

# Module Catalogue

for the Module studies (Master)

**Physics** 

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

JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record MM|128|-|-|H|2019



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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)



Module title Abbreviation					
Current Topics in Experimental Physics 11-EXE5-161-mo1					
Module coordinator Module offered by					
chairperson	of examination committe	e	Faculty of Physics a	and Astronomy	
ECTS Meth	od of grading	Only after succ. con	npl. of module(s)		
5 num	erical grade				
Duration	Module level	Other prerequisites			
1 semester	graduate	Approval from exam	ination committee r	equired.	
Contents					
Current topic study abroad		s. Credited academic a	achievements, e.g. ir	n case of change of university or	
Intended lea	rning outcomes				
derstand the fy the subjec	measuring and/or evaluates t-specific contexts and kr	ation methods necess now the application ar	ary to acquire this ki	e of Experimental Physics and un- nowledge. They are able to classi-	
	number of weekly contact hours,	language — if other than Ge	rman)		
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 credita		age — if other than German,	examination offered — if no	ot every semester, information on whether	
b) oral exami c) oral exami d) project rep e) presentation If a written ex stead take th	e form of an oral examinant is changed, the lecture	each (approx. 30 minu of 2, approx. 30 minu s) or tes) s method of assessme ation of one candidate	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-	
nation date a	t the latest. assessment: German and	l/or English			

#### **Additional information**

## Workload

150 h

## **Teaching cycle**



Module title Abbreviation						
Current Topics in Experimental Physics 11-EXE6-161-mo1						
Module coordinator Module offered by						
chairpe	erson o	f examination comm	ittee	Faculty of Physic	cs and Astronomy	
ECTS	Meth	od of grading	Only after succ.	compl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequis	erequisites		
1 seme	ster	graduate	Approval from e	camination committe	ee required.	
Conten	its					
Current study a	•		ysics. Credited acaden	nic achievements, e.	g. in case of change of university or	
Intended learning outcomes						
sics of derstar	the Ma	ster's programme. T measuring and/or ev	hey have knowledge o	f a current subdiscip essary to acquire thi	nts of a module of Experimental Phylline of Experimental Physics and unis knowledge. They are able to classi	
Courses (type, number of weekly contact hours, language — if other than German)						
V (3) +	R (1)					
		sessment (type, scope,	language — if other than Gern	nan, examination offered —	if not every semester, information on whether	

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



WÜRZBURG Physics							
Module title Abbreviation							
Curren	Current Topics in Experimental Physics 11-EXE7-161-mo1						
Module coordinator 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	ıts						
Current topics in Experimental Physics. Credited academic achievements, e.g. in case of change of university or study abroad.							
Intend	ed lear	ning outcomes					
sics of dersta	the Ma	ster's programme. They l	nave knowledge of a c tion methods necess	current subdiscipling ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un- nowledge. They are able to classi-		
Course	S (type, i	number of weekly contact hours,	language — if other than Ger	rman)			
V (3) +	R (1)						
		sessment (type, scope, langua ole for bonus)	ge — 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	examir examir ect repe entation tten ex		each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme	tes per candidate) o ent, this may be cha	r nged and assessment may in- mination in groups. If the method		

of assessment is changed, the lecturer must inform students about this by four weeks prior to the original exami-

nation date at the latest. Language of assessment: German and/or English

## Allocation of places

#### **Additional information**

#### Workload

210 h

## **Teaching cycle**



Module title Abbreviation						
Current Topics in Experimental Physics 11-EXE8-161-mo1					11-EXE8-161-mo1	
Module coordinator Module offered by						
chairperson of examination committee Faculty of Physics and Astronomy					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	i		
1 seme	ester	graduate	Approval from exam	ination committee r	equired.	
Conter	nts					
study a	abroad.	· · · · · ·	. Credited academic	achievements, e.g. ir	n case of change of university or	
Intend	ed lear	ning outcomes	•			
sics of dersta	the Ma	ister's programme. They l	nave knowledge of a strict tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phy e of Experimental Physics and ur nowledge. They are able to class	
Course	es (type, i	number of weekly contact hours,	language — if other than Ge	rman)		
V (4) +	R (2)					
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)						
	examir	mination (approx. 90 to 1 nation of one candidate e nation in groups (groups o ort (approx. 8 to 10 pages	each (approx. 30 minu of 2, approx. 30 minu		r	

Language of assessment: German and/or English

## Allocation of places

## **Additional information**

## Workload

240 h

## **Teaching cycle**



Module title Abbreviation						
Current Topics in Experimental Physics 11-EXE6A-161-mo1						
Module coordinator Module offered by						
chairpe	erson o	f examination commit	tee	Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisite	s		
1 seme	ster	graduate	Approval from exa	mination committee r	equired.	
Conten	ts					
Current study a	•		ics. Credited academic	achievements, e.g. i	n case of change of university or	
Intend	ed lear	ning outcomes				
The students have advanced competencies corresponding to the requirements of a module of Experimental Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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)					
		<b>sessment</b> (type, scope, landle for bonus)	nguage — if other than German	, examination offered — if n	ot every semester, information on whether	
a) written examination (approx. 90 to 120 minutes) or						

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-EXP6-161-m01		
Module coordinator Module offered by						
chairpe	erson o	f examination commi	ttee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. cor	Only after succ. compl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee required.		
Contents						
Current topics in experimental or theoretical physics. Credited academic achievements, e.g. in case of change of university or study abroad.						
Intende	ed lear	ning outcomes				
The stu	dents	have advanced comp	etencies 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

#### **Additional information**

#### Workload

180 h

## **Teaching cycle**



Module title Abbrev					Abbreviation	
Current Topics in Physik					11-EXP6A-161-m01	
Module coordinator				Module offered by		
chairperson of examination committee			ttee	Faculty of Physics and Astronomy		
ECTS Method of grading Only after succ. co			Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duration Module level Other prerequisites						
1 seme	ster	graduate	Approval from examination 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 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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## $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$



Module	e title				Abbreviation		
Current	t Topics	s of Theoretical Phy	sics		11-EXT5-161-m01		
Module	coord	inator		Module offere	Module offered by		
chairperson of examination committee			nittee	Faculty of Phys	sics and Astronomy		
ECTS	Metho	od of grading	Only after succ	compl. of module(s	5)		
5	nume	rical grade					
Duratio	n	Module level	Other prerequis	sites			
1 seme	ster	graduate	Approval from 6	Approval from examination committee required.			
Conten	ts						
Current study a		in Theoretical Phys	ics. Credited academi	c achievements, e.g	, in case of change of university or		
Intende	ed learı	ning outcomes					
sics of sics an	the Ma d have	ster's programme. 1	They have advanced s	oecialist knowledge	ents of a module of Theoretical Phy- of a subdiscipline of Theoretical Phy cquired methods to current problem		
Course	<b>S</b> (type, n	number of weekly contact I	hours, language — if other th	an German)			
V (2) +	R (2)				-		
		<b>sessment</b> (type, scope, le for bonus)	language — if other than Ger	man, examination offered	— if not every semester, information on whether		
			o to 120 minutes) or late 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

150 h

## **Teaching cycle**

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



Modul	e title				Abbreviation
Curren	t Topic	s of Theoretical Physi	cs		11-EXT6-161-m01
Module coordinator				Module	offered by
chairperson of examination committee			tee	Faculty	of Physics and Astronomy
ECTS	Meth	od of grading	Only after suc	cc. compl. of m	odule(s)
6	nume	erical grade			
Duratio	on	Module level	Other prerequ	uisites	
1 seme	ster	graduate	Approval from	n examination o	committee required.
Conten	nts		·		
Current study a	•	, ,	s. Credited acaden	nic achievemer	nts, e.g. in case of change of university or
Intend	ed lear	ning outcomes			
sics of sics an	the Ma Id have	ister's programme. The	ey have advanced	specialist know	quirements of a module of Theoretical Phywledge of a subdiscipline of Theoretical Phyy the acquired methods to current problems
Course	S (type,	number of weekly contact ho	ırs, language — if other	than German)	
V (3) +	R (1)				
		sessment (type, scope, landle for bonus)	nguage — if other than G	German, examination	${\bf n}$ offered — if not every semester, information on whether
b) oral c) oral	examiı examir	mination (approx. 90 nation of one candidate nation in groups (grouport (approx. 8 to 10 pa	e each (approx. 30 os of 2, approx. 30	o minutes) or	andidate) 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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## $\textbf{Referred to} \ \textbf{in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$



W	URZBU	JRG 1	5 (10.3)	33 0 2 5	i nysics
Modul	e title				Abbreviation
Curren	t Topic	s of Theoretical Physics			11-EXT7-161-m01
Modul	e coord	inator		Module offered by	
chairperson of examination committee		1	Faculty of Physics a	ind Astronomy	
ECTS	ECTS Method of grading		Only after succ. con	npl. of module(s)	
7	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	graduate	Approval from exam	ination committee re	equired.
Conter	nts				
	t topics abroad.	in Theoretical Physics. (	Credited academic ac	hievements, e.g. in c	case of change of university or
Intend	ed lear	ning outcomes			
sics of sics ar	the Ma nd have	ster's programme. They h	nave advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems
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
b) oral c) oral d) proj e) pres If a wri stead to of asse nation	examir examin ect reposentation tten exa take the essmen date at	e form of an oral examina	each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessm tion of one candidate r must inform student	tes per candidate) or ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-

## Allocation of places

#### **Additional information**

## Workload

210 h

## **Teaching cycle**



Modul	e title				Abbreviation
Current Topics of Theoretical Physics					11-EXT8-161-m01
Module coordinator				Module offered by	I.
chairpe	erson o	f examination committee	9	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	ner prerequisites	
1 seme	ster	graduate	Approval from exam	Approval from examination committee required.	
Conter	its				
	t topics abroad.		Credited academic ac	hievements, e.g. in c	ase of change of university or
Intend	ed lear	ning outcomes			
sics of sics an	the Ma d have	ster's programme. They	have advanced specia	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Physed methods to current problems
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ger	rman)	
V (4) +	R (2)				

V(4) + R(2)

 $\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

240 h

#### Teaching cycle



Module title					Abbreviation
Current Topics of Theoretical Physics					11-EXT6A-161-m01
Module coordinator				Module offered by	
chairpe	erson o	f examination committe	e	Faculty of Physics a	and Astronomy
ECTS	CTS Method of grading		Only after succ. compl. of module(s)		
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from examination committee required.		
Conten	ts				
Current study a	•		Credited academic ac	hievements, e.g. in o	case of change of university or
Intende	ed lear	ning outcomes			
					of a module of Theoretical Physubdiscipline of Theoretical Ph

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

V(3) + R(1)

of Theoretical Physics.

 $\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)

sics and have mastered the required methods. They are able to apply the acquired methods to current problems

- 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**



Modul	e title				Abbreviation		
Advan	ced Top	oics in Astrophysics			11-CSAM-161-m01		
Modul	e coord	inator		Module offered by	<del>'</del>		
	ging Dire	ector of the Institute of sics	Theoretical Physics	Faculty of Physics a	and Astronomy		
ECTS	Meth	od of grading	Only after succ. cor	ter succ. compl. of module(s)			
6	nume	rical grade					
Duratio	uration Module level Other prerequisites						
1 seme	ester	graduate	Approval from exan	nination committee r	equired.		
Conter	nts		,				
includ	e: Stella	ar structure, formation a	and development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling or similar topics.		
Intend	ed lear	ning outcomes					
	udents fic que		dge of the subdisciplir	nes of Astrophysics a	nd are able to work on current		
Course	es (type, i	number of weekly contact hour	s, language — if other than Ge	erman)			
V (3) +	R (1)						
		sessment (type, scope, lang	ruage — 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 to of asse nation	examir examir ect repe sentation tten exa take the essmen date at	e form of an oral examin	e each (approx. 30 min s of 2, approx. 30 minuses) or utes) as method of assessm nation of one candidat er 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 weeks prior to the original exami-		
Alloca	tion of <sub> </sub>	places					
Additio	onal inf	ormation					
Worklo	oad						
180 h							

**Teaching cycle** 



					T	
Modul	<del></del>				Abbreviation	
Advan	ced Top	ics in Solid State Physic	S		11-CSFM-161-m01	
Modul	e coord	inator		Module offered by		
	ing Dire	ector of the Institute of Th sics	eoretical Physics	Faculty of Physics a	and Astronomy	
ECTS Method of grading		Only after succ. con	Only after succ. compl. of module(s)			
6	nume	rical grade				
Duration Module level Oth			Other prerequisites	i		
1 seme	ester	graduate	Approval from exam	nination committee r	equired.	
Conter	nts					
vered i	n any o				anced courses on topics not co- arch developments or to subjects	
Intend	ed lear	ning outcomes				
		advance their knowledge nsights into the connection			of Condensed Matter Physics	
Course	<b>es</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)		
V (3) +	R (1)					
		<b>sessment</b> (type, scope, langua le for bonus)	${\sf ge-if}$ 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 examin ect reposentatio tten exa take the essmen date at	e form of an oral examina	ach (approx. 30 minus) 2, approx. 30 minus) or es) method of assessmition 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-	
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Worklo	oad					
180 h			7			

**Teaching cycle** 



## Winter Term 2019

(ECTS credits)



Module	e title				Abbreviation
Current	t Topic	s in Experimental Phy	sics		11-EXE5-161-m01
Module	e coord	linator		Module offered	by
chairperson of examination committee			tee	Faculty of Physic	cs and Astronomy
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisite	es .	
1 seme	ster	graduate	Approval from exa	mination committe	e required.
Conten	ts				
Current study a	•		ics. Credited academic	achievements, e.g	g. in case of change of university or
Intende	ed lear	ning outcomes			
sics of derstar	the Ma	ster's programme. The measuring and/or eva	ey have knowledge of a	current subdiscip	its of a module of Experimental Phy line of Experimental Physics and u s knowledge. They are able to class
Course	<b>S</b> (type, i	number of weekly contact hou	rs, language — if other than G	erman)	
V (2) +	R (2)				
		<b>sessment</b> (type, scope, lan ble for bonus)	guage — if other than German	, examination offered —	if not every semester, information on whether
b) oral	examir		o 120 minutes) or e each (approx. 30 mir os of 2, approx. 30 min		o) 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

150 h

## **Teaching cycle**



W	ÜRZBI	JRG A	5 (2.2.3)	33 9 2 8	Physics	
Module	e title				Abbreviation	
Curren	t Topic	s in Experimental Physic	s		11-EXE6-161-mo1	
Module	e coord	inator		Module offered by		
chairperson of examination committee				Faculty of Physics 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	i		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.	
Conten	ts					
Current study a	•		. Credited academic a	achievements, e.g. ir	n case of change of university or	
Intend	ed lear	ning outcomes				
sics of derstar	the Ma	ster's programme. They h	nave knowledge of a tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phye e of Experimental Physics and un- nowledge. They are able to classi-	
Course	<b>S</b> (type, i	number of weekly contact hours, I	anguage — if other than Ge	rman)		
V (3) +	R (1)					
		<b>sessment</b> (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
b) oral c) oral d) proje e) pres If a wristead t of asse	examir examir ect repe entatio tten ex ake the essmen	e form of an oral examina	each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme tion of one candidate	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-	

Language of assessment: German and/or English

## Allocation of places

## **Additional information**

## Workload

180 h

## **Teaching cycle**



Module		<u></u>			Abbreviation	
		s in Experimental Physic			11-EXE7-161-mo1	
Curren	Topic	5 III Experimentat i nysic		1	11-EXE/-101-11101	
Module	e coord	inator		Module offered by		
chairperson of examination committee		<u>-</u>	Faculty of Physics a	nd Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
7	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ester	graduate	Approval from exam	ination committee r	equired.	
Conten	nts					
	t topics abroad.		. Credited academic a	achievements, e.g. ir	n case of change of university or	
Intend	ed lear	ning outcomes				
		have advanced competer		to the requirements (	of a module of Experimental Phy	
dersta	nd the i		tion methods necess	ary to acquire this k	e of Experimental Physics and un nowledge. They are able to class	
derstar	nd the subject	measuring and/or evalua	tion methods necess ow the application ar	ary to acquire this k	e of Experimental Physics and ur	
derstar fy the s <b>Course</b>	nd the isubject es (type, i	measuring and/or evalua -specific contexts and kn	tion methods necess ow the application ar	ary to acquire this k	e of Experimental Physics and ur	
derstar fy the s Course V (3) +	nd the subject es (type, r R (1) d of ass	measuring and/or evalua -specific contexts and kn number of weekly contact hours, l	tion methods necess ow the application ar language — if other than Ger	ary to acquire this k reas. rman)	e of Experimental Physics and ur	

Language of assessment: German and/or English

## Allocation of places

## **Additional information**

## Workload

210 h

## **Teaching cycle**



Modul	e title				Abbreviation
Curren	t Topic	s in Experimental Phys	ics		11-EXE8-161-m01
Modul	e coord	linator		Module offered by	
chairperson of examination committee			ee	Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
8	nume	erical grade			
Duratio	on	Module level	Other prerequisites	5	
1 seme	ester	graduate	Approval from exan	nination committee r	equired.
Conter	nts				
	t topics abroad		cs. Credited academic	achievements, e.g. ir	n case of change of university or
Intend	ed lear	ning outcomes			
sics of dersta	the Ma	aster's programme. They	y have knowledge of a uation methods neces	current subdiscipline sary to acquire this k	of a module of Experimental Phy e of Experimental Physics and ur nowledge. They are able to class
Course	es (type,	number of weekly contact hour	s, language — if other than Ge	rman)	
V (4) +	R (2)		,		
Metho		sessment (type, scope, lang	uage — if other than German,	examination offered — if no	ot every semester, information on whether
		mination (approx. 90 to	o 120 minutes) or each (approx. 30 min		

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

240 h

## Teaching cycle



Module	title				Abbreviation
Current	Topics	in Experimental PI	nysics		11-EXE6A-161-m01
Module	coordi	nator		Module offered by	<u>,                                      </u>
chairpe	rson of	examination comm	nittee	Faculty of Physics	and Astronomy
ECTS	Method	d of grading	Only after succ. c	ompl. of module(s)	
6	numeri	cal grade			
Duratio	n	Module level	Other prerequisit	es	
1 semes	ster	graduate	Approval from exa	amination committee	required.
Conten	ts				
Current study a		n experimental ph	ysics. Credited academi	c achievements, e.g.	in case of change of university or
Intende	ed learni	ing outcomes			
sics of t derstan	the Mas Id the m	ter's programme. T easuring and/or e	hey have knowledge of	a current subdiscipli ssary to acquire this	s of a module of Experimental Phy ne of Experimental Physics and u knowledge. They are able to class
Course	<b>S</b> (type, nu	mber of weekly contact h	nours, language — if other than	German)	
V (3) + I	R (1)		,		
		essment (type, scope, e for bonus)	language — if other than Germa	n, examination offered $-$ if	not every semester, information on whether
			o to 120 minutes) or late each (approx. 30 m	inutes) 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-EXP6-161-m01	
Modul	e coord	linator		Module offered by		
chairperson of examination committee				Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duration Module level		Other prerequisites	Other prerequisites			
1 seme	ster	graduate	Approval from exan	Approval from examination committee required.		
Conter	nts					

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



Module title					Abbreviation	
Curren	t Topic	s in Physik			11-EXP6A-161-m01	
Module coordinator				Module offered by		
chairperson of examination committee			nittee	Faculty of Physics and Astronomy		
ECTS	Meth	thod of grading Only after succ		npl. of module(s)		
6	nume	rical grade				
Duratio	Duration Module level		Other prerequisites	Other prerequisites		
1 seme	ester	graduate	Approval from exan	Approval from examination committee required.		
Conter	nts					

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



Module	title				Abbreviation
Current	t Topic	s of Theoretical Physics			11-EXT5-161-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)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	ts	, -			
Current study a			redited academic ac	hievements, e.g. in c	case of change of university or
Intende	ed lear	ning outcomes			
sics of sics an	the Ma d have	ster's programme. They h	nave advanced specia	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems
Course	<b>S</b> (type, r	number of weekly contact hours, I	anguage — if other than Gei	rman)	
V (2) +	R (2)				
		<b>sessment</b> (type, scope, langua ble for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) pres If a writ stead t of asse nation	examir examin ect repo entatio tten exa ake the ssmen date at	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) method of assessmation 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-
Allocat	ion of <sub> </sub>	places			
Additio	nal inf	ormation			
	-				
Worklo	ad				
150 h					
Teachi	ng cycl	e			



Modul	e title				Abbreviation
Curren	t Topic	s of Theoretical Physics			11-EXT6-161-m01
Modul	e coord	inator		Module offered by	
chairpe	erson o	f examination committee	!	Faculty of Physics and Astronomy	
ECTS Method 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.
Conter	ıts		•		
study a	broad.		redited academic acl	nievements, e.g. in c	ase of change of university or
sics of sics an	the Ma d have	ster's programme. They l	nave advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems
Course	S (type, ı	number of weekly contact hours,	language — if other than Ge	rman)	
V (a) .	R (1)				
v (3) +		sessment (type, scope, langua ble for bonus)	ge — if other than German,	examination offered — if no	t every semester, information on whether
Metho	s creditab		.20 minutes) or		

Language of assessment: German and/or English

## Allocation of places

nation date at the latest.

