offered by		
Managi and Ast	ing Dire trophys	ector of the Institute of Th sics	eoretical Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specific Physics	c, adva 5.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of Theoretical	
Intende	ed learı	ning outcomes				
The stu field of	dents l Theore	nave specific and advanc tical Physics.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	ourse language availa	able)	
Method ster, inf	l of ass formati	essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina [.] a bonus)	tion offered — if not every seme-	
a) writte date ea	en exai ich or o	mination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 12 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regu	lations for teaching-o	legree programmes)		
Module appears in						
Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)						

Module title Abbreviation					Abbreviation
Module Type 8E Special Training Experimental Physics					11-SF-8E-072-m01
Module	e coord	inator		Module offered by	
Managi	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	nd Astronomy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
8	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Specifi Physics	c, adva 5.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of Experimental
Intende	ed learı	ning outcomes			
The stu field of	dents l Experi	nave specific and advanc mental Physics.	ed knowledge of one	or more current rese	earch areas of the faculty in the
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)
Methoo ster, in	d of ass formati	s essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-
a) writt date ea	en exai ach or o	mination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 16 pages)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regu	lations for teaching-c	legree programmes)	
Module appears in					
Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006) Master's degree (1 major) FOKUS Physics (2006)					

Module title					Abbreviation	
Module Type 8I Special Training Interdisciplinary Research				Fields	11-SF-8I-072-m01	
Module	e coord	inator		Module offered by		
Managi the Inst	ing Dire titute o	ectors of the Institute of A f Theoretical Physics and	pplied Physics and Astrophysics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi	c, adva	nced knowledge of one o	or more of the Faculty	's current research a	reas.	
Intende	ed learı	ning outcomes				
The stu terdisci	idents l iplinary	nave specific and advanc field.	ed knowledge of one	or more current rese	earch areas of the faculty in an in-	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)	
Method ster, in	d of ass formati	s essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ich or o	mination (approx. 90 min ral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 16 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-c	legree programmes)		
Module appears in						
Master's degree (1 major) Physics (2010) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)						
waster	s aegr	ee (1 major) FUKUS Physi	CS (2006)			

Module title				Abbreviation		
Module Type 8N Special Training Nanostructure Technology				у	11-SF-8N-072-m01	
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ar	pplied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi techno	c, adva logy.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of nanostructure	
Intende	ed lear	ning outcomes				
The stu field of	dents l nanos	have specific and advanc tructure technology.	ed knowledge of one	or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ct hours, language —	if other than Germa	n)	
V + R (n	no infor	mation on SWS (weekly o	contact hours) and co	ourse language availa	able)	
Methoo ster, in	d of ass formati	sessment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exai ach or c	mination (approx. 90 min oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 16 pages)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regu	lations for teaching-o	legree programmes)		
Module appears in						
Master's degree (1 major) Nanostructure Technology (2010)						
Master	's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring	Technology (2010)		
Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2006)					

Module title					Abbreviation	
Module Type 8T Special Training Theoretical Physics					11-SF-8T-072-m01	
Module coordinator				Module offered by		
Manag and As	ing Dire trophys	ector of the Institute of Th sics	eoretical Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Specifi Physics	c, adva 5.	nced knowledge of one c	or more of the Faculty	's current research a	reas in the field of Theoretical	
Intende	ed lear	ning outcomes				
The stu field of	dents l Theore	have specific and advance tical Physics.	ed knowledge of one	e or more current rese	earch areas of the faculty in the	
Course	s (type	, number of weekly conta	ict hours, language –	- if other than Germa	n)	
V + R (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language availa	able)	
Methor ster, in	d of ass formati	sessment (type, scope, la on on whether module c	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
a) writt date ea	en exa ach or c	mination (approx. 90 mir oral examination in group	utes) or b) talk (appr s (approx. 30 minute	ox. 30 minutes) or c) s) or d) project repor	oral examination of one candi- t (approx. 16 pages)	
Allocat	Allocation of places					
Additio	onal inf	ormation				
Worklo	ad					
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	e appea	nrs in				
Master	's degr	ee (1 major) Physics (201	o)			
Master	Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)					
Master	's aegr	ee (1 Major) FUKUS Physi	cs (2010)	Tachnology (2006)		
Master	's degr	ee (1 major) FORUS Physi	cs (2006)	(2006)		
musici	Jucgr		(2000)			

