

Module Catalogue

for the Subject

Didactics in Physics (Middle School)

as Didaktikfach

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

> Examination regulations version: 2018 Responsible: Faculty of Physics and Astronomy

JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record L7|873|-|-|H|2018



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The subject is divided into

section / sub-section	ECTS credits	starting page
Compulsory Courses	20	6
Extra Skills		12
Physics		13
Thesis	10	38

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)):

11-Jul-2018 (2018-47)

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.



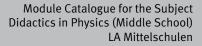


Compulsory Courses

(20 ECTS credits)

Successful completion of modules worth 20 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 Didaktiken einer Fächergruppe der Mittelschule (Didactics of a Group of Subjects of Mittelschule).

Module	title				Abbreviation	
Physics	s Teach	ing Concepts			11-L-PD-172-m01	
Module	e coord	inator		Module offered by		
holder	of the C	Chair of Physics and its	Didactics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
2 seme	ster	undergraduate				
Conten	ts					
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Worklo	ad					
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Teachir	ng cycl	e				
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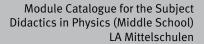
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Module	e title				Abbreviation
Physic	s 1 for F	Primary and Secondary G	ieneral School		11-L-SP1-152-m01
Module	e coord	inator		Module offered by	Г
holder	of the (Chair of Physics and its D	vidactics	Faculty of Physics a	and Astronomy
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	1	rical grade		, ,,	
Duratio		Module level	Other prerequisites		
1 seme		undergraduate			
Conten			<u> </u>		
Physica	al conte	ents (mechanics, thermo- und- and Hauptschule.	dynamics) relevant to	classes in Natural S	Sciences or technical-natural
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Physics	s 2 for	Primary and Secondary (General School		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
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		rical grade			
5 Duratio		Module level			
			Other prerequisites		
1 seme		undergraduate			
Conten					
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		und- and Hauptschule.			
	-	ning outcomes			
classes	s in Gru		iowledge of typical ap		scientific or technical-scientific blementation and evaluation of
Course	S (type, r	umber of weekly contact hours,	language — if other than Gei	rman)	
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Module	e title				Abbreviation
Physics	s 3 for I	Primary and Secondary G	General 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. com	npl. of module(s)	· · · · · · · · · · · · · · · · · · ·
5	1	rical grade		<u></u>	
5 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 lear	ning outcomes			
classes demon	s in Gru stration	nd- and Hauptschule; kn n and pupils experiments	owledge of typical ap 5.	proaches to the imp	scientific or technical-scientific olementation and evaluation of
		number of weekly contact hours, I	language — if other than Ger	man)	
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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".



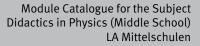


Physics (ECTS credits)

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

Module	title				Abbreviation		
Astroph	nysics				11-AP-152-m01		
Module	coord	inator		Module offered by			
Managi and Ast		ector of the Institute of T 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	i			
1 semes	ster	undergraduate					
Conten	ts						
History of astronomy, coordinates and time measurement, the Solar System, exoplanets, astronomical scales, telescopes and detectors, stellar structure and atmospheres, stellar evolution and end stages, interstellar medi- um, molecular clouds, structure of the milky way, the local universe, the expanding universe, galaxies, active ga- lactic nuclei, large-scale structures, cosmology.							
Intende	d lear	ning outcomes					
physica	l obse	are familiar with the mo rvations and evaluation familiar with the physic	s. They are able to use	e these methods to p	lan and analyse owr	n observati-	
Courses	5 (type, n	umber of weekly contact hours	, language — if other than Ge	rman)			
V (2) + I Module		t in: German or English					
		essment (type, scope, langu le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	ion on whether	
b) oral e c) oral e d) proje e) prese lf a writ stead ta of asses nation o	examin examin ect repo entatio ten exa ake the ssmen date at	mination (approx. 90 to ation of one candidate ation in groups (groups ort (approx. 8 to 10 page n/talk (approx. 30 minu amination was chosen a form of an oral examin t is changed, the lecture the latest. ssessment: German an	each (approx. 30 minu of 2, approx. 30 minu es) or utes) as method of assessm ation of one candidate er must inform student	tes per candidate) of ent, this may be char e each or an oral exar	nged and assessmer mination in groups.	If the method	
Allocati	ion of p	olaces					
Additio	nal inf	ormation					
 Worklo	ad						
180 h	uu						
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UNIVERSITÄT WÜRZBURG



