

# Module Catalogue

for the Subject

# Didactics in Physics (Primary School)

as Didaktikfach

with the degree "Erste Staatsprüfung für das Lehramt an Grundschulen"

> Examination regulations version: 2020 Responsible: Faculty of Physics and Astronomy

JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record L1|813|-|-|H|2020



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## The subject is divided into

section / sub-section	ECTS credits	starting page
Compulsory Electives	10	6
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## **Learning Outcomes**

UNIVERSITÄT

WÜRZBURG

German contents and learning outcome available but not translated yet.

## Wissenschaftliche Befähigung

- Die Absolventinnen und Absolventen verstehen die Grundlagen der Physik und können diese anwenden.
- Die Absolventinnen und Absolventen können unter Anleitung Experimente durchführen, analysieren und die erhaltenen Ergebnisse darstellen und bewerten.
- Die Absolventinnen und Absolventen besitzen ein grundlegendes Abstraktionsvermögen und die Fähigkeit, komplexe Zusammenhänge zu strukturieren.

## Befähigung zur Aufnahme einer Erwerbstätigkeit

- Die Absolventinnen und Absolventen können fachliche Inhalte und ihre Erkenntnisse didaktisch aufbereiten und adressatengerecht vermitteln.
- Die Absolventinnen und Absolventen kennen Konzepte, Prinzipien, Methoden und evidenzbasierte Erkenntnisse aus dem Bereich der Physikdidaktik und können diese zur ziel- und adressatengerechten Ausgestaltung von Lehr/Lern-Settings anwenden.
- Die Absolventinnen und Absolventen können den Einsatz von Experimenten und Medien im Physikunterricht und die Betreuung von Schülerinnen und Schülern an ausgewählten Lehr-Lernsituationen wissenschaftlich fundiert reflektieren.

## Persönlichkeitsentwicklung

- Die Absolventinnen und Absolventen kennen die Regeln guter wissenschaftlicher Praxis und beachten sie.
- Die Absolventinnen und Absolventen können ihr Wissen und ihre Erkenntnisse in einer Lehrsituation angemessen und selbstbewusst darstellen.
- Die Absolventinnen und Absolventen besitzen die Fähigkeit didaktisches Wirken in einer Lehr-/ Lernsituation angemessen zu reflektieren und passende Schlussfolgerungen zu ziehen.

## Befähigung zum gesellschaftlichen Engagement

- Die Absolventinnen und Absolventen haben ihr Wissen bezüglich wirtschaftlicher, gesellschaftlicher, naturwissenschaftlicher, kultureller etc. Fragestellungen erweitert (z.B im Hinblick auf Bildung für nachhaltige Entwicklung) und können begründet Position beziehen.
- Die Absolventinnen und Absolventen entwickeln die Bereitschaft und Fähigkeit, ihre Kompetenzen in partizipative Prozesse einzubringen und aktiv an Entscheidungen mitzuwirken.



## Abbreviations used

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

Term: **SS** = summer semester, **WS** = winter semester

Methods of grading: **NUM** = numerical grade, **B/NB** = (not) successfully completed

Regulations: **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes), **FSB** = subject-specific provisions, **SFB** = list of modules

Other: **A** = thesis, **LV** = course(s), **PL** = assessment(s), **TN** = participants, **VL** = prerequisite(s)

## Conventions

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

## Notes

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

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

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

## In accordance with

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

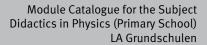
## LASPO2015

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

## 19-Feb-2020 (2020-19)

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.





## **Compulsory Electives**

(10 ECTS credits)

Successful completion of modules worth no less than 10 ECTS credits in each subject selected as Didaktikfach (subject studied with a focus on teaching methodology) is a prerequisite for admission to the Erste Staatsprüfung (First State Examination) in the subject Didaktik der Grundschule (Didactics for Grundschule). In addition, modules worth another 5 ECTS credits must be successfully completed in one of the subjects selected as Didaktikfach.

Module title Abbreviation						
Physics	s Teach	ning Concepts			11-L-PD-172-m01	
Module	e coord	inator		Module offered by		
holder	ofthe	Chair of Physics and its	Didactics	Faculty of Physics a	nd Astronomy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
2 seme	ster	undergraduate				
Conten	ts					
of the c subject sics co typical these; the scie	degree t; comp ntent; i learnir dealing ence of	asic concepts of physics programme. Justificatio petence models and edu methods and media in p og difficulties in the sub g with student perceptic physics, including hist	n/legitimation of phys ucational standards; el ohysics lessons and th ject areas of physics re ons; teaching approach	ics teaching; educat ementarisation and eir use to promote le elevant to teaching a	ional objectives of p didactic reconstruct earning; student perc nd teaching concept	hysics as a ion of phy- ceptions and ts based on
	-	ning outcomes		· · ·		
They cl familia	early d r with s	familiar with central phy ifferentiate didactic asp subject-specific student uss specific teaching co	ects of physics lesson conceptions and their	s from scientific and significance for the	educational aspects	s. They are
Course	<b>S</b> (type, r	number of weekly contact hours	, language — if other than Ger	rman)		
V (2) +	V (2) +	Ü (1)				
		<b>sessment</b> (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether
b) oral c) oral d) term	examir examin paper	mination (approx. 60 m nation of one candidate nation in groups (groups (approx. 8 pages) ssessment: German an	each (approx. 15 minu of 2, approx. 15 minut	-		
Allocat	ion of <sub>l</sub>	places				
Additio	nal inf	ormation				
Worklo	ad					
150 h						
Teachi	ng cycl	e				
Referre	d to in	LPO I (examination regulation	ons for teaching-degree progra	immes)		
§ 36   N § 38   N § 53   N § 77   N	lr. 1 lr. 2					
Module						
First sta	ate exa	mination for the teachin mination for the teachin mination for the teachin	ng degree Grundschule	e Didactics in Physics	s (Primary School) (2	018)
LA Grundso School) (20		lactics in Physics (Primary		enerated 19-Apr-2025 • exam undschulen (Didaktikfach) Pł	•	page 7 / 40

First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020)

First state examination for the teaching degree Mittelschule Physics (2020)

