

Module Catalogue

for the Module studies (Master)

Nanostructure Technology

Examination regulations version: 2019 Responsible: Faculty of Physics and Astronomy

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Abbreviations used

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

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:

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

15-May-2019 (2019-36)

27-Jun-2019 (2019-41)

14-Nov-2019 (2019-52)

22-Jan-2020 (2020-13)

o6-May-2020 (2020-39)

22-Jul-2020 (2020-57)

17-Dec-2020 (2020-110)

10-Mar-2021 (2021-17)



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o9-Jun-2021 (2021-58)
22-Dec-2021 (2021-85)
05-Jul-2022 (2022-52)
31-Jan-2023 (2022-86)
15-Jun-2023 (2023-58)
13-Dec-2023 (2023-107)
07-Aug-2024 (2024-82)
22-Jan-2025 (2025-1)
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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.



Summer Term 2019

(ECTS credits)



or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10					
chairperson of examination committee Faculty of Physics and Astronomy Faculty of Physics and Astronomy Method of grading Only after succ. compl. of module(s) numerical grade The semester graduate Other prerequisites Current topics in Experimental or Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad. Intended learning outcomes The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas. Courses (type, number of weekly contact hours, language — if other than German) V (2) + R (2) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10					
ECTS Method of grading Only after succ. compl. of module(s) numerical grade Duration Module level Other prerequisites 1 semester graduate Approval from examination committee required. Contents Current topics in Experimental or Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad. Intended learning outcomes The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas. Courses (type, number of weekly contact hours, language — if other than German) V (2) + R (2) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes) or project report (approx. 8 to 10					
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The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas. Courses (type, number of weekly contact hours, language — if other than German) V (2) + R (2) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10					
Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas. Courses (type, number of weekly contact hours, language — if other than German) V (2) + R (2) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10					
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Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10					
or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10					
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes)					
Allocation of places					
-					
Additional information					
-					
Workload					
150 h					
Teaching cycle					



Module	Module title Abbreviation						
Current Topics in Nanostructure Technology					11-EXN6-161-mo1		
				Module offered by			
		f examination committee	·	Faculty of Physics a	and Astronomy		
ECTS	1	od of grading	Only after succ. con		and Astronomy		
6 numerical grade							
Duratio		Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam		equired.		
Conten	its	<u>, </u>	, ,,		•		
	•	in Experimental or Theo tudy abroad.	retical Physics. Credit	ed academic achiev	ements, e.g. in case of change of		
Intend	ed lear	ning outcomes					
subdis knowle	cipline dge. Th		nd the measuring and e subject-specific co	d/or calculation mether ntexts and know the	ey have knowledge of a current hods necessary to acquire this application areas.		
V (3) +	R (1)						
		sessment (type, scope, langua ole for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether		
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
Allocation of places							
Additio	nal inf	ormation					
Worklo	ad						
180 h							
Teachi	ng cycl	e					
••							



Module title					Abbreviation	
Curren	Current Topics in Nanostructure Technology 11-EXN7-161-mo1					
Module coordinator Module offered				Module offered by		
chairperson of examination committee			nittee	Faculty of Physics a	and Astronomy	
ECTS Method of grading Only after succ. compl. of m			mpl. of module(s)			
7	7 numerical grade					
Duratio	on	Module level	Other prerequisites	S		
1 seme	ster	graduate	Approval from exam	nination committee r	equired.	
Conten	its					
	•	s in Experimental or study abroad.	Theoretical Physics. Cred	ited academic achiev	rements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
knowle Course	dge. Tl	ney are able to class	erstand the measuring an sify the subject-specific concurs, language — if other than Ge	ontexts and know the	hods necessary to acquire this application areas.	
V (3) +	-					
		sessment (type, scope, ple for bonus)	language — if other than German,	examination offered — if no	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
Additional information						
Worklo	ad					
	ad					



Modul	a titla				Abbreviation
Current Topics in Nanostructure Technology					11-EXN8-161-mo1
Modul				Module offered by	
	1	f examination committee		Faculty of Physics a	and Astronomy
ECTS	Meth	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	Approval from exam	ination committee r	equired.
Conter	its				
		s in Experimental or Theo study abroad.	retical Physics. Credit	ed academic achiev	rements, e.g. in case of change of
Intend	ed lear	ning outcomes			
subdis knowle	cipline dge. Th		nd the measuring and e subject-specific co	I/or calculation met ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.
V (4) +	R (2)				
		Sessment (type, scope, langua ole for bonus)	age — if other than German, o	examination offered — if no	ot every semester, information on whether
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
Allocat					
Additio	nal inf	ormation			
Worklo	ad				
240 h					
Teachi	ng cycl	e	-		
- cucing syste					



					T	
Module title					Abbreviation	
Curren	Current Topics in Nanostructure Technology 11-EXN6A-161-mo1					
Module	Module coordinator			Module offered by		
chairpe	erson o	f examination committee		Faculty of Physics	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
6 numerical grade						
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee i	required.	
Conten	ts		,			
		in Experimental or Theor tudy abroad.	retical Physics. Credit	ed academic achiev	vements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
subdis knowle	cipline dge. Th	of Physics and understaney are able to classify th	nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	hey have knowledge of a current thods necessary to acquire this e application areas.	
		number of weekly contact hours, l	anguage — if other than Ger	man)		
V (3) +						
		sessment (type, scope, langua ble for bonus)	ge — if other than German, o	examination offered — if n	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
Additio	Additional information					
Worklo	ad					
180 h						
Teachi	ng cycl	e				



Module title Abbreviation					
Current Topics in Physik 11-EXP6-161-mo1					
Module coordinator Module offered by					red by
chairperson of examination committee Faculty of Physics and Astronomy					
ECTS	Meth	od of grading	Only after succ.	compl. of module	e(s)
6	nume	erical grade			
Duratio	on	Module level	Other prerequisi	tes	
1 seme	ster	graduate	Approval from ex	camination comn	nittee required.
Contents					
Current topics in experimental or theoretical physics. Credited academic achievements, e.g. in case of change of university or study abroad.					
Intend	ed lear	ning outcomes			
The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.					
Course	S (type,	number of weekly contact ho	ours, language — if other than	n German)	
V (3) +	R (1)				
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes)					

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

Additional information

Workload

180 h

Teaching cycle



Module title Abbreviation							
Current Topics in Physik					11-EXP6A-161-m01		
Module coordinator				Module offered by			
chairperson of examination committee			e	Faculty of Physics a	nd Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
6	nume	rical grade					
Duratio	on .	Module level	Other prerequisites	i			
1 seme	ster	graduate	Approval from exam	nination committee re	equired.		
Contents							
Current topics in Experimental or Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad.							
Intend	ed lear	ning outcomes					
The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.							
Course	S (type, i	number of weekly contact hours,	language — if other than Ge	rman)			
V (3) + R (1)							
V (3) +	Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)						
Metho							

stead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

Additional information

Workload

180 h

Teaching cycle

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



Modul	e title				Abbreviation
Curren	t Topics	s in Physik			11-EXP5-161-m01
Modul	e coord	inator		Module offered by	
chairpe	erson o	f examination committee		Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. con		
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conter	its				
		in Experimental or Theor tudy abroad.	retical Physics. Credit	ed academic achiev	ements, e.g. in case of change of
Intend	ed learı	ning outcomes			
Course	S (type, r	ney are able to classify th number of weekly contact hours, I	•		application areas.
V (2) +	R (2)				
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
	ion of p				
Additio	onal inf	ormation			
Worklo	ad				

150 h

Teaching cycle



		W 40 /A 12			
Module	Module title				Abbreviation
Current	t Topic	s in Physik			11-EXP7-161-m01
Module	coord	inator		Module offered by	
chairpe	erson o	f examination committee		Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
7 numerical grade					
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	ts				
		s of Experimental and The versity or study abroad.	eoretical Physics. Acc	redited academic ac	hievements, e.g. in case of
Intende	ed lear	ning outcomes			
subdise knowle	cipline dge. Tl		nd the measuring and le subject-specific co	d/or calculation mether	ey have knowledge of a current hods necessary to acquire this application areas.
V (3) +	R (1)				
		sessment (type, scope, langua ble for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
Allocation of places					
Additio	nal inf	ormation	-		
Worklo	ad				
210 h					
Teachi	ng cycl	e	-		
	_ ,				