## **Additional information**

## Workload

180 h

## **Teaching cycle**



Module	e title			Abbreviation		
Curren	t Topic	s of Theoretical Physics	5	11-EXT7-161-m01		
Module	e coord	inator		Module offered by		
chairperson of examination committee			ee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. co	Only after succ. compl. of module(s)		
7	nume	rical grade				
Duratio	on	Module level	Other prerequisites	5		
1 seme	ester	graduate	Approval from exar	nination committee required.		
Conten	nts					
	t topics abroad.	-	Credited academic ac	chievements, e.g. in case of change of university or		
Intend	ed lear	ning outcomes				
sics of sics an	the Ma nd have	ster's programme. They	have advanced spec	to the requirements of a module of Theoretical Phy- ialist knowledge of a subdiscipline of Theoretical Phy le to apply the acquired methods to current problems		
	S (type, i	number of weekly contact hours	s, language — if other than Ge	erman)		
Course	R (1)					
<b>Course</b> V (3) +	1 (1)		uage — if other than German,	$examination\ offered-if\ not\ every\ semester,\ information\ on\ whether$		
V (3) + Metho	d of as	sessment (type, scope, lang ble for bonus)				

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

210 h

## **Teaching cycle**



Module	e title				Abbreviation	
Current	t Topic	s of Theoretical Phys	sics		11-EXT8-161-m01	
Module	e coord	linator		Modul	e offered by	
chairperson of examination committee			ittee	Faculty	Faculty of Physics and Astronomy	
ECTS	Meth	od of grading	Only after succ	Only after succ. compl. of module(s)		
8	nume	rical grade				
Duration Module level			Other prerequis	Other prerequisites		
1 semester graduate		Approval from 6	Approval from examination committee required.			
Conten	ts					
Current study a	•	•	cs. Credited academi	c achievem	ents, e.g. in case of change of university or	
Intend	ed lear	ning outcomes				
			•	•	equirements of a module of Theoretical Phyowledge of a subdiscipline of Theoretical Ph	

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

V(4) + R(2)

of Theoretical 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)

sics and have mastered the required methods. They are able to apply the acquired methods to current problems

- 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

240 h

#### Teaching cycle

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



Moan	e title				Abbreviation
Curren	t Topic	s of Theoretical Physics			11-EXT6A-161-m01
Modul	e coord	inator		Module offered by	
chairp	erson o	f examination committee		Faculty of Physics a	nd Astronomy
ECTS Method of grading		Only after succ. con	Only after succ. compl. of module(s)		
6	numerical grade				
Duratio	on	Module level	Other prerequisites		
1 seme	ester	graduate	Approval from exam	ination committee r	equired.
Conter	nts				
	t topics abroad.		Credited academic ac	hievements, e.g. in c	ase of change of university or
Intend	ed lear	ning outcomes			
sics of	the Ma	ster's programme. They I mastered the required m	nave advanced speci	alist knowledge of a	of a module of Theoretical Phy- subdiscipline of Theoretical Phy
		Physics.			ea methods to current problems
of The	oretical	Physics. number of weekly contact hours,	language — if other than Ge		ed methods to current problems
of Theo	oretical es (type, 1		language — if other than Ge		ed methods to current problems
of Theo Course V (3) + Metho	es (type, r R (1) d of ass	number of weekly contact hours,		man)	et methods to current problems

Language of assessment: German and/or English

## Allocation of places

## **Additional information**

## Workload

180 h

## **Teaching cycle**



Modul	e title				Abbreviation
Advan	ced Top	oics in Astrophysics			11-CSAM-161-m01
Modul	e coord	inator		Module offered by	<del>'</del>
	ging Dire	ector of the Institute of sics	Theoretical Physics	Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. cor	mpl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites	5	
1 seme	ester	graduate	Approval from exan	nination committee r	equired.
Conter	nts		,		
includ	e: Stella	ar structure, formation a	and development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling or similar topics.
Intend	ed lear	ning outcomes			
	udents fic que		dge of the subdisciplir	nes of Astrophysics a	nd are able to work on current
Course	es (type, i	number of weekly contact hour	s, language — if other than Ge	erman)	
V (3) +	R (1)				
		sessment (type, scope, lang	ruage — 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 to of asse nation	examir examir ect repe sentation tten exa take the essmen date at	e form of an oral examin	e each (approx. 30 min s of 2, approx. 30 minuses) or utes) as method of assessm nation of one candidat er 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 weeks prior to the original exami-
Alloca	tion of <sub> </sub>	places			
Additio	onal inf	ormation			
Worklo	oad				
180 h					

**Teaching cycle** 



Modul	e title				Abbreviation
Advand	ed Top	oics in Solid State Physi	cs		11-CSFM-161-mo1
Modul	e coord	inator		Module offered by	,
Manag and As		ector of the Institute of T sics	heoretical Physics	Faculty of Physics	and Astronomy
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites	5	
1 seme	ster	graduate	Approval from exam	nination committee	required.
Conten	its				
vered i	n any o		ese topics may relate		vanced courses on topics not co- earch developments or to subjects
Intend	ed lear	ning outcomes			
		advance their knowledg nsights into the connect	_	-	c of Condensed Matter Physics
Course	<b>S</b> (type, r	number of weekly contact hours	language — if other than Ge	erman)	
V (3) +	R (1)				
Metho	d of ass	sessment (type, scope, langu	lage — if other than German.	examination offered — if n	not every semester, information on whether

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**

module is creditable for bonus)

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#### **Additional information**

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### Workload

180 h

### Teaching cycle

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



# **Summer Term 2020**

(ECTS credits)



VV	JKZBU	ind 1	5 (23) 23) 8	33 0 2 5	
Module	title	<u>-</u>			Abbreviation
Current	Topic	s in Experimental Physic	s		11-EXE5-161-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)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites	i	
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	ts				
Current study a			. Credited academic	achievements, e.g. i	n case of change of university or
Intende	ed lear	ning outcomes			
sics of derstar fy the s	the Ma Id the I ubject	ster's programme. They l measuring and/or evalua specific contexts and kn	nave knowledge of a tion methods necess ow the application ar	current subdiscipling ary to acquire this k reas.	of a module of Experimental Phye e of Experimental Physics and un- nowledge. They are able to classi-
		number of weekly contact hours,	anguage — if other than Ge	rman)	
V (2) +					
		<b>sessment</b> (type, scope, langua de for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) pres If a writ stead t of asse nation	examirexaminect repo entationeten exa ake the ssmen date at ge of a	e form of an oral examina t is changed, the lecturer the latest. ssessment: German and	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessmation of one candidate must inform student	tes per candidate) o ent, this may be cha e each or an oral exa	or Inged and assessment may in- Imination in groups. If the method Weeks prior to the original exami-

# **Additional information**

### Workload

150 h

# **Teaching cycle**



Wi	ÜRZBU	JRG 1	5 (2.3)	33 0 2 6	Physics
Module	title			,	Abbreviation
Current	t Topic	s in Experimental Physics	s	-	11-EXE6-161-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)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	ts		•		
study a	broad.	ning outcomes			n case of change of university or
sics of derstar	the Ma nd the i	ster's programme. They h	nave knowledge of a tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un nowledge. They are able to class
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)	
V (3) +	R (1)				
		<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) prese If a writ stead to	examir examin ect repo entatio eten exa ake the	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessmition of one candidate	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the metho weeks prior to the original exami

nation 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 co	opics in Experimental Ph		Abbreviation
	- p	ysics	11-EXE7-161-m01
	oordinator		Module offered by
hairperso	on of examination comm	ittee	Faculty of Physics and Astronomy
CTS M	lethod of grading	Only after succ. c	ompl. of module(s)
, nı	umerical grade		
Ouration	Module level	Other prerequisit	es
semeste	er graduate	Approval from exa	amination committee required.
Contents			
Current to study abro		sics. Credited academi	c achievements, e.g. in case of change of university or
ntended l	learning outcomes		
sics of the derstand t	e Master's programme. T	hey have knowledge of valuation methods nece	g to the requirements of a module of Experimental Phy a current subdiscipline of Experimental Physics and un ssary to acquire this knowledge. They are able to class areas.
Courses (t)	type, number of weekly contact h	ours, language — if other than	German)
/ (3) + R (1	1)		
	<b>f assessment</b> (type, scope, leditable for bonus)	anguage — if other than Germa	n, examination offered $-$ if not every semester, information on whether

- 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

210 h

# **Teaching cycle**

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



Module	title				Abbreviation
Current	Topic	s in Experimental Physi	cs		11-EXE8-161-m01
Module	coord	inator		Module offered by	Į.
chairpe	rson o	f examination committe	e	Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. co	npl. of module(s)	
8	nume	rical grade			
Duratio	n	Module level	Other prerequisites	5	
1 seme	ster	graduate	Approval from exan	nination committee r	equired.
Conten	ts				
Current study a		in experimental physic	s. Credited academic	achievements, e.g. i	n case of change of university or
Intende	ed leari	ning outcomes			
sics of derstar	the Ma nd the r	ster's programme. They	have knowledge of a ation methods necess	current subdisciplin sary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un- nowledge. They are able to classi
Course	<b>S</b> (type, r	number of weekly contact hours	, language — if other than Ge	rman)	
V (4) +	R (2)				
		sessment (type, scope, langule for bonus)	uage — if other than German,	examination offered — if no	ot every semester, information on whether

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

240 h

### Teaching cycle

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



W	ÜRZBU	JRG \	5	330	Physics
Module	e title				Abbreviation
Curren	t Topic	s in Experimental Physic	s		11-EXE6A-161-m01
Module	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)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	its				
Current study a	•		. Credited academic	achievements, e.g. ir	n case of change of university or
Intend	ed lear	ning outcomes			
sics of derstar fy the s	the Mand the i	ster's programme. They h	nave knowledge of a tion methods necess ow the application ar	current subdiscipline ary to acquire this k reas.	of a module of Experimental Phy- e of Experimental Physics and un- nowledge. They are able to classi-
V (3) +		iumber of meeting contact means,	- I other than be		
Metho	d of ass	<b>sessment</b> (type, scope, langua ole for bonus)	nge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) pres If a wristead t of asse nation	examir examin ect repo entatio tten exa ake the essmen date at age of a	e form of an oral examina t is changed, the lecture the latest. ssessment: German and	each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme tion of one candidate r must inform student	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-
Allocal	ן וט ווטו.	Places			

### **Additional information**

# Workload

180 h

# **Teaching cycle**



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 comm	nittee	Faculty of Physics	and Astronomy
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ster	graduate	Approval from exan	nination committee i	required.
Conten	its		,		

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



Module	e title				Abbreviation
Current	t Topic	s in Physik			11-EXP6A-161-m01
Module	e coord	inator		Module offered by	
chairpe	erson o	f examination comn	nittee	Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ster	graduate	Approval from exan	nination committee r	equired.
Conten	its		,		

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



Module	title			Abbreviation
Current	Topics of Theoretical Phy	rsics		11-EXT5-161-m01
Module	coordinator		Module off	ered by
chairpe	rson of examination comr	nittee	Faculty of F	Physics and Astronomy
ECTS	Method of grading	Only after su	cc. compl. of modu	le(s)
5	numerical grade			
Duratio	n Module level	Other prerequ	uisites	
1 semes	ster graduate	Approval from	n examination com	mittee required.
Content	ts			
Current study a		sics. Credited acade	mic achievements,	e.g. in case of change of university or
Intende	d learning outcomes			
sics of t	the Master's programme. <sup>-</sup>	They have advanced	specialist knowled	ements of a module of Theoretical Phydge of a subdiscipline of Theoretical Phyde acquired methods to current problem
	(type, number of weekly contact	hours, language — if other	than German)	
_	(-), -, -, -, -, -, -, -, -, -, -, -, -, -,			
_	,			
Courses V (2) + F Method	₹ (2)	language — if other than (	German, examination offe	ered — if not every semester, information on whether

- 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

150 h

# **Teaching cycle**

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



Modul	e title				Abbreviation
Curren	t Topic	s of Theoretical Physics			11-EXT6-161-m01
Modul	e coord	inator		Module offered by	
chairp	erson o	f examination committee	2	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	ination committee r	equired.
Conter	nts				
	t topics abroad.		redited academic acl	nievements, e.g. in c	ase of change of university or

### **Intended learning outcomes**

The students have advanced competencies corresponding to the requirements of a module of Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems of Theoretical Physics.

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



odule offered by culty of Physics and Astronomy of module(s)  tion committee required.
culty of Physics and Astronomy  of module(s)
of module(s)
tion committee required.
tion committee required.
tion committee required.
vements, e.g. in case of change of university or
ne requirements of a module of Theoretical Phytknowledge of a subdiscipline of Theoretical Phythappers apply the acquired methods to current problem
)
nination offered $-$ if not every semester, information on whether
man

- 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

210 h

# **Teaching cycle**

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



Module title Abbreviation								
Current	t Topic	s of Theoretical Phy	sics		11-EXT8-161-mo1			
Module	coord	linator		Module offered	by			
chairpe	erson o	f examination comn	nittee	Faculty of Physi	cs and Astronomy			
ECTS	Meth	od of grading	Only after succ.	compl. of module(s)				
8	nume	rical grade						
Duratio	n	Module level	Other prerequis	ites				
1 seme	ster	graduate	Approval from e	xamination committ	ee required.			
Conten	ts							
Current study a	•	-	ics. Credited academi	achievements, e.g.	in case of change of university or			
Intende	ed lear	ning outcomes						
sics of sics an	the Ma d have	ister's programme. I	They have advanced sp	ecialist knowledge	nts of a module of Theoretical Phy- of a subdiscipline of Theoretical Phy quired methods to current problem			
Course	<b>S</b> (type, r	number of weekly contact l	hours, language — if other tha	n German)				
V (4) +	R (2)							
		sessment (type, scope, ble for bonus)	language — if other than Ger	nan, examination offered –	- if not every semester, information on whether			
			o to 120 minutes) or late each (approx. 30	ninutes) or				
	oral examination of one candidate each (approx. 30 minutes) of							

- 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

240 h

# **Teaching cycle**

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



Module	title				Abbreviation	
Current	t Topics	of Theoretical Phy	rsics		11-EXT6A-161-m01	
Module	coordi	nator		Module o	ffered by	
chairpe	erson of	examination comm	nittee	Faculty of	Physics and Astronomy	
ECTS	Metho	d of grading	Only after s	ucc. compl. of mod	lule(s)	
6	numeri	ical grade				
Duratio	n	Module level	Other prered	quisites		
1 seme	ster	graduate	Approval fro	m examination co	mmittee required.	
Conten	ts					
Current study a	•	in Theoretical Phys	ics. Credited acad	emic achievement	s, e.g. in case of change of university or	
Intende	ed learn	ing outcomes				
sics of sics an	the Mas	ter's programme. The requi	Γhey have advance	d specialist knowl	irements of a module of Theoretical Phyedge of a subdiscipline of Theoretical Phothe acquired methods to current problem	
Course	<b>S</b> (type, nu	umber of weekly contact	hours, language — if othe	er than German)		
V (3) +	R (1)					
<b>Method of assessment</b> (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						

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



Modul	Module title Abbreviation						
Advan	ced Top	oics in Astrophysics			11-CSAM-161-m01		
Modul	e coord	linator		Module offered by	Module offered by		
Managing Director of the Institute of Theoretical Physic and Astrophysics			of Theoretical Physics	Faculty of Physics 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	ester	graduate	Approval from exar	pproval from examination committee required.			
Conter	nts						
				•	ophysics which will be discussed dynamics, heating and cooling		

# **Intended learning outcomes**

The students have advanced knowledge of the subdisciplines of Astrophysics and are able to work on current scientific questions.

processes of the interstellar medium, astrochemistry, accretion and jets, galaxy formation or similar topics.

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



Modul	e title		-	Abbreviation				
Advan	Advanced Topics in Solid State Physics				11-CSFM-161-mo1			
Modul	e coord	inator		Module offered by				
	ing Dire	ector of the Institute of T sics	heoretical Physics	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	i .				
1 seme	ster	graduate	Approval from exam	nination committee r	equired.			
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			
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								
	<del></del>							
Additio	Additional information							
I		·						

# Workload

180 h

# **Teaching cycle**



# Winter Term 2020

(ECTS credits)



WÜRZBURG 15 83 6								
Module	Module title Abbreviation							
Current	t Topic	s in Experimental Physic	s		11-EXE5-161-m01			
Module	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. cor	npl. of module(s)				
5	nume	rical grade						
Duratio	n	Module level	Other prerequisites	i				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.			
Conten	ts							
Current study a			. Credited academic	achievements, e.g. ir	n case of change of university or			
Intende	ed lear	ning outcomes						
sics of derstar	the Ma	ster's programme. They l	nave knowledge of a tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un nowledge. They are able to class			
Course	<b>S</b> (type, i	number of weekly contact hours,	language — if other than Ge	rman)				
V (2) +	R (2)							
<b>Method of assessment</b> (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

150 h

# **Teaching cycle**



Modul	e title				Abbreviation	
Curren	t Topic	s in Experimental Physic	CS		11-EXE6-161-m01	
Module	e coord	linator		Module offered by		
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)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites	s		
1 seme	ester	graduate	Approval from exam	mination committee required.		
Conten	nts					
	t topics		s. Credited academic	achievements, e.g. i	n case of change of university or	
Intend	ed lear	ning outcomes				
sics of	the Ma	ister's programme. They	have knowledge of a	current subdisciplin	of a module of Experimental Phy e of Experimental Physics and ur nowledge. They are able to class	

fy 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							
Current	t Topic	s in Experimental Ph	ysics		11-EXE7-161-m01		
Module	e coord	linator		Module offered by	1		
chairpe	erson o	f examination comm	ittee	Faculty of Physics	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	es			
1 seme	ster	graduate	Approval from exa	pproval from examination committee required.			
Conten	ts						
Current study a			sics. Credited academic	achievements, e.g.	in case of change of university or		
Intend	ed lear	ning outcomes					
sics of derstar	the Ma	ster's programme. T measuring and/or ev	hey have knowledge of a	a current subdisciplings	s of a module of Experimental Phy ne of Experimental Physics and ur knowledge. They are able to class		
Course	<b>S</b> (type, i	number of weekly contact h	ours, language — if other than G	erman)			
V (3) +	R (1)						
		sessment (type, scope, ble for bonus)	anguage — if other than German	, examination offered $-$ if $\mathfrak l$	not every semester, information on whether		
b) oral	examir		o to 120 minutes) or ate each (approx. 30 min				

- 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

210 h

# **Teaching cycle**



W	WÜRZBURG Physics								
Module	Module title Abbreviation								
Curren	t Topic	s in Experimental Physic	s		11-EXE8-161-m01				
Module	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)					
8	nume	rical grade							
Duratio	on	Module level	Other prerequisites	i					
1 seme	ster	graduate	Approval from exam	ination committee r	equired.				
Conten	ts								
Current study a	•	in experimental physics	. Credited academic a	achievements, e.g. ir	n case of change of university or				
Intend	ed lear	ning outcomes							
sics of derstar	the Ma	ster's programme. They h	nave knowledge of a tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un- nowledge. They are able to classi-				
Course	<b>S</b> (type, i	number of weekly contact hours, I	anguage — if other than Ge	rman)					
V (4) +	R (2)								
			ge — if other than German,	examination offered — if no	ot every semester, information on whether				
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