Module coo nolder of the ECTS Met	rdinator	eneral School		11-L-SP1-152-m01			
CTS Met			Physics 1 for Primary and Secondary General School11-L-SP1-152-m01				
ECTS Met		Module coordinator         Module offered by					
5 num	e Chair of Physics and its D	idactics	Faculty of Physics a	nd Astronomy			
5 num	hod of grading	Only after succ. com	pl. of module(s)				
·	nerical grade						
Julation	Module level	Other prerequisites					
semester	undergraduate						
Contents		<u>,</u>					
Physical cor	itents (mechanics, thermoo Grund- and Hauptschule.	dynamics) relevant to	classes in Natural S	Sciences or technical-natural			
	arning outcomes						
classes in G demonstrati	rund- and Hauptschule; kn on and pupils experiments	owledge of typical ap	proaches to the imp	scientific or technical-scientific olementation and evaluation of			
	e, number of weekly contact hours, l	anguage — If other than Ger	man)				
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150 h	ala						
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Referred to	<b>in LPO I</b> (examination regulation	s for teaching-degree progra	mmes)				
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Module	e title				Abbreviation
Physics 2 for Primary and Secondary General School       11-L-SP2-152-m01					11-L-SP2-152-m01
Module	e coord	inator		Module offered by	
holder	of the (	Chair of Physics and its D	idactics	Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5		rical grade			
Duratio		Module level	Other prerequisites		
1 seme:		undergraduate			
Conten	ts		<u>.</u>		
Physica	al conte	ents (science of electricity und- and Hauptschule.	/, electronics) relevar	nt to classes in Natu	ral Sciences or technical-natural
Intende	ed leari	ning outcomes			
classes demon	in Gru stratior	nd- and Hauptschule; kn n and pupils experiments	owledge of typical ap	proaches to the imp	scientific or technical-scientific olementation and evaluation of
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		mination for the teaching			-

Module	e title				Abbreviation
Physics	s 3 for l	Primary and Secondary G	ieneral School		11-L-SP3-152-m01
Module	e coord	inator		Module offered by	
holder	of the (	Chair of Physics and its D	idactics	Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5		rical grade			
Duratio		Module level	Other prerequisites		
1 seme		undergraduate			
Conten					
Physica	al conte	ents (optics, acoustics, A sciences in Grund- and Ha		ysics) relevant to cla	asses in Natural Sciences or tech
Intende	ed leari	ning outcomes			
classes demon	s in Gru stratior	nd- and Hauptschule; kn n and pupils experiments	owledge of typical ap	proaches to the imp	scientific or technical-scientific olementation and evaluation of
		umber of weekly contact hours, l	anguage — if other than Ger	rman)	
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		<b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
	ge of a	ation in groups (groups o ssessment: German and, <b>places</b>			
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	15 cycl				
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)	
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		mination for the teaching			-



# **Extra Skills** (ECTS credits)

Teaching degree students must take modules worth a total of 15 ECTS credits in the area Freier Bereich (general as well as subject-specific electives) (Section 9 LASPO (general academic and examination regulations for teaching-degree programmes)). To achieve the required number of ECTS credits, students may take any modules from the areas below.

Freier Bereich -- interdisciplinary: The interdisciplinary additional offer for a teaching degree can be found in the respective Annex "Ergänzende Bestimmungen für den "Freien Bereich" im Rahmen des Studiums für ein Lehramt".



# **Extra Skills Teaching Physics at the German Grundschule** (ECTS credits)

(Freier Bereich (general as well as subject-specific electives) -- subject specific)

Module title Abbreviation						
Teachi	ng Sem	inar Fundamental Princ	iples		11-L-EL1-152-m01	
Module	e coord	inator		Module offered by		
holder	of the (	Chair of Physics and its	Didactics	dactics Faculty of Physics and Astronomy		
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
3	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Physical and interdisciplinary aspects of selected topics of physics education, corresponding student precon- ceptions and typical learning difficulties, elementarisation and didactic reconstruction of physical contents ba- sed on specific contents of physics education, verbalisation of physical contents, possible teaching methods, ty pical school experiments and suitable media.						
Intende	ed lear	ning outcomes				
Advanced, qualitative knowledge of school-relevant areas of Physics; knowledge of common methods, typical student preconceptions and special media on relevant topics; awareness of the differences between teaching Physics at university and school regarding contents and methods.						
Course	<b>S</b> (type, r	number of weekly contact hours	, language — if other than Gei	man)		
S (2)						
a) term b) pres c) writte d) oral e) oral	paper paper entatio en exar examir examir	sessment (type, scope, languate le for bonus) (approx. 8 pages) or in (approx. 45 minutes) mination (approx. 45 mination of one candidate nation of one candidate ston in groups (groups ssessment: German and	or nutes) or each (approx. 15 minu of 2, approx. 15 minu	tes) or	it every semester, informati	on on whether
Allocat	<u> </u>					
Additio	nal inf	ormation				
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§ 22      § 22      § 22	Nr. 1 h) Nr. 2 f)	LPOI (examination regulatio	ns for teaching-degree progra	mmes)		
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LA Grundso School) (20		מכנוכא ווו דוואאונא (דווווומוא		undschulen (Didaktikfach) Pł	•	page 14 / 40

First state examination for the teaching degree Grundschule Physics (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018) First state examination for the teaching degree Realschule Physics (2018) First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020)

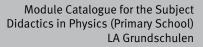
Module title Abbreviation						
Select	Selected Topics in Physics Didactics 11-L-EL2-152-mo1					
Modul	e coord	inator		Module offered by	<u></u>	
		f examination committe	<u>ور</u>	Faculty of Physics a	nd Astronomy	
ECTS	1	od of grading	Only after succ. con	· · ·	ind Astronomy	
	1					
3		successfully completed				
Duratio		Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
Curren	t topics	in physics education.				
Intend	ed lear	ning outcomes				
		have knowledge of a cu				y the acqui-
		e according to subject-s	<u>·</u>	•	ises.	
Course	<b>S</b> (type, r	number of weekly contact hours	s, language — if other than Ge	rman)		
S (2)						
		<b>Sessment</b> (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	ot every semester, informati	ion on whether
-	-	(approx. 8 pages) or				
		(approx. 45 minutes)	or			
		mination (approx. 45 mi				
		nation of one candidate				
		ation in groups (groups		tes per candidate)		
		ssessment: German an	d/or English			
Allocat	tion of <sub>l</sub>	olaces				
Additio	onal inf	ormation				
Worklo	ad					
90 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree progra	immes)		
	Nr. 1 h)					
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		mination for the teaching		•		
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First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020)