Module title				Abbreviation
Basic module: Competence for Acquiring Information - for st			tudents of natural	41-IK-NW1-072-m01
sciences				
Module coordinator			Module offered by	
head of Unive	rsity Library		University Library	
ECTS Metho	od of grading	Only after succ. com	pl. of module(s)	
1 (not) :	successfully completed			
Duration	Module level	Other prerequisites		
1 semester	undergraduate			
Contents				
Information li	teracy in an academic cor	ntext:		
- Search strate	egies and tools.			
- Using the lib	rary's electronic resource	S.		
- Online searc	hes and search engines	ases and journals.		
- Overview of	additional resources (eLe	arning etc.).		
- Reference m	anagement. Some section	ns of the module will	focus on particular o	disciplines (wherever possible,
on disciplines	in the natural sciences).			
Intended lear	ning outcomes			
within their di difference in o ses) and infor they have fou with the skills Courses (type Ü (no informa	scipline and beyond in a quality between informati mation they have found o nd, using reference mana needed to find informati , number of weekly conta tion on SWS (weekly conta	variety of resources a on they have retrieve on the free web. Stude gement software and on and literature that ct hours, language — act hours) and course	e. They are able to to and to evaluate this d from specific, rest ents are able to man l eLearning tools. Th is relevant to the to if other than Germa	information. They recognise the ricted access resources (databa- age and process the information e module aims to equip students pics of their Bachelor's theses.
		act flours) and course		tion offered if not even come
ster, informat	ion on whether module ca	an be chosen to earn	a bonus)	tion offered — If not every seme-
written exami	nation (60 minutes)			
Allocation of	places			
Additional inf	ormation			
Workload				
Referred to in	LPOI (examination regu	lations for teaching-d	legree programmes)	
			0 1 0 /	
Module appea	ars in			
Bachelor' deg	ree (1 maior) Chemistry (2	2007)		
Master's degr	ee (1 major) Nanostructui	re Technology (2010)		
Master's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring 7	Fechnology (2010)	
Master's degr	ee (1 major) FOKUS Physi	cs - Nanostructuring 7	Fechnology (2006)	

Module	title				Abbreviation	
Second module: Competence for Acquiring Information - for stud				students of natu-	41-IK-NW2-072-m01	
ral sciences						
Module coordinator				Module offered by		
head of	Univer	rsity Library		University Library		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
2	numer	ical grade				
Duratio	n stor	Module level	Other prerequisites			
1 senies		undergraduate				
Conten	ts					
 Informa More i ject-spe Publis Subject New w Search Inform Copyrition Electrocthe nature Intender Student cipline at tools too formation ped an 	Information literacy in an academic context: - More in-depth discussion of selected topics that were covered in the level one module, e. g. searching sub- ject-specific databases. - Publishing and information practices in the natural sciences. - Subject-specific information retrieval tools, e. g. classifications and thesauri. - New web-based information and communication technologies. - Searching for subject-specific facts (e. g. substances and physical data). - Information search skills for the workplace. - Copyright and citations. - Electronic publishing. Some sessions will focus on particular disciplines (wherever possible, on disciplines in the natural sciences). Intended learning outcomes Students have developed a differentiated understanding of the publishing and information practices in their dis- cipline and are familiar with the possibilities offered by electronic publishing. They are able to use electronic tools to locate subject-specific facts in a variety of resources. Students are able to work with subject-specific in- formation rational tools as well as to use new web hased technologies to charac information. They have developed a digeneration are too previous to hased technologies to charac information. - They have developed a distribution of the subject specific in- - formation rational tools as well as to use new web hased technologies to charac information. - They have developed a distribution of the publishing and information practices in their dis- cipline and are familiar with the possibilities offered by electronic publishing. They are able to use electronic tools to locate subject-specific facts in a variety of resources. Students are able to work with subject-specific in- - formation rational tools as well as to use new work hased technologies to charac information. - They have developed a differentiated understanding of the publishing and information practices in the rational developed and the possibilities offered by electronic publishing. - New work with subj					
academ	ic cont	text and are able to use in	nformation responsib	oly.	<u>``</u>	
Courses	s (type,	number of weekly conta	ct nours, language —	IT other than Germa	n)	
U (no in	format	ion on SWS (weekly cont	act hours) and cours	e language available		
ster, inf	ormati	essment (type, scope, la on on whether module ca	nguage — if other tha an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
written	examir	nation (60 minutes)				
Allocati	on of p	laces				
Additio	nal info	ormation				
Workloa	ad					
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	appea	rs in				
Bachelo Master' Master' Master'	or' degr s degre s degre s degre	ree (1 major) Chemistry (2 ee (1 major) Nanostructur ee (1 major) FOKUS Physic ee (1 major) FOKUS Physic	2007) e Technology (2010) cs - Nanostructuring T cs - Nanostructuring T	Fechnology (2010) Fechnology (2006)		