240 h

# **Teaching cycle**

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



W	ÜRZBI	URG	5	83 72	Physics			
Modul	Module title Abbreviation							
Curren	t Topic	s in Experimental Physic	:s		11-EXE6A-161-m01			
Modul	e coord	linator		Module offered by	J			
chairpe	erson c	of examination committee	2	Faculty of Physics a	and Astronomy			
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)				
6	nume	erical grade						
Duratio	on	Module level	Other prerequisites	;				
1 seme	ester	graduate	Approval from exam	nination committee r	required.			
Conter	nts							
Current study a			. Credited academic	achievements, e.g. i	n case of change of university or			
Intend	ed lear	ning outcomes						
sics of dersta	the Ma	aster's programme. They	have knowledge of a ation methods necess	current subdisciplin sary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un nowledge. They are able to class			
Course	es (type,	number of weekly contact hours,	language — if other than Ge	rman)				
V (3) +	R (1)							
		sessment (type, scope, langu ble for bonus)	age — if other than German,	examination offered — if n	ot every semester, information on whether			
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 in-								

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 Topic	s in Physik			11-EXP6-161-m01	
Modul	e coord	inator		Module offered by		
chairpe	chairperson of examination committee			Faculty of Physics and Astronomy		
ECTS	Metho	ethod of grading Only after succ. co		npl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites	iisites		
1 seme	ester	graduate	Approval from exam	camination 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(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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



Modul	e title				Abbreviation	
Curren	t Topic	s in Physik			11-EXP6A-161-m01	
Modul	e coord	linator		Module offer	ed by	
chairp	erson c	of examination comm	ittee	Faculty of Ph	ysics and Astronomy	
ECTS	Meth	od of grading	Only after suc	c. compl. of module	!(s)	
6	nume	erical grade				
Duratio	on	Module level	Other prerequ	Other prerequisites		
1 seme	ster	graduate	Approval from	al from examination committee required.		
Conter	its					
	•	s in Experimental or T study abroad.	Theoretical Physics.	Credited academic	achievements, e.g. in case of change o	
Intend	ed lear	ning outcomes				
Theore subdis	tical Pl cipline	nysics of the Master' of Physics and unde	s programme of Nan erstand the measuri	ostructure Technolong and/or calculation	ments of a module of Experimental or ogy. They have knowledge of a current on methods necessary to acquire this ow the application areas.	
Courses (type, number of weekly contact hours, language — if other than German)						
V (3) + R (1)						

a) written examination (approx. 90 to 120 minutes) or

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

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

Language of assessment: German and/or English

#### Allocation of places

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#### **Additional information**

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### Workload

180 h

# **Teaching cycle**

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



W	ÜRZBI	JRG 1	5 (2. 74)	33 0 2	Physics		
Module title Abbreviation							
Curren	t Topic	s of Theoretical Physics			11-EXT5-161-m01		
Module	e coord	inator		Module offered by	l .		
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)			
5	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conten	ts						
study a	broad.	,	redited academic ac	hievements, e.g. in c	ase of change of university or		
Intend	ed lear	ning outcomes					
sics of sics an	the Ma d have	ster's programme. They h	nave advanced speci	alist knowledge of a	of a module of Theoretical Phy- subdiscipline of Theoretical Phy- red methods to current problems		
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)			
V (2) +	R (2)						
		<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
b) oral c) oral d) proje e) pres If a writ stead t	examir examin ect repo entatio tten exa ake the	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme tion of one candidate	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 methoo weeks prior to the original exami		

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**

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



Module title Abbreviation					
Current Topics of Theoretical Physics				11-EXT6-161-m	101
Module coordinator				Module offered by	
chairpe	erson o	f examination commi	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	s	
1 seme	ster	graduate	Approval from exam	nination committee required.	
Conten	its				
Current study a	•	' '	s. Credited academic ac	lievements, e.g. in case of change of	of university or
Intend	ed lear	ning outcomes			
The students have advanced competencies corresponding to the requirements of a module of Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems of Theoretical Physics.					
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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



Module	e title			Abbreviation	
Current Topics of Theoretical Physics					11-EXT7-161-mo1
Module	e coord	inator		Module offered by	
chairpe	erson o	f examination committee	9	Faculty of Physics	and Astronomy
ECTS	Method of grading Only after succ. co			npl. of module(s)	
7	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
ı seme	ster	graduate	Approval from exam	mination committee required.	
Conten	ts				
Current topics in Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad.					
intend	ed lear	ning outcomes			
——— Γhe stu	dents	have advanced compete	ncies corresponding	to the requirements	of a module of Theoretical Phy-

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

V(3) + R(1)

of Theoretical 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)

sics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems

- 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

210 h

#### Teaching cycle

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



Module title Abbreviation						
Current Topics of Theoretical Physics 11-EXT8-161-mo1						
Module coordinator Module offered by						
chairpe	erson o	f examination comm	nittee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisite	s		
1 seme	ster	graduate	Approval from exa	mination committee required.		
Conten	its					
	t topics abroad.		ics. Credited academic a	chievements, e.g. in case of change of university or		
Intend	ed lear	ning outcomes				
sics of sics an	the Ma d have	ster's programme. T	hey have advanced spec	to the requirements of a module of Theoretical Phy- ialist knowledge of a subdiscipline of Theoretical Phy- ole to apply the acquired methods to current problems		
Course	<b>S</b> (type, r	number of weekly contact h	nours, language — if other than G	erman)		
V (4) +	R (2)					
		sessment (type, scope, ble for bonus)	language — if other than German	, examination offered $-$ if not every semester, information on whether		
			o to 120 minutes) or	nutes) or		
	o) oral examination of one candidate each (approx. 30 minutes) or					

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

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

240 h

# **Teaching cycle**

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



	OKZ BO	1 8 C	5 (2) (3) 8	33 <b>9 ~ [</b> 3]	
Modul	e title				Abbreviation
Curren	t Topic	s of Theoretical Physics		11-EXT6A-161-m01	
Modul	e coord	linator	Module offered by		
chairp	erson o	of examination committee	9	Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
6	nume	rical grade			
Duratio		Module level	Other prerequisites	1	
1 seme	ester	graduate	Approval from exam	nination committee r	equired.
Conter	nts	19			·
	t topics abroad.		Credited academic ac	hievements, e.g. in o	case of change of university or
Intend	ed lear	ning outcomes			
sics an	nd have				subdiscipline of Theoretical Phy- red methods to current problems
Course	es (type, i	number of weekly contact hours,	language — if other than Ge	rman)	
V (3) +	R (1)				
		<b>sessment</b> (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 Langua	examir examir ect rep sentatio tten ex take the essmen date at age of a	e form of an oral examina It is changed, the lecture It the latest. Assessment: German and	each (approx. 30 minus) of 2, approx. 30 minus) or tes) s method of assessmation of one candidate r must inform student	ites per candidate) o ent, this may be cha e each or an oral exa	or Inged and assessment may in- Imination in groups. If the method Weeks prior to the original exami-
Allocat	tion of	places			

# **Additional information**

# Workload

180 h

# **Teaching cycle**



Modul	e title				Abbreviation		
Advan	ced Top	ics in Astrophysics			11-CSAM-161-m01		
Modul	e coord	inator		Module offered by	I.		
	ging Dire	ector of the Institute of Th	neoretical Physics	Faculty of Physics a	and Astronomy		
ECTS Method of grading O			Only after succ. cor	mpl. of module(s)			
6	nume	rical grade					
Durati	on	Module level	Other prerequisites	i .			
1 seme	ester	graduate	Approval from exam	nination committee r	equired.		
Conte	nts						
includ	e: Stella	ar structure, formation an	d development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling or similar topics.		
Intend	ed lear	ning outcomes					
	udents ific que	_	ge of the subdisciplin	nes of Astrophysics a	nd are able to work on current		
Course	<b>es</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)			
V (3) +	R (1)						
Metho	d of ass	sessment (type, scope, langua	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
		le for bonus)					
b) oral c) oral d) proj e) pres If a wri stead of asso nation	examir examin ect reposentation tten exa take the essmen date at	e form of an oral examina	ach (approx. 30 minus) of 2, approx. 30 minus) or es) method 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 weeks prior to the original exami-		
Alloca	tion of <sub> </sub>	places					
Addition	onal inf	ormation					
Workle	oad						
180 h							
Teachi	ng cycl	е					
1							

Physics (2019)



Modul	e title	,			Abbreviation
Advand	ced Top	ics 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			neoretical Physics	Faculty of Physics and Astronomy	
- r - r		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.
Conter	its				
vered i	n any o				anced courses on topics not co- arch developments or to subjects
Intend	ed learı	ning outcomes			
		advance their knowledge sights into the connection			of Condensed Matter Physics
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)	
V (3) +	R (1)				
		<b>sessment</b> (type, scope, langua le for bonus)	ge — 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 examin ect repo entatio tten exa ake the essmen date at	e form of an oral examina	ach (approx. 30 minus) of 2, approx. 30 minus) or es) method of assessmention of one candidate must inform student	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				

180 h

# **Teaching cycle**



# **Summer Term 2021**

(ECTS credits)



W	WURZBURG 15 6 2 83 0 2 6						
Module	e title				Abbreviation		
Current	t Topic	s in Experimental Physic	s		11-EXE5-161-m01		
Module coordinator Module offered by					L		
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)			
5	nume	rical grade					
Duratio	on	Module level	Other prerequisites				
1 seme	ster	graduate	Approval from exam	ination committee r	equired.		
Conten	ts						
Current study a			. Credited academic	achievements, e.g. i	n case of change of university or		
Intende	ed lear	ning outcomes					
derstar fy the s	nd the subject	measuring and/or evalua -specific contexts and kn	tion methods necess ow the application a	ary to acquire this k eas.	e of Experimental Physics and un- nowledge. They are able to classi-		
		number of weekly contact hours,	language — if other than Ge	rman)			
V (2) +			_				
			age — if other than German,	examination offered — if no	ot every semester, information on whether		
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							
Allucal	וטווטו	piaces					
A 1 107							

### **Additional information**

### Workload

150 h

# **Teaching cycle**



	15 (15 (15 (15 (15 (15 (15 (15 (15 (15 (						
Modul	e title	Abbreviation					
Current Topics in Experimental Physics					11-EXE6-161-m01		
Modul	e coord	inator		Module offered by			
chairp	erson o	f examination committee		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	nination committee required.			
Conter	nts						
	t topics abroad.		. Credited academic a	achievements, e.g. ir	n case of change of university or		
Intended learning outcomes							
sics of dersta	The students have advanced competencies corresponding to the requirements of a module of Experimental Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



Module title Abbreviation						
Current Topics in Experimental Physics 11-EXE7-161-mo1						
Module coordinator Module offered by					l .	
chairpe	erson o	f examination commi	ttee	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 prerequisites	S		
1 seme	ster	graduate	Approval from exar	nination committee r	equired.	
Conten	ts					
Current study a	•		sics. Credited academic	achievements, e.g. i	n case of change of university or	
Intende	ed lear	ning outcomes				
sics of derstar	the Ma	ster's programme. The measuring and/or eva	ey have knowledge of a	current subdiscipling sary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un nowledge. They are able to class	
Course	<b>S</b> (type, i	number of weekly contact ho	urs, language — if other than Ge	erman)		
V (3) + R (1)						
<b>Method of assessment</b> (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

210 h

# **Teaching cycle**

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



WÜRZBURG 15 83 83 8								
Module	Module title Abbreviation							
Curren	Current Topics in Experimental Physics 11-EXE8-161-mo1							
Module	e coord	linator		Module offered by				
chairpe	erson o	f examination committee		Faculty of Physics	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	i				
1 seme	ster	graduate	Approval from exam	ination committee	required.			
Conten	ts							
Current study a			. Credited academic	achievements, e.g. i	in case of change of university or			
Intend	ed lear	ning outcomes						
sics of derstar	the Ma	ister's programme. They l	nave knowledge of a tion methods necess	current subdisciplin ary to acquire this l	of a module of Experimental Phy- ne of Experimental Physics and un- knowledge. They are able to classi-			
Course	S (type, i	number of weekly contact hours,	language — if other than Ge	rman)				
V (4) +	R (2)							
		sessment (type, scope, langua ble for bonus)	age — if other than German,	examination offered — if n	not every semester, information on whether			
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 in-								

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

240 h

# **Teaching cycle**



Module	Module title Abbreviation						
Current	t Topic	s in Experimental Ph	ysics		11-EXE6A-161-m01		
Module	coord	linator		Module offered by	l		
chairpe	erson o	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	rical grade					
Duratio	n	Module level	Other prerequisites	5			
1 seme	ster	graduate	Approval from exan	Approval from examination committee required.			
Conten	ts						
Current study a			rsics. Credited academic	achievements, e.g. ir	n case of change of university or		
Intende	ed lear	ning outcomes					
sics of derstar	the Ma nd the	aster's programme. The measuring and/or ev	hey have knowledge of a	current subdiscipline sary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un nowledge. They are able to class		
Course	<b>S</b> (type,	number of weekly contact h	ours, language — if other than Ge	rman)			
V (3) + R (1)							
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)							
a) writt	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						
Curren	t Topic	s in Physik			11-EXP6-161-m01	
Module coordinator				Module offered by	I	
chairpe	chairperson of examination committee			Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duratio	Duration Module level		Other prerequisites	Other prerequisites		
1 semester graduate Appro			Approval from exan	Approval from examination committee required.		
Conten	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(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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# $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$



Modul	e title	·			Abbreviation	
Current Topics in Physik					11-EXP6A-161-m01	
Module coordinator				Module offered by		
chairperson of examination committee			nittee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duratio	Duration Module level		Other prerequisites	Other prerequisites		
1 semester graduate Ap		Approval from exan	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(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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



WÜRZBURG 15 83 6 81								
Modul	Module title Abbreviation							
Curren	t Topic	s of Theoretical Physics			11-EXT5-161-m01			
Modul	e coord	inator		Module offered by	l.			
chairp	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)				
5	nume	rical grade						
Duratio	on	Module level	Other prerequisites					
1 seme	ester	graduate	Approval from exam	ination committee r	equired.			
Conter	nts							
	t topics abroad.	in Theoretical Physics. (	Credited academic ac	hievements, e.g. in c	ase of change of university or			
Intend	ed lear	ning outcomes						
sics of sics an	the Ma nd have	ster's programme. They	have advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems			
Course	es (type, r	number of weekly contact hours,	language — if other than Ge	rman)				
V (2) +	R (2)							
		<b>sessment</b> (type, scope, langua le for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether			
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

150 h

# **Teaching cycle**

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



Module title Abbreviation						
Current Topics of Theoretical Physics					11-EXT6-161-mo1	
Module coordinator				Module offered by	1	
chairperson of examination committee			ittee	Faculty of Physics	Faculty of Physics and Astronomy	
ECTS	Meth	od of grading	Only after succ. o	Only after succ. compl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisit	es		
1 seme	ster	graduate	Approval from ex	amination committee	required.	
Conter	ıts					
Current topics in 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 Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems of Theoretical Physics.

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



		14.241	O (NEXTOXAD) C	000, 7.7.		
Module	Module title Abbreviation					
Current	t Topics	s of Theoretical Physics		11-EXT7-161-m01		
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)		
7	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	nination committee r	equired.	
Conten	ts					
Current study a	•	•	redited academic ac	hievements, e.g. in o	case of change of university or	
Intende	ed lear	ning outcomes				
sics an of Theo	d have retical		nethods. They are abl	e to apply the acqui	subdiscipline of Theoretical Phyred methods to current problems	
V (3) +	R (1)					
		<b>sessment</b> (type, scope, langua	${\sf ge-if}$ other than German,	examination offered — if no	ot every semester, information on whether	
b) oral c) oral d) proje e) pres If a writ stead t of asse nation Langua	a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes) If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Language of assessment: German and/or English					
Allocat	Allocation of places					
Additio	nal inf	ormation				
Worklo	Workload					

210 h

# **Teaching cycle**

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



Modul	e title				Abbreviation
Curren	t Topic	s of Theoretical Physics			11-EXT8-161-m01
Modul	e coord	inator		Module offered by	
chairp	erson o	f examination committee	!	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		
1 seme	ester	graduate	Approval from exam	ination committee r	required.
Conter	nts				
	t topics abroad.	in Theoretical Physics. C	redited academic ac	hievements, e.g. in o	case of change of university or
Intend	ed lear	ning outcomes			
sics ar of The	nd have pretical		nethods. They are abl	e to apply the acqui	subdiscipline of Theoretical Phy- red methods to current problems
V (4) +	R (2)				
		<b>sessment</b> (type, scope, langua le for bonus)	${\sf ge-if}$ other than German,	examination offered — if n	ot every semester, information on whether
b) oral c) oral d) proj e) pres If a wri stead t of asse nation	examir examin ect reposentatio tten exa take the essmen date at	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessmation of one candidate must inform student	tes per candidate) o ent, this may be cha e each or an oral exa	or nged and assessment may in- amination in groups. If the method weeks prior to the original exami-
Alloca	tion of p	olaces			
Additio	onal inf	ormation			
Worklo	oad				

240 h

**Teaching cycle** 

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



Modul	Module title Abbreviation					
Current Topics of Theoretical Physics 11-EXT6A-161-mo1					11-EXT6A-161-m01	
Modul	e coord	linator		Module offered by		
chairpe	erson o	f examination committe	e	Faculty of Physics ar	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	ination committee re	quired.	
Conten	its					
	t topics abroad.	-	Credited academic ac	hievements, e.g. in ca	ase of change of university or	
Intend	ed lear	ning outcomes				
sics of sics an	the Ma d have	ster's programme. They	have advanced speci	alist knowledge of a s	f a module of Theoretical Physubdiscipline of Theoretical Physed methods to current problem	
Courses (type, number of weekly contact hours, language — if other than German)						
	R (1)					
V (3) +	<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
/ (3) + <b>Metho</b>				examination onered in not	every semester, information on whethe	

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



Module	Module title Abbreviation							
	<del>-</del>	ice in Astrophysics			11-CSAM-161-mo1			
Auvanc	Advanced Topics in Astrophysics 11-CSAM-161-m01							
Module	coord	inator		Module offered by				
Managi and As		ector of the Institute of Th sics	eoretical Physics	Faculty of Physics	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	i				
1 seme	ster	graduate	Approval from exam	ination committee	required.			
Conten	ts							
include	: Stella	ar structure, formation an	d development, radia	ation transport, gas	rophysics which will be discussed dynamics, heating and cooling y formation or similar topics.			
Intende	ed lear	ning outcomes						
The stu			e of the subdisciplin	es of Astrophysics a	and are able to work on current			
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)				
V (3) +	R (1)							
		<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if r	not every semester, information on whether			
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								
Allocat								
Additio	nal inf	ormation						
Workload								
180 h								
Teachi	ng cycl	e						

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



Modul	a titla	_			Abbreviation		
		ics in Solid State Physic	S		11-CSFM-161-mo1		
	e coord			Module offered by			
	ging Dire	ector of the Institute of Th sics	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					
Durati	on	Module level	Other prerequisites	i			
1 seme	ester	graduate	Approval from exam	nination committee r	equired.		
Conte	nts		-				
vered	in any o		se topics may relate		anced courses on topics not co- arch developments or to subjects		
Intend	led lear	ning outcomes					
		advance their knowledge sights into the connection			of Condensed Matter Physics		
Course	<b>es</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)			
V (3) +	R (1)						
			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 of asso nation	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						
Alloca	Allocation of places						
Additi	onal inf	ormation					
Workl	oad						
180 h	180 h						

**Teaching cycle** 

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



# Winter Term 2021

(ECTS credits)



	_	1300 8 1	O MENOVARIAN (				
Module	Module title Abbreviation						
Current	Current Topics in Experimental Physics				11-EXE5-161-m01		
Module	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. compl. of module(s)				
5	nume	rical grade					
Duratio	n	Module level	Other prerequisites	s			
1 seme	ster	graduate	Approval from examination committee required.				
Conten	ts		•				
Current topics in experimental physics. Credited academic achievements, e.g. in case of change of university or study abroad.							
Intende	ed lear	ning outcomes					
The stu	dents	have advanced competer	ncies corresponding	to the requirements	of a module of Experimental Phy-		