WU	RZBU	RG 1	5 (3 7 7 8 8	33 0 2 19	3,
Module 1	title				Abbreviation
Current 1	Topics	in Physik			11-EXP8-161-m01
Module	coordi	nator		Module offered by	
chairper	son of	examination committee	!	Faculty of Physics a	nd Astronomy
ECTS I	Metho	d of grading	Only after succ. con	ıpl. of module(s)	
8 r	numer	ical grade			
Duration		Module level	Other prerequisites		
1 semest	ter	graduate	Approval from exam	ination committee re	equired.
Contents	5				
	•	of Experimental and The versity or study abroad.	eoretical Physics. Acc	redited academic ac	hievements, e.g. in case of
Intended	l learn	ing outcomes			
Theoretic subdisci knowled	cal Pho pline o ge. Th	ysics of the Master's pro	gramme of Nanostrue nd the measuring and e subject-specific co	cture Technology. Th I/or calculation meth ntexts and know the	of a module of Experimental or ey have knowledge of a current nods necessary to acquire this application areas.
V (4) + R		uniber of weekly contact hours, t	- I other than der	many	
Method	of ass	essment (type, scope, langua e for bonus)	ge — if other than German, o	examination offered — if no	t every semester, information on whether
or oral expages) of a written stead tall of assessination display	xamin or pres en exa ke the sment ate at e of as	ation in groups (groups of entation/talk (approx. 30 mination was chosen as form of an oral examination the lecturer the latest.	of 2, approx. 30 minu o minutes). s method of assessmo tion of one candidate must inform student	tes per candidate) o ent, this may be char e each or an oral exar	didate each (approx. 30 minutes) r project report (approx. 8 to 10 nged and assessment may inmination in groups. If the method weeks prior to the original exami-
Allocatio	on of p	laces			

Additional information

Workload

240 h

Teaching cycle



Module	title	,			Abbreviation
Advance	ed Topi	cs in Solid State Physic	S		11-CSFM-161-m01
Module	coordi	nator		Module offered by	L
Managii and Ast		ctor of the Institute of Th	eoretical Physics	Faculty of Physics a	and Astronomy
ECTS	Metho	d of grading	Only after succ. con	npl. of module(s)	
6	numer	ical grade			
Duratio	n	Module level	Other prerequisites	i	
1 semes	ter	graduate	Approval from exam	nination committee r	equired.
Content	:s				
vered in	any of				anced courses on topics not co- arch developments or to subjects
Intende	d learn	ing outcomes			
		dvance their knowledge sights into the connectio			of Condensed Matter Physics
Courses	type, nu	umber of weekly contact hours, l	anguage — if other than Ge	rman)	
V (3) + R	? (1)				
Method	of asse	essment (type, scope, langua	ge — if other than German,	examination offered — if no	ot every semester, information on whether
module is	creditable	e for bonus)			
b) oral e c) oral e d) proje e) prese If a writt stead ta of asses nation o	examina examina et repo entation ten exa ake the ssment date at t	form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu of or es) method of assessm tion of one candidate must inform student	tes per candidate) o ent, this may be cha e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-
Allocati	on of p	laces			
Addition	nal info	rmation			
Workloa	ad				
180 h	_				
Teachin	g cycle				

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



Module title					Abbreviation
Advanced Topics in Nanostructure Technology					11-CSNM-161-m01
Module coordinator Modul					1
Managing Director of the Institute of Theoretical Physics and Astrophysics			e of Theoretical Physics	Faculty of Physics	and Astronomy
ECTS	Metho	od of grading	Only after succ. co	mpl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites	5	
1 seme	ester	graduate	Approval from exar	nination committee	required.
Conter	nts				
can no	t be co	vered by any other r		ay either reflect new	ectures on advanced topics that developments in research or deal
Intend	ed lear	ning outcomes			
			ledge and understanding ions between research an		c of nanostructure technology and
Course	es (type, r	number of weekly contact	hours, language — if other than Ge	erman)	
V (3) +	R (1)				
		sessment (type, scope, le for bonus)	language — if other than German,	examination offered — if r	not every semester, information on whether
or oral pages) If a wri stead t of asse nation	examir or pres tten exa take the essmen date at	ation in groups (grosentation/talk (applamination was chose form of an oral exa	oups of 2, approx. 30 minurox. 30 minurox. 30 minutes). Sen as method of assessmanination of one candidate cturer must inform studen	utes per candidate) ent, this may be cha e each or an oral exa	ndidate each (approx. 30 minutes) or project report (approx. 8 to 10 anged and assessment may inamination in groups. If the method rweeks prior to the original examination in groups.
Alloca	tion of p	olaces			
Additio	onal inf	ormation			
Worklo	oad				
WOIKU					
180 h					



Modul	e title		Abbreviation		
Advand	ed Top	oics in Physics			11-CSPM-161-m01
Modul	e coord	linator		Module offered by	1
chairpe	chairperson of examination committee			Faculty of Physics and Astronomy	
ECTS	CTS Method of grading O		Only after succ. co	mpl. of module(s)	
6	nume	erical grade			
Duratio	on	Module level	Other prerequisite	S	
1 seme	ster	graduate	Approval from exa	mination committee	required.
Conten	ıts	-	•		
			•	•	ics not covered in any of the othe subjects not included in the regu

Intended learning outcomes

The students advance their knowledge and understanding of an advanced topic of nanostructure technology and acquire insights into the connections between research and teaching.

Courses (type, number of weekly contact hours, language - if other than German)

V(3) + R(1)

lar curriculum.

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes).

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

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Additional information

--

Workload

180 h

Teaching cycle

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

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Winter Term 2019

(ECTS credits)



Module	e title				Abbreviation	
Curren	Current Topics in Nanostructure Technology 11-EXN5-161-mo1					
Module coordinator Module offered				Module offered by	l.	
chairpe	erson o	f examination committee	!	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee r	equired.	
Conten	its					
	•	in Experimental or Theo study abroad.	retical Physics. Credit	ed academic achiev	rements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
subdis knowle	cipline edge. Th s (type, r		nd the measuring and esubject-specific co	d/or calculation met ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.	
V (2) +	R (2)					
		sessment (type, scope, langua ble for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
or oral pages) If a write stead to fasse nation	examir or pres tten exa ake the essmen date at	nation in groups (groups sentation/talk (approx. 3 amination was chosen as e form of an oral examina	of 2, approx. 30 minu o minutes). s method of assessmo tion of one candidate r must inform student	tes per candidate) o ent, this may be cha e each or an oral exa	didate each (approx. 30 minutes) or project report (approx. 8 to 10 mged and assessment may inmination in groups. If the method weeks prior to the original exami-	
Allocat	ion of p	places				
Additio	nal inf	ormation				
Worklo	ad					
150 h						
Teachi	ng cycl	e				

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



					I
Modul					Abbreviation
Curren	t Topic	s in Nanostructure Techi		11-EXN6-161-m01	
Module coordinator Module offered b			Module offered by		
chairp	erson o	f examination committee	2	Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
6	nume	rical grade			
Duration	on	Module level	Other prerequisites		
1 seme	ester	graduate	Approval from exam	ination committee r	equired.
Conter	nts				
		s in Experimental or Theo study abroad.	retical Physics. Credi	ted academic achiev	rements, e.g. in case of change of
Intend	ed lear	ning outcomes			
knowle Course	edge. Tl	of Physics and understa hey are able to classify th number of weekly contact hours,	ne subject-specific co	ntexts and know the	hods necessary to acquire this application areas.
V (3) +					
		sessment (type, scope, langu ble for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether
or oral pages) If a wri stead t of asse nation	examin or pres tten ex take the essmen date at	nation in groups (groups sentation/talk (approx. 3 amination was chosen a e form of an oral examina	of 2, approx. 30 minutes). s method of assessmetion of one candidate r must inform student	tes per candidate) o ent, this may be cha e each or an oral exa	didate each (approx. 30 minutes) or project report (approx. 8 to 10 mged and assessment may inmination in groups. If the method weeks prior to the original exami-
Allocat	tion of	places			
Additio	onal inf	ormation			
Worklo	oad				
180 h					
Teachi	ng cycl	e			



Module	title				Abbreviation
Current Topics in Nanostructure Technology 11-EXN7-161-mo1					11-EXN7-161-m01
Module	coord	inator		Module offered by	
chairperson of examination committee			e	Faculty of Physics a	and Astronomy
ECTS		od of grading	Only after succ. con		,
7		rical grade		•	
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	ts				
		in Experimental or Theo tudy abroad.	oretical Physics. Credi	ted academic achiev	vements, e.g. in case of change of
Intende	ed lear	ning outcomes			
Theore subdis knowle	tical Ph cipline dge. Th	nysics of the Master's proof of Physics and understaney are able to classify t	ogramme of Nanostru and the measuring and he subject-specific co	cture Technology. Thd/or calculation met ntexts and know the	of a module of Experimental or ney have knowledge of a current hods necessary to acquire this application areas.
		number of weekly contact hours,	language — If other than Ge	rman)	
	d of ass	sessment (type, scope, langu	age — if other than German,	examination offered — if no	ot every semester, information on whether
or oral pages) If a writ stead t of asse nation	examin or pres ten exa ake the ssmen date at	nation in groups (groups sentation/talk (approx. g amination was chosen a e form of an oral examina	of 2, approx. 30 minus so minutes). s method of assessmation of one candidate r must inform student	ites per candidate) c ent, this may be cha e each or an oral exa	didate each (approx. 30 minutes) or project report (approx. 8 to 10 nged and assessment may inmination in groups. If the method weeks prior to the original exami-
Allocat			<u>. </u>		
	•				
Additio	nal inf	ormation	_		
Worklo	ad				
210 h					
Teachi	ng cycl	e			