First state examination for the teaching degree Mittelschule Physics (2020)

mouule	title				Abbreviation	
MINT Preparatory Course Mathematical Methods of Physics 11-P-VKM-202-m01						
Module	coord	inator		Module offered by	l	
Managi	ing Dire	ectors of the Institute of f Theoretical Physics ar		Faculty of Physics a	ind Astronomy	
ECTS		od of grading	Only after succ. con	npl. of module(s)		
3		uccessfully completed	,			
Duratio	r	Module level	Other prerequisites			
		_		•		
1 semes	!	undergraduate				
introdu 1. Basic quantit	ction a geomo ies, 5. o	basics and elementary nd preparation for the i etry and algebra, 2. diff coordinate systems, 6.	modules of experimen erential calculus and s	tal and theoretical p	hysics.	
		ning outcomes				
		n command of knowled successful start into th				ulus as re-
			·	· ·	mysics.	
		umber of weekly contact hours	s, language — If other than Ge	rman)		
V (1) + Ü Module	• •	t in: German or English				
		essment (type, scope, lang	if other than German	examination offered — if no	t every comester informat	ion on whether
		le for bonus)	uage — II other than German,		it every semester, mormat	ion on whether
	ment o	x. 15 minutes) ffered: Once a year, wir • <b>laces</b>	nter semester			
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90 h Teachir Teachir Referre § 22    N § 22    N § 22    N	ng cycle ng cycle d to in Nr. 1 h) Nr. 2 f) Nr. 3 f)	e: every year, winter ser		ammes)		
90 h Teachir Teachir Referre § 22    N § 22    N § 22    N § 22    N	ng cycle ng cycle <b>d to in</b> Nr. 1 h) Nr. 2 f) Nr. 3 f) e appea	e: every year, winter ser LPOI (examination regulation rs in	ons for teaching-degree progra	ammes)		
90 h <b>Teachin</b> Teachin <b>Referre</b> § 22    N § 22    N § 22    N <b>Bodule</b> Bachelo	ng cycle ng cycle d to in Nr. 1 h) Nr. 2 f) Nr. 3 f) e appea or's deg	e: every year, winter ser	ons for teaching-degree progra			
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First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Physics (2020) Bachelor's degree (1 major) Quantum Technology (2021) Bachelor's degree (1 major) Mathematical Physics (2024)

Module title Abbreviation						
Studen	Student Lab Supervision (Physics)     11-L-L3B-152-m01					
Module	e coord	inator		Module offered by		
holder	of the (	Chair of Physics and its D	oidactics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
2	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts		•			
		rovides an introduction t g-learning-laboratory.	o successful supervis	ion of pupils indepe	ndently carrying out	experiments
Intende	ed lear	ning outcomes				
The students learn to classify different groups of pupils according to their subject-specific and experimental level of performance, to support the pupils according to their needs and age and to help them during independent experimenting (supervision competencies in open classroom situations). The students are able to methodically and critically evaluate their own actions. A lecturer gives individual feedback to the students to avoid negative behaviour patterns and to support the students' strengths. The students develop professional behaviour patterns by repeatedly working on the same topic with different groups of pupils (reflection competencies and self-control competencies).						
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Gei	rman)		
P (2)						
Method	d of ass	sessment (type, scope, langua	age — if other than German,	examination offered — if no	t every semester, informati	on on whether
module is	creditab	le for bonus)				
b) oral c) oral (	examir examin	mination (approx. 45 mir nation of one candidate e ation in groups (groups (approx. 8 pages)	each (approx. 10 minu			
Allocat	ion of p	olaces				
			_			
Additio	nal inf	ormation				
This mo	odule is	s designed for students s	studying at least one	subject in the natura	l sciences.	
Worklo	ad					
60 h						
Teachi	ng cycl	e				
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
§ 22      § 22      § 22	Nr. 2 f)					
Module	e appea	ars in				
First sta First sta First sta First sta First sta First sta	ate exa ate exa ate exa ate exa ate exa ate exa	mination for the teaching mination for the teaching	g degree Grundschule g degree Realschule F g degree Gymnasium g degree Sonderpäda g degree Mittelschule g degree Mittelschule	e Didactics in Physics Physics (2015) Physics (2015) gogik Didactics in Ph Physics (2015)	nysics (Middle Schoo (Middle School) (20	ol) (2015)
School) (20				undschulen (Didaktikfach) Pł		

First state examination for the teaching degree Grundschule Physics (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018) First state examination for the teaching degree Realschule Physics (2018) First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020)

Module	Module title Abbreviation						
Low Co	st - Hig	h Impact. Low-budget E	xperiments for Scienc	e Courses (Phy-		01	
sics)					-		
Module	coord	inator		Module offered by			
holder	of the C	Chair of Physics and its D	oidactics	Faculty of Physics a	nd Astronomy		
ECTS	Metho	od of grading	Only after succ. com				
2		successfully completed					
Duratio	ľ	Module level	Other prerequisites				
1 semes		undergraduate					
Conten		undergraduate	]				
	Conception and realisation of experimental stations with ordinary and inexpensive consumables for classes of						
		and secondary level I.	ental stations with or	ainary and inexpens	ive consumables for	classes of	
Intended learning outcomes							
						4	
		develop simple scientific nall groups from differen					
		ant to the curriculum in			to shipiny and conv	cy scientific	
Course	<b>S</b> (type, n	umber of weekly contact hours,	- language — if other than Ger	man)			
S (2)	- (-) /	·····					
· · ·	l of ass	e <b>ssment</b> (type, scope, langua	- age — if other than German	avamination offered — if no	t every comester informati	on on whether	
		le for bonus)			t every semester, mornati	on on whether	
a) writte	en exar	nination (approx. 45 mir	nutes) or				
		ation of one candidate e		tes) or			
		ation in groups (groups	of 2, approx. 20 minu	tes) or			
		(approx. 8 pages)					
Allocat	ion of p	olaces					
Additio	nal info	ormation					
This mo	odule is	designed for students s	studying at least one s	subject in the natura	l sciences.		
Worklo	ad						
60 h							
Teachir	ng cycle	e					
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)			
§ 22    N							
§ 22							
§ 22    N	Vr. 3 f)						
Module	appea	rs in					
First sta	ate exa	mination for the teaching	g degree Grundschule	Physics (2015)			
First sta	ate exa	mination for the teaching	g degree Grundschule	Didactics in Physics	s (Primary School) (2	015)	
		mination for the teaching		• •			
		mination for the teaching	,			(act)	
		mination for the teaching	,		iysics (Mildale Schoo	11) (2015)	
		mination for the teaching mination for the teaching		-	(Middle School) (ac	м <b>г</b> )	
		mination for the teaching		-		יכיי)	
		mination for the teaching			(Primary School) (2	018)	
		mination for the teaching		•		010)	
		actics in Physics (Primary		enerated 19-Apr-2025 • exam	. reg. data re-	page 22 / 40	
School) (20				undschulen (Didaktikfach) Ph			