Module title			Abbreviation		
Fachsprache Englisch Naturwissenschaften (1)42-FS3-EN_NW1-072-m01					
Module coordinator			Module offered by		
head o	f Language Centre (ZFS)		Language Centre (Z	fS)	
ECTS	Method of grading	Only after succ. con	npl. of module(s)		
11	numerical grade	42-UC2-EN or asses	sment test (at least &	30 points)	
Durati	on Module level	Other prerequisites			
1 seme	ester undergraduate				
Conter	its				
This m in the t	odule equips students with natu arget language, both at universi	Iral sciences-specific ty and in the workpla	language skills that ace.	will allow them to communicate	
Intend	ed learning outcomes				
Studer velop a allow t	nts gain natural sciences-specific advanced subject-specific langua hem to communicate about sele	c communication skil age skills - including ected topics in the na	lls (written and oral) subject-specific tern tural sciences in corr	in the target language. They de- ninology and structures - that will responding situations.	
Course	es (type, number of weekly conta	ct hours, language –	- if other than Germa	n)	
This m	odule has 3 components; inform 42-FS3-EN_V1-072: Ü (no informa 42-FS3-EN_NW-1-072: Ü (no infor 42-FS3-EN_NW-2-072: Ü + Ü (no i	nation on courses list ation on language an mation on language nformation on language	ed separately for ead d number of weekly d and number of week age and number of w	ch component. contact hours available) ly contact hours available) reekly contact hours available)	
Metho ster, in	d of assessment (type, scope, la formation on whether module ca	nguage — if other th an be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-	
This m the firs Assess	 This module has the following 3 assessment components. To pass the module as a whole students must pass the first assessment component and one of the remaining two. Assessment component to module component 42-FS3-EN_V1-072: Vorbereitung auf die Fachsprache Englisch 3 ECTS credits, method of grading: numerical grade Option 1: written multi-component examination (60 minutes total) with 4 components (reading comprehension, listening comprehension, writing, communication skills) or option 2: oral assessment (approx. 5 minutes) and written multi-component examination (30 to 45 minutes total) with 3 components (reading comprehension, listening comprehension, writing) or option 3: 2 to 4 oral assessments (approx. 15 to 30 minutes total) as well as 2 to 4 written assessments (approx. 5 to 8 pages total) as specified at the beginning of the course, all components/assessments each weighted 1:1. 				
Assess	sment component to module con	nponent 42-FS3-EN_	NW-1-072: Englisch I	II Fachsprache Naturwissen-	
schafte	en intensiv BECTS credits, method of gradin option 1: written multi-componer nension, listening comprehensio to minutes) and written multi-co ding comprehension, listening co o 60 minutes total) as well as 2 he beginning of the course, all c Assessment offered once a year, anguage of assessment: English sment component to module con en BECTS credits, method of gradin option 1: written multi-componer nension, listening comprehensio to minutes) and written multi-co	g: numerical grade nt examination (120 r on, writing, communio mponent examinatio omprehension, writin to 4 written assessn omponents/assessn dates to be annound n nponent 42-FS3-EN_I g: numerical grade nt examination (120 r on, writing, communio mponent examination	ninutes total) with 4 cation skills) or optic n (60 to 90 minutes g) or option 3: 2 to 4 nents (approx. 10 to nents each weighted ed at the beginning NW-2-072: Englisch I ninutes total) with 4 cation skills) or optic n (60 to 90 minutes	components (reading compre- on 2: oral assessment (approx. total) with 3 components (rea- oral assessments (approx. 30 15 pages total) as specified at 1:1 of the respective course. III Fachsprache Naturwissen- components (reading compre- on 2: oral assessment (approx. total) with 3 components (rea-	