Modul	a titla				Abbreviation
		s in Nanostructure Techn	ology		11-EXN8-161-mo1
					11 2/4/0 101 11101
Modul				Module offered by	
	1	f examination committee		Faculty of Physics a	and Astronomy
ECTS	Meth	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	Approval from exam	ination committee r	equired.
Conter	its				
		s in Experimental or Theo study abroad.	retical Physics. Credit	ed academic achiev	rements, e.g. in case of change of
Intend	ed lear	ning outcomes			
subdis knowle	cipline dge. Th		nd the measuring and e subject-specific co	I/or calculation met ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.
V (4) +	R (2)				
		Sessment (type, scope, langua ole for bonus)	age — if other than German, o	examination offered — if no	ot every semester, information on whether
or oral pages) If a wristead to fasse nation	examir or pres tten exa ake the essmen date at	nation in groups (groups sentation/talk (approx. 3 amination was chosen as e form of an oral examina	of 2, approx. 30 minu o minutes). smethod of assessmetion of one candidate must inform student	tes per candidate) o ent, this may be cha e each or an oral exa	didate each (approx. 30 minutes) or project report (approx. 8 to 10 mged and assessment may inmination in groups. If the method weeks prior to the original exami-
Allocat					
Additio	nal inf	ormation			
Worklo	ad				
240 h					
Teachi	ng cycl	e	-		
	<u> </u>				



Modul	o titlo	_			Abbreviation
		s in Nanostructure Techn	ology		11-EXN6A-161-mo1
				, , , ,	
				Module offered by	
		f examination committee		Faculty of Physics a	and Astronomy
ECTS	1	od of grading	Only after succ. con	ıpl. of module(s)	
6		rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme		graduate	Approval from exam	ination committee r	equired.
Conter	ıts				
		s in Experimental or Theor study abroad.	retical Physics. Credit	ed academic achiev	rements, e.g. in case of change of
Intend	ed lear	ning outcomes			
Course V (3) +	edge. The state of	hey are able to classify th	e subject-specific co anguage — if other than Ger	ntexts and know the	hods necessary to acquire this application areas. ot every semester, information on whether
or oral pages) If a wri stead t of asse nation	examin or pres tten ex take the essmen date at	nation in groups (groups of sentation/talk (approx. 30 amination was chosen as e form of an oral examina	of 2, approx. 30 minu o minutes). s method of assessme tion of one candidate must inform student	tes per candidate) o ent, this may be cha e each or an oral exa	didate each (approx. 30 minutes) or project report (approx. 8 to 10 nged and assessment may inmination in groups. If the method weeks prior to the original exami-
Alloca	tion of	places			
	,				
Additio	onal inf	ormation			
Worklo	ad				
180 h					
Teachi	ng cycl	e			



Module	e title				Abbreviation	
Curren	t Topic	s in Physik			11-EXP6-161-m01	
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committee	2	Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites	Other prerequisites		
1 seme	ster	graduate	Approval from examination committee required.			
Conten	its					
		in experimental or theor tudy abroad.	retical physics. Credit	ed academic achiev	ements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
Theore subdis	tical Ph cipline	ysics of the Master's pro	gramme of Nanostru nd the measuring and	cture Technology. Th d/or calculation metl	of a module of Experimental or ley have knowledge of a current hods necessary to acquire this application areas.	
Course	S (type, r	number of weekly contact hours,	language — if other than Ge	rman)		

V(3) + R(1)

 $\textbf{Method of assessment} \ (\textbf{type}, \textbf{scope}, \textbf{language} - \textbf{if other than German, examination offered} - \textbf{if not every semester, information on whether} \ (\textbf{type}, \textbf{scope}, \textbf{language} - \textbf{if other than German, examination offered} - \textbf{if not every semester, information on whether} \ (\textbf{type}, \textbf{scope}, \textbf{language}) \ (\textbf{type}, \textbf{language}) \$ module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes) or
- b) oral examination of one candidate each (approx. 30 minutes) or
- c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or
- d) project report (approx. 8 to 10 pages) or
- e) presentation/talk (approx. 30 minutes)

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

Additional information

Workload

180 h

Teaching cycle



Module title					Abbreviation
Current Topics in Physik					11-EXP6A-161-m01
Module	coord	inator		Module offered by	· · · · · · · · · · · · · · · · · · ·
chairperson of examination committee			ittee	Faculty of Physics	and Astronomy
ECTS Method of grading Only after succ. co			Only after succ. co	mpl. of module(s)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites	5	
1 seme	ster	graduate	Approval from exar	nination committee	required.
Conten	ts				
	•	in Experimental or T tudy abroad.	heoretical Physics. Cred	ted academic achie	vements, e.g. in case of change of
Intende	ed learr	ning outcomes			

The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.

Courses (type, number of weekly contact hours, language - if other than German)

V(3) + R(1)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes) or
- b) oral examination of one candidate each (approx. 30 minutes) or
- c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or
- d) project report (approx. 8 to 10 pages) or
- e) presentation/talk (approx. 30 minutes)

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

Additional information

Workload

180 h

Teaching cycle

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



Module title Abbreviation						
Curren	t Topic	s in Physik			11-EXP5-161-m01	
Module	coord	inator		Module offere	d by	
chairpe	erson o	f examination commi	ttee	Faculty of Phys	sics and Astronomy	
ECTS	Meth	od of grading	Only after succ. c	ompl. of module(s)	
5	nume	rical grade				
Duratio	n	Module level	Other prerequisit	es		
1 seme	ster	graduate	Approval from exa	amination commit	tee required.	
Conten	ts					
		s in Experimental or Tl study abroad.	neoretical Physics. Cre	dited academic a	chievements, e.g. in case of change o	
Intend	ed lear	ning outcomes				
Theore subdis	tical Ph cipline	nysics of the Master's of Physics and under	programme of Nanost stand the measuring a	ructure Technolog nd/or calculation	ents of a module of Experimental or gy. They have knowledge of a current methods necessary to acquire this w the application areas.	
Course	S (type, i	number of weekly contact ho	urs, language — if other than	German)		
V (2) +	R (2)					
		sessment (type, scope, la ble for bonus)	nguage — if other than Germa	n, examination offered	$\boldsymbol{-}$ if not every semester, information on whether	
or oral	examir		ips of 2, approx. 30 mi		e candidate each (approx. 30 minutes ate) or project report (approx. 8 to 10	

stead take the form of an oral examination of one candidate each or an oral examination in groups. If the method

of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

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Additional information

Workload

150 h

Teaching cycle

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



					T
Module title					Abbreviation
Curren	Current Topics in Physik 11-EXP7-161-mo1				
Module	e coord	inator		Module offered by	
chairpe	erson o	f examination committee		Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)	
7	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	its				
		of Experimental and The versity or study abroad.	oretical Physics. Acc	redited academic ac	hievements, e.g. in case of
Intend	ed learı	ning outcomes			
knowle Course	edge. The	of Physics and understaney are able to classify th	e subject-specific co	ntexts and know the	hods necessary to acquire this application areas.
V (3) +					
		GESSMENT (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
Allocation of places					
Additional information					
Workload					
210 h					

Teaching cycle



W	URZBU	JRG 1	5 (2. 2.)	33 8 2 8	nanostracture recimology	
Module	Module title Abbreviation					
Current Topics in Physik					11-EXP8-161-m01	
Module coordinator Module offered by						
chairpe	erson o	f examination committee	1	Faculty of Physics a	and Astronomy	
ECTS	Meth	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	Approval from exam	ination committee r	equired.	
Conten	its					
		of Experimental and The versity or study abroad.	eoretical Physics. Acc	redited academic ac	hievements, e.g. in case of	
Intend	ed lear	ning outcomes				
Theore subdis	tical Ph cipline	nysics of the Master's pro	gramme of Nanostruend the measuring and	cture Technology. Th d/or calculation metl	of a module of Experimental or ey have knowledge of a current hods necessary to acquire this application areas.	
Course	S (type, r	number of weekly contact hours, I	language — if other than Ge	rman)		
V (4) +	R (2)					
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)						
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.						