First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020)

First state examination for the teaching degree Mittelschule Physics (2020)

Module	e title				Abbreviation	
Teachir	ng Scie	nce with Hands-on-Exh	ibits (Physics)		11-MIND-Ph2-152-m	01
Module	o coord	inator		Module offered by		
		Chair of Physics and its	Didactics	Faculty of Physics a	nd Astronomy	
ECTS		od of grading	Only after succ. com		ind Astronomy	
2 Duratio		successfully completed Module level				
Duratio			Other prerequisites			
1 semes		undergraduate				
Conten						
Designi	ing and	creating hands-on exh	ibits for STEM subjects	5.		
Intende	ed lear	ning outcomes				
tents in	n and o	evaluate the advantage ut of school. They plan vork with pupils of secc	and implement an inte			
Courses	<b>S</b> (type, r	umber of weekly contact hours	, language — if other than Ger	rman)		
S (2)						
		s <b>essment</b> (type, scope, lang le for bonus)	uage — if other than German, e	examination offered — if no	t every semester, informati	on on whether
c) oral e	examin paper	ation of one candidate ation in groups (groups (approx. 8 pages) <b>blaces</b>				
Additio	nal inf	ormation				
		designed for students	studving at least one s	subiect in the natura	l sciences.	
Worklo				,		
60 h						
Teachir	ng cvcl	9				
	0 . )	-				
Referre	d to in	LPO I (examination regulation		mmoc)		
				inines)		
§ 22      § 22	-					
§ 22						
Module	_	rs in				
			ng degree Grundschule	Physics (2015)		
	ле еха	mination for the teachi				
First sta First sta First sta First sta	ate exa ate exa ate exa	mination for the teachin mination for the teachin mination for the teachin	ng degree Grundschule ng degree Realschule F ng degree Gymnasium	e Didactics in Physics Physics (2015) Physics (2015)	. ,	
First sta First sta First sta First sta First sta	ate exa ate exa ate exa ate exa ate exa	mination for the teachin mination for the teachin mination for the teachin mination for the teachin	ng degree Grundschule ng degree Realschule F ng degree Gymnasium ng degree Sonderpäda	e Didactics in Physics Physics (2015) Physics (2015) gogik Didactics in Ph	. ,	
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First sta First sta First sta First sta First sta First sta First sta	ate exa ate exa ate exa ate exa ate exa ate exa	mination for the teachin mination for the teachin	ng degree Grundschule ng degree Realschule P ng degree Gymnasium ng degree Sonderpäda ng degree Mittelschule ng degree Mittelschule	e Didactics in Physics Physics (2015) Physics (2015) gogik Didactics in Ph Physics (2015) Didactics in Physics	nysics (Middle Schoo	bl) (2015)
First sta First sta First sta First sta First sta First sta First sta First sta	ate exa ate exa ate exa ate exa ate exa ate exa ate exa	mination for the teachin mination for the teachin	ng degree Grundschule ng degree Realschule F ng degree Gymnasium ng degree Sonderpäda ng degree Mittelschule ng degree Mittelschule ng degree Grundschule	Didactics in Physics Physics (2015) Physics (2015) gogik Didactics in Ph Physics (2015) Didactics in Physics Physics (2018)	nysics (Middle Schoo (Middle School) (20	ol) (2015) 015)
First sta First sta First sta First sta First sta First sta First sta First sta First sta	ate exa ate exa ate exa ate exa ate exa ate exa ate exa ate exa	mination for the teachin mination for the teachin	ng degree Grundschule ng degree Realschule F ng degree Gymnasium ng degree Sonderpäda ng degree Mittelschule ng degree Mittelschule ng degree Grundschule ng degree Grundschule	e Didactics in Physics Physics (2015) Physics (2015) gogik Didactics in Ph Physics (2015) Didactics in Physics Physics (2018) E Didactics in Physics	nysics (Middle Schoo (Middle School) (20	ol) (2015) 015)
First sta First sta First sta First sta First sta First sta First sta First sta First sta First sta	ate exa ate exa ate exa ate exa ate exa ate exa ate exa ate exa ate exa	mination for the teachin mination for the teachin	ng degree Grundschule ng degree Realschule P ng degree Gymnasium ng degree Sonderpäda ng degree Mittelschule ng degree Mittelschule ng degree Grundschule ng degree Grundschule ng degree Realschule P	e Didactics in Physics Physics (2015) Physics (2015) gogik Didactics in Ph Physics (2015) Didactics in Physics Physics (2018) Didactics in Physics Physics (2018)	nysics (Middle Schoo (Middle School) (20	ol) (2015) 015)
First sta First sta	ate exa ate exa ate exa ate exa ate exa ate exa ate exa ate exa ate exa ate exa	mination for the teachin mination for the teachin	ng degree Grundschule ng degree Realschule P ng degree Gymnasium ng degree Sonderpäda ng degree Mittelschule ng degree Mittelschule ng degree Grundschule ng degree Grundschule ng degree Realschule P ng degree Gymnasium	e Didactics in Physics Physics (2015) Physics (2015) gogik Didactics in Ph Physics (2015) Didactics in Physics Physics (2018) Didactics in Physics Physics (2018)	nysics (Middle Schoo (Middle School) (20 5 (Primary School) (2	ol) (2015) 015)