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)

mouule	e title				Abbreviation	
Prepara	atory C	ourse Mathematics			11-P-VKM-152-m01	
Module	e coord	inator		Module offered by		
		ectors of the Institute o	f Applied Physics and	Faculty of Physics a	nd Astronomy	
-	-	f Theoretical Physics a			nd Astronomy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
2	(not)	successfully completed	1	•		
Duratio		Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten			I			
the intr 1. Basic 2. Coor 3. Vecto	roduction c geom rdinate ors - ve prential	on to and preparation f etry and algebra systems and complex ectored values calculus	or the modules of Expe		partially beyond, especially tical Physics.	for
Intende	ed lear	ning outcomes				
			mathematics and elem d Experimental Physics		ethods which are required fo	or
Course	S (type, r	number of weekly contact hour	s, language — if other than Ge	rman)		
T (2)						
Metho	d of ass	sessment (type, scope, lang	guage — if other than German,	examination offered — if no	t every semester, information on whe	ther
		le for bonus)				
b) talk	(appro	successful completion x. 15 minutes) ffered: Once a year, wi	of approx. 50% of appr nter semester	ox. 6 exercise sheets) or	
Allocat	ion of j	places				
Additio	onal inf	ormation				
Worklo	ad					
60 h						
	ng cvcl	e				
	ng cycl	e				
Teachiı 			ons for teaching-degree progra	nmmes)		
Teachiı 	ed to in Nr. 1 h) Nr. 2 f)	LPO I (examination regulation	ons for teaching-degree progra	ımmes)		
Teachi Referre § 22 § 22	ed to in Nr. 1 h) Nr. 2 f) Nr. 3 f)	LPO I (examination regulati	ons for teaching-degree progra	ummes)		
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Teachin Referrer § 22 § 22 § 22 § 22 § 22 Bachele Bachele Bachele Bachele Bachele Bachele	ed to in Nr. 1 h) Nr. 2 f) Nr. 3 f) e appea or's de or's de or's de or's de or's de	LPO I (examination regulation ars in gree (1 major) Physics gree (1 major) Nanostru gree (1 major) Mathem gree (1 major, 1 minor) mination for the teach	(2015) ucture Technology (201 atical Physics (2015) Physics (Minor, 2015) ing degree Grundschule	5) 2 Physics (2015)		
Teachin Referrer § 22 § 22 § 22 § 22 Bachele Bachele Bachele Bachele First sta First sta	ed to in Nr. 1 h) Nr. 2 f) Nr. 3 f) e appea or's de or's de or's de or's de or's de ate exa ate exa	LPO I (examination regulation ars in gree (1 major) Physics gree (1 major) Nanostru gree (1 major) Mathem gree (1 major, 1 minor) mination for the teach mination for the teach	(2015) ucture Technology (201 atical Physics (2015) Physics (Minor, 2015) ing degree Grundschule	5) e Physics (2015) e Didactics in Physics	; (Primary School) (2015)	
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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)

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)

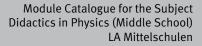
First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018)

Module	title				Abbreviation	
Princip	les of E	Energy Technologies			11-ENT-152-m01	
Module	coord	inator		Module offered by		
Managi	ng Dire	ector of the Institute of A	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 terials ts. Ene Nucle ity. Bio	iples of energy conserva resources of energy. We , selective layers, highly rgy conservation via the ar power plants. Hydroe mass. Geothermal ener hing outcomes	e also discuss aspects activated carbons). T rmal insulation. Therr lectricity. Wind turbin	of optimising materi he course is especia nodynamic energy ef es. Photovoltaics. So	als (e.g. nanostructu lly suitable for teach ficiency. Fossil fired	ured insula- ing degree energy con-
		know the principles of c	lifferent methods of er	nergy technology, est	pecially energy conv	ersion. trans-
		ge. They understand th				
Course	S (type, r	number of weekly contact hours	, language — if other than Ge	rman)		
V (3) + I Module		t in: German or English				
		sessment (type, scope, langu	uage — if other than German	examination offered — if no	t every semester informati	ion on whether
		le for bonus)	age in other than bernan,		every semester, mornal	ion on whether
b) oral e c) oral e d) proje e) prese lf a writ stead ta of asse nation e Langua	examir examin ect repo entatio ten exa ake the ssmen date at ge of a ment o	mination (approx. 90 to nation of one candidate ation in groups (groups ort (approx. 8 to 10 page n/talk (approx. 30 minu amination was chosen a e form of an oral examin t is changed, the lecture the latest. ssessment: German an ffered: Once a year, wir	each (approx. 30 minu of 2, approx. 30 minu es) or utes) as method of assessm ation of one candidate er must inform studen d/or English	ites per candidate) of ent, this may be char e each or an oral exa	nged and assessmer mination in groups.	If the method
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
 Worklo	ad					
180 h	au					
Teachir	ig tyti	e				
 Referre	d to in	LPOI (examination regulation	ns for teaching-degree progra	ammes)		
§ 22 N § 22 N § 22 N	Nr. 1 h) Nr. 2 f)					
Module	e appea	nrs in				
LA Mittelscł School) (20		actics in Physics (Middle		enerated 19-Apr-2025 • exam ittelschulen (Didaktikfach) Pr	-	page 18 / 39