Language of assessment: German and/or English

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תונט	cation	יט וט ו	laces

Additional information

Workload

240 h

Teaching cycle



Module title Abbreviation					Abbreviation	
Advance	Advanced Topics in Solid State Physics 11-CSFM-161-mo1					
Module coordinator Mod			Module offered by	dule offered by		
Managii and Ast		ctor of the Institute of Th	eoretical Physics	Faculty of Physics a	and Astronomy	
ECTS	Metho	d of grading	Only after succ. con	npl. of module(s)		
6	numer	ical grade				
Duration	n	Module level	Other prerequisites	i		
1 semes	ter	graduate	Approval from exam	nination committee r	equired.	
Content	:s					
vered in	any of				anced courses on topics not co- arch developments or to subjects	
Intende	d learn	ing outcomes				
		dvance their knowledge sights into the connectio			of Condensed Matter Physics	
Courses	type, nu	umber of weekly contact hours, l	anguage — if other than Ge	rman)		
V (3) + R	? (1)					
Method	of asse	essment (type, scope, langua	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
module is	creditable	e for bonus)				
a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
	_					
Additional information						
						
Workloa	ad					
180 h						
Teachin	Teaching cycle					

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



	_	180081	O (CENTRAL)	00 8/4/		
Module title				Abbreviation		
Advanced Topics in Nanostructure Technology				11-CSNM-161-m01		
Modul	e coord	inator		Module offered by	Module offered by	
	ing Dire	ector of the Institute of Tl sics	neoretical Physics	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. cor	mpl. of module(s)		
6	nume	rical grade				
Duration	on	Module level	Other prerequisites	5		
1 seme	ester	graduate	Approval from exan	nination committee r	equired.	
Conter	ıts					
can no	t be cov		le. These lectures ma	ay either reflect new o	ctures on advanced topics that developments in research or deal	
Intend	ed lear	ning outcomes				
		advance their knowledge Its into the connections I			of nanostructure technology and	
Course	es (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
V (3) +	R (1)					
		sessment (type, scope, langua le for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
Additional information						
Workload						
180 h						
Teachi	Teaching cycle					



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Module title					Abbreviation 11-CSPM-161-m01
Advanced Topics in Physics					11-C5PM-161-III01
Module	e coord	inator		Module offered by	
chairpe	erson o	f examination committee	F	Faculty of Physics a	and 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	Approval from exam	ination committee r	equired.
Conten	ts				
	es. The	se topics may relate eithe			cs not covered in any of the other subjects not included in the regu-
Intend	ed learı	ning outcomes			
		advance their knowledge ts into the connections b			of nanostructure technology and
Course	S (type, n	number of weekly contact hours,	anguage — if other than Ger	rman)	
V (3) +	R (1)				
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
Allocation of places					
Additional information					
Workload					

180 h

Teaching cycle

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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$

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Summer Term 2020

(ECTS credits)



Module					Abbreviation	
Current Topics in Nanostructure Technology					11-EXN5-161-mo1	
Module				Module offered by		
		f examination committee		Faculty of Physics a	and Astronomy	
ECTS		od of grading	Only after succ. con	ipi. or module(s)		
5 Duratio						
		Module level	Other prerequisites		aguirad	
1 seme		graduate	Approval from exam	imation committee i	equirea.	
Current	topics	in Experimental or Theo tudy abroad.	retical Physics. Credit	ted academic achiev	rements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
subdis knowle	cipline dge. Th		nd the measuring and e subject-specific co	d/or calculation mether the description in the desc	ey have knowledge of a current hods necessary to acquire this application areas.	
V (2) +	R (2)					
		sessment (type, scope, langua ole for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
Additional information						
Workload						
150 h						
Teaching cycle						



					I	
	Module title Abbreviation					
Curren	t Topic	s in Nanostructure Techi		11-EXN6-161-m01		
Modul	e coord	linator		Module offered by		
chairp	erson o	f examination committee	2	Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	graduate	Approval from exam	ination committee r	equired.	
Conter	nts					
		s in Experimental or Theo study abroad.	retical Physics. Credi	ted academic achiev	rements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
knowle Course	edge. Tl	of Physics and understa hey are able to classify th number of weekly contact hours,	ne subject-specific co	ntexts and know the	hods necessary to acquire this application areas.	
V (3) +						
		sessment (type, scope, langu ble for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
Additional information						
Workload						
180 h						
Teaching cycle						



					1		
	Module title Abbreviation						
Curren	Current Topics in Nanostructure Technology 11-EXN7-161-mo1						
Modul	e coord	inator		Module offered by			
chairpe	erson o	f examination committee		Faculty of Physics a	and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
7	nume	rical grade					
Duratio	on	Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conter	its						
	•	s in Experimental or Theoretudy abroad.	retical Physics. Credit	ed academic achiev	vements, e.g. in case of change of		
Intend	ed lear	ning outcomes					
subdis knowle	cipline edge. Tl	of Physics and understaney are able to classify th	nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.		
		number of weekly contact hours, l	anguage — if other than Ger	rman)			
V (3) +							
		sessment (type, scope, langua ble for bonus)	ge — if other than German, (examination offered — if n	ot every semester, information on whether		
or oral pages) If a wri stead t of asse nation	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
	Allocation of places						
Additional information							
Worklo	Workload						
210 h							
Teaching cycle							



Module	Module title Abbreviation						
Curren	Current Topics in Nanostructure Technology 11-EXN8-161-mo1						
Module	Module coordinator Mo				L		
chairpe	erson o	f examination committe	e	Faculty of Physics a	and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
8	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conten	ts						
		s in Experimental or Theostudy abroad.	oretical Physics. Credi	ted academic achiev	vements, e.g. in case of change of		
Intend	ed lear	ning outcomes					
knowle	dge. Tl	of Physics and understa hey are able to classify t number of weekly contact hours	he subject-specific co	ntexts and know the	hods necessary to acquire this application areas.		
		sessment (type, scope, langual ole for bonus)	nage — if other than German,	examination offered — if no	ot every semester, information on whether		
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
Allocation of places							
							
Additional information							
							
Workload							
240 h							
Teachi	ng cycl	e					



Module	Module title Abbreviation							
	Current Topics in Nanostructure Technology 11-EXN6A-161-mo1							
Module	e coord	inator		Module offered by				
		f examination committee	!	Faculty of Physics a	and Astronomy			
ECTS		od of grading	Only after succ. con		·····			
6		rical grade						
Duratio		Module level	Other prerequisites					
1 seme	ster	graduate	Approval from exam		equired.			
Conten	its		, , ,					
	•	in Experimental or Theo tudy abroad.	retical Physics. Credit	ed academic achiev	rements, e.g. in case of change of			
Intend	ed lear	ning outcomes						
subdis knowle	cipline dge. Th	•	nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	ey have knowledge of a current hods necessary to acquire this application areas.			
V (3) +	R (1)							
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether			
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English								
Allocation of places								
Additional information								
Workload								
180 h								
Teachi	ng cycl	e						
								



Moduce	title		Module title Abbreviation					
Current	Topics	s in Physik			11-EXP6-161-m01			
Module	coord	inator		Module offered by				
chairperson of examination committee			ittee	Faculty of Physics	Faculty of Physics and Astronomy			
ECTS	Metho	od of grading	Only after succ. co	Only after succ. compl. of module(s)				
6	numei	rical grade						
Duratio	n	Module level	Other prerequisites	5				
1 semes	ster	graduate	Approval from exam	nination committee i	required.			
Conten	ts							
Current topics in experimental or theoretical physics. Credited academic achievements, e.g. in case of change of university or study abroad.								
Intended learning outcomes								

The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.