First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020)

Module title				Abbreviation		
Astrophysics					11-AP-152-m01	
Module	coord	inator		Module offered by		
Managi and Ast	-	ector of the Institute of sics	Theoretical Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Conten	ts					
telesco um, mo	pes an lecular	d detectors, stellar stru	d time measurement, t acture and atmosphere e milky way, the local a cosmology.	s, stellar evolution a	nd end stages, inter	stellar medi-
		ning outcomes				
physica	l obse	rvations and evaluation	odern world view of Ast ns. They are able to use and development of	these methods to p	lan and analyse owr	n observati-
Courses	<b>S</b> (type, n	umber of weekly contact hour	s, language — if other than Gei	rman)		
V (2) + I Module		t in: German or English				
		e <b>essment</b> (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether
b) oral e c) oral e d) proje e) prese If a writ stead ta of asse nation o	<ul> <li>a) written examination (approx. 90 to 120 minutes) or</li> <li>b) oral examination of one candidate each (approx. 30 minutes) or</li> <li>c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or</li> <li>d) project report (approx. 8 to 10 pages) or</li> <li>e) presentation/talk (approx. 30 minutes)</li> <li>If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.</li> <li>Language of assessment: German and/or English</li> </ul>					
Allocati	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
180 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
Module	appea	in				
LA Grundsc School) (20		actics in Physics (Primary		enerated 19-Apr-2025 • exam undschulen (Didaktikfach) Pr	-	page 26 / 40

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Bachelor's degree (1 major) Physics (2015) Bachelor's degree (1 major) Mathematical Physics (2015) Bachelor's degree (1 major) Aerospace Computer Science (2015) Bachelor's degree (1 major, 1 minor) Physics (Minor, 2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015) First state examination for the teaching degree Realschule Physics (2015) First state examination for the teaching degree Gymnasium Physics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Mittelschule Physics (2015) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015) Bachelor's degree (1 major) Mathematical Physics (2016) Master's degree (1 major) Nanostructure Technology (2016) Bachelor's degree (1 major) Aerospace Computer Science (2017) First state examination for the teaching degree Grundschule Physics (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018) First state examination for the teaching degree Realschule Physics (2018) First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) Master's degree (1 major) Nanostructure Technology (2020) Bachelor's degree (1 major) Physics (2020) Bachelor's degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major, 1 minor) Physics (Minor, 2020) Bachelor's degree (1 major) Aerospace Computer Science (2020) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Physics (2020) Master's degree (1 major) Quantum Technology (2021) exchange program Physics (2023) Bachelor's degree (1 major) Mathematical Physics (2024)

Module title				Abbreviation		
Princip	Principles of Energy Technologies 11-ENT-152-m01					
Module coordinator				Module offered by		
Managi	ing Dire	ector of the Institute of	Applied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites	5		
1 seme	ster	graduate				
Conten	ts					
as rene ting ma student verters. Electric	wable iterials ts. Ene . Nucle ity. Bic	iples of energy conserv resources of energy. W , selective layers, highl rgy conservation via the ar power plants. Hydro mass. Geothermal ene	e also discuss aspects y activated carbons). T ermal insulation. Therr electricity. Wind turbin	of optimising materi he course is especia nodynamic energy ef es. Photovoltaics. Sc	als (e.g. nanostructu lly suitable for teach ficiency. Fossil fired	ured insula- ing degree energy con-
		ning outcomes				
		know the principles of ge. They understand th				
Course	<b>S</b> (type, r	number of weekly contact hour	s, language — if other than Ge	rman)		
V (3) + I Module		t in: German or English				
Method	d of ass	<b>sessment</b> (type, scope, lang	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether
module is	creditab	le for bonus)				
b) oral c c) oral c d) proje e) prese If a writ stead ta of asse nation Langua Assess	<ul> <li>a) written examination (approx. 90 to 120 minutes) or</li> <li>b) oral examination of one candidate each (approx. 30 minutes) or</li> <li>c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or</li> <li>d) project report (approx. 8 to 10 pages) or</li> <li>e) presentation/talk (approx. 30 minutes)</li> <li>If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.</li> <li>Language of assessment: German and/or English</li> <li>Assessment offered: Once a year, winter semester</li> </ul>					
Allocat	ion of <sub>l</sub>	olaces				
Additio	nal inf	ormation				
Worklo	Workload					
180 h						
Teaching cycle						
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)						
§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
Module	Module appears in					
LA Grundsc School) (20		actics in Physics (Primary		enerated 19-Apr-2025 • exam rundschulen (Didaktikfach) Pł	-	page 28 / 40

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Bachelor's degree (1 major) Physics (2015) Bachelor's degree (1 major) Nanostructure Technology (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015) First state examination for the teaching degree Realschule Physics (2015) First state examination for the teaching degree Gymnasium Physics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Mittelschule Physics (2015) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015) Master's degree (1 major) Functional Materials (2016) First state examination for the teaching degree Grundschule Physics (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018) First state examination for the teaching degree Realschule Physics (2018) First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) Bachelor's degree (1 major) Physics (2020) Bachelor's degree (1 major) Nanostructure Technology (2020) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Physics (2020) Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Functional Materials (2022) exchange program Physics (2023) Master's degree (1 major) Functional Materials (2025)