Master's with 1 major FOKUS Physics - Nanostructu-	JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record	page 88 / 95
ring Technology (2006)	Master (120 ECTS) FOKUS Physik - Nanostrukturtechnik - 2006	

Subdivided Module Catalogue for the Subject FOKUS Physics - Nanostructuring Technology Master's with 1 major, 120 ECTS credits

to 60 minutes total) as well as 2 to 4 written assessments (approx. 10 to 15 pages total) as specified at the beginning of the course, all components/assessments each weighted 1:1

- Assessment offered once a year, dates to be announced at the beginning of the respective course.
- Language of assessment: English

Allocation of places

--

Additional information

--

Workload

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module appears in

Module title				Abbreviation		
Fachsprache Englisch Naturwissenschaften (2) 42-FS3-EN_NW2-072-m01						
Modul	e coordinator		Module offered by			
head o	f Language Centre (ZFS)	- <u>r</u>	Language Centre (Z	fS)		
ECTS	Method of grading	Only after succ. cor	npl. of module(s)			
8	numerical grade	42-FS3-EN_V or ass	essment test (at leas	t 85 points)		
Duratio	on Module level	Other prerequisites	i			
1 seme	ster undergraduate					
Conter	its					
This m in the t	odule equips students with na target language, both at univer	tural sciences-specific sity and in the workpla	: language skills that ace.	will allow them to communicate		
Intend	ed learning outcomes					
Studer velop a allow t	nts gain natural sciences-speci advanced subject-specific lang hem to communicate about se	fic communication ski uage skills - including lected topics in the na	lls (written and oral) subject-specific tern tural sciences in corr	in the target language. They de- ninology and structures - that will responding situations.		
Course	s (type, number of weekly con	act hours, language –	– if other than Germa	n)		
This m	odule has 2 components; infor 42-FS3-EN_NW-1-072: Ü (no info 42-FS3-EN_NW-2-072: Ü + Ü (no	mation on courses list ormation on language • information on langu	ted separately for eac and number of week age and number of w	ch component. ly contact hours available) reekly contact hours available)		
Metho ster, in	d of assessment (type, scope, formation on whether module	language — if other th can be chosen to earn	an German, examina a bonus)	tion offered — if not every seme-		
This m one of Assess schafte • & • & • & • & • & • & • & • & • & • &	odule has the following 2 asse the two assessment component sment component to module co en intensiv 3 ECTS credits, method of gradi option 1: written multi-compon- nension, listening comprehens to minutes) and written multi-c ding comprehension, listening o 60 minutes total) as well as he beginning of the course, all Assessment offered once a yea anguage of assessment: Engli sment component to module co en 3 ECTS credits, method of gradi option 1: written multi-compon- nension, listening comprehens to minutes) and written multi-compon- tension, listening comprehens to minutes) and written multi-compon- nension, listening comprehens to minutes total) as well as he beginning of the course, all Assessment offered once a yea anguage of assessment: Engli	ssment components. mponent 42-FS3-EN_ ng: numerical grade ent examination (120 r ion, writing, communi- omponent examination comprehension, writir 2 to 4 written assesses components/assesses r, dates to be annound sh mponent 42-FS3-EN_ ng: numerical grade ent examination (120 r ion, writing, communi- omponent examination (120 r ion, writing, communi- omponent examination comprehension, writir 2 to 4 written assesses components/assesses r, dates to be annound sh	To pass the module a NW-1-072: Englisch I minutes total) with 4 cation skills) or option in (60 to 90 minutes ing) or option 3: 2 to 4 nents (approx. 10 to nents each weighted ced at the beginning NW-2-072: Englisch I minutes total) with 4 cation skills) or option in (60 to 90 minutes ing) or option 3: 2 to 4 nents (approx. 10 to nents each weighted ced at the beginning	Il Fachsprache Naturwissen- components (reading compre- on 2: oral assessment (approx. total) with 3 components (rea- oral assessments (approx. 30 15 pages total) as specified at 1:1 of the respective course. Ill Fachsprache Naturwissen- components (reading compre- on 2: oral assessment (approx. total) with 3 components (rea- oral assessments (approx. total) with 3 components (rea- oral assessments (approx. 30 15 pages total) as specified at 1:1 of the respective course.		
Allocat	Allocation of places					
Additio	Additional information					