UNIVERSITÄT WÜRZBURG

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							
Low Co	st - Hig	h Impact. Low-budget	Experiments for Science	e Courses (Phy-	11-MIND-Ph1-152-m	01		
sics)	-				-			
Module coordinator Modu				Module offered by				
holder	of the C	Chair of Physics and its	Didactics	Faculty of Physics a	nd Astronomy			
ECTS		od of grading	Only after succ. com		,			
2		successfully completed		p				
Duratio	ľ	Module level	Other prerequisites					
1 semes		undergraduate	<u> </u>					
Conten								
		d realisation of experin Ind secondary level I.	nental stations with or	dinary and inexpens	ive consumables for	classes of		
Intende	ed learr	ning outcomes						
ry level	I for sn	develop simple scientifi nall groups from differe ant to the curriculum in	nt types of schools. In	doing so, they learn				
Course	S (type, n	umber of weekly contact hours	, language — if other than Ger	man)				
S (2)								
		e ssment (type, scope, langu le for bonus)	age — if other than German, e	examination offered — if no	t every semester, informati	on on whether		
b) oral e c) oral e	examin examin	nination (approx. 45 mi ation of one candidate ation in groups (groups (approx. 8 pages)	each (approx. 10 minu	-				
Allocati	ion of p	olaces						
Additio	nal info	ormation						
This mo	dule is	designed for students	studying at least one s	subject in the natura	l sciences.			
Worklo	ad							
60 h								
Teachir	ng cycle	a						
reachin	15 cycl	-						
Poforro	d to in	LPO I (examination regulation						
§ 22 N § 22 N § 22 N § 22 N	Nr. 1 h) Nr. 2 f)		ns for teaching-degree progra	nimes)				
Module	appea	rs in						
First sta	ate exa	mination for the teachir mination for the teachir		•	s (Primary School) (2	015)		
		mination for the teachir		,		<i></i>		
First sta	ate exa	mination for the teachir	ng degree Gymnasium	Physics (2015)				
		mination for the teachir			nysics (Middle Schoo	ol) (2015)		
		mination for the teachir		-				
		mination for the teachir		•	(Middle School) (20	015)		
		mination for the teachir		-				
		mination for the teachir			s (Primary School) (2	018)		
First sta	ate exa	mination for the teachir	ig degree Realschule P	hysics (2018)				
LA Mittelsch School) (20		actics in Physics (Middle		enerated 19-Apr-2025 • exam ttelschulen (Didaktikfach) Ph	-	page 20 / 39		



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 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)