The students have advanced competencies corresponding to the requirements of a module of Experimental Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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)

- 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

150 h

#### Teaching cycle

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



WÜRZBURG Physics									
Module	Module title Abbreviation								
Curren	Current Topics in Experimental Physics 11-EXE6-161-mo1								
Module	Module coordinator 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)					
6	nume	rical grade							
Duratio	on	Module level	Other prerequisites	i					
1 seme	ster	graduate	Approval from exam	ination committee r	equired.				
Conten	ts								
Current study a	•		. Credited academic a	achievements, e.g. ir	n case of change of university or				
Intend	ed lear	ning outcomes							
sics of derstar	the Ma	ster's programme. They h	nave knowledge of a tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phye e of Experimental Physics and un- nowledge. They are able to classi-				
Course	<b>S</b> (type, i	number of weekly contact hours, I	anguage — if other than Ge	rman)					
V (3) +	R (1)								
			ge — if other than German,	examination offered — if no	t 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)  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 To	pics in Experimental Pl	hysics	11-EXE7-161-m01				
Module co	ordinator		Module offered by				
chairperso	on of examination comn	nittee	Faculty of Physics and Astronomy				
ECTS M	ethod of grading	Only after succ.	compl. of module(s)				
<sub>7</sub>  nι	ımerical grade						
Duration	Module level	Other prerequis	ites				
1 semeste	r graduate	Approval from e	Approval from examination committee required.				
Contents							
Current top study abro		ysics. Credited acader	nic achievements, e.g. in case of change of university or				
ntended l	earning outcomes						
sics of the derstand t	Master's programme. 1	They have knowledge o valuation methods ned	ing to the requirements of a module of Experimental Phy of a current subdiscipline of Experimental Physics and ur cessary to acquire this knowledge. They are able to class on areas.				
Courses (ty	pe, number of weekly contact l	nours, language — if other tha	ın German)				
V (3) + R (1)							
v (3) + k (1	<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)						

- 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

210 h

# **Teaching cycle**



Module	e title			Abbreviation		
Curren	t Topic	s in Experimental Physic	:s		11-EXE8-161-m01	
Module	e coord	linator		Module offered by		
chairpe	erson o	f examination committee	e	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. compl. of module(s)			
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites	Other prerequisites		
1 seme	ster	graduate	Approval from exam	mination committee required.		
Conten	ıts					
Current topics in experimental 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 Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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(4) + R(2)

 $\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

240 h

#### **Teaching cycle**



Modul	e title				Abbreviation		
Curren	t Topic	s in Experimental Phy	/sics		11-EXE6A-161-m01		
Modul	e coord	linator		Module offered	by		
chairp	erson c	of examination commi	ttee	Faculty of Physi	cs and Astronomy		
ECTS	Meth	od of grading	Only after succ.	. compl. of module(s)			
6	nume	erical grade					
Duratio	on	Module level	Other prerequis	sites			
1 seme	ester	graduate	Approval from e	examination committe	ee required.		
Conter	nts		,				
Curren study a			sics. Credited acade	mic achievements, e.	g. in case of change of university or		
Intend	ed lear	ning outcomes					
sics of dersta	the Ma	aster's programme. Th	ey have knowledge of aluation methods ne	of a current subdiscip cessary to acquire th	nts of a module of Experimental Phy- pline of Experimental Physics and un is knowledge. They are able to class		
Course	es (type,	number of weekly contact ho	urs, language — if other tha	an German)			
V (3) +	R (1)						
			nguage — if other than Ger	man, examination offered —	if not every semester, information on whether		
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 in-							

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**



Modul	e title		Abbreviation			
Current Topics in Physik				11-EXP6-161-m01		
Module coordinator				Module offered by		
chairperson of examination committee			nittee	Faculty of Physics and Astronomy		
ECTS	Metho	od of grading	Only after succ. o	ompl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisit	Other prerequisites		
1 semester graduate		Approval from ex	Approval from examination committee required.			
Conter	its					

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

#### **Additional information**

#### Workload

180 h

#### **Teaching cycle**



Module	e title			Abbreviation		
Current Topics in Physik					11-EXP6A-161-m01	
Module coordinator				Module offered by		
chairperson of examination committee				Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	grading Only after succ. co		mpl. of module(s)	
6	nume	rical grade				
Duratio	on	Module level	Other prerequisite	Other prerequisites		
1 seme	ster	graduate	Approval from exa	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.						

#### 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

#### **Additional information**

#### Workload

180 h

#### **Teaching cycle**



WÜRZBURG Physics								
Module title Abbreviation								
Current	Current Topics of Theoretical Physics 11-EXT5-161-mo1							
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)				
5	nume	rical grade						
Duratio	n	Module level	Other prerequisites					
1 seme	ster	graduate	Approval from exam	ination committee re	equired.			
Conten	ts							
Current study a	•	-	redited academic ac	hievements, e.g. in c	case of change of university or			
Intende	ed lear	ning outcomes						
sics of sics an	the Ma d have	ster's programme. They l	nave advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems			
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)				
V (2) +	R (2)							
			ge — if other than German,	examination offered — if no	ot every semester, information on whether			
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

150 h

# **Teaching cycle**



Module title Abbreviation						
Current Topics of Theoretical Physics 11-EXT6-161-mo1						
Modul	e coord	linator		Module offered by		
chairp	erson o	f examination committ	ee	Faculty of Physics a	nd Astronomy	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites	;		
1 seme	ster	graduate	Approval from exam	nination committee re	equired.	
Conter	nts					
Intend The stu sics of sics an of The	ed lear udents the Ma id have pretical	ning outcomes have advanced compenster's programme. The mastered the required Physics.	tencies corresponding y have advanced speci	to the requirements o alist knowledge of a s e to apply the acquir	of a module of Theoretical Physubdiscipline of Theoretical Phyed methods to current problems	
V (3) +	R (1)					
			guage — if other than German,	examination offered — if no	t 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)  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.						

nation date at the latest. Language of assessment: German and/or English

# Allocation of places

# **Additional information**

# Workload

180 h

# **Teaching cycle**



Module	Module title				Į.	Abbreviation
Current Topics of Theoretical Physics					1	1-EXT7-161-m01
Module	e coord	linator		Mo	Module offered by	
chairpe	erson o	f examination comm	ittee	Fac	ulty of Physics an	d Astronomy
ECTS	Meth	od of grading	Only after succ	Only after succ. compl. of module(s)		
7	nume	rical grade				
Duratio	on	Module level	Other prerequi	Other prerequisites		
1 seme	ster	graduate	Approval from	Approval from examination committee required.		
Conten	its					
Current topics in 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 Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics						

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

V(3) + R(1)

of Theoretical 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)

sics and have mastered the required methods. They are able to apply the acquired methods to current problems

- 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

210 h

#### Teaching cycle

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



Module	title				Abbreviation	
Current	t Topic	s of Theoretical Physics			11-EXT8-161-m01	
Module	coord	inator		Module offered by	ı	
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	Other prerequisites		
1 seme	ster	graduate	Approval from exam	pproval from examination committee required.		
Conten	ts					
Current study a	•	-	Credited academic ac	hievements, e.g. in o	case of change of university or	
Intend	ed lear	ning outcomes				
The students have advanced competencies corresponding to the requirements of a module of Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems of Theoretical Physics.						
Courses (type, number of weekly contact hours, language — if other than German)						
V (4) +	R (2)					
<b>Method of assessment</b> (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

240 h

# Teaching cycle

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



Module title Abbreviation						
Current	t Topics	s of Theoretical Phy	sics	11-EXT6A-161-m01		
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination comm	nittee	Faculty of Physics and Astronomy		
ECTS	Metho	od of grading	Only after succ. co	mpl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisite	s		
1 seme	ster	graduate	Approval from exa	mination committee required.		
Conten	ts					
	t topics broad.		ics. Credited academic a	chievements, e.g. in case of change of university or		
Intend	ed learı	ning outcomes				
sics of sics an	the Ma d have	ster's programme. T	hey have advanced spec	to the requirements of a module of Theoretical Phyialist knowledge of a subdiscipline of Theoretical Phyle to apply the acquired methods to current problems		
Course	<b>S</b> (type, r	number of weekly contact h	nours, language — if other than G	erman)		
V (3) +	R (1)					
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)						
			o to 120 minutes) or			
			ate each (approx. 30 mir			

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



	1				A11 • 0		
Modul					Abbreviation		
Advan	ced Top	oics in Astrophysics			11-CSAM-161-m01		
Modul	e coord	linator		Module offered by			
	ing Dire	ector of the Institute of T sics	heoretical Physics	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	nination committee r	equired.		
Conter	nts						
include	e: Stella	ar structure, formation ar	nd development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling of formation or similar topics.		
Intend	ed lear	ning outcomes					
	udents fic que		ge of the subdisciplin	es of Astrophysics a	nd are able to work on current		
Course	S (type, i	number of weekly contact hours,	language — if other than Ge	rman)			
V (3) +	R (1)						
			age-if other than $German$ ,	examination offered — if no	ot every semester, information on whether		
		ole for bonus)					
b) oral c) oral d) proj e) pres If a wri stead t	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.						
		ssessment: German and	l/or English				
Allocat	tion of	places					
Additio	nal inf	ormation					
Worklo	oad						
180 h	180 h						

Teaching cycle

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



Modul	o titlo				Abbreviation	
	<del> </del>	oics in Solid State Physic	rs		11-CSFM-161-mo1	
		<u> </u>		1	11 CS/W 101 WO1	
	e coord			Module offered by		
Managing Director of the Institute of Theoretical Physics and Astrophysics				Faculty of Physics a	and Astronomy	
ECTS Method of grading Only after		Only after succ. cor	mpl. of module(s)			
6	numerical grade					
Duration Module level		Other prerequisites	5			
1 sem	ester	graduate	Approval from exan	nination committee re	equired.	
Conte	nts					
vered	in any o		se topics may relate		anced courses on topics not co- arch developments or to subjects	
Intend	led lear	ning outcomes				
		advance their knowledge			of Condensed Matter Physics	
Course	<b>es</b> (type, i	number of weekly contact hours,	language — if other than Ge	erman)		
V (3) +	R (1)					
		<b>sessment</b> (type, scope, langua ole 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 wr stead of assi nation	examir examir ject reposentation itten ex take the essmen date at	e form of an oral examina	each (approx. 30 min of 2, approx. 30 minus) or tes) s method of assessm ation of one candidat r must inform studen	ites per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-	
Alloca	tion of	places				
Additi	onal inf	ormation				
			_			
Workl	oad					
180 h			_,			

Physics (2019)

**Teaching cycle** 

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



# **Summer Term 2022**

(ECTS credits)



WÜF	RZBURG	<b>4</b> 15 <b>6 2 3</b>	83 6	Physics
Module t	itle			Abbreviation
Current T	opics in Experimental Ph	ysics		11-EXE5-161-mo1
Module c	oordinator		Module offered	d by
chairpers	on of examination comm	ittee	Faculty of Phys	sics and Astronomy
ECTS N	Method of grading	Only after suc	c. compl. of module(s	(i)
5 n	umerical grade			
Duration	Module level	Other prerequ	isites	
1 semest	er graduate	Approval from	examination commit	tee required.
Contents				
Current to study abi		sics. Credited acad	emic achievements, e	e.g. in case of change of university or
Intended	learning outcomes			
sics of th derstand	e Master's programme. T	hey have knowledge valuation methods n	of a current subdisci ecessary to acquire th	ents of a module of Experimental Phy ipline of Experimental Physics and ur his knowledge. They are able to class
Courses (	type, number of weekly contact h	ours, language — if other t	han German)	
V (2) + R	(2)			
	of assessment (type, scope, leditable for bonus)	anguage — if other than G	erman, examination offered	— if not every semester, information on whether
b) oral ex c) oral ex d) project	n examination (approx. 90) camination of one candid amination in groups (gro t report (approx. 8 to 10 p otation/talk (approx. 30 n	ate each (approx. 30 ups of 2, approx. 30 pages) or		te) or

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**



Module title Abbreviation						
Curren	t Topic	s in Experimental Physic	s		11-EXE6-161-m01	
Modul	e coord	linator		Module offered by		
chairpe	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				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	ination committee	required.	
Conter	ıts					
	t topics abroad		. Credited academic a	achievements, e.g.	in case of change of university or	
Intend	ed lear	ning outcomes				
sics of dersta	the Ma	ister's programme. They l	nave knowledge of a cation methods necess	current subdisciplir ary to acquire this l	of a module of Experimental Phy ne of Experimental Physics and ur knowledge. They are able to class	
Course	S (type,	number of weekly contact hours,	language — if other than Gei	rman)		
V (3) +	R (1)					
		sessment (type, scope, langua ble for bonus)	age — if other than German,	examination offered — if r	not every semester, information on whether	

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 Topic	s in Experimental Physic	CS .		11-EXE7-161-m01		
Module coord	dinator		Module offered by			
chairperson (	of examination committee	e	Faculty of Physics	and Astronomy		
ECTS Meth	S Method of grading Only after succ. compl. of module(					
7 nume	numerical grade					
Duration	Module level	Other prerequisites	i			
1 semester	graduate	Approval from exam	nination committee	required.		
Contents	10	, , ,		·		
-		s. Credited academic	achievements, e.g. i	n case of change of university or		
Intended lea	rning outcomes					
sics of the Ma	aster's programme. They	have knowledge of a	current subdisciplin	of a module of Experimental Phy- e of Experimental Physics and un- knowledge. They are able to classi-		
sics of the Ma derstand the fy the subject	aster's programme. They	have knowledge of a ation methods necessory the application a	current subdiscipling sary to acquire this kereas.	e of Experimental Physics and un-		
sics of the Ma derstand the fy the subject	aster's programme. They measuring and/or evalua t-specific contexts and kr	have knowledge of a ation methods necessory the application a	current subdiscipling sary to acquire this kereas.	e of Experimental Physics and un-		
sics of the Maderstand the fy the subject Courses (type, V (3) + R (1)	measuring and/or evaluatespecific contexts and kr number of weekly contact hours, sessment (type, scope, language)	have knowledge of a ation methods necess now the application an language — if other than Ge	current subdisciplin sary to acquire this k reas. <sup>rman)</sup>	e of Experimental Physics and un-		

# **Additional information**

# Workload

210 h

# **Teaching cycle**

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



W	ÜRZBI	JRG \	5 (628)	33 9	Pnysics
Module	e title				Abbreviation
Current Topics in Experimental Physics 11-EXE8-161-mo1					
Module	e coord	inator		Module offered by	
chairperson of examination committee			9	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				
Current study a			. Credited academic	achievements, e.g. i	n case of change of university or
Intend	ed lear	ning outcomes			
sics of derstar	the Ma	ster's programme. They	have knowledge of a ation methods necess	current subdiscipling ary to acquire this k	of a module of Experimental Phye of Experimental Physics and unnowledge. They are able to classi
Course	<b>S</b> (type, i	number of weekly contact hours,	language — if other than Ge	rman)	
V (4) +	R (2)				
		sessment (type, scope, langua ble for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) pres If a writ	examir examir ect repe entation tten ex		each (approx. 30 minu of 2, approx. 30 minu s) or tes) s method of assessm	tes per candidate) o ent, this may be cha	nged and assessment may in-

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

240 h

# **Teaching cycle**



		17/3/41	O WEOVERSON C			
Module	title				Abbreviation	
Current	t Topic	s in Experimental Physic	S		11-EXE6A-161-m01	
Module	coord	inator		Module offered by	ed by	
chairpe	erson o	f examination committee		Faculty of Physics a	and Astronomy	
ECTS	ECTS Method of grading Only after succ. c			npl. of module(s)		
6 numerical grade						
Duration Module level Other prerequis			Other prerequisites	i		
1 semester graduate A		Approval from exam	ination committee r	equired.		
Conten	ts					
Current study a	•		. Credited academic a	achievements, e.g. ir	n case of change of university or	
Intende	ed lear	ning outcomes				
derstar fy the s	ubject		tion methods necess ow the application ar	ary to acquire this k	e of Experimental Physics and un- nowledge. They are able to classi-	
V (3) +		· · · · · · · · · · · · · · · · · · ·				
Method	d of as	sessment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
b) oral c) oral d) proje e) pres If a writ stead t of asse nation	examir examir ect repe entatio ten ex ake the ssmen date at	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessmation of one candidate r 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-	
Allocat	ion of	places				
Additio	nal inf	ormation				
Worklo	ad					
180 h	_					

**Teaching cycle** 

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



Module title					Abbreviation
Current Topics in Physik					11-EXP6-161-m01
Module	e coord	inator		Module offered by	
chairpe	chairperson of examination committee			Faculty of Physics and Astronomy	
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)	
6	6 numerical grade				
Duration Module level Other prered			Other prerequisites	5	
1 semester graduate Approval from			Approval from exam	nination committee r	equired.
Conten	ıts				

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



Module	e title			Abbreviation		
Current	t Topic	s in Physik			11-EXP6A-161-m01	
Module	e coord	linator		Module offered by		
chairperson of examination committee			ittee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. co	ompl. of module(s)		
6	nume	rical grade				
Duration Module level Other prer			Other prerequisite	S		
1 semester graduate Appr			Approval from exar	Approval from examination 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.					
Intond	ad laar	ning outcomes				

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



11-EXT5-161-m01		
ered by		
hysics and Astronomy		
le(s)		
Approval from examination committee required.		
e.g. in case of change of university o		
ements of a module of Theoretical Ph		
dge of a subdiscipline of Theoretical I		
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lec		

- 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

150 h

# **Teaching cycle**



Module title Abbreviation						
Current Topics of Theoretical Physics					11-EXT6-161-m01	
Module coordinator Modu				Module offered by		
hairperson of	ittee		Faculty of Physics and Astronomy			
CTS Metho	Method of grading Only after succ. co		ıcc. com	ıpl. of module(s)		
numer	ical grade					
uration	Module level	Other prerec	Other prerequisites			
semester	graduate	Approval fro	Approval from examination committee required.			
Contents						
Current topics in theoretical physics. Credited academic achievements, e.g. in case of change of university or study abroad.						
ntended learn	ing outcomes					

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

V(3) + R(1)

of Theoretical Physics.