Courses (type, number of weekly contact hours, language - if other than German)

V(3) + R(1)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes) or
- b) oral examination of one candidate each (approx. 30 minutes) or
- c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or
- d) project report (approx. 8 to 10 pages) or
- e) presentation/talk (approx. 30 minutes)

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

180 h

Teaching cycle

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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$

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Modul	e title			Abbreviation		
Curren	t Topic	s in Physik		11-EXP6A-161-r	no1	
Modul	e coord	inator		Module offered by		
chairpe	erson o	f examination commit	ttee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	pl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ster	graduate	Approval from exam	nination committee required.		
Conten	its					
	•	s in Experimental or Th study abroad.	neoretical Physics. Credi	ed academic achievements, e.g. in	case of change o	
Intend	ed lear	ning outcomes				
The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.						
Courses (type, number of weekly contact hours, language — if other than German)						
V (3) +	V (3) + R (1)					

V(3) + R(1)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes) or
- b) oral examination of one candidate each (approx. 30 minutes) or
- c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or
- d) project report (approx. 8 to 10 pages) or
- e) presentation/talk (approx. 30 minutes)

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

180 h

Teaching cycle

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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$

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Module	Module title Abbreviation							
Current	Current Topics in Physik 11-EXP5-161-mo1							
Module	coord	inator		Module offered by				
chairpe	erson o	f examination committee	!	Faculty of Physics a	and Astronomy			
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)				
5	nume	rical grade						
Duratio	n	Module level	Other prerequisites					
1 seme	ster	graduate	Approval from exam	ination committee r	equired.			
Conten	ts							
		in Experimental or Theo tudy abroad.	retical Physics. Credit	ed academic achiev	rements, e.g. in case of change of			
Intende	ed lear	ning outcomes						
Theore subdis knowle	tical Ph cipline dge. Th	ysics of the Master's pro of Physics and understa ney are able to classify th	gramme of Nanostruend the measuring and e subject-specific co	cture Technology. The dor calculation met ntexts and know the	of a module of Experimental or ley have knowledge of a current hods necessary to acquire this application areas.			
		number of weekly contact hours,	anguage — if other than Ger	man)				
V (2) +								
		sessment (type, scope, langua lle for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether			
or oral pages) If a writ stead t of asse nation	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
Allocation of places								
Additional information								
Workload								
150 h	150 h							
Teachi	Teaching cycle							



		\.\\\ -					
Module	Module title Abbreviation						
Current	t Topics	s in Physik			11-EXP7-161-m01		
Module	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. con	npl. of module(s)			
7	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conten	ts						
		of Experimental and The versity or study abroad.	oretical Physics. Acc	redited academic ac	hievements, e.g. in case of		
Intende	ed lear	ning outcomes					
Theores	tical Ph cipline dge. Th	ysics of the Master's pro of Physics and understan ney are able to classify th	gramme of Nanostruend the measuring and e subject-specific co	cture Technology. Thd/or calculation metlentests and know the	of a module of Experimental or ley have knowledge of a current hods necessary to acquire this application areas.		
		number of weekly contact hours, l	anguage — If other than Gei	rman)			
V (3) +							
		GESSMENT (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
or oral pages) If a writ stead to of asse nation	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places							
<u></u>							
Additio	nal inf	ormation					
Worklo	Workload						
210 h	210 h						

Teaching cycle



Module	n titla				Abbreviation
					11-EXP8-161-mo1
Modul				Module offered by	
chairpe		f examination committee		Faculty of Physics a	and 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	Approval from exam	ination committee r	equired.
Conten	ts		,		
		of Experimental and The versity or study abroad.	oretical Physics. Acc	redited academic ac	hievements, e.g. in case of
Intend	ed lear	ning outcomes			
knowle	edge. The	of Physics and understainey are able to classify th	e subject-specific co	ntexts and know the	hods necessary to acquire this application areas.
-		Sessment (type, scope, langua	ge — if other than German.	examination offered — if no	ot every semester, information on whether
		le for bonus)	,		,
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
Allocation of places					
					
Additional information					
Workload					
240 h					

Teaching cycle



Module coordinator Managing Director of the Institute of Theoretical Physics and Astronomy Managing Director of the Institute of Theoretical Physics and Astronomy Managing Director of the Institute of Theoretical Physics and Astronomy Faculty of Physics and Astronomy Faculty of Physics and Astronomy Module level Other prerequisites 1 semester graduate Approval from examination committee required. Contents This module will enable the lecturers of Condensed Matter Physics to teach advanced courses on topics not covered in any of the other modules. These topics may relate either to recent research developments or to subjects not included in the regular curriculum. Intended learning outcomes The students advance their knowledge and understanding of an advanced topic of Condensed Matter Physics and acquire insights into the connections between research and teaching. Courses (type, number of weekly contact hours, language — if other than German) V(3) + R(1) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method			MACAL *	Z NEOVENSION V	55 V, \.P.1	T
Module cordinator Module offered by Managing Director of the Institute of Theoretical Physics and Astronomy Faculty of Physics and Astrono	Modul	e title				Abbreviation
Managing Director of the Institute of Theoretical Physics and Astronomy and Astrophysics Apply	Advan	ced Top	oics in Solid State Physic	S		11-CSFM-161-m01
## A strophysics Section Sectio	Modul	e coord	inator		Module offered by	
Duration Module level Other prerequisites 1 semester graduate Approval from examination committee required. 2 contents This module will enable the lecturers of Condensed Matter Physics to teach advanced courses on topics not covered in any of the other modules. These topics may relate either to recent research developments or to subjects not included in the regular curriculum.	_	-		neoretical Physics	Faculty of Physics a	and Astronomy
Duration Module level Approval from examination committee required. Contents This module will enable the lecturers of Condensed Matter Physics to teach advanced courses on topics not covered in any of the other modules. These topics may relate either to recent research developments or to subjects not included in the regular curriculum. Intended learning outcomes The students advance their knowledge and understanding of an advanced topic of Condensed Matter Physics and acquire insights into the connections between research and teaching. Courses (type, number of weekly contact hours, language — if other than German) V (3) + R (1) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) if a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places	ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
Tisemester graduate Approval from examination committee required. Contents This module will enable the lecturers of Condensed Matter Physics to teach advanced courses on topics not covered in any of the other modules. These topics may relate either to recent research developments or to subjects not included in the regular curriculum. Intended learning outcomes The students advance their knowledge and understanding of an advanced topic of Condensed Matter Physics and acquire insights into the connections between research and teaching. Courses (type, number of weekly contact hours, language — if other than German) V (3) + R (1) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places	6	nume	rical grade			
Contents This module will enable the lecturers of Condensed Matter Physics to teach advanced courses on topics not covered in any of the other modules. These topics may relate either to recent research developments or to subjects not included in the regular curriculum. Intended learning outcomes The students advance their knowledge and understanding of an advanced topic of Condensed Matter Physics and acquire insights into the connections between research and teaching. Courses (type, number of weekly contact hours, language – if other than German) V (3) + R (1) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places	Durati	on	Module level	Other prerequisites	i	
This module will enable the lecturers of Condensed Matter Physics to teach advanced courses on topics not covered in any of the other modules. These topics may relate either to recent research developments or to subjects not included in the regular curriculum. Intended learning outcomes The students advance their knowledge and understanding of an advanced topic of Condensed Matter Physics and acquire insights into the connections between research and teaching. Courses (type, number of weekly contact hours, language — if other than German) V (3) + R (1) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places	1 seme	ester	graduate	Approval from exam	nination committee r	equired.
vered in any of the other modules. These topics may relate either to recent research developments or to subjects not included in the regular curriculum. Intended learning outcomes The students advance their knowledge and understanding of an advanced topic of Condensed Matter Physics and acquire insights into the connections between research and teaching. Courses (type, number of weekly contact hours, language – if other than German) V (3) + R (1) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) if a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places	Conter	nts				
The students advance their knowledge and understanding of an advanced topic of Condensed Matter Physics and acquire insights into the connections between research and teaching. Courses (type, number of weekly contact hours, language — if other than German) V (3) + R (1) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places Additional information Workload	vered i	in any o	of the other modules. The			
and acquire insights into the connections between research and teaching. Courses (type, number of weekly contact hours, language — if other than German) V (3) + R (1) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places Additional information Workload 180 h	Intend	ed lear	ning outcomes			
Wethod of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places Additional information Workload						of Condensed Matter Physics
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places Additional information Workload	Course	es (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)	
a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places Additional information Workload 180 h	V (3) +	R (1)				
b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English Allocation of places Additional information Workload 180 h				ge — if other than German,	examination offered — if no	ot every semester, information on whether
Additional information Workload 180 h	b) oral c) oral d) proj e) pres If a wri stead of asse nation	examir examin ect reposentation itten exa take the essmen date at	nation of one candidate enation in groups (groups of ort (approx. 8 to 10 pages on/talk (approx. 30 minut amination was chosen as the form of an oral examination the lecture of the latest.	ach (approx. 30 minus) of 2, approx. 30 minus) or es) amethod of assessmation of one candidate must inform studen	ites per candidate) o ent, this may be cha e each or an oral exa	nged and assessment may in- mination in groups. If the method
Workload 180 h	Alloca	tion of _I	places			
Workload 180 h						
180 h	Additio	onal inf	ormation			
180 h						
	Worklo	oad				
Teaching cycle	180 h					
	Teachi	ing cycl	e			