Workload

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module appears in

Module title			Abbreviation		
Fachsp	Fachsprache Französisch Naturwissenschaften (1)42-FS3-FR_NW1-072-m01				
Module coordinator			Module offered by		
head of Language Centre (ZFS)		,	Language Centre (Z	fS)	
ECTS	Method of grading	Only after succ. con	pl. of module(s)		
11	numerical grade	42-UC2-FR or assess	sment test (at least 8	so points)	
Durati	on Module level	Other prerequisites			
1 seme	ester undergraduate				
Conter	nts				
This m in the t	odule equips students with natu target language, both at universi	iral sciences-specific ity and in the workpla	language skills that ce.	will allow them to communicate	
Intend	ed learning outcomes				
Studer velop a allow t	nts gain natural sciences-specific advanced subject-specific langu hem to communicate about sele	c communication skil age skills - including ected topics in the na	ls (written and oral) subject-specific tern tural sciences in cori	in the target language. They de- ninology and structures - that will responding situations.	
Course	es (type, number of weekly conta	ict hours, language –	· if other than Germa	n)	
This m	odule has 3 components; inform 42-FS3-FR_V-1-072: Ü (no informa 42-FS3-FR_NW-1-072: Ü (no infor 42-FS3-FR_NW-2-072: Ü + Ü (no i d of assessment (type, scope, la	nation on courses list ation on language an mation on language a nformation on language unguage — if other tha	ed separately for eac d number of weekly and number of weekl age and number of w an German, examina	ch component. contact hours available) ly contact hours available) eekly contact hours available) tion offered — if not every seme-	
ster, in	formation on whether module c	an be chosen to earn	a bonus)	tion oncrea in not every senie	
This m the firs	odule has the following 3 asses: assessment component and o	sment components. T ne of the remaining t	o pass the module a wo.	as a whole students must pass	
Assess sisch	sment component to module cor	nponent 42-FS3-FR_\	/-1-072: Vorbereitun	g auf die Fachsprache Franzö-	
	 3 ECTS credits, method of grading: numerical grade Option 1: written multi-component examination (60 minutes total) with 4 components (reading comprehension, listening comprehension, writing, communication skills) or option 2: oral assessment (approx. 5 minutes) and written multi-component examination (30 to 45 minutes total) with 3 components (reading comprehension, listening comprehension, writing) or option 3: 2 to 4 oral assessments (approx. 15 to 30 minutes total) as well as 2 to 4 written assessments (approx. 5 to 8 pages total) as specified at the beginning of the course, all components/assessments each weighted 1:1. 				
Assess	sment component to module cor	nponent 42-FS3-FR	IW-1-072: Französiso	ch III Fachsprache Naturwissen-	
schafte	en intensiv 3 ECTS credits, method of gradin	g: numerical grade			
• (c) + + + + + + + + + + + + +	 option 1: written multi-component examination (120 minutes total) with 4 components (reading comprehension, listening comprehension, writing, communication skills) or option 2: oral assessment (approx. 10 minutes) and written multi-component examination (60 to 90 minutes total) with 3 components (reading comprehension, listening comprehension, writing) or option 3: 2 to 4 oral assessments (approx. 30 to 60 minutes total) as well as 2 to 4 written assessments (approx. 10 to 15 pages total) as specified at the beginning of the course, all components/assessments each weighted 1:1 Assessment offered once a year, dates to be announced at the beginning of the respective course. Language of assessment: French 				
schaft	sment component to module cor en	nponent 42-r53-rK_N	ww-2-072: Franzosis	ch ill Fachspräche Naturwissen-	
• { • (1	3 ECTS credits, method of gradin option 1: written multi-componen nension, listening comprehensio to minutes) and written multi-co	g: numerical grade nt examination (120 n on, writing, communio mponent examinatio	ninutes total) with 4 cation skills) or optic n (60 to 90 minutes	components (reading compre- on 2: oral assessment (approx. total) with 3 components (rea-	

ding comprehension, listening comprehension, writing) or option 3: 2 to 4 oral assessments (approx. 30 to 60 minutes total) as well as 2 to 4 written assessments (approx. 10 to 15 pages total) as specified at the beginning of the course, all components/assessments each weighted 1:1