 $\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)

sics and have mastered the required methods. They are able to apply the acquired methods to current problems

- 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	of Theoretical Phy	sics		11-EXT7-161-m01
Module	coordi	inator		Module offered	l by
chairpe	erson of	examination comm	nittee	Faculty of Phys	ics and Astronomy
ECTS	Metho	d of grading	Only after succ. o	ompl. of module(s)	)
7	numer	ical grade			
Duratio	n	Module level	Other prerequisit	es	
1 seme	ster	graduate	Approval from ex	amination committ	ee required.
Conten	ts				
Current study a		in Theoretical Phys	ics. Credited academic	achievements, e.g.	. in case of change of university or
Intende	ed learn	ing outcomes			
sics of t	the Mas d have	ster's programme. T	hey have advanced spe	cialist knowledge	ents of a module of Theoretical Phy- of a subdiscipline of Theoretical Phy cquired methods to current problems
Course	<b>S</b> (type, n	umber of weekly contact h	ours, language — if other than	German)	
V (3) + I	R (1)				
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
b) oral	examin		o to 120 minutes) or ate each (approx. 30 m		

- 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

210 h

## **Teaching cycle**

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



Modul	e title				Abbreviation
Curren	t Topic	s of Theoretical Physics			11-EXT8-161-m01
Modul	e coord	inator		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)	
8	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	graduate	Approval from exam	ination committee	required.
Conter	nts				
	t topics abroad.		Credited academic ac	hievements, e.g. in	case of change of university or
Intend	ed lear	ning outcomes			
of Theo	oretical es (type, r	mastered the required mention Physics.  number of weekly contact hours,			ired methods to current problems
V (4) +	R (2)				
		sessment (type, scope, langua ble for bonus)	nge — if other than German,	examination offered — if r	not every semester, information on whether
b) oral c) oral d) proj e) pres If a wri stead to of asse nation	examir examin ect reposentation tten exa take the essmen date at	e form of an oral examina	each (approx. 30 minus) of 2, approx. 30 minus) or es) smethod of assessmation of one candidate must inform student	tes per candidate) ( ent, this may be cha e each or an oral exa	or anged and assessment may in- amination in groups. If the method r weeks prior to the original exami-
Alloca	tion of <sub> </sub>	places			
Additio	onal inf	ormation			
Worklo	oad				

#### Workload

240 h

## **Teaching cycle**

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



Module title			Abbreviation
Current Topics of Theoretical Physic	s		11-EXT6A-161-m01
		Mandala affarad ha	
Module coordinator		Module offered by	
chairperson of examination committee		Faculty of Physics	and Astronomy
ECTS Method of grading	Only after succ. cor	npl. of module(s)	
numerical grade	<u></u>		
Ouration Module level	Other prerequisites	5	
semester graduate	Approval from exan	nination committee	required.
Contents			
Current topics in Theoretical Physics study abroad.	. Credited academic ac	hievements, e.g. in	case of change of university or
ntended learning outcomes			
The students have advanced compet sics of the Master's programme. The sics and have mastered the required of Theoretical Physics.	y have advanced speci	alist knowledge of a	subdiscipline of Theoretical Phy-
<b>Courses</b> (type, number of weekly contact hour	s, language — if other than Ge	rman)	
/ (3) + R (1)			
Method of assessment (type, scope, lang	guage — if other than German,	examination offered $-$ if n	ot every semester, information on whether
nodule is creditable for bonus)			
a) written examination (approx. 90 to oral examination of one candidates) oral examination in groups (groupd) project report (approx. 8 to 10 page) presentation/talk (approx. 30 minf a written examination was chosenstead take the form of an oral examination date at the latest.  Language of assessment: German ar	e each (approx. 30 min s of 2, approx. 30 minutes) or utes) as method of assessm nation of one candidater must inform studen	ites per candidate) of ent, this may be cha e each or an oral exa	anged and assessment may in- amination in groups. If the method
Allocation of places			
-			
Additional information			
-			
Vorkload			
.8o h			
Feaching cycle			

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



Modul	Module title Abbreviation						
Advan	Advanced Topics in Astrophysics 11-CSAM-161-mo1						
Modul	e coord	inator	Module offered by	I.			
	ging Dire	ector of the Institute of Th	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					
Durati	on	Module level	Other prerequisites	i .			
1 seme	ester	graduate	Approval from exam	nination committee r	equired.		
Conte	nts						
includ	e: Stella	ar structure, formation an	d development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling or similar topics.		
Intend	ed lear	ning outcomes					
	udents   fic que	_	ge of the subdisciplin	nes of Astrophysics a	nd are able to work on current		
Course	<b>es</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)			
V (3) +	R (1)						
Metho	d of ass	sessment (type, scope, langua	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
	_	le for bonus)					
b) oral c) oral d) proj e) pres If a wri stead to of asse nation	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						
Alloca	tion of p	olaces					
Additional information							
Workload							
180 h							
Teachi	Teaching cycle						

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



			NEO VENERAL		T.,
Modul					Abbreviation
Advan	ced Top	oics in Solid State Phy	sics		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	<b>es</b> (type,	number of weekly contact hou	ırs, language — if other than Ge	erman)	
V (3) +	R (1)				
		<b>sessment</b> (type, scope, lar ble for bonus)	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** 

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



## Winter Term 2022

(ECTS credits)



fy 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)  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 in-	Modul	e title				Abbreviation
chairpetson of examination committee  ECTS   Method of grading   Only after succ. compl. of module(s)  5   numerical grade	Curren	t Topic	s in Experimental Physic	s		11-EXE5-161-m01
ECTS   Method of grading   Only after succ. compl. of module(s)	Modul	e coord	linator		Module offered by	I.
Duration   Module level   Other prerequisites	chairp	erson o	f examination committee	!	Faculty of Physics a	and Astronomy
Duration Module level graduate Approval from examination committee required.  Contents  Current topics in experimental 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 Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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)  a) written examination (approx. 90 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination of one candidate each (approx. 30 minutes) presentation/talk (approx. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes)  If a written examination or and 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. con	npl. of module(s)	
Contents  Current topics in experimental 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 Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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)  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	5	nume	rical grade			
Contents  Current topics in experimental 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 Physics and understand the measuring and/or evaluation 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)  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  150 h	Duratio	on	Module level	Other prerequisites		
Current topics in experimental 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 Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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)  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	1 seme	ester	graduate	Approval from exam	ination committee r	required.
Intended learning outcomes  The students have advanced competencies corresponding to the requirements of a module of Experimental Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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)  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 have advanced competencies corresponding to the requirements of a module of Experimental Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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) 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				. Credited academic a	achievements, e.g. i	n case of change of university or
sics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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)  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	Intend	ed lear	ning outcomes			
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  150 h	dersta fy the s	nd the s	measuring and/or evalua -specific contexts and kn	tion methods necess ow the application ar	ary to acquire this k eas.	
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 Workload 150 h	V (2) +	R (2)				
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  Workload 150 h	Metho	d of as	sessment (type, scope, langua	ige — if other than German, o	examination offered — if no	ot every semester, information on whether
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  Workload 150 h			,			
Additional information Workload 150 h	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	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.	each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme tion of one candidate r must inform student	tes per candidate) o ent, this may be cha e each or an oral exa	inged and assessment may in- imination in groups. If the method
Workload 150 h	Allocat	tion of	places	,		
<b>Workload</b> 150 h						
150 h	Additio	nal inf	ormation			
150 h						
	Worklo	ad	,			
Teaching cycle	150 h			-		
	Teachi	ng cycl	e			

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



Modul	Module title Abbreviation						
Current Topics in Experimental Physics 11-EXE6-161-mo1							
Module coordinator Module offered by							
chairp	erson c	of examination committe	ee	Faculty of Physics and Astronomy			
ECTS	Meth	od of grading	Only after succ. cor	mpl. of module(s)			
6	nume	erical grade					
Durati	on	Module level	Other prerequisites	5			
1 seme	ester	graduate	Approval from exan	nination committee required.			
Conter	ıts						
	t topics abroad		cs. Credited academic	achievements, e.g. in case of change of universi	ty or		
Intend	ed lear	ning outcomes					
sics of dersta	the Ma	aster's programme. The	y have knowledge of a uation methods necess	to the requirements of a module of Experimental current subdiscipline of Experimental Physics ar sary to acquire this knowledge. They are able to reas.	ıd un		
Course	es (type,	number of weekly contact hour	s, language — if other than Ge	erman)			
V (3) + R (1)							
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)							
Metho	s credital		120 minutes) or				

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**



W	ÜRZBI	JRG J	15 (20)	33 9 2 1	Physics			
Modul	Module title Abbreviation							
Currer	Current Topics in Experimental Physics 11-EXE7-161-mo1							
Modul	Module coordinator Module offered by							
chairp	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)				
7	nume	rical grade						
Durati	on	Module level	Other prerequisites					
1 seme	ester	graduate	Approval from exam	ination committee r	equired.			
Conte	nts							
	t topics		s. Credited academic	achievements, e.g. ir	n case of change of university or			
Intend	ed lear	ning outcomes						
sics of dersta fy the	the Ma nd the subject	ster's programme. They measuring and/or evalua- specific contexts and kr	have knowledge of a ation methods necess now the application at	current subdiscipline ary to acquire this k reas.	of a module of Experimental Phye e of Experimental Physics and un- nowledge. They are able to classi-			
V (3) +	_	number of weekly contact hours,	tanguage — ir otner than Ge	rman)				
Metho	d of as	sessment (type, scope, langu	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 of asso nation	examir examir ect reposentation itten extake the essmen date at	e form of an oral examina	each (approx. 30 minu of 2, approx. 30 minu s) or tes) s method of assessmation of one candidate r 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-			

## Allocation of places

## **Additional information**

## Workload

210 h

## **Teaching cycle**



W	ÜRZBI	JRG \	5 (2.3)	33 7	Physics		
Module title Abbreviation							
Curren	Current Topics in Experimental Physics 11-EXE8-161-mo1						
Module coordinator Module offered by							
chairpe	erson o	f examination committee	!	Faculty of Physics	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	i			
1 seme	ster	graduate	Approval from exam	ination committee	required.		
Conten	ıts						
Current study a			. Credited academic a	achievements, e.g. i	n case of change of university or		
Intend	ed lear	ning outcomes					
sics of derstar	the Ma	ster's programme. They	nave knowledge of a strict tion methods necess	current subdisciplin ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un- knowledge. They are able to classi		
Course	S (type, i	number of weekly contact hours,	language — if other than Ge	rman)			
V (4) +	R (2)						
		sessment (type, scope, langua	age — if other than German,	examination offered — if n	ot every semester, information on whether		
b) oral c) oral d) proje e) pres If a writ	examir examir ect rep entatic tten ex		each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessm	tes per candidate) of the characters are the charac	or anged and assessment may in- amination in groups. If the method		

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

240 h

## **Teaching cycle**



W	ÜRZBI	JRG JRG	15 (28)	33 9	Physics			
Modul	Module title Abbreviation							
Currer	Current Topics in Experimental Physics 11-EXE6A-161-mo1							
Modul	e coord	linator		Module offered by	Į.			
chairp	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)				
6	nume	rical grade						
Durati	on	Module level	Other prerequisites					
1 seme	ester	graduate	Approval from exam	nination committee r	equired.			
Conte	nts							
	t topics		s. Credited academic	achievements, e.g. ir	n case of change of university or			
Intend	ed lear	ning outcomes						
sics of dersta fy the	the Ma nd the subject	ster's programme. They measuring and/or evalu -specific contexts and k	have knowledge of a ation methods necessonow the application a	current subdiscipline ary to acquire this k reas.	of a module of Experimental Phye e of Experimental Physics and un- nowledge. They are able to classi-			
	_	number of weekly contact hours	, language — if other than Ge	rman)				
	d of as	sessment (type, scope, langu ole for bonus)	nage — if other than German,	examination offered — if no	ot every semester, information on whether			
b) oral c) oral d) proj e) pres If a wr stead of assi	examir examir ect reposentation itten extake the essmen date at	e form of an oral examin	each (approx. 30 minus) of 2, approx. 30 minus) or utes) as method of assessmation of one candidate or 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-			

## Allocation of places

## **Additional information**

## Workload

180 h

## **Teaching cycle**



Module title					Abbreviation	
Current Topics in Physik					11-EXP6-161-mo1	
Module coordinator				Module offered by		
chairp	erson o	f examination commit	tee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ. cor	mpl. of module(s)		
6	nume	rical grade				
Durati	on	Module level	Other prerequisites	1		
1 sem	ester	graduate	Approval from examination committee required.			
Conte	nts					
Currer	nt topics	s in experimental or the	eoretical physics. Credit	ed academic achiev	ements, 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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



AA o deel								
Module title  Current Topics in Physik  11-EXP6A-161-mo1								
Modul	le coord	linator		Module offered by				
chairp	erson o	f examination committee	!	Faculty of Physics a	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	ther prerequisites				
1 seme	ester	graduate	Approval from exam	from examination committee required.				
Conte	nts							
	•	s in Experimental or Theo study abroad.	retical Physics. Credi	ted academic achiev	rements, e.g. in case of change of			
Intend	led lear	ning outcomes						
Theore subdis	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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



Module	e title				Abbreviation	
Curren	t Topic	s of Theoretical Phys	sics		11-EXT5-161-m01	
Module	e coord	linator		Mod	dule offered by	
chairpe	erson c	of examination comm	ittee	Facı	ulty of Physics and Astronomy	
ECTS	Meth	od of grading	Only after suc	c. compl. o	of module(s)	
5	nume	erical grade				
Duratio	on	Module level	Other prerequ	isites		
1 seme	ster	graduate	Approval from	examinati	ion committee required.	
Conten	its		,			
Current study a	•	•	cs. Credited acaden	nic achieve	ements, e.g. in case of change of university or	
Intend	ed lear	ning outcomes				
sics of sics an	the Ma	aster's programme. T	ney have advanced	specialist l	e requirements of a module of Theoretical Phy- knowledge of a subdiscipline of Theoretical Phy apply the acquired methods to current problems	
Course	S (type,	number of weekly contact h	ours, language — if other t	han German)		
V (2) +	R (2)					
<b>Method of assessment</b> (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

#### **Additional information**

#### Workload

150 h

## **Teaching cycle**

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



WÜRZBURG 15 83 6								
Module	Module title Abbreviation							
Curren	t Topic	s of Theoretical Physics			11-EXT6-161-m01			
Module	e coord	inator		Module offered by				
chairpe	erson o	f examination committee		Faculty of Physics a	nd Astronomy			
ECTS	Meth	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 re	equired.			
Conten	ts							
Current study a	•	in theoretical physics. C	redited academic acl	nievements, e.g. in c	ase of change of university or			
Intend	ed lear	ning outcomes						
sics of sics an of Theo	the Ma d have pretical	ster's programme. They I mastered the required m Physics.	nave advanced special nethods. They are abl	alist knowledge of a e to apply the acquir	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems			
		number of weekly contact hours,	language — if other than Ge	rman)				
V (3) +								
			ige — if other than German,	examination offered — if no	ot 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								
Allocat	ion of p	olaces						
l								

#### **Additional information**

#### Workload

180 h

## **Teaching cycle**

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



Module	title			Abbreviation	
Current	t Topic	s of Theoretical Phys	sics	11-EXT7-161-m01	
Module	coord	linator		Module offered by	
chairpe	erson o	f examination comm	ittee	Faculty of Physics 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 exar	mination committee required.	
Conten	ts				
Current study a	•	•	cs. Credited academic a	chievements, e.g. in case of change of university or	
Intende	ed lear	ning outcomes			
sics of sics an	the Ma d have	ster's programme. T	hey have advanced spec	to the requirements of a module of Theoretical Phy- ialist knowledge of a subdiscipline of Theoretical Phy- ole to apply the acquired methods to current problems	
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)					
V(3) + R(1)					
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
a) writt	en exa	mination (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

210 h

## **Teaching cycle**

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



Module	Module title Abbreviation						
Current	Topic	s of Theoretical Phys	sics		11-EXT8-161-mo1		
Module	coord	linator		Module offered by			
chairpe	erson o	of examination comm	ittee	Faculty of Physics	and Astronomy		
ECTS	Meth	od of grading	Only after succ. o	ompl. of module(s)			
8	nume	rical grade					
Duratio	n	Module level	Other prerequisit	es			
1 seme	ster	graduate	Approval from ex	Approval from examination committee required.			
Conten	ts						
Current study a	•	-	cs. Credited academic	achievements, e.g. in	case of change of university or		
Intende	ed lear	ning outcomes					
sics of sics an	the Ma d have	ister's programme. Tl	hey have advanced spe	cialist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems		
Courses (type, number of weekly contact hours, language — if other than German)							
V (4) + R (2)							
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)							

- 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

240 h

## **Teaching cycle**

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



W	ÜRZBL	JRG \	5 ( )	33 9 2 6	Physics			
Modul	Module title Abbreviation							
Curren	t Topic	s of Theoretical Physics			11-EXT6A-161-m01			
Modul	e coord	inator		Module offered by	·			
chairp	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)				
6	nume	rical grade						
Duratio	on	Module level	Other prerequisites					
1 seme	ester	graduate	Approval from exam	ination committee r	equired.			
Conter	nts		•					
	t topics abroad.	in Theoretical Physics. (	Credited academic ac	hievements, e.g. in c	ase of change of university or			
Intend	ed lear	ning outcomes						
sics of sics ar	the Ma nd have	ster's programme. They	have advanced specia	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems			
Course	<b>es</b> (type, r	number of weekly contact hours,	language — if other than Ger	rman)				
V (3) +	R (1)							
		<b>sessment</b> (type, scope, langua le for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether			
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**

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



		186,19		33 <i>9.</i> ~19		
Module	Module title Abbreviation					
Advanc	ed Top	ics in Astrophysics			11-CSAM-161-m01	
Module	coord	inator		Module offered by		
Managing Director of the Institute of Theoretical Physics and Astrophysics			eoretical 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	n	Module level	Other prerequisites	quisites		
1 seme	ster	graduate	Approval from exam	ination committee required.		
Conten	ts					
In-depth study of particular current topics of Astrophysics. The concepts of Astrophysics which will be discussed include: Stellar structure, formation and development, radiation transport, gas dynamics, heating and cooling processes of the interstellar medium, astrochemistry, accretion and jets, galaxy formation or similar topics.						
Intended learning outcomes						
The students have advanced knowledge of the subdisciplines of Astrophysics and are able to work on current scientific questions.						

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



Modul	la titla				Abbreviation
		oics in Solid State Physic	:s		11-CSFM-161-mo1
		<u> </u>	1	Tr corm for mor	
	le coord			Module offered by	
_	ging Dire strophy:	ector of the Institute of Tl sics	heoretical Physics	Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. cor	mpl. of module(s)	
6	nume	rical grade			
Durati	on	Module level	Other prerequisites	5	
1 seme	ester	graduate	Approval from exan	nination committee r	equired.
Conte	nts				
vered	in any o		ese topics may relate		anced courses on topics not co- arch developments or to subjects
Intend	led lear	ning outcomes			
		advance their knowledge			of Condensed Matter Physics
Course	<b>es</b> (type, ı	number of weekly contact hours,	language — if other than Ge	erman)	
V (3) +	R (1)				
			age — if other than German,	examination offered — if no	ot every semester, information on whether
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					
Alloca	tion of	places			
Additi	onal inf	ormation			
Workl	oad	,			
180 h					

**Teaching cycle** 

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



## **Summer Term 2023**

(ECTS credits)



Module	e title				Abbreviation	
Advanc	ed Top	ics in Astrophysics			11-CSAM-161-m01	
Module	e coord	inator		Module offered by		
Managing Director of the Institute of Theoretical Physics and Astrophysics			heoretical Physics	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exan	amination committee required.		
Conten	its					
include	e: Stella	ar structure, formation a	nd development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling oformation or similar topics.	
Intend	ed lear	ning outcomes				
The stu			ge of the subdisciplir	es of Astrophysics a	nd are able to work on current	

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



Module title					Abbreviation
Advanced Topics in Solid State Physics					11-CSFM-161-m01
Module	e coord	linator		Module offered by	
Manag and As	_		of 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			
Duratio	on	Module level	Other prerequisites	5	
1 seme	ster	graduate	Approval from exam	nination committee r	required.
Conten	its				
vered i	n any c		. These topics may relate		ranced courses on topics not co- arch developments or to subjects
Intend	ed lear	ning outcomes			
			ledge and understanding nections between researc		c of Condensed Matter Physics
Course	<b>S</b> (type, i	number of weekly contact	hours, language — if other than Ge	erman)	
V (3) +	R (1)				
		sessment (type, scope, ble for bonus)	language — if other than German,	examination offered — if n	ot every semester, information on whether
b) oral c) oral d) proju e) pres If a writh stead t of asse nation Langua	examir examir ect rep entation exame exame exame examen date and exame examinate exami	nation of one candionation in groups (groups) (g	minutes) en as method of assessm mination of one candidat cturer must inform studen	utes per candidate) of ent, this may be cha e each or an oral exa	or nged and assessment may in- imination in groups. If the method weeks prior to the original exami-
Allocation of places					

## Workload

180 h

## **Teaching cycle**



Module	e title				Abbreviation	
Current	t Topic	s in Experimental Physic	CS		11-EXE5-161-m01	
Module	e coord	linator		Module offered	by	
chairpe	erson o	of examination committe	e	Faculty of Physic	cs and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
5	nume	erical grade				
Duratio	on	Module level	Other prerequisite	s		
1 seme	ster	graduate	Approval from exar	nination committe	e required.	
Conten	ıts					
Current study a			s. Credited academic	achievements, e.g	g. in case of change of university or	
Intende	ed lear	ning outcomes				
sics of derstar	the Ma	aster's programme. They	have knowledge of a ation methods neces	current subdiscip sary to acquire thi	its of a module of Experimental Phy line of Experimental Physics and ur s knowledge. They are able to class	
Course	S (type,	number of weekly contact hours,	language — if other than G	erman)		
V (2) +	R (2)					
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)						
b) oral c) oral	examiı examir	mination (approx. 90 to nation of one candidate nation in groups (groups ort (approx. 8 to 10 page	each (approx. 30 min of 2, approx. 30 min	•	e) 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