		11/2/4	IN MEYON WEIN				
Modul	Module title Abbreviation						
Advan	ced Top	ics in Nanostructure Te		11-CSNM-161-m01			
Modul	e coord	inator		Module offered by			
_	Managing Director of the Institute of Theoretical Physics and Astrophysics			Faculty of Physics a	and Astronomy		
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)			
6	nume	rical grade					
Durati	on	Module level	Other prerequisites	i			
1 seme	ester	graduate	Approval from exan	nination committee r	equired.		
Conter	nts						
can no	t be co		ıle. These lectures ma	ay either reflect new o	ctures on advanced topics that developments in research or deal		
Intend	ed lear	ning outcomes					
		advance their knowledgots into the connections			of nanostructure technology and		
Course	es (type, r	number of weekly contact hours,	language — if other than Ge	rman)			
V (3) +	R (1)						
		sessment (type, scope, langu le for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether		
or oral pages) If a wri stead to of asse nation	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places							
Additional information							
Workload							
180 h							
Teachi	Teaching cycle						



	OKEBC	186	5 (623 733) 8	33 9 - 19			
Module	Module title Abbreviation						
Advanc	ced Top	ics in Physics			11-CSPM-161-m01		
Module	e coord	inator		Module offered by	Į.		
chairpe	erson o	f examination committee	2	Faculty of Physics a	and Astronomy		
ECTS	Meth	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	Approval from exam	ination committee r	equired.		
Conten	its						
	es. The	se topics may relate eith			cs not covered in any of the other subjects not included in the regu-		
Intend	ed lear	ning outcomes					
		advance their knowledgents into the connections			of nanostructure technology and		
Course	S (type, r	number of weekly contact hours,	language — if other than Ge	rman)			
V (3) +	R (1)						
		sessment (type, scope, languable for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether		
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
Allocat	Allocation of places						
[
Additional information							

Workload

180 h

Teaching cycle

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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$

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Winter Term 2020

(ECTS credits)



Module title					Abbreviation	
Curren	Current Topics in Nanostructure Technology				11-EXN5-161-m01	
Modul	e coord	inator		Module offered by	-	
chairpe	erson o	f examination committee		Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee r	equired.	
Conter	its					
		in Experimental or Theo tudy abroad.	retical Physics. Credit	ed academic achiev	vements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
subdis knowle	cipline edge. Th s (type, r		nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.	
V (2) +	R (2)					
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
Additio	Additional information					
Worklo	ad					
150 h	150 h					
Teachi	ng cycl	e				



Module title					Abbreviation	
Current Topics in Nanostructure Technology					11-EXN6-161-m01	
Module coordinator				Module offered by		
chairp	erson o	f examination committee		Faculty of Physics	and Astronomy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade				
Durati	on	Module level	Other prerequisites	i		
1 seme	ester	graduate	Approval from exam	ination committee i	required.	
Conte	nts					
		in Experimental or Theo tudy abroad.	retical Physics. Credit	ted academic achiev	vements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
subdis knowl	scipline edge. Th		nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	ney have knowledge of a current thods necessary to acquire this e application areas.	
V (3) +		iumber of weekly contact flours,	- I other than der	illiail)		
Metho	d of ass		age — if other than German,	examination offered — if n	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Alloca	tion of _l	places				
Additional information						
Workl	oad					
180 h						
Teach	ing cycl	e				



Module title					Abbreviation	
Curren	Current Topics in Nanostructure Technology				11-EXN7-161-m01	
Modul	e coord	inator		Module offered by		
chairpe	erson o	f examination committee	!	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
7	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee r	equired.	
Conten	its					
		in Experimental or Theo tudy abroad.	retical Physics. Credit	ed academic achiev	vements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
subdis knowle	cipline edge. Th s (type, r		nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.	
V (3) +	R (1)					
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
Additio	nal inf	ormation				
Worklo	ad					
210 h	210 h					
Teachi	ng cycl	e				



Module title			Abbreviation		
Current Topics in Nanostructure Technology 11-EXN8-161-mo1					
Module coordinator		Module offered by			
chairperson of examinatio	n committee	Faculty of Physics a	and Astronomy		
ECTS Method of grading	Only after succ. c	ompl. of module(s)			
8 numerical grade					
Duration Module leve	Other prerequisit	es			
1 semester graduate	Approval from exa	mination committee r	equired.		
Contents					
Current topics in Experime university or study abroad		dited academic achiev	vements, e.g. in case of change of		
Intended learning outcom	es				
knowledge. They are able	o classify the subject-specific of contact hours, language — if other than	ontexts and know the	hods necessary to acquire this application areas.		
	e, scope, language — if other than Germa	n, examination offered — if no	ot every semester, information on whether		
module is creditable for bonus)					
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
Allocation of places					
Additional information					
Workload					
240 h					

Teaching cycle



Module title					Abbreviation		
Current Topics in Nanostructure Technology					11-EXN6A-161-m01		
Module coordinator				Module offered by	!		
chairp	erson o	of examination committe	e	Faculty of Physics	and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
6	nume	rical grade					
Durati	on	Module level	Other prerequisites				
1 seme	ester	graduate	Approval from exam	ination committee	required.		
Conte	nts						
		s in Experimental or Theostudy abroad.	oretical Physics. Credi	ted academic achie	vements, e.g. in case of change of		
Intend	ed lear	ning outcomes					
subdis knowle	cipline edge. T		and the measuring and he subject-specific co	d/or calculation me ntexts and know the	hey have knowledge of a current thods necessary to acquire this e application areas.		
V (3) +		- weekly contact nours	- I other than der	many			
Metho	d of as		tage — if other than German,	examination offered — if r	not every semester, information on whether		
or oral pages) If a wri stead i of asso nation	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Alloca	tion of	places					
Additional information							
Workle	oad						
180 h							
Teachi	ing cycl	e					



Modul	e title				Abbreviation	
Curren	t Topic	s in Physik			11-EXP6-161-m01	
Modul	e coord	linator		Module offered	by	
chairpe	erson o	f examination committe	ee	Faculty of Physi	ics and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisite	s		
1 seme	ster	graduate	Approval from exar	mination committ	ee required.	
Conten	ıts		•			
	•	s in experimental or the study abroad.	oretical physics. Credi	ted academic ach	nievements, e.g. in case of change o	
Intend	ed lear	ning outcomes				
Theore subdis	tical Pł cipline	nysics of the Master's p	rogramme of Nanostru and the measuring an	ucture Technology d/or calculation i	nts of a module of Experimental or v. They have knowledge of a current methods necessary to acquire this the application areas.	
Course	S (type, i	number of weekly contact hour	s, language — if other than Ge	erman)		
V (3) +	R (1)					
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)						
a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes)						

e) presentation/talk (approx. 30 minutes)

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

180 h

Teaching cycle

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 $\textbf{Referred to} \ \textbf{in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$

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Module	e title			Abbreviation		
Current Topics in Physik				11-EXP6A-161-m01		
Module	e coord	linator		Module offered by		
chairpe	erson o	f examination committ	tee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites	tes		
1 seme	ster	graduate	Approval from exam	mination committee required.		
Conten	ts	,	,			
Current topics in Experimental or Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad.						
Intended learning outcomes						
The ctu	The students have advanced competencies corresponding to the requirements of a module of Evnerimental or					

The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.

Courses (type, number of weekly contact hours, language - if other than German)

V(3) + R(1)

 $\textbf{Method of assessment} \ (\textbf{type}, \textbf{scope}, \textbf{language} - \textbf{if other than German, examination offered} - \textbf{if not every semester, information on whether} \ (\textbf{type}, \textbf{scope}, \textbf{language} - \textbf{if other than German, examination offered} - \textbf{if not every semester, information on whether} \ (\textbf{type}, \textbf{scope}, \textbf{language}) \ (\textbf{type}, \textbf{language}) \$ module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes) or
- b) oral examination of one candidate each (approx. 30 minutes) or
- c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or
- d) project report (approx. 8 to 10 pages) or
- e) presentation/talk (approx. 30 minutes)

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

Additional information

Workload

180 h

Teaching cycle



Module title Abbreviation					Abbreviation	
Current Topics in Physik					11-EXP5-161-m01	
Module co	oordinator		Mod	lule offered by		
chairpers	on of examination com	mittee	Facı	ulty of Physics a	and Astronomy	
ECTS M	lethod of grading	Only after suc	cc. compl. o	f module(s)		
5 ni	umerical grade					
Duration	Module level	Other prerequ	uisites			
1 semeste	er graduate	Approval from	ı examinati	on committee r	required.	
Contents						
	ppics in Experimental o or study abroad.	r Theoretical Physics.	Credited a	cademic achiev	vements, e.g. in case of change of	
Intended	learning outcomes					
subdiscip knowledg		derstand the measuri ssify the subject-spec	ng and/or o	alculation met	ney have knowledge of a current hods necessary to acquire this application areas.	
V (2) + R ((2)					
	f assessment (type, scop editable for bonus)	e, language — if other than 0	ierman, examir	nation offered — if n	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
Additional information						
Workload						
150 h						
150 h						