- Assessment offered once a year, dates to be announced at the beginning of the respective course.
- Language of assessment: French

Allocation of places

Additional information

--

Workload

Referred to in LPO I (examination regulations for teaching-degree programmes)

Module appears in

			J MELOVIARI) C		
Module	e title				Abbreviation
Fachsp	rache F	ranzösisch Naturwissen	schaften (2)		42-FS3-FR_NW2-072-m01
Module	e coordi	inator		Module offered by	<u> </u>
head of	f Langu	age Centre (ZFS)		Language Centre (Z	fS)
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)	
8	numer	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in the section on
Conten	ts		<u> </u>		
This mo in the ta	odule e arget la	quips students with natu Inguage, both at universi	iral sciences-specific ty and in the workpla	language skills that	will allow them to communicate
Intende	ed learr	ning outcomes			
Students gain natural sciences-specific communication skills (written and oral) in the target language. They de- velop advanced subject-specific language skills - including subject-specific terminology and structures - that will allow them to communicate about selected topics in the natural sciences in corresponding situations. Courses (type, number of weekly contact hours, language — if other than German) This module has 2 components; information on courses listed separately for each component.					
• 4 Methoo	2-FS3-F 1 of ass formati	R_NW-2-072: Ü + Ü (no i ressment (type, scope, la on on whether module ca	nformation on langua nguage — if other tha an be chosen to earn	age and number of w an German, examina a bonus)	reekly contact hours available) Ition offered — if not every seme-
This mo one of t	odule h the two	as the following 2 assess assessment component	sment components. T s.	o pass the module a	as a whole students must pass
Assess schafte 8 0 h 1 d t t A L O Assess	ment of n inten ECTS of ption 1 ension o minuti ing con o 60 mi he begi ssessm anguag Other pr ment of	omponent to module con siv credits, method of gradin : written multi-componer , listening comprehensio tes) and written multi-co nprehension, listening co inutes total) as well as 2 nning of the course, all c nent offered once a year, ge of assessment: French rerequisites: Assessment omponent to module com	nponent 42-FS3-FR_N g: numerical grade nt examination (120 n on, writing, communic mponent examinatio omprehension, writin to 4 written assessm omponents/assessm dates to be announc test to be successfu nponent 42-FS3-FR_N	IW-1-072: Französisc ninutes total) with 4 cation skills) or option n (60 to 90 minutes g) or option 3: 2 to 4 nents (approx. 10 to nents each weighted ed at the beginning Ily completed with a IW-2-072: Französis	ch III Fachsprache Naturwissen- components (reading compre- on 2: oral assessment (approx. total) with 3 components (rea- oral assessments (approx. 30 15 pages total) as specified at 1:1 of the respective course. minimum score of 85 points. ch III Fachsprache Naturwissen-

- 8 ECTS credits, method of grading: numerical grade
- option 1: written multi-component examination (120 minutes total) with 4 components (reading comprehension, listening comprehension, writing, communication skills) or option 2: oral assessment (approx. 10 minutes) and written multi-component examination (60 to 90 minutes total) with 3 components (reading comprehension, listening comprehension, writing) or option 3: 2 to 4 oral assessments (approx. 30 to 60 minutes total) as well as 2 to 4 written assessments (approx. 10 to 15 pages total) as specified at the beginning of the course, all components/assessments each weighted 1:1

• Assessment offered once a year, dates to be announced at the beginning of the respective course.

- Language of assessment: French
- Other prerequisites: Assessment test to be successfully completed with a minimum score of 85 points.

Allocation of places

Master's with 1 major FOKUS Physics - Nanostructu-	JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record	page 94 / 95
ring Technology (2006)	Master (120 ECTS) FOKUS Physik - Nanostrukturtechnik - 2006	

Additional information

Workload

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

Module appears in