Module	Module title Abbreviation					
Current	Current Topics of Teaching Concepts in Physics 11-L-APD-152-mo1					
Module coordinator Module offered by					A	
chairperson of examination committee Facult			Faculty of Physics a	ind Astronomy		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
3	1	rical grade		, ,,,		
Duratio		Module level	Other prerequisites			
1 seme		undergraduate				
Conten		undergraduate				
		in physics education.				
		ning outcomes				
		have knowledge of a cu e according to subject-s				y the acqui-
Course	<b>S</b> (type, r	number of weekly contact hours	s, language — if other than Ge	rman)		
S (2) Module	e taugh	t in: German or English				
	_	sessment (type, scope, lang	uage — if other than German	examination offered — if no	nt even comester informati	ion on whether
		le for bonus)	uage — Il other than German,		it every semester, mormati	
		mination (approx. 45 m	 inutes) or			
		ation of one candidate		ites) or		
		ation in groups (groups	s of 2, approx. 10 minu	tes per candidate) o	r	
		(approx. 8 pages) or	cion			
		45 minutes) with discus	51011			
Allocat		Jiaces				
Additio	onal inf	ormation				
			_			
Worklo	ad					
90 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree progra	immes)		
§ 22	Nr. 1 h)					
§ 22						
§ 22						
Module appears in						
First state examination for the teaching degree Grundschule Physics (2015)						
First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)						
First state examination for the teaching degree Realschule Physics (2015)						
First state examination for the teaching degree Gymnasium Physics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015)						
First state examination for the teaching degree Sonderpadagogik Didactics in Physics (Middle School) (2015)						
	First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015)					
	First state examination for the teaching degree Grundschule Physics (2018)					
	First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018)					
First sta	ate exa	mination for the teachi	ng degree Realschule F	hysics (2018)		
LA Grundso School) (20		actics in Physics (Primary		enerated 19-Apr-2025 • exam undschulen (Didaktikfach) Pł	-	page 30 / 40

First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020)

First state examination for the teaching degree Mittelschule Physics (2020)

Module title Abbreviation						
Scienti	Scientific Work in Teaching Concepts 11-L-WPD-152-mo1					
Module coordinator Module offered				Module offered by		
Managing Director of the Institute of Applied Phys			nnlied Physics	Faculty of Physics a	nd Astronomy	
ECTS	1	od of grading	Only after succ. con		ind /istronomy	
	1					
3						
Duratio	Duration Module level Other prerequisites					
1 semester undergraduate						
Conten	nts					
Curren	t topics	in scientific work in phy	sics education			
Intend	ed lear	ning outcomes				
The stu	Idents	have knowledge of a cur	rent subdiscipline of i	physics education ar	nd are able to proces	s questions
		ucation on the basis of s				
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Gei	rman)		
S (2)		· · · · · · · · · · · · · · · · · · ·				
	e taugh	t in: German or English				
		sessment (type, scope, langua	age — if other than German.	examination offered — if no	t every semester, informati	on on whether
		le for bonus)				
talk (30	0 to 45	minutes)				
	tion of					
Allocal						
Additio	onal inf	ormation				
Worklo	ad					
90 h						
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination regulation	ns for teaching-degree progra	ummes)		
	Nr. 1 h)					
§ 22						
§ 22						
Module	e appea	ars in				
		mination for the teaching	g degree Grundschule	Physics (2015)		
		mination for the teachin		-	s (Primary School) (2	015)
		mination for the teaching		•		
First st	ate exa	mination for the teaching	g degree Gymnasium	Physics (2015)		
First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015)						
First state examination for the teaching degree Mittelschule Physics (2015)						
First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015)						
First state examination for the teaching degree Grundschule Physics (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018)						
				•	5 (Primary School) (2	018)
		mination for the teaching		•		
1		mination for the teachin mination for the teachin		-		
1		mination for the teaching			weice (Middle Schoo	) (2018)
1		mination for the teaching				
LA Grundso School) (20		lactics in Physics (Primary		enerated 19-Apr-2025 • exam undschulen (Didaktikfach) Pr	-	page 32 / 40

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Physics (2020)