150 h

## **Teaching cycle**

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



Module	Module title Abbreviation						
Current	t Topic	s in Experimental Phys	sics		11-EXE6-161-m01		
Module	e coord	linator		Module offered	by		
chairpe	erson o	f examination commit	tee	Faculty of Physic	cs 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 exa	mination committe	e required.		
Conten	ts						
Current study a	•		cs. Credited academic	achievements, e.g	g. in case of change of university or		
Intend	ed lear	ning outcomes					
sics of derstar	the Ma	ister's programme. The	y have knowledge of a uation methods neces	current subdiscip sary to acquire thi	its of a module of Experimental Phy line of Experimental Physics and ur s knowledge. They are able to class		
Course	<b>S</b> (type,	number of weekly contact hou	rs, language — if other than G	erman)			
V(3) + R(1)							
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)							
b) oral c) oral	examiı examir	mination (approx. 90 t nation of one candidat nation in groups (group ort (approx. 8 to 10 pag	e each (approx. 30 mir os of 2, approx. 30 min	•	e) 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**

## $\textbf{Referred to in LPO I} \ \ (\text{examination regulation} \underline{\text{s for teaching-degree programmes}})$



W	ÜRZBI	JRG \	5 (3 2 3 3 )	33 0 2 6	Physics			
Module	Module title Abbreviation							
Curren	t Topic	s in Experimental Physic	:s		11-EXE6A-161-mo1			
Modul	e coord	linator		Module offered by	,			
chairpe	erson o	f examination committee	e	Faculty of Physics	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	i				
1 seme	ster	graduate	Approval from exam	ination committee	required.			
Conten	its							
Current study a			s. Credited academic	achievements, e.g. i	in case of change of university or			
Intend	ed lear	ning outcomes						
sics of derstar	the Ma	ster's programme. They	have knowledge of a ation methods necess	current subdisciplin ary to acquire this k	of a module of Experimental Phy- ne of Experimental Physics and un- knowledge. They are able to classi-			
Course	<b>S</b> (type, i	number of weekly contact hours,	language — if other than Ge	rman)				
V (3) +	R (1)							
	<b>Method of assessment</b> (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 in-								

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**



Module title Abbreviation						
Current	Topics in Experi	mental Physic	:S		11-EXE7-161-m01	
Module coordinator Module offered by						
chairpe	erson of examina	tion committee	9	Faculty of Physics a	and Astronomy	
ECTS	Method of gradi	ing	Only after succ. con	npl. of module(s)		
7	numerical grade	)				
Duratio	n Module l	evel	Other prerequisites			
1 seme	ster graduate		Approval from exam	ination committee r	equired.	
Conten	ts					
Current study a		nental Physics	. Credited academic	achievements, e.g. i	n case of change of university or	
Intende	ed learning outco	mes				
sics of t derstan	the Master's prog nd the measuring	gramme. They and/or evalua	have knowledge of a	current subdisciplinary to acquire this k	of a module of Experimental Phy e of Experimental Physics and u nowledge. They are able to class	
Course	<b>S</b> (type, number of wee	ekly contact hours,	language — if other than Ge	rman)		
V (3) + I	R (1)					
	d of assessment ( creditable for bonus)	type, scope, langu	age — if other than German,	examination offered — if no	ot every semester, information on whether	
	en examination ( examination of o	ne candidate e	each (approx. 30 mini	utes) 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

210 h

## **Teaching cycle**

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



Module title Abbreviation						
Curren	t Topic	s in Experimental Physi	cs		11-EXE8-161-m01	
Module coordinator Mod				Module offered	by	
chairpe	erson o	f examination committe	е	Faculty of Physi	cs and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisite	S		
1 seme	ster	graduate	Approval from exa	mination committe	ee required.	
Conten	its					
Current study a			s. Credited academic	achievements, e.	g. in case of change of university or	
Intend	ed lear	ning outcomes				
sics of derstar	the Ma	ister's programme. They	have knowledge of a ation methods neces	current subdiscip sary to acquire th	nts of a module of Experimental Phy pline of Experimental Physics and un is knowledge. They are able to class	
		number of weekly contact hours	, language — if other than G	erman)		
V (4) +	R (2)					
		sessment (type, scope, langual ble for bonus)	uage — if other than German	, examination offered —	if not every semester, information on whether	
b) oral c) oral	examir examir	mination (approx. 90 to nation of one candidate nation in groups (groups ort (approx. 8 to 10 page	each (approx. 30 mir of 2, approx. 30 min	•	e) 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

240 h

## **Teaching cycle**

## $\textbf{Referred to in LPO I} \ \ (\text{examination regulation} \underline{\text{s for teaching-degree programmes}})$



Module title					Abbreviation	
Current Topics in Physik					11-EXP6-161-m01	
Module coordinator				Module offered by		
chairperson of examination committee			nittee	Faculty of Physics and Astronomy		
ECTS	TS Method of grading Only after succ. co			mpl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisite	S		
1 seme	ster	graduate	Approval from exa	mination committee	required.	
Conten	ts		,			
	•	s in experimental or t	theoretical physics. Cred	ited academic achiev	vements, e.g. in case of change of	
Intond	od loar	ning outcomes				

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



Module title					Abbreviation	
Current Topics in Physik					11-EXP6A-161-m01	
Modul	e coord	inator		Module offered by		
chairperson of examination committee			ee	Faculty of Physics and Astronomy		
ECTS	Method of grading Only after succ. co		Only after succ. cor	mpl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 semester graduate Approval from examination committee required.			equired.			
Conter	its		,			
Curren	t topics	in Experimental or The	eoretical Physics. Credi	ted academic achiev	vements, 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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



W	ÜRZBI	JRG \	a 15 (2)	83 7	Physics
Modul	e title				Abbreviation
Curren	t Topic	s of Theoretical Phys	11-EXT5-161-m01		
Module coordinator Module offe					I.
chairp	erson o	f examination comm	ittee	Faculty of Physics	and Astronomy
ECTS	Meth	od of grading	Only after succ. c	ompl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisit	es	
1 seme	ester	graduate	Approval from exa	amination committee i	required.
Conter	nts		,		
	t topics abroad.	•	cs. Credited academic	achievements, e.g. in	case of change of university or
Intend	ed lear	ning outcomes			
sics of sics ar of The	the Mand have oretical	ster's programme. The mastered the require Physics.	ney have advanced spe	cialist knowledge of a ble to apply the acqui	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems
V (2) +	_			Cermany	
Metho	d of as	sessment (type, scope, labele for bonus)	anguage — if other than Germa	n, examination offered — if n	ot every semester, information on whether
b) oral c) oral d) proj e) pres If a wri stead to of asse nation	examinexamirect repetentation tentation tentat	nation in groups (grou ort (approx. 8 to 10 p on/talk (approx. 30 m amination was chose e form of an oral exar	ate each (approx. 30 minups of 2, approx. 30 minuges) or inutes) as method of assess mination of one candidaturer must inform stude	nutes per candidate) on ment, this may be cha ate each or an oral exa	or anged and assessment may in- amination in groups. If the method weeks prior to the original exami

Language of assessment: German and/or English

## Allocation of places

#### **Additional information**

#### Workload

150 h

## **Teaching cycle**



Modul	e title				Abbreviation			
		s of Theoretical Physics		11-EXT6-161-m01				
Modul	e coord	linator		Module offered by				
chairperson of examination committee				Faculty of Physics a	and Astronomy			
ECTS	Meth	od of grading	Only after succ. con		·			
6	nume	rical grade						
Duratio	on	Module level	Other prerequisites					
1 seme	ster	graduate	Approval from exam	ination committee r	equired.			
Conter	nts							
	t topics abroad.		redited academic ach	nievements, e.g. in c	ase of change of university or			
Intend	ed lear	ning outcomes						
sics of sics an of Theo	the Ma d have pretical	ster's programme. They he mastered the required me Physics.	nave advanced special	alist knowledge of a e to apply the acqui	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems			
		number of weekly contact hours, I	anguage — if other than Ger	man)				
V (3) +								
		<b>sessment</b> (type, scope, langua ble for bonus)	ge — 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	examinexamirect rependation tentation extantation extantation extentation extentation extentation examine exam	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) method of assessmation 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-			
Allocat	tion of	places						
-								
Additio	onal inf	ormation	•					
			,					
Worklo	ad							
180 h			,					
Teachi	ng cycl	e						

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



VV	ÜRZBU	ind Page 1	5 (3 ) (3) 8	33 <b>6 2 8</b> 9	
Module title Abbreviation					
Current Topics of Theoretical Physics					11-EXT6A-161-m01
Module coordinator				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)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites	i	
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	ts				
Intended The study as sics of sics an of Theorem	ed learn dents l the Ma d have pretical	ning outcomes have advanced competer ster's programme. They h	ncies corresponding to a special to a specia	to the requirements of a list knowledge of a e to apply the acquir	ase of change of university or of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems
V (3) +				,	
Method	d of ass	sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) pres If a writ stead t	examir examin ect repo entatio tten exa ake the	form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme tion of one candidate	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the metho weeks prior to the original exam

Language of assessment: German and/or English

## Allocation of places

nation date at the latest.

#### **Additional information**

#### Workload

180 h

## **Teaching cycle**



W	ÜRZBL	JRG \	5 (2. 2. 3. 8	33 0 2 6	Physics
Modul	e title				Abbreviation
Current Topics of Theoretical Physics					11-EXT7-161-m01
Modul	e coord	inator		Module offered by	
chairp	erson o	f examination committee	1	Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
7	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	graduate	Approval from exam	ination committee re	equired.
Conter	ıts		•		
	t topics abroad.	in Theoretical Physics. C	Credited academic ac	nievements, e.g. in c	ase of change of university or
Intend	ed lear	ning outcomes			
sics of sics an	the Ma Id have	ster's programme. They h	nave advanced specia	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems
Course	es (type, r	number of weekly contact hours,	language — if other than Ger	rman)	
V (3) +	R (1)				
		<b>sessment</b> (type, scope, langua	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 examin ect repo sentatio tten exa take the essmen date at	e form of an oral examina	each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme tion of one candidate r must inform student	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-

## Allocation of places

## **Additional information**

## Workload

210 h

## **Teaching cycle**



Module title Abbreviation					
Current Topics of Theoretical Physics					11-EXT8-161-m01
Module coordinator				Module off	ered by
chairpe	erson o	of examination commi	ttee	Faculty of P	Physics and Astronomy
ECTS	Meth	od of grading	Only after suc	c. compl. of modu	le(s)
8	nume	rical grade			
Duratio	on	Module level	Other prerequ	uisites	
1 seme	ester	graduate	Approval from	n examination com	mittee required.
Conter	nts				
Curren			s. Credited acader	nic achievements,	e.g. in case of change of university or
Intend	ed lear	ning outcomes			
sics of sics an of Theo	the Ma nd have pretical	ester's programme. The mastered the required Physics.	ey have advanced ed methods. They a	specialist knowled are able to apply th	ements of a module of Theoretical Phydge of a subdiscipline of Theoretical Phye acquired methods to current problems
	-	number of weekly contact ho	urs, language — if other	than German)	
V (4) +	R (2)				
		<b>sessment</b> (type, scope, la ble for bonus)	nguage — if other than G	Serman, examination offe	$\operatorname{red}$ — if not every semester, information on whether
b) oral c) oral	examiı examir	mination (approx. 90 nation of one candida nation in groups (grou ort (approx. 8 to 10 pa	te each (approx. 3 ps of 2, approx. 3	o minutes) or	idate) 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

240 h

## **Teaching cycle**

## $\textbf{Referred to in LPO I} \ \ (\text{examination regulation} \underline{\text{s for teaching-degree programmes}})$



## Winter Term 2023

(ECTS credits)



WÜRZBURG Physics								
Modul	Module title Abbreviation							
Current Topics in Experimental Physics 11-EXE5-161-mo1								
Modul	e coord	inator		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	ester	graduate	Approval from exam	ination committee r	equired.			
Conter	nts							
	t topics abroad.		. Credited academic a	achievements, e.g. ir	n case of change of university or			
Intend	ed lear	ning outcomes						
sics of dersta	the Ma nd the r	ster's programme. They h	nave knowledge of a c tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phye of Experimental Physics and un- nowledge. They are able to classi-			
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)				
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			
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

150 h

# **Teaching cycle**



Module title				Abbreviation
	ics in Experimental Physic		11-EXE6-161-mo1	
Module cod	rdinator		Module offered by	<u> </u>
chairpersor	of examination committe	e	Faculty of Physics a	and Astronomy
	thod of grading	Only after succ. con		,
	nerical grade		•	
Duration	Module level	Other prerequisites		
1 semester	graduate	Approval from exam	ination committee r	equired.
Contents				
Current top		s. Credited academic	achievements, e.g. ir	n case of change of university or
Intended le	arning outcomes			
sics of the I derstand th	Master's programme. They	have knowledge of a ation methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un nowledge. They are able to classi
Courses (typ	e, number of weekly contact hours,	language — if other than Ge	rman)	
V (3) + R (1)				
	<b>assessment</b> (type, scope, langu table for bonus)	age — if other than German,	examination offered — if no	et every semester, information on whether

# Allocation of places

# **Additional information**

# Workload

180 h

# **Teaching cycle**



WÜRZBURG Physics								
Modul	Module title Abbreviation							
Curren	Current Topics in Experimental Physics 11-EXE7-161-mo1							
Modul	e coord	inator		Module offered by	l .			
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	ıts							
1	t topics abroad.		. Credited academic a	achievements, e.g. ir	n case of change of university or			
Intend	ed lear	ning outcomes						
sics of dersta	the Ma	ster's programme. They l	nave knowledge of a c tion methods necess	current subdiscipling ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un- nowledge. They are able to classi-			
Course	S (type, i	number of weekly contact hours,	language — if other than Ger	rman)				
V (3) +	R (1)							
			ge — if other than German,	examination offered — if no	ot every semester, information on whether			
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

210 h

# **Teaching cycle**



Module title Abbreviation					Abbreviation
Curren	t Topics	s in Experimental Physic	s		11-EXE8-161-mo1
Modul	e coord	inator		Module offered by	
chairp	erson of	f examination committee	1	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		
1 seme	ster	graduate	Approval from exam	mination committee required.	
Conter	ıts				
Current topics in experimental 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 Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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(4) + R(2)

 $\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

240 h

#### **Teaching cycle**



W	ÜRZBU	JRG 1	5 (12. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	33 0 2 6	rilysics			
Module	Module title Abbreviation							
Curren	t Topic	s in Experimental Physic	s		11-EXE6A-161-m01			
Module	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)				
6	nume	rical grade						
Duratio	n	Module level	Other prerequisites					
1 seme	ster	graduate	Approval from exam	ination committee r	equired.			
Conten	ts							
Current study a	•		. Credited academic a	achievements, e.g. ir	n case of change of university or			
Intend	ed lear	ning outcomes						
sics of derstar	the Ma nd the i	ster's programme. They h	nave knowledge of a tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phye e of Experimental Physics and un- nowledge. They are able to classi-			
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)				
V (3) +	R (1)							
		<b>sessment</b> (type, scope, langua ble for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether			
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**

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



Modul	Module title Abbreviation					
Curren	t Topic	s in Physik			11-EXP6-161-m01	
Modul	e coord	inator		Module offered by		
chairp	erson o	f examination comm	ittee	Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Durati	on	Module level	Other prerequisites	Other prerequisites		
1 seme	ester	graduate	Approval from exan	Approval from examination committee required.		
Conter	nts					
	•	s in experimental or t study abroad.	heoretical physics. Credi	ted academic achiev	ements, e.g. in case of change of	
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	es (type, i	number of weekly contact h	ours, language — if other than Ge	rman)		
V (3) + R (1)						
Metho	d of as	sessment (type scope la	anguage — if other than German	examination offered — if no	ot every semester, information on whether	

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



title			Abbreviation		
Current Topics in Physik				11-EXP6A-161-m01	
coord	inator		Module offered	by	
chairperson of examination committee			Faculty of Physi	Faculty of Physics and Astronomy	
Metho	od of grading	Only after succ. o	Only after succ. compl. of module(s)		
nume	rical grade				
n	Module level	Other prerequisit	Other prerequisites		
ster	graduate	Approval from ex	amination committee required.		
ts					
Current topics in Experimental or Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad.					
	Methon nume on ster	e coordinator erson of examination comm Method of grading numerical grade n Module level ster graduate ts topics in Experimental or	reson of examination committee  Method of grading  numerical grade  n Module level  ster graduate  topics in Experimental or Theoretical Physics. Cree	Module offered reson of examination committee Faculty of Physical Physics of Module Physical Physics of Module Physical Physics of Physics of Physical Physics of Ph	

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



Modul	e title				Abbreviation	
Curren	t Topic	s of Theoretical Phys	ics		11-EXT5-161-m01	
Modul	e coord	linator		Module	offered by	
chairp	erson o	of examination comm	ittee	Faculty	of Physics and Astronomy	
ECTS	Meth	od of grading	Only after suc	cc. compl. of m	odule(s)	
5	nume	erical grade				
Duratio	on	Module level	Other prerequ	uisites		
1 seme	ster	graduate	Approval from	n examination o	committee required.	
Conter	ıts	,	,			
	t topics abroad		cs. Credited acade	mic achievemei	nts, e.g. in case of change of university or	
Intend	ed lear	ning outcomes				
sics of sics an of Theo	the Ma d have pretical	aster's programme. The mastered the required Physics.	ney have advanced ed methods. They a	specialist know are able to appl	quirements of a module of Theoretical Phywledge of a subdiscipline of Theoretical Phyythe acquired methods to current problems	
	-	number of weekly contact ho	ours, language — if other	than German)		
V (2) +						
<b>Method of assessment</b> (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

150 h

# **Teaching cycle**

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



Module	e title				Abbreviation	
Curren	t Topic	s of Theoretical Phys	ics		11-EXT6-161-m01	
Module	e coord	inator		М	odule offered by	
chairpe	erson o	f examination commi	ttee	Fa	aculty of Physics and Astronomy	
ECTS	Meth	od of grading	Only after succ	. compl	. of module(s)	
6	nume	rical grade				
Duratio	n	Module level	Other prerequi	Other prerequisites		
1 seme	ster	graduate	Approval from	Approval from examination committee required.		
Conten	ts					
Current study a	•		s. Credited academi	ic achie	vements, e.g. in case of change of university or	
Intend	ed lear	ning outcomes				
The students have advanced competencies corresponding to the requirements of a module of Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems of Theoretical Physics.						

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



W	ÜRZBL	JRG \	5 (2)	33 7 2 1	Physics			
Modul	Module title Abbreviation							
Curren	t Topic	s of Theoretical Physics			11-EXT7-161-m01			
Modul	e coord	inator		Module offered by	l.			
chairp	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)				
7	nume	rical grade						
Duratio	on	Module level	Other prerequisites					
1 seme	ester	graduate	Approval from exam	ination committee r	equired.			
Conter	nts		•					
	t topics abroad.	in Theoretical Physics. (	Credited academic ac	hievements, e.g. in c	ase of change of university or			
Intend	ed lear	ning outcomes						
sics of sics ar	the Ma nd have	ster's programme. They	have advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems			
Course	<b>es</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)				
V (3) +	R (1)							
		<b>sessment</b> (type, scope, langua le for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether			
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

210 h

# **Teaching cycle**

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



WURZBURG 15 (15 (15 ) 83 (25)								
Module	Module title Abbreviation							
Curren	t Topic	s of Theoretical Physics			11-EXT8-161-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)				
8	nume	rical grade						
Duratio	n	Module level	Other prerequisites					
1 seme	ster	graduate	Approval from exam	ination committee re	equired.			
Conten	ts							
Current study a			redited academic ac	nievements, e.g. in c	case of change of university or			
Intende	ed lear	ning outcomes						
sics of sics an of Theo	the Ma d have retical	ster's programme. They he mastered the required me Physics.	nave advanced special nethods. They are abl	alist knowledge of a e to apply the acquir	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems			
		number of weekly contact hours,	language — if other than Ger	rman)				
V (4) +								
			${\sf ige}-{\sf if}$ other than German,	examination offered — if no	ot every semester, information on whether			
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

240 h

# **Teaching cycle**

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



WURZBURG 15 (15 (15 ) 83 (2)								
Module	Module title Abbreviation							
Current	t Topic	s of Theoretical Physics			11-EXT6A-161-m01			
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)				
6	nume	rical grade						
Duratio	n	Module level	Other prerequisites					
1 seme	ster	graduate	Approval from exam	ination committee re	equired.			
Conten	ts							
Current study a		in Theoretical Physics. C	redited academic ac	hievements, e.g. in c	case of change of university or			
Intende	ed lear	ning outcomes						
sics of sics an	the Ma d have	ster's programme. They h	nave advanced specia	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems			
		number of weekly contact hours, l	anguage — if other than Ger	man)				
V (3) +	R (1)							
			${\sf ge-if}$ other than German,	examination offered — if no	ot 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**

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



Modul	e title				Abbreviation	
Advanced Topics in Astrophysics					11-CSAM-161-m01	
Module coordinator				Module offered by		
Managing Director of the Institute of Theoretical Physics and Astrophysics			heoretical Physics	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duration	on	Module level	Other prerequisites	quisites		
1 seme	ester	graduate	Approval from exam	mination committee required.		
Conter	nts					
includ	e: Stella	ar structure, formation a	nd development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling r formation or similar topics.	
Intend	ed lear	ning outcomes				
	udents l		ge of the subdisciplin	es of Astrophysics a	nd are able to work on current	
Course	<b>es</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
V (3) +	D ( )					

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.