Module title					Abbreviation	
Current Topics in Physik					11-EXP7-161-m01	
Module	coord	linator		Module offered by		
chairpe	erson o	f examination comm	nittee	Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
7	nume	rical grade				
Duratio	n	Module level	Other prerequisite	s		
1 seme	ster	graduate	Approval from exa	mination committee r	required.	
Conten	ts	,	,			
		s of Experimental and versity or study abro		credited academic ac	chievements, e.g. in case of	
Intende	ed lear	ning outcomes				
knowle Course	dge. Tl	ney are able to class	erstand the measuring ar ify the subject-specific co ours, language — if other than G	ontexts and know the	chods necessary to acquire this e application areas.	
	d of as		language — if other than German	, examination offered — if no	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocat	ion of	places				
Additional information						
Workload						
210 h						
Teaching cycle						



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Modul				Abbreviation			
Curren	t Topics	s in Physik			11-EXP8-161-m01		
Modul	e coord	inator		Module offered by			
chairpe	erson o	f examination committee	<u> </u>	Faculty of Physics a	and Astronomy		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)			
8	nume	rical grade					
Duratio	on	Module level	Other prerequisites	i			
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conter	ıts						
		of Experimental and Theversity or study abroad.	eoretical Physics. Acc	redited academic ac	hievements, e.g. in case of		
Intend	ed learı	ning outcomes					
subdis knowle	cipline edge. Th		nd the measuring and e subject-specific co	d/or calculation mether that the mether that t	ney have knowledge of a current hods necessary to acquire this application areas.		
V (4) +	R (2)						
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
Allocation of places							
Additio	Additional information						
Worklo	Workload						

240 h

Teaching cycle



			NEO VENERAL		T.,	
Modul			Abbreviation			
Advanced Topics in Solid State Physics					11-CSFM-161-m01	
Modul	e coord	linator		Module offered by		
_	ging Dir strophy	ector of the Institute o	f Theoretical Physics	Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
6	nume	rical grade				
Durati	on	Module level	Other prerequisites	5		
1 seme	ester	graduate	Approval from exar	nination committee r	equired.	
Conte	nts					
vered	in any c		hese topics may relate		ranced courses on topics not co- arch developments or to subjects	
Intend	led lear	ning outcomes				
			lge and understanding ctions between researc		of Condensed Matter Physics	
Course	es (type,	number of weekly contact hou	ırs, language — if other than Ge	erman)		
V (3) +	R (1)					
		sessment (type, scope, lar	guage — if other than German,	examination offered — if no	ot every semester, information on whether	
b) oral c) oral d) proj e) pres If a wri stead of asse nation	examine examine examine examine representation examine examenes examines ex	nation in groups (group ort (approx. 8 to 10 pa on/talk (approx. 30 min amination was choser e form of an oral exam	e each (approx. 30 minus of 2, approx. 30 minus of 2, approx. 30 minus of 20 m	utes per candidate) o nent, this may be cha ne each or an oral exa	nged and assessment may in- mination in groups. If the method weeks prior to the original exami-	
Alloca	tion of	places				
Addition	onal inf	ormation				
Workle	oad					
180 h						

Teaching cycle



Modul	e title		Abbreviation				
Advan	ced Top	ics in Nanostructure Tec		11-CSNM-161-m01			
Modul	e coord	inator		Module offered by			
_	ging Dire	ector of the Institute of Th	neoretical Physics	Faculty of Physics a	and 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	ester	graduate	Approval from exam	nination committee r	equired.		
Conter	nts						
can no	t be cov		le. These lectures ma	y either reflect new o	ctures on advanced topics that developments in research or deal		
Intend	ed lear	ning outcomes					
		advance their knowledge Its into the connections b			of nanostructure technology and		
Course	es (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)			
V (3) +	R (1)						
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
or oral pages) If a wri stead t of asse nation	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places							
Additio	Additional information						
Worklo	Workload						
180 h	180 h						
Teachi	ng cycl	e					
							



Module	Module title Abbreviation						
Advanced Topics in Physics 11-CSPM-161-mo1							
Module	e coord	linator		Module offered by			
chairpe	erson c	of examination comm	ittee	Faculty of Physics a	and Astronomy		
ECTS	Meth	od of grading	Only after succ. co	npl. of module(s)			
6	nume	erical grade					
Duratio	n	Module level	Other prerequisites	5			
1 seme	ster	graduate	Approval from exam	roval from examination committee required.			
Conten	ts						
	es. The	se topics may relate	•	•	cs not covered in any of the other subjects not included in the regu		
Intend	ed lear	ning outcomes					
			edge and understanding ons between research an		of nanostructure technology and		
Course	S (type,	number of weekly contact h	ours, language — if other than Ge	rman)			
V (3) + R (1)							
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)							
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes).							

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

ΑI	llocation	of p	laces

Additional information

Workload

180 h

Teaching cycle



Summer Term 2021

(ECTS credits)



Module	e title				Abbreviation		
Curren	t Topic	s in Nanostructure Techn	ology		11-EXN5-161-m01		
Module	e coord	inator		Module offered by			
chairpe	chairperson of examination committee			Faculty of Physics a	and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
5 numerical grade							
Duratio	on	Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conten	Contents						
	•	s in Experimental or Theoretudy abroad.	retical Physics. Credit	ed academic achiev	vements, e.g. in case of change of		
Intend	ed lear	ning outcomes					
subdis knowle	cipline dge. Th	of Physics and understaney are able to classify th	nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.		
		number of weekly contact hours, l	anguage — if other than Ger	rman)			
V (2) +							
		sessment (type, scope, langua ble for bonus)	ge — if other than German, (examination offered — if n	ot every semester, information on whether		
or oral pages) If a wri stead t of asse nation	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocat	Allocation of places						
Additional information							
Workload							
150 h							
	Teaching cycle						



Module	Module title Abbreviation						
		s in Nanostructure Techr		11-EXN6-161-mo1			
Module coordinator				Module offered by			
chairperson of examination committee			<u> </u>	Faculty of Physics a	and Astronomy		
ECTS		od of grading	Only after succ. con		,		
6		rical grade					
Duratio		Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conten	ts						
		in Experimental or Theo tudy abroad.	retical Physics. Credit	ed academic achiev	rements, e.g. in case of change of		
Intende	ed lear	ning outcomes					
knowle Course	dge. Th	of Physics and understa ney are able to classify th number of weekly contact hours,	ne subject-specific co	ntexts and know the	hods necessary to acquire this application areas.		
V (3) + I	R (1)		_				
		sessment (type, scope, langua ele for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether		
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
Allocation of places							
Additional information							
Workload							
180 h							
Teachir	ng cycl	e					



Modul	Module title Abbreviation						
		s in Nanostructure Techn	ology		11-EXN7-161-m01		
Modul	e coord	inator		Module offered by			
chairpe	erson o	f examination committee		Faculty of Physics a	and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	·		
7	nume	rical grade					
Duratio	on	Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conter	its						
	•	s in Experimental or Theo study abroad.	retical Physics. Credit	ted academic achiev	rements, e.g. in case of change of		
Intend	ed lear	ning outcomes					
subdis knowle	cipline edge. Tl es (type, 1		nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.		
V (3) +							
		sessment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English							
Allocation of places							
Additional information							
Workload							
210 h	210 h						
Teachi	ng cycl	e					



Module	Module title Abbreviation					
Current	Topic	s in Nanostructure Techr	ology		11-EXN8-161-m01	
Module	coord	linator		Module offered by		
chairpe	chairperson of examination committee			Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
8 numerical grade						
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee r	equired.	
Conten	ts					
1	•	s in Experimental or Theo study abroad.	retical Physics. Credi	ted academic achiev	rements, e.g. in case of change of	
Intende	ed lear	ning outcomes				
subdise knowle	cipline dge. Tl		nd the measuring and te subject-specific co	d/or calculation mether that the mether that t	ney have knowledge of a current hods necessary to acquire this application areas.	
V (4) +			- Hother than del	Thurs,		
Method	d of as	sessment (type, scope, langua	nge — if other than German,	examination offered — if no	ot every semester, information on whether	
or oral pages) If a writ stead to of asse	written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
Allocation of places						
Additional information						
Workload						
240 h						
	Teaching cycle					
i	0 -7					