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 180 h Teaching cycle  Referred to in LPO I (examination regulations for teaching-degree programmes) § 22 II Nr. 1 h) § 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f) Module appears in First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Mittelschule Physics (2015)	Module title				Abbreviation		
chairperson of examination committee         Faculty of Physics and Astronomy           ECTS         Method of grading         Only after succ. compl. of module(s)           6         numerical grade            Duration         Module level         Other prerequisites           1 semester         undergraduate         Approval from examination committee required.           Contents	Current	Current Topics in Physics 11-LX6-152-m01					
ECTS       Method of grading       Only after succ. compl. of module(s)         6       numerical grade	Module coordinator			Module offered by			
6       numerical grade	chairpe	erson o	f examination committe	e	Faculty of Physics a	nd Astronomy	
6       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate       Approval from examination committee required.         Contents          Current topics in physics.	ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	· · · · · · · · · · · · · · · · · · ·	
Duration         Module level         Other prerequisites           1 semester         undergraduate         Approval from examination committee required.           Contents         Current topics in physics.         Intended learning outcomes           The students 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, examination offered – if not every semester, information on whether module is celtable for bonus)           a) written examination (approx. 9 to 120 minutes) or         0) oral examination in groups (groups of 2, approx. 30 minutes) or           b) oral examination of one candidate each (approx. 30 minutes) or         0) orgict report (approx. 8 to 10 pages) or           c) oral examination of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.           Language of assessment: German and/or English           Alditional information           -           Additional information           -           Referred to In IPO1 (examination regulations for teaching degree programmes)           § 22 II Nr. 1h)           S 22 II Nr. 3 f)           Module apopers in	6				•		
1 semester       undergraduate       Approval from examination committee required.         Corrent topics in physics.       Intendel learning outcomes         The students 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 hours)         a) written examination (approx. 90 to 120 minutes) or         b) oral examination for candidate each (approx. 30 minutes) or         c) oral examination ingroups (groups of 2, approx. 30 minutes) or         d) project report (approx. 8 to 10 pages) or         e) prosentation/talk (approx. 90 minutes)         f a written examination 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 of places         -       -         -       -         Additional information       -         -       -         Additional information       -         -       -         Additional information       -         - <td>Duratio</td> <td></td> <td>-</td> <td>Other prerequisites</td> <td></td> <td></td> <th></th>	Duratio		-	Other prerequisites			
Contents         Current topics in physics.         Intended learning outcomes         The students 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 in groups (groups of 2, approx. 30 minutes) or         b) oral examination in groups (groups of 2, approx. 30 minutes) or       c) oral examination in groups (groups of 2, approx. 30 minutes) or         b) oral examination in groups. (Broups of 2, approx. 30 minutes) or       c) oral examination in a roal examination of one candidate each (approx. 30 minutes) or         c) are examination in groups. (Broups of 2, approx. 30 minutes) or       c) oral examination was chosen as method of assessment, this may be changed and assessment may insisted take the form of an oral examination of one candidate each (approx. 30 minutes)         if a written examination for the examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination for places	1 seme	ster	undergraduate	- · ·		equired.	
Current topics in physics. Intended learning outcomes The students 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 c) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination af assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination ate at the latest. Language of assessment: German and/or English Allocation of places							
Intended learning outcomes The students have knowledge of a current subdiscipline of Physics and understand the measuring and/or calcu- lation 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 c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination 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 exami- nation date at the latest. Language of assessment: German and/or English Allocation of places - - Referred to in LPO I (examination regulations for teaching-degree programmes) § 22 II Nr. 1 h) § 22 II Nr. 1 h) § 22 II Nr. 2 h) § 22 II Nr. 3 h Module appears in First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2			in physics.				
The students have knowledge of a current subdiscipline of Physics and understand the measuring and/or calcu- lation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas. <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 senester, information on whether module is creditable for homus) a) written examination (approx. 90 to 120 minutes) or b) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) project report (approx. 80 to 10 ages) or e) presentation/talk (approx. 30 minutes) If a written examination on 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 exami- nation date at the latest. Language of assessment: German and/or English <b>Allocation of places</b> 							
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 on en candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) 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 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 1 (examination for teaching-degree programmes) § 22 ll Nr. 1 h) § 22 ll Nr. 2 f) § 22 ll Nr. 2 f) § 22 ll Nr. 3 f) Module appears in First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination fo	The stu lation r	idents l nethod	nave knowledge of a cu s necessary to acquire	•			
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 in groups (groups of 2, 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)         ff a written examination mays chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination of places               Additional information            Workload         180 h         Teaching cycle            Referred to in LPO 1 (examination regulations for teaching-degree programmes)         § 22 Il Nr. 1 h)         § 22 Il Nr. 2 f)         § 22 Il Nr. 3 f)         Module appears in         First state examination for the teaching degree Grundschule Physics (2015)         First state examination for the teaching degree Grundschule Physics (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015)	Course	<b>S</b> (type, r	number of weekly contact hours	s, language — if other than Ge	rman)		
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 of one candidate each or an oral examination in groups. If the method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer 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 1 (examination regulations for teaching-degree programmes)         § 22 11 Nr. 1 h)         § 22 11 Nr. 2 f)         § 22 11 Nr. 3 f)         Module appears in         First state examination for the teaching degree Grundschule Physics (2015)         First state examination for the teaching degree Grundschule Physics (2015)         First state examination for the teaching degree Grundschule Physics (2015)	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) 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 exami- nation date at the latest. Language of assessment: German and/or English <b>Allocation of places</b>  <b>Additional information</b>  <b>Workload</b> 180 h <b>Teaching cycle</b>  <b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes) § 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 2 f) § 22 II Nr. 2 f) § 22 II Nr. 3 f) <b>Module appears in</b> First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Mittelschule Physics (2015) First state examination for the teaching degree Mittelschule Physics (2015)				uage — if other than German,	examination offered — if no	t every semester, informati	ion on whether
180 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 II Nr. 1 h)       § 22 II Nr. 2 f)         § 22 II Nr. 2 f)       § 22 II Nr. 3 f)         Module appears in	b) oral c) oral d d) proje e) press If a writ stead ta 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 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 exami- nation date at the latest. Language of assessment: German and/or English <b>Allocation of places</b>					
Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 II Nr. 1 h)         § 22 II Nr. 2 f)         § 22 II Nr. 3 f)         Module appears in         First state examination for the teaching degree Grundschule Physics (2015)         First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)         First state examination for the teaching degree Gymnasium Physics (2015)         First state examination for the teaching degree Gymnasium Physics (2015)         First state examination for the teaching degree Mittelschule Physics (2015)         First state examination for the teaching degree Mittelschule Physics (2015)         First state examination for the teaching degree Mittelschule Physics (2015)	Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 II Nr. 1 h)         § 22 II Nr. 2 f)         § 22 II Nr. 3 f)         Module appears in         First state examination for the teaching degree Grundschule Physics (2015)         First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)         First state examination for the teaching degree Realschule Physics (2015)         First state examination for the teaching degree Gymnasium Physics (2015)         First state examination for the teaching degree Mittelschule Physics (2015)         First state examination for the teaching degree Mittelschule Physics (2015)	180 h						
<ul> <li>§ 22    Nr. 1 h)</li> <li>§ 22    Nr. 2 f)</li> <li>§ 22    Nr. 3 f)</li> <li>Module appears in</li> <li>First state examination for the teaching degree Grundschule Physics (2015)</li> <li>First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)</li> <li>First state examination for the teaching degree Realschule Physics (2015)</li> <li>First state examination for the teaching degree Gymnasium Physics (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015)</li> <li>First state examination for the teaching degree Mittelschule Physics (2015)</li> </ul>	Teachir	ng cycl	e				
<ul> <li>§ 22    Nr. 1 h)</li> <li>§ 22    Nr. 2 f)</li> <li>§ 22    Nr. 3 f)</li> <li>Module appears in</li> <li>First state examination for the teaching degree Grundschule Physics (2015)</li> <li>First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)</li> <li>First state examination for the teaching degree Realschule Physics (2015)</li> <li>First state examination for the teaching degree Gymnasium Physics (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015)</li> <li>First state examination for the teaching degree Mittelschule Physics (2015)</li> </ul>							
<ul> <li>§ 22 II Nr. 2 f)</li> <li>§ 22 II Nr. 3 f)</li> <li>Module appears in</li> <li>First state examination for the teaching degree Grundschule Physics (2015)</li> <li>First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)</li> <li>First state examination for the teaching degree Realschule Physics (2015)</li> <li>First state examination for the teaching degree Gymnasium Physics (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015)</li> <li>First state examination for the teaching degree Mittelschule Physics (2015)</li> </ul>	Referre	d to in	LPO I (examination regulation	ons for teaching-degree progra	immes)		
First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015) First state examination for the teaching degree Realschule Physics (2015) First state examination for the teaching degree Gymnasium Physics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Mittelschule Physics (2015)	§ 22    Nr. 1 h) § 22    Nr. 2 f)						
First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015) First state examination for the teaching degree Realschule Physics (2015) First state examination for the teaching degree Gymnasium Physics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Mittelschule Physics (2015)							
LA Grundschulen Didactics in Physics (Primary JMU Würzburg • generated 19-Apr-2025 • exam. reg. data re- School) (2020) cord Lehramt Grundschulen (Didaktikfach) Physik - 2020	First sta First sta First sta First sta First sta LA Grundsc	First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015) First state examination for the teaching degree Realschule Physics (2015) First state examination for the teaching degree Gymnasium Physics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Mittelschule Physics (2015)					