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether

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



Modul	e title				Abbreviation
Advan	ced Top	ics in Solid State Physic	:s		11-CSFM-161-m01
Modul	e coord	inator		Module offered by	Į.
_	ing Dire	ector of the Institute of T sics	heoretical Physics	Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites	<b>;</b>	
1 seme	ester	graduate	Approval from exam	nination committee r	equired.
Conter	nts		•		
vered i	n any o		ese topics may relate		ranced courses on topics not co- arch developments or to subjects
Intend	ed lear	ning outcomes	.,		
		advance their knowledge sights into the connecti			of Condensed Matter Physics
Course	<b>es</b> (type, r	umber of weekly contact hours,	language — if other than Ge	rman)	
V (3) +	R (1)				
Metho	d of ass	sessment (type, scope, langu	age — if other than German,	examination offered — if n	ot every semester, information on whether
module i	s creditab	le for bonus)			
	examir	mination (approx. 90 to ation of one candidate of	each (approx. 30 min	utes) or	
c) oral d) proj e) pres If a wri stead t of asse nation Langua	ect repo sentatio tten exa take the essmen date at age of a	ort (approx. 8 to 10 page n/talk (approx. 30 minu amination was chosen a form of an oral examinatis changed, the lecture the latest.	tes) s method of assessm ation of one candidat r 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
c) oral d) proj e) pres If a wri stead t of asse nation Langua	ect reposentation tten exactake the essmen date at	ort (approx. 8 to 10 page n/talk (approx. 30 minu amination was chosen a form of an oral examinatis changed, the lecture the latest.	s) or tes) s method of assessm ation of one candidate r 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
c) oral d) proj e) pres If a wri stead t of asse nation Langua Allocat	ect reposentation tten exactake the essmen date at age of a	ort (approx. 8 to 10 page n/talk (approx. 30 minu amination was chosen a form of an oral examinatis changed, the lecture the latest.  ssessment: German and blaces	s) or tes) s method of assessm ation of one candidate r must inform studen	ites per candidate) o ent, this may be cha e each or an oral exa	
c) oral d) proj e) pres If a wri stead t of asse nation Langua Allocat	ect reposentation tten exactake the essmen date at age of a	ort (approx. 8 to 10 page n/talk (approx. 30 minu amination was chosen a form of an oral examinatis changed, the lecture the latest.	s) or tes) s method of assessm ation of one candidate r 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
c) oral d) proj e) pres If a wri stead t of asse nation Langua Allocat	ect reposentation ten exacte the essmen date at age of a tion of ponal info	ort (approx. 8 to 10 page n/talk (approx. 30 minu amination was chosen a form of an oral examinatis changed, the lecture the latest.  ssessment: German and blaces	s) or tes) s method of assessm ation of one candidate r 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

#### 0 1

180 h

# **Teaching cycle**

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



# **Summer Term 2024**

(ECTS credits)



W	ÜRZBI	JRG T	5 (2.3)	33 8 2 8	Physics
Modul	e title				Abbreviation
Current Topics in Experimental Physics 11-EX					11-EXE5-161-m01
Modul	e coord	inator		Module offered by	l.
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)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	graduate	Approval from exam	ination committee re	equired.
Conter	ıts				
	t topics abroad.	in experimental physics	. Credited academic a	achievements, e.g. ir	n case of change of university or
Intend	ed lear	ning outcomes			
sics of derstar fy the s	the Ma nd the i subject	ster's programme. They I measuring and/or evalua specific contexts and kn	nave knowledge of a cition methods necessow the application ar	current subdiscipline ary to acquire this ki reas.	of a module of Experimental Phy- e of Experimental Physics and un- nowledge. They are able to classi-
V (2) +	_	number of weekly contact hours,	anguage — II other than Ger	IIIdii)	
Metho	d of ass	sessment (type, scope, langua	ge — 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 examin ect reposentation tten exa take the essmen date at	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessmotion of one candidate r must inform student	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-

# Allocation of places

# **Additional information**

# Workload

150 h

# **Teaching cycle**



W	ÜRZBI	JRG 1	5 (2.2.7)	33 9 2 1	Physics
Module	e title				Abbreviation
Curren	t Topic	s in Experimental Physic	s		11-EXE6-161-m01
Module	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)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites	i	
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	ts				
Current study a			. Credited academic a	achievements, e.g. ir	n case of change of university or
Intend	ed lear	ning outcomes			
sics of derstar	the Ma nd the i	ster's programme. They l	nave knowledge of a tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phye e of Experimental Physics and un- nowledge. They are able to classi-
Course	<b>S</b> (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)	
V (3) +	R (1)				
		sessment (type, scope, langua ble for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) pres If a writ stead t of asse	examir examin ect repo entatio tten exa ake the essmen	e form of an oral examina	each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme tion of one candidate	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-

Language of assessment: German and/or English

# Allocation of places

# **Additional information**

# Workload

180 h

# **Teaching cycle**



Modul	Module title				Abbreviation
Curren	t Topic	s in Experimental Phys	ics		11-EXE7-161-m01
Module coordinator				Module offered	by
chairpe	erson o	f examination committe	ee	Faculty of Physic	cs and Astronomy
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)	
7	nume	rical grade			
Duratio	on	Module level	Other prerequisite	S	
1 seme	ster	graduate	Approval from exa	mination committe	ee required.
Conten	its	,	,		
Current study a	•		cs. Credited academic	achievements, e.	g. in case of change of university or
Intend	ed lear	ning outcomes			
sics of dersta	the Ma	ister's programme. They	y have knowledge of a	current subdiscip	nts of a module of Experimental Phylline of Experimental Physics and un s knowledge. They are able to class
Course	<b>S</b> (type,	number of weekly contact hour	s, language — if other than G	erman)	
V (3) +	R (1)				
		sessment (type, scope, lang ble for bonus)	uage — if other than Germar	, examination offered $-$	if not every semester, information on whether
b) oral c) oral	examiı examir	mination (approx. 90 to nation of one candidate nation in groups (groups ort (approx. 8 to 10 pag	each (approx. 30 mins of 2, approx. 30 min	•	e) 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

210 h

# **Teaching cycle**

# $\textbf{Referred to in LPO I} \ \ (\text{examination regulation} \underline{\text{s for teaching-degree programmes}})$



Wi	ÜRZBU	JRG T	5 (2. 7. 7. 7. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8.	33 9 2 8	Physics
Module	title			,	Abbreviation
Current	t Topic	s in Experimental Physic	s		11-EXE8-161-mo1
Module	coord	inator		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)	
8	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee re	equired.
Conten	ts				
study a	broad.		. Credited academic	achievements, e.g. ir	n case of change of university or
Intende	ed lear	ning outcomes			
sics of derstar	the Ma nd the i	ster's programme. They h	nave knowledge of a tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un nowledge. They are able to class
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)	
V (4) +	R (2)				
		sessment (type, scope, langua ble for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) prese If a writ stead to	examir examin ect repo entatio eten exa ake the	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessmition of one candidate	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the metho weeks prior to the original exam

nation date at the latest. Language of assessment: German and/or English

# Allocation of places

#### **Additional information**

#### Workload

240 h

# **Teaching cycle**



W	ÜRZBI	JRG \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	5		Physics
Modul	e title		Z NEON ABIDI	, , , , , , , , , , , , , , , , , , ,	Abbreviation
		s in Experimental Physic	s		11-EXE6A-161-m01
Modul	e coord	inator		Module offered by	
	_	f examination committee	<u> </u>	Faculty of Physics a	and Astronomy
ECTS	1	od of grading	Only after succ. con	· · · · · · · · · · · · · · · · · · ·	
6	1	rical grade		•	
Durati		Module level	Other prerequisites		
1 seme	ester	graduate	Approval from exam	ination committee re	equired.
Conte	nts				
	t topics abroad.		. Credited academic a	achievements, e.g. ir	n case of change of university or
Intend	ed lear	ning outcomes			
sics of dersta	the Ma	ster's programme. They l	nave knowledge of a cition methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phy- e of Experimental Physics and un- nowledge. They are able to classi-
Course	es (type, i	number of weekly contact hours,	language — if other than Ger	rman)	
V (3) +	R (1)				
		sessment (type, scope, langua ble for bonus)	ge — 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 to of asse nation Langua	examir examir ect reperentation tten exactake the essmentate at date at	e form of an oral examina t is changed, the lecturer the latest. Issessment: German and	each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessme tion of one candidate must inform student	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-
Alloca	tion of	places			

# **Additional information**

#### Workload

180 h

# **Teaching cycle**



Module	Module title			Abbreviation	
Current Topics in Physik					11-EXP6-161-m01
Module coordinator				Module offered by	
chairperson of examination committee			tee	Faculty of Physics and Astronomy	
ECTS	Metho	od of grading	Only after succ. cor	Only after succ. compl. of module(s)	
6	nume	rical grade			
Duration Module level O		Other prerequisites	;		
1 semester graduate Approva		Approval from exam	Approval from examination 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 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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#### $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$



Module title				Abbreviation	
Current Topics in Physik					11-EXP6A-161-m01
Module coordinator				Module offered by	
chairperson of examination committee			nittee	Faculty of Physics and Astronomy	
ECTS	Metho	od of grading	Only after succ. co	Only after succ. compl. of module(s)	
6	nume	rical grade			
Duration Module level C		Other prerequisite	5		
1 semester graduate Approva		Approval from exar	nination committee re	equired.	
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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#### $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$



Module	e title			Abbreviation	
Current Topics of Theoretical Physics 11-EXT5-161-mo1					
Module	e coord	inator		Module offered by	J.
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				
Current study a			credited academic ac	hievements, e.g. in c	ase of change of university or
Intende	ed lear	ning outcomes			
sics of sics an	the Ma d have	ster's programme. They I	nave advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)	
V (2) +	R (2)				
		sessment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether

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

150 h

#### **Teaching cycle**

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



odule coordinator nairperson of examination committee  CTS Method of grading Only after s numerical grade	Module offered by Faculty of Physics and Astronomy
nairperson of examination committee  CTS Method of grading Only after s	Faculty of Physics and Astronomy
CTS Method of grading Only after s	
numerical grade	succ. compl. of module(s)
numerical grade	
uration Module level Other prere	equisites
semester graduate Approval fro	om examination committee required.
ontents	
urrent topics in theoretical physics. Credited acad udy abroad.	demic achievements, e.g. in case of change of university or
tended learning outcomes	
cs of the Master's programme. They have advance	conding to the requirements of a module of Theoretical Phyed specialist knowledge of a subdiscipline of Theoretical Phyery are able to apply the acquired methods to current problems
<b>DUTSES</b> (type, number of weekly contact hours, language $-$ if oth	her than German)
(3) + R (1)	
<b>ethod of assessment</b> (type, scope, language $-$ if other than odule is creditable for bonus)	an German, examination offered $-$ if not every semester, information on whether

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



Abbreviation
Abbreviation
11-EXT7-161-m01
Module offered by
Faculty of Physics and Astronomy
ompl. of module(s)
25
mination committee required.
chievements, e.g. in case of change of university or
g to the requirements of a module of Theoretical Phy- cialist knowledge of a subdiscipline of Theoretical Phy- ble to apply the acquired methods to current problems
German)
n, examination offered $-$ if not every semester, information on whether
nutes) or nutes per candidate) or ment, this may be changed and assessment may inte each or an oral examination in groups. If the method nts about this by four weeks prior to the original exami

**Additional information** 

Workload

210 h

**Teaching cycle** 



		/// X/A 1		)		
Module	e title				Abbreviation	
Curren	t Topic	s of Theoretical Physics			11-EXT8-161-m01	
Module	Module coordinator			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	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i e		
1 seme	ster	graduate	Approval from exam	nination committee r	equired.	
Conten	Contents					
Current study a		•	redited academic ac	hievements, e.g. in o	case of change of university or	
Intend	ed lear	ning outcomes				
sics an of Theo	d have pretical		nethods. They are abl	e to apply the acqui	subdiscipline of Theoretical Phy- red methods to current problems	
V (4) +	_	· · · · · · · · · · · · · · · · · · ·		·		
Metho	d of as	sessment (type, scope, langua	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
b) oral c) oral d) proje e) pres If a writ stead t of asse nation	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					
Allocat	Allocation of places					
Additio	nal inf	ormation				
Worklo	ad					
240 h	240 h					

**Teaching cycle** 

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



Module	e title				Abbreviation
Current Topics of Theoretical Physics 11-EXT6A-161-mo1					
Module coordinator				Module offer	ed by
chairpe	erson o	f examination comm	ittee	Faculty of Ph	ysics and Astronomy
ECTS	Meth	od of grading	Only after succ.	compl. of module	(s)
6	nume	rical grade			
Duratio	on	Module level	Other prerequisi	tes	
1 seme	ster	graduate	Approval from ex	amination comm	ittee required.
Conten	its				
Current study a	•	•	cs. Credited academic	achievements, e	g. in case of change of university or
Intend	ed lear	ning outcomes			
The students have advanced competencies corresponding to the requirements of a module of Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems of Theoretical Physics.					
Course	S (type,	number of weekly contact ho	ours, language — if other than	German)	
V (3) +	R (1)				
<b>Method of assessment</b> (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					

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



Modul	e title				Abbreviation			
	<del></del>	oics in Astrophysics			11-CSAM-161-m01			
Modul	e coord	 linator		Module offered by				
Managing Director of the Institute of Theoretical Physics and Astrophysics			of Theoretical Physics	Faculty of Physics a	and Astronomy			
<u> </u>			Only after succ. co	mpl. of module(s)				
6 numerical grade			-					
Durati	on	Module level	Other prerequisite	s				
1 seme	ester	graduate	Approval from exar	nination committee r	equired.			
Conte	nts							
includ	e: Stella	ar structure, formatio	n and development, rad	iation transport, gas	ophysics which will be discussed dynamics, heating and cooling or similar topics.			
Intend	ed lear	ning outcomes						
	udents ific que		ledge of the subdiscipli	nes of Astrophysics a	nd are able to work on current			
Course	<b>es</b> (type, ı	number of weekly contact ho	ours, language — if other than G	erman)				
V (3) +	R (1)							
		<b>sessment</b> (type, scope, la	anguage — 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 asso nation	examinexaminect repsentation itten extake the essmen date a	nation in groups (grou ort (approx. 8 to 10 p on/talk (approx. 30 m amination was chose e form of an oral exan	ate each (approx. 30 minups of 2, approx. 30 minups of 2, approx. 30 minups) en as method of assessmination of one candidateurer must inform studen	utes per candidate) o nent, this may be cha se 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						
Additi	onal inf	ormation						
Workle	oad							
180 h								

**Teaching cycle** 

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



			COMPONENTIAL	0.5 g, <del>\</del> . <b>P</b> . /		
Modu	le title				Abbreviation	
Advan	ced Top	oics in Solid State Physi		11-CSFM-161-m01		
Modu	Module coordinator			Module offered by		
	Managing Director of the Institute of Theoretical Physics and Astrophysics			Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Durati	on	Module level	Other prerequisites	5		
1 sem	ester	graduate	Approval from exan	nination committee r	equired.	
Conte	Contents					
vered	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.					
Intend	led lear	ning outcomes				
		advance their knowledgnsights into the connect			of Condensed Matter Physics	
Cours	<b>es</b> (type, i	number of weekly contact hours,	language — if other than Ge	rman)		
V (3) +	R (1)					
		<b>sessment</b> (type, scope, langual ole for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
b) oral c) oral d) pro e) pres If a wr stead of ass nation	l examir examir ject rep sentatic itten ex take the essmen date at	e form of an oral examin	each (approx. 30 min of 2, approx. 30 minuss) or tes) s method of assessmation of one candidater 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 weeks prior to the original exami-	
Alloca	tion of	places				
Additi	onal inf	ormation				
Workl	oad					
180 h	180 h					

**Teaching cycle** 

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



# Winter Term 2024

(ECTS credits)



Module	e title				Abbreviation		
		s in Experimental Physic	S		11-EXE5-161-m01		
Modul	e coord	linator		Module offered by	I.		
chairpe	chairperson of examination committee			Faculty of Physics a	and Astronomy		
ECTS		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						
Curren			. Credited academic a	achievements, e.g. i	n case of change of university or		
Intend	ed lear	ning outcomes					
derstar	nd the subject		tion methods necess ow the application ar	ary to acquire this k	e of Experimental Physics and un- nowledge. They are able to classi-		
V (2) +	R (2)						
			ge — if other than German,	examination offered — if no	ot every semester, information on whether		
		ble for bonus)					
b) oral c) oral d) proj e) pres If a wri stead t of asse nation	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							
Additio	nal inf	ormation					
Worklo	ad						
150 h							
Teachi	Teaching cycle						

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



Module	e title			Abbreviation		
Current Topics in Experimental Physics					11-EXE6-161-m01	
Module coordinator Module offered by						
chairperson of examination committee			е	Faculty of Physics and Astronomy		
ECTS	S Method of grading Only after succ. o			mpl. of module(s)		
6	nume	rical grade				
Duratio	on	Module level	Other prerequisites	er prerequisites		
1 seme	ster	graduate	Approval from exam	nination committee r	equired.	
Conten	ıts					
	Current topics in experimental physics. Credited academic achievements, e.g. in case of change of university or study abroad.					
Intond	-d loor	ning outcomes				

#### **Intended learning outcomes**

The students have advanced competencies corresponding to the requirements of a module of Experimental Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



Module	title			Abbreviation		
Current Topics in Experimental Physics					11-EXE7-161-m01	
Module coordinator Module					ule offered by	
chairperson of examination committee				Faculty of Physics and Astronomy		
ECTS	Method	d of grading	Only after succ. con	npl. of module(s)		
7	numeri	cal grade				
Duratio	n	Module level	Other prerequisites	s		
1 semes	ster	graduate	Approval from exam	nination committee required.		
Conten	ts					
Current topics in Experimental 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 Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation 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

210 h

#### **Teaching cycle**



WÜRZBURG 15 0 83 6						
Module title Abbreviation						
Current Topics in Experimental Physics 11-EXE8-161-mo1						
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)		
8	nume	rical grade				
Duratio	n	Module level	Other prerequisites	i		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.	
Conten	ts					
Current study a			. Credited academic	achievements, e.g. ir	n case of change of university or	
Intende	ed lear	ning outcomes				
The students have advanced competencies corresponding to the requirements of a module of Experimental Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.						
		number of weekly contact hours, I	anguage — if other than Ge	rman)		
V (4) +	R (2)					
<b>Method of assessment</b> (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

240 h

# **Teaching cycle**

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



Module	Module title Abbreviation					
Current Topics in Experimental Physics 11-EXE6A-161-mo1						
Module coordinator				Module offered b	py	
chairpe	erson o	f examination committee	2	Faculty of Physic	s 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	nination committe	e required.	
Conten	ts					
Current study a	•		. Credited academic	achievements, e.g	. in case of change of university or	
Intend	ed lear	ning outcomes				
The students have advanced competencies corresponding to the requirements of a module of Experimental Physics of the Master's programme. They have knowledge of a current subdiscipline of Experimental Physics and understand the measuring and/or evaluation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.						
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
V (3) +	R (1)					
<b>Method of assessment</b> (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
Curren	t Topic	s in Physik			11-EXP6-161-m01
Module coordinator				Module offered by	
chairperson of examination committee			e	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	,	
1 semester graduate Approval from e		Approval from exam	amination 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(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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 $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