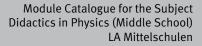
Module	title				Abbreviation	
Teachir	ng Scie	nce with Hands-on-Exhi	bits (Physics)		11-MIND-Ph2-152-m	101
Module	coord	inator		Module offered by		
		Chair of Physics and its I)idactics	Faculty of Physics a	and Astronomy	
ECTS		od of grading	Only after succ. com	• · · · · · · · · · · · · · · · · · · ·	ind Astronomy	
			Only alter Succ. con			
2		successfully completed Module level				
Duratio			Other prerequisites			
1 semes		undergraduate				
Conten						
Designi	ng anc	l creating hands-on exhi	bits for STEM subjects	5.		
Intende	ed leari	ning outcomes				
tents in	and o	evaluate the advantages ut of school. They plan a vork with pupils of seco	nd implement an inte			
Courses	S (type, n	number of weekly contact hours,	language — if other than Ger	man)		
S (2)						
		sessment (type, scope, langua le for bonus)	age — if other than German, e	examination offered — if no	ot every semester, informati	ion on whether
c) oral e	examin paper	ation of one candidate o ation in groups (groups (approx. 8 pages) Dlaces				
Additio	nal inf	ormation	-			
This mo	odule is	s designed for students	studying at least one s	subject in the natura	l sciences.	
Worklo		0	, ,			
60 h						
Teachir	ng cycl	e				
		-				
Poforro	d to in			mmas)		
		LPO I (examination regulation		ninnes)		
§ 22 N § 22 N	-					
§ 22 N	-					
Module	appea	urs in				
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LA Mittelsch School) (20		actics in Physics (Middle		enerated 19-Apr-2025 • exam ttelschulen (Didaktikfach) Pł	-	page 22 / 39

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 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)

Modul	e title				Abbreviation	
Teachi	ng Serr	inar Fundamental Princ	iples		11-L-EL1-152-m01	
Module	e coord	inator		Module offered by	<u> </u>	
holder	ofthe	Chair of Physics and its I	Didactics	Faculty of Physics a	ind Astronomy	
ECTS	1	od of grading	Only after succ. con		· · ·	
3	1	successfully completed		, , , , , , , , , , , , , , , , , , ,		
Duratio		Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts		Į.			
ception sed on	ns and specifi	nterdisciplinary aspects typical learning difficulti c contents of physics ed xperiments and suitable	es, elementarisation a ucation, verbalisation	and didactic reconst	ruction of physical co	ontents ba-
Intend	ed lear	ning outcomes				
studen	it preco	alitative knowledge of so nceptions and special m versity and school regar	nedia on relevant topi	cs; awareness of the		
Course	es (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
S (2)						
module is a) term	s creditab 1 paper	sessment (type, scope, langu ole for bonus) (approx. 8 pages) or on (approx. 45 minutes) o		examination offered — if nc	ot every semester, informati	on on whether
c) writt	en exa	mination (approx. 45 min	nutes) or			
		nation of one candidate				
		nation in groups (groups ssessment: German and		tes per candidate)		
Allocat		-				
Allocal		JIACES				
•••••••••••••••••••••••••••••••••••••••						
Additio		ormation	_			
Worklo	bad					
90 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	ns for teaching-degree progra	ammes)		
§ 22 § 22 § 22	Nr. 2 f)					
Module	e appea	ars in				
Elization t		mination for the teachin				
FIRST ST		and a set of the set of the set of the set of the	o deoree Grundschule	e Didactics in Physics	(Drimon, School) (a	
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First st First st First st First st	ate exa ate exa ate exa	mination for the teachin mination for the teachin mination for the teachin	g degree Realschule F g degree Gymnasium g degree Sonderpäda	Physics (2015) Physics (2015) gogik Didactics in Pl		-
First st First st First st First st First st	ate exa ate exa ate exa ate exa	mination for the teachin mination for the teachin mination for the teachin mination for the teachin	g degree Realschule F g degree Gymnasium g degree Sonderpäda g degree Mittelschule	Physics (2015) Physics (2015) gogik Didactics in Pl Physics (2015)	nysics (Middle Schoo	ol) (2015)
First st First st First st First st First st First st	ate exa ate exa ate exa ate exa ate exa	mination for the teachin mination for the teachin mination for the teachin	g degree Realschule F g degree Gymnasium g degree Sonderpäda g degree Mittelschule g degree Mittelschule	Physics (2015) Physics (2015) gogik Didactics in Pl Physics (2015)	nysics (Middle Schoo 5 (Middle School) (20	ol) (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) (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	
Selected Topics in Physics Didactics					11-L-EL2-152-m01	
Module coordinator Module offered by						
		f examination committe	0	Faculty of Physics and Astronomy		
ECTS	1			· · · ·	ind Astronomy	
		od of grading	Only after succ. con	ipt. of module(s)		
3		successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
Curren	t topics	in physics education.				
Intend	ed lear	ning outcomes				
The