Module title Abbreviation						
Currer	t Topic	s in Nanostructure Techr	ology		11-EXN6A-161-m01	
Modul	e coord	inator		Module offered by		
chairperson of examination committee				Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
6 numerical grade						
Durati	on	Module level	Other prerequisites	i		
1 seme	ester	graduate	Approval from exam	ination committee r	required.	
Contents						
		s in Experimental or Theo study abroad.	retical Physics. Credit	ted academic achiev	vements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
subdis knowl	scipline edge. Th		nd the measuring and e subject-specific co	d/or calculation met ntexts and know the	ney have knowledge of a current thods necessary to acquire this e application areas.	
V (3) +		iumber of weekly contact hours,	language — II other than Ger	illiali)		
Metho	d of ass	sessment (type, scope, langua	nge — if other than German,	examination offered — if n	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Alloca	Allocation of places					
Additional information						
<u>-</u>						
Workload						
180 h						
Teachi	ing cycl	e				



Modul	e title		Abbreviation		
Current Topics in Physik				11-EXP6-161-m01	
Module coordinator				Module offered by	
chairperson of examination committee			ittee	Faculty of Physics and Astronomy	
ECTS	ECTS Method of grading Only after succ. co			npl. of module(s)	
6	6 numerical grade				
Duratio	n	Module level	Other prerequisites	ites	
1 seme	ster	graduate	Approval from exan	ination committee required.	
Conten	ts				
Current topics in experimental or theoretical physics. Credited academic achievements, e.g. in case of change of university or study abroad.					
Intended learning outcomes					
The sti	Idents	have advanced comp	netencies corresponding	to the requirements of a module of Experimental or	

The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.

Courses (type, number of weekly contact hours, language - if other than German)

V(3) + R(1)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes) or
- b) oral examination of one candidate each (approx. 30 minutes) or
- c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or
- d) project report (approx. 8 to 10 pages) or
- e) presentation/talk (approx. 30 minutes)

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

180 h

Teaching cycle

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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$

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Current Topics in Physik Module coordinator Chairperson of examination committee ECTS Method of grading Only after succ. of	Module offered by Faculty of Physics and Astronomy				
chairperson of examination committee	-				
· [Faculty of Physics and Astronomy				
CTS Method of grading Only after succ. of					
	compl. of module(s)				
6 numerical grade					
Ouration Module level Other prerequisit	tes				
semester graduate Approval from ex	amination committee required.				
Contents					
Current topics in Experimental or Theoretical Physics. Cre university or study abroad.	edited academic achievements, e.g. in case of change o				
ntended learning outcomes					
The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Master's programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.					
Courses (type, number of weekly contact hours, language — if other than German)					
V (3) + R (1)					
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
a) written examination (approx. 90 to 120 minutes) or					
o) oral examination of one candidate each (approx. 30 m c) oral examination in groups (groups of 2, approx. 30 mi					

- d) project report (approx. 8 to 10 pages) or
- e) presentation/talk (approx. 30 minutes)

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

180 h

Teaching cycle

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 $\textbf{Referred to} \ \textbf{in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$

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Teaching cycle



Module	e title				Abbreviation	
Curren	t Topic	s in Physik			11-EXP7-161-m01	
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committee		Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
7	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee r	equired.	
Conten	its					
		of Experimental and The versity or study abroad.	oretical Physics. Acc	redited academic ac	hievements, e.g. in case of	
Intend	ed lear	ning outcomes				
subdis knowle	cipline dge. Th		nd the measuring and e subject-specific co	d/or calculation mether ntexts and know the	ney have knowledge of a current hods necessary to acquire this application areas.	
V (3) +		- Tours, to the contract floars, t	- i other than ser	many		
Method	d of ass	sessment (type, scope, langua	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English						
Allocation of places						
						
Additional information						
Worklo	Workload					
210 h	210 h					

Teaching cycle



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Module	title				Abbreviation	
Current	Topic	s in Physik		11-EXP8-161-m01		
Module	coord	inator		Module offered by	l.	
chairpe	rson o	f examination committee	!	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	ıpl. of module(s)		
8	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee r	equired.	
Conten	ts		•			
		of Experimental and The versity or study abroad.	oretical Physics. Acc	redited academic ac	hievements, e.g. in case of	
Intende	ed lear	ning outcomes				
Theoret subdisc	tical Ph cipline	ysics of the Master's pro	gramme of Nanostructure and the measuring and	cture Technology. Th I/or calculation metl	of a module of Experimental or ey have knowledge of a current hods necessary to acquire this application areas.	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
V (4) +	R (2)					
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)						
or oral or pages) If a writ stead to of asse nation	examir or pres ten exa ake the ssmen date at	nation in groups (groups of sentation/talk (approx. 30 amination was chosen as a form of an oral examina	of 2, approx. 30 minu o minutes). s method of assessmo tion of one candidate must inform student	tes per candidate) o ent, this may be char e each or an oral exa	didate each (approx. 30 minutes) r project report (approx. 8 to 10 nged and assessment may inmination in groups. If the methow weeks prior to the original exami	

Language of assessment: German and/or English

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Λu	ucativii	יט וט	laces

Additional information

Workload

240 h

Teaching cycle



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Module title			Abbreviation			
Advan	cea rop	oics in Solid State Physic	:S		11-CSFM-161-m01	
Modul	e coord	inator		Module offered by		
Managing Director of the Institute of Theoretical Physics and Astrophysics			heoretical Physics	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	mpl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites	Other prerequisites		
1 seme	ester	graduate	Approval from exam	Approval from examination committee required.		
Conter	ıts					
vered i	n any o		se topics may relate		anced courses on topics not co- arch developments or to subjects	
Intend	ed lear	ning outcomes				
		advance their knowledgensights into the connecti			of Condensed Matter Physics	
Course	S (type, i	number of weekly contact hours,	language — if other than Ge	rman)		
V (3) +	R (1)					
		sessment (type, scope, languable for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
b) oral c) oral d) proj e) pres If a wri stead t of asse nation	examir examir ect repe sentation tten exa take the essmen date at	e form of an oral examina	each (approx. 30 minus) of 2, approx. 30 minus) or tes) s method of assessmation of one candidate r must inform studen	ites per candidate) o ent, this may be cha e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-	
	tion of		_			
Additio	onal inf	ormation				
Worklo	oad					
180 h						

Teaching cycle



Module title				Abbreviation	
Advanced Topics in Nanostructure Technology				11-CSNM-161-m01	
Module coordinat	or		Module offered by	Module offered by	
Managing Director of the Institute of Theoretical Physics and Astrophysics			Faculty of Physics and Astronomy		
ECTS Method o	f grading	Only after succ. co	Only after succ. compl. of module(s)		
6 numerica	l grade				
Duration Mo	dule level	Other prerequisites	S		
ı semester gra	iduate	Approval from exam	nination committee r	equired.	
Contents					
can not be covere	d by any other n		ay either reflect new	ctures on advanced topics that developments in research or deal	
Intended learning	outcomes				
		edge and understanding ons between research an		of nanostructure technology and	
Courses (type, numb	er of weekly contact h	nours, language — if other than Ge	erman)		
V (3) + R (1)					
Method of assess		language — if other than German,	examination offered — if no	ot every semester, information on whether	
or oral examination pages) or present If a written exami Stead take the for	on in groups (groation/talk (approation was chosem of an oral exachanged, the lectatest.	oups of 2, approx. 30 minutes). en as method of assessmentation of one candidate turer must inform studen	utes per candidate) on nent, this may be cha ne each or an oral exa	didate each (approx. 30 minutes) or project report (approx. 8 to 10 nged and assessment may insimination in groups. If the method weeks prior to the original exami	
Allocation of places					
Additional inform	ation				
Workload					
Workload 180 h					



Module title					Abbreviation		
Advanced Topics in Physics					11-CSPM-161-m01		
Module coordinator				Module offered by	!		
chairperson of examination committee			ittee	Faculty of Physics	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. co	Only after succ. compl. of module(s)			
6	nume	rical grade					
Duratio	on	Module level	Other prerequisite	Other prerequisites			
1 seme	1 semester graduate Approval from examination		mination committee	ation committee required.			
Contents							
This module will enable lecturers of Physics to teach advanced courses on topics not covered in any of the other modules. These topics may relate either to recent research developments or to subjects not included in the regular curriculum.							
Intended learning outcomes							
The students advance their knowledge and understanding of an advanced topic of nanostructure technology and acquire insights into the connections between research and teaching.							
Courses (type, number of weekly contact hours, language — if other than German)							
V (3) + R (1)							
Metho	d of ass	sessment (type scope	anguage — if other than Germa	n examination offered — if r	not every semester, information on whether		

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes).

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: German and/or English

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Additional information

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Workload

180 h

Teaching cycle

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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$

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