Module title Abbreviation						
Current Topics in Physik					11-EXP6A-161-m01	
Module coordinator				Module offe	red by	
chairpe	erson o	f examination comm	ittee	Faculty of Pl	nysics and Astronomy	
ECTS	Meth	od of grading	Only after succ	. compl. of modul	e(s)	
6	nume	rical grade				
Duratio	on	Module level	Other prerequis	sites		
1 seme	ster	graduate	Approval from 6	examination comr	nittee required.	
Conten	its					
	•	s in Experimental or T study abroad.	heoretical Physics. C	redited academic	achievements, e.g. in case of change of	
Intend	ed lear	ning outcomes				
Theore subdis	tical Pł cipline	nysics of the Master's of Physics and unde	s programme of Nano rstand the measuring	structure Technol g and/or calculati	ments of a module of Experimental or logy. They have knowledge of a current on methods necessary to acquire this now the application areas.	
Course	<b>S</b> (type,	number of weekly contact ho	ours, language — if other tha	an German)		
V (3) +	R (1)					
		<b>sessment</b> (type, scope, lable for bonus)	anguage — if other than Ger	man, examination offer	$\operatorname{red}$ — if not every semester, information on whether	
b) oral	examiı	mination (approx. 90 nation of one candida nation in groups (grou	ate each (approx. 30	•	data) 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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 $\textbf{Referred to} \ \textbf{in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$ 



Wi	WÜRZBURG Physics								
Module	Module title Abbreviation								
	Current Topics of Theoretical Physics 11-EXT5-161-mo1								
Module coordinator 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)					
5	nume	rical grade							
Duratio	n	Module level	Other prerequisites						
1 seme	ster	graduate	Approval from exam	ination committee r	equired.				
Conten	ts		•						
	Current topics in Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad.								
Intende	ed lear	ning outcomes							
sics of	the Ma d have	ster's programme. They h	nave advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems				
Course	<b>S</b> (type, 1	number of weekly contact hours,	language — if other than Ge	rman)					
V (2) +	R (2)								
			age — if other than German,	examination offered — if no	ot every semester, information on whether				
b) oral c) oral d) proje	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

150 h

### **Teaching cycle**

# $\textbf{Referred to in LPO I} \ \ (\text{examination regulation} \underline{\text{s for teaching-degree programmes}})$



Module title Abbreviation						
Current Topics of Theoretical Physics 11-EXT6-161-mo1						
Module	e coord	linator		Module off	ered by	
chairpe	erson o	f examination comn	nittee	Faculty of P	hysics and Astronomy	
ECTS	Meth	od of grading	Only after succ	c. compl. of modu	le(s)	
6	nume	rical grade				
Duratio	n	Module level	Other prerequi	sites		
1 seme	ster	graduate	Approval from	examination com	mittee required.	
Conten	ts					
Current study a			cs. Credited academ	ic achievements,	e.g. in case of change of university or	
Intend	ed lear	ning outcomes				
sics of sics an	the Ma d have	ister's programme. T	hey have advanced s	specialist knowled	ements of a module of Theoretical Phydge of a subdiscipline of Theoretical Phye acquired methods to current problem	
Course	<b>S</b> (type, i	number of weekly contact h	nours, language — if other th	nan German)		
V (3) +	R (1)					
		sessment (type, scope, ble for bonus)	language — if other than Ge	rman, examination offe	$\operatorname{red}$ — if not every semester, information on whether	

- 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**



W	ÜRZBU	JRG \	5	33 0 - 1	Physics				
Modul	Module title Abbreviation								
Curren	t Topic	s of Theoretical Physics		11-EXT7-161-m01					
Modul	e coord	inator		Module offered by					
chairperson of examination committee			1	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	ester	graduate	Approval from exam	ination committee r	equired.				
Conter	ıts								
	t topics abroad.	in Theoretical Physics. (	Credited academic ac	hievements, e.g. in c	case of change of university or				
Intend	ed lear	ning outcomes							
sics of sics ar	the Ma nd have	ster's programme. They I	nave advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems				
		number of weekly contact hours,	language — if other than Ge	man)					
V (3) +	R (1)								
		sessment (type, scope, langua le for bonus)	nge — 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 to of asse nation	examir examin ect reposentation tten exa take the essmen date at	e form of an oral examina	each (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessmention of one candidate r must inform student	tes per candidate) o ent, this may be char e each or an oral exa	r nged and assessment may in- mination in groups. If the method weeks prior to the original exami-				

### Allocation of places

### **Additional information**

### Workload

210 h

### **Teaching cycle**



Module title Abbreviation						
Current Topics of Theoretical Physics					11-EXT8-161-mo1	
Module coordinator				Мо	dule offered by	
chairpe	erson o	f examination comn	nittee	Fac	ulty of Physics and Astronomy	
ECTS	Meth	od of grading	Only after su	ıcc. compl.	of module(s)	
8	nume	rical grade				
Duratio	on	Module level	Other prereq	uisites		
1 seme	ester	graduate	Approval fror	m examinat	ion committee required.	
Conter	nts					
Current study a	•		ics. Credited acade	emic achiev	ements, e.g. in case of change of university or	
Intend	ed lear	ning outcomes				
sics of sics an	the Ma	ister's programme. T	hey have advanced	d specialist	e requirements of a module of Theoretical Phy- knowledge of a subdiscipline of Theoretical Phy apply the acquired methods to current problem	
Course	es (type,	number of weekly contact h	nours, language — if other	r than German)		
V (4) +	R (2)					
		sessment (type, scope, ble for bonus)	language — if other than	German, exami	nation offered $-$ if not every semester, information on whether	
b) oral	examiı examir	mination (approx. 9 nation of one candid nation in groups (gro	late each (approx. 3	30 minutes)		

- 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

240 h

### **Teaching cycle**

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



Module	Module title Abbreviation						
Current Topics of Theoretical Physics					11-EXT6A-161-m01		
Module coordinator Module offered by							
chairpe	erson o	f examination comm	ittee	Faculty of Physics a	and Astronomy		
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)			
6	nume	rical grade					
Duration Module level Other prer			Other prerequisites	ner prerequisites			
1 seme	ster	graduate	Approval from exan	nination committee r	equired.		
Conten	ts						
Current study a		-	cs. Credited academic ac	hievements, e.g. in o	case of change of university or		
Intende	ed lear	ning outcomes					
sics of sics an	the Ma d have	ster's programme. T	hey have advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems		
Course	<b>S</b> (type, r	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							

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



Module title					Abbreviation	
Advanced Topics in Astrophysics					11-CSAM-161-m01	
Module coordinator				Module offered by		
Managing Director of the Institute of Theoretical Physics and Astrophysics			of Theoretical Physics	Faculty of Physics a	and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
6 numerical grade						
Durati	on	Module level	Other prerequisites	S		
1 seme	ester	graduate	Approval from exar	nination committee required.		
Conte	nts					
includ	e: Stella	ar structure, formation	n and development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling oformation or similar topics.	
Intend	led lear	ning outcomes				
	udents ific que		ledge of the subdisciplin	nes of Astrophysics a	and are able to work on current	
Course	<b>es</b> (type, i	number of weekly contact ho	urs, language — if other than Ge	erman)		
V (-)	W(-) P(-)					

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



Module	e title				Abbreviation
Advanc	ed Top	ics in Solid State Physic	5		11-CSFM-161-m01
Module	e coord	inator		Module offered by	I.
Manag and As	_	ector of the Institute of Th	neoretical Physics	Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
6	nume	rical grade			
<u> </u>		Other prerequisites			
1 seme	ster	graduate	Approval from exam	nination committee r	equired.
Conten	its				
vered i	n any o				anced courses on topics not co- arch developments or to subjects
Intend	ed lear	ning outcomes			
		advance their knowledge			of Condensed Matter Physics
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)	
V (3) +	R (1)				
		<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) pres If a writ stead t of asse nation	examir examin ect repe entatio tten exa ake the essmen date at	e form of an oral examina	each (approx. 30 minum of 2, approx. 30 minum s) or es) s method of assessmition of one candidate r 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-
Allocat					
Additio	nal inf	ormation			

### Workload

180 h

### **Teaching cycle**

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



# **Summer Term 2025**

(ECTS credits)



Module title Abbreviation							
Curren	t Topic	s in Experimental Physic	s		11-EXE5-161-m01		
Module coordinator Module offered by							
chairpe	erson o	f examination committee	9	Faculty of Physics a	and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
5	nume	rical grade					
Duratio	on	Module level	Other prerequisites	1			
1 seme	ester	graduate	Approval from exam	nination committee r	equired.		
Conten	ıts						
	t topics abroad		. Credited academic	achievements, e.g. i	n case of change of university or		
Intend	ed lear	ning outcomes					
sics of	the Ma	ster's programme. They l measuring and/or evalua	have knowledge of a ation methods necess	current subdisciplin sary to acquire this k	of a module of Experimental Phy e of Experimental Physics and un nowledge. They are able to class		
	fy the subject-specific contexts and know the application areas.  Courses (type, number of weekly contact hours, language — if other than German)						
fy the s	es (type,	idiliber of weekly contact flours,	tanguage in other than be	rman)			
fy the s	-	number of weekly contact hours,	ianguage in other than de	rman)			
Course (2) + Method	R (2) d of as				ot every semester, information on whether		

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**



Module title Abbreviation						
Current Topics in Experimental Physics 11-EXE6-1					1-EXE6-161-m01	
Module coordinator				Module offered by		
chairp	erson c	of examination committe	ee	Faculty of Physics an	d Astronomy	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	erical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	graduate	Approval from exam	nination committee rec	juired.	
Conter	ıts					
	t topics abroad		cs. Credited academic	achievements, e.g. in o	case of change of university or	
Intend	ed lear	ning outcomes				
sics of dersta	the Ma	aster's programme. They	have knowledge of a lation methods necess	current subdiscipline of sary to acquire this kno	a module of Experimental Phy of Experimental Physics and ur owledge. They are able to class	
Course	es (type,	number of weekly contact hours	s, language — if other than Ge	rman)		
V (3) +	R (1)					
		<b>sessment</b> (type, scope, lang	uage — if other than German,	examination offered — if not e	every semester, information on whether	
	exami	mination (approx. 90 to	each (approx. 30 min	utes) or Ites per candidate) or		

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**



		17/3/41	O WEOVERSON C		
Module	title				Abbreviation
Current	t Topic	s in Experimental Physic		11-EXE7-161-m01	
Module	coord	inator		Module offered by	
chairperson of examination committee				Faculty of Physics a	and Astronomy
ECTS Method of grading Only after succ.			Only after succ. con	npl. of module(s)	
7	nume	rical grade			
Duratio	n	Module level	Other prerequisites	i	
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Conten	ts				
Current study a	•		. Credited academic a	achievements, e.g. ir	n case of change of university or
Intende	ed lear	ning outcomes			
derstar fy the s	ubject		tion methods necess ow the application ar	ary to acquire this k	e of Experimental Physics and un- nowledge. They are able to classi-
V (3) +		· · · · · · · · · · · · · · · · · · ·			
Method	d of as	sessment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) proje e) pres If a writ stead t of asse nation	examir examir ect repe entatio ten exa ten exa ake the ssmen date at	e form of an oral examina	ach (approx. 30 minu of 2, approx. 30 minu s) or es) s method of assessmation 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-
Allocat	ion of	places			
Additio	nal inf	ormation			
Worklo	ad				
210 h					

**Teaching cycle** 

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



Module title					Abbreviation
Current Topics in Experimental Physics					11-EXE8-161-m01
Module coordinator Mod				Module offered by	
chairperson of examination committee			2	Faculty of Physics	and Astronomy
ECTS	TTS Method of grading Only after su		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 ı	required.
Conten	ts				
Current study a	•		. Credited academic	achievements, e.g. i	n case of change of university or
Intended learning outcomes					
		•		•	of a module of Experimental Phy e of Experimental Physics and ur

fy the subject-specific contexts and know the application areas. **Courses** (type, number of weekly contact hours, language — if other than German)

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)

derstand the measuring and/or evaluation methods necessary to acquire this knowledge. They are able to classi-

- 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

240 h

### Teaching cycle

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



WÜRZBURG Physics						
Module title Abbreviation						
Curren	Current Topics in Experimental Physics 11-EXE6A-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	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	ts					
Current study a		in experimental physics	. Credited academic a	achievements, e.g. ir	n case of change of university or	
Intend	ed learı	ning outcomes				
sics of derstar	the Ma nd the r	ster's programme. They h	nave knowledge of a c tion methods necess	current subdiscipline ary to acquire this k	of a module of Experimental Phye of Experimental Physics and un- nowledge. They are able to classi-	
Course	<b>S</b> (type, r	number of weekly contact hours, I	anguage — if other than Ger	rman)		
V (3) +	R (1)					
<b>Method of assessment</b> (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.						

nation date at the latest. Language of assessment: German and/or English

Allocation of places

**Additional information** 

Workload

180 h

**Teaching cycle** 



Module title	2		Abbreviation	
Current Top	ics in Physik		11-EXP6-161-m01	
Module coo	rdinator		Module offered by	
chairperson	of examination comm	nittee	Faculty of Physics and Astronomy	
ECTS Met	hod of grading	Only after succ. co	mpl. of module(s)	
6 nun	nerical grade			
Duration	Module level	Other prerequisite	s	
ı semester	graduate	Approval from exa	nination committee required.	
Contents				
	cs in experimental or r study abroad.	theoretical physics. Cred	ited academic achievements, e.g. in case of change o	
Intended le	arning 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.				

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



Modul	Module title				Abbreviation
Curren	t Topic	s in Physik			11-EXP6A-161-m01
Modul	e coord	inator		Module offered by	
chairp	chairperson of examination committee			Faculty of Physics and Astronomy	
ECTS	Meth	thod of grading Only after succ. compl. of module(s)			
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	1 semester graduate Approval from exam			nination 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(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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### $\textbf{Referred to in LPO I} \ \ (\text{examination regulations for teaching-degree programmes})$



Modul	Module title Abbreviation					
Current Topics of Theoretical Physics 11-EXT5-161-mo1					11-EXT5-161-m01	
Module	e coord	linator		Module offered	by	
chairpe	erson o	of examination committe	e	Faculty of Physic	s and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
5	nume	erical grade				
Duratio	on	Module level	Other prerequisite	s		
1 seme	ster	graduate	Approval from exa	mination committe	e required.	
Contents						
Current study a			Credited academic a	chievements, e.g. i	in case of change of university or	
Intend	ed lear	ning outcomes				
sics of sics an	the Ma d have	aster's programme. They	have advanced spec	ialist knowledge o	ts of a module of Theoretical Phyfa subdiscipline of Theoretical Phyguired methods to current problems	
Course	<b>S</b> (type,	number of weekly contact hours	, language — if other than G	erman)		
V (2) +	R (2)					
<b>Method of assessment</b> (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

#### **Additional information**

### Workload

150 h

### **Teaching cycle**

# $\textbf{Referred to in LPO I} \ \ (\text{examination regulation} \underline{\text{s for teaching-degree programmes}})$



Module	e title			Abbreviation		
Current	t Topic	s of Theoretical Phy	sics	11-EXT6-161-mo1		
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination comn	nittee	Faculty of Physics and Astronomy		
ECTS	Meth	od of grading	Only after succ.	compl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisi	prerequisites		
1 seme	ster	graduate	Approval from ex	mination committee required.		
Conten	ts					
Current study a	•		cs. Credited academic	achievements, e.g. in case of change of university or		
Intend	ed lear	ning outcomes				
The students have advanced competencies corresponding to the requirements of a module of Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems of Theoretical Physics.						
Courses (type, number of weekly contact hours, language — if other than German)						
V (3) + R (1)						
<b>Method of assessment</b> (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						

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



WÜRZBURG 15 83 6						
Modul	e title	, ,			Abbreviation	
Curren	t Topic	s of Theoretical Physic	5		11-EXT7-161-m01	
Modul	e coord	linator		Module offered by	1	
chairp	erson c	of examination committe	ee	Faculty of Physics	and Astronomy	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
7	nume	erical grade				
Duratio	on	Module level	Other prerequisites	S		
1 seme	ester	graduate	Approval from exam	nination committee	required.	
Contents						
Current topics in Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad.						
Intend	ed lear	ning outcomes				
sics of sics an	the Ma	aster's programme. They	have advanced speci	ialist knowledge of	s of a module of Theoretical Phy- a subdiscipline of Theoretical Phy ired methods to current problems	
Course	S (type,	number of weekly contact hour	s, language — if other than Ge	erman)		
V (3) +	R (1)					
<b>Method of assessment</b> (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 in-						

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

210 h

### **Teaching cycle**



Module	e title				Abbreviation
Current	t Topics	of Theoretical Physics			11-EXT8-161-m01
Module coordinator Module offered by					
chairpe	erson of	examination committee		Faculty of Physics and Astronomy	
ECTS	Metho	Method of grading Only after succ. compl. of module(s)			
8	numer	ical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate	Approval from exam	ination committee r	equired.
Contents					
Current topics in Theoretical Physics. Credited academic achievements, e.g. in case of change of university or study abroad.					
Intende	ed learn	ing outcomes			

The students have advanced competencies corresponding to the requirements of a module of Theoretical Physics of the Master's programme. They have advanced specialist knowledge of a subdiscipline of Theoretical Physics and have mastered the required methods. They are able to apply the acquired methods to current problems of Theoretical Physics.

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

V(4) + R(2)

 $\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

240 h

### **Teaching cycle**



WÜRZBURG Physics						
Module title Abbreviation						
Current	Current Topics of Theoretical Physics 11-EXT6A-161-mo1					
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)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate	Approval from exam	nination committee r	equired.	
Contents						
Current study a	•	-	credited academic ac	hievements, e.g. in o	ase of change of university or	
Intende	ed lear	ning outcomes				
sics of	the Ma d have	ster's programme. They l	nave advanced speci	alist knowledge of a	of a module of Theoretical Physubdiscipline of Theoretical Phyred methods to current problems	
Course	<b>S</b> (type, ı	number of weekly contact hours,	language — if other than Ge	rman)		
V (3) +	R (1)					
<b>Method of assessment</b> (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 in-						

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**



Modul	a title				Abbreviation	
		oics in Astrophysics			11-CSAM-161-m01	
				aa 1 1 66 11		
	Module coordinator			Module offered by		
	strophy:	ector of the Institute of Tl sics	neoretical Physics	Faculty of Physics a	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	nination committee r	equired.	
Conte	nts					
includ	e: Stella	ar structure, formation ar	nd development, radi	ation transport, gas	ophysics which will be discussed dynamics, heating and cooling of formation or similar topics.	
Intend	ed lear	ning outcomes				
	udents ific que		ge of the subdisciplin	es of Astrophysics a	nd are able to work on current	
Course	<b>es</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
V (3) +	R (1)					
		sessment (type, scope, langua ole for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
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						
Addition	onal inf	ormation				
Workle	oad					

180 h

**Teaching cycle** 

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



Modul					Abbreviation
		oics in Solid State Phys	ics		11-CSFM-161-mo1
				1	11 651111 101 11101
Modul	Module coordinator			Module offered by	
_	ging Dire	ector of the Institute of sics	Theoretical Physics	Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. cor	mpl. of module(s)	
6	nume	rical grade			
Durati	on	Module level	Other prerequisites	5	
1 sem	ester	graduate	Approval from exan	nination committee r	equired.
Conte	nts				
vered	in any c		nese topics may relate		anced courses on topics not co- arch developments or to subjects
Intend	led lear	ning outcomes			
		advance their knowled			of Condensed Matter Physics
Course	<b>es</b> (type, i	number of weekly contact hou	s, language — if other than Ge	erman)	
V (3) +	R (1)				
		sessment (type, scope, lang	guage — if other than German,	examination offered — if no	ot every semester, information on whether
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					
Alloca	tion of	places			
Additi	onal inf	ormation			
Workl	oad				
					·

180 h

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