First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Grundschule Physics (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018) First state examination for the teaching degree Realschule Physics (2018) First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Physics (2020)

Module title					Abbreviation	
Selecte	ed Topi	cs of Physics			11-LCS6-152-m01	
Module	e coord	inator		Module offered by		
chairpe	erson o	f examination committe	e	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
4	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate	Approval from exam	ination committee re	equired.	
Conten	ts					
Current study a	•	in experimental physic	s. Credited academic a	achievements, e.g. ir	ι case of change of ι	iniversity or
Intende	ed lear	ning outcomes				
sics of unders	the Bao tand th	have advanced compete chelor's programme. Th le measuring and/or eve ubject-specific contexts	ey have knowledge of aluation methods nece	a current subdiscipli essary to acquire this	ne of Experimental F	Physics and
Course	<b>S</b> (type, r	number of weekly contact hours	, language — if other than Gei	rman)		
V (2) +	R (1)					
		<b>Sessment</b> (type, scope, lang Ile for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	ion on whether
d) proje e) press If a writ stead ta of asse nation Langua	<ul> <li>b) oral examination of one candidate each (approx. 30 minutes) or</li> <li>c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or</li> <li>d) project report (approx. 8 to 10 pages) or</li> <li>e) presentation/talk (approx. 30 minutes)</li> <li>If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.</li> <li>Language of assessment: German and/or English</li> </ul>					
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
 Worklo	ad					
120 h						
Teachi	ng cycl	e				
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)						
§ 22    Nr. 1 h) § 22    Nr. 2 f) § 22    Nr. 3 f)						
Module appears in						
Module appears in         First state examination for the teaching degree Grundschule Physics (2015)         First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)         First state examination for the teaching degree Realschule Physics (2015)         First state examination for the teaching degree Gymnasium Physics (2015)         First state examination for the teaching degree Gymnasium Physics (2015)         LA Grundschulen Didactics in Physics (Primary         JMU Würzburg • generated 19-Apr-2025 • exam. reg. data re-         page 36 / 40						
School) (20				undschulen (Didaktikfach) Pr	-	F=30 J0 / 40



First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Mittelschule Physics (2015) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Grundschule Physics (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018) First state examination for the teaching degree Realschule Physics (2018) First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020) First state examination for the teaching degree Mittelschule Physics (2020)

Module	e title				Abbreviation
Experir	nents f	or science courses in pri	mary schools		11-L-NEGS-152-m01
Module	e coord	inator		Module offered by	
holder	of the (	Chair of Physics and its D	idactics	Faculty of Physics a	nd Astronomy
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
2	(not) s	successfully completed			
Duration Module level Other prerequisites					
1 seme	ı semester undergraduate				
Conten	ts				
	curricu	llum of Grundschule; pu			chemical contexts suitable for the l contexts; characteristic student
Intende	ed learı	ning outcomes			
experin	nents s				g difficulties; knowledge of pupils competencies in developing and
Course	<b>S</b> (type, n	umber of weekly contact hours, I	language — if other than Ger	rman)	
S (2)					
		s <b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	t every semester, information on whether
c) oral d) term	examin paper	ation of one candidate e ation in groups (groups ( (approx. 8 pages)		-	r
Allocat	ion of p	olaces			
follows as they	: Optio becom	n 1: (1) Places will be allo	ocated by lot. (2) A wa ) Places will be alloca	aiting list will be main ated according to the	laces, places will be allocated as ntained and places re-allocated number of subject semesters. ilable.
Additio	nal inf	ormation			
Worklo	ad				
60 h					
Teachi	ng cycl	e			
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	immes)	
§ 22    Nr. 1 h)					
Module appears in					
First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015) First state examination for the teaching degree Grundschule Physics (2018) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018)					
First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020)					





# Thesis

(10 ECTS credits)

Preparation of a written Hausarbeit (thesis) in accordance with the provisions of Section 29 LPO I (examination regulations for teaching-degree programmes) is a prerequisite for teaching degree students to be admitted to the Erste Staatsprüfung (First State Examination). In accordance with the provisions of Section 29 LPO I, students studying for a teaching degree Grundschule may write this thesis in the subject Didaktik der Grundschule (Didactics of Grundschule), in the subject they selected as Unterrichtsfach (subject studied with a focus on the scientific discipline) or in the subject Erziehungswissenschaften (Educational Science). Pursuant to Section 29 Subsection 1 Sentence 2 LPO I, students may also choose to write an interdisciplinary thesis.

Module ti	Module title Abbreviation					
Thesis in	Thesis in Physics Primary General School       11-L-HA-GS-DF-152-m01					
Module c	oordinator		Module offered by			
chairpers	on of examination committee	9	Faculty of Physics a	and Astronomy		
ECTS M	ethod of grading	Only after succ. con	npl. of module(s)			
10 n	umerical grade					
Duration	Module level	Other prerequisites				
1-2 semes	ter undergraduate					
Contents						
Independ	ent processing of a topic of F	Physics and/or Didact	ics of Physics, chose	en in consultation with a lecturer.		
Intended	learning outcomes					
and meth		degree programme.		while applying the knowledge sent their results in written form in		
Courses (t	ype, number of weekly contact hours,	language — if other than Ge	rman)			
No course	es assigned to module					
	<b>f assessment</b> (type, scope, langue editable for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether		
prox. 40 p Language	ages)	-	-	eaching-degree programmes) (ap- on 4 LPO I (examination regulati-		
Allocation	of places					
Additiona	l information					
Workload						
300 h						
Teaching	cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
§ 29						
Module a	Module appears in					
First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)						
	examination for the teachin		-	-		
First state	examination for the teachin	g degree Grundschule	e Didactics in Physic	s (Primary School) (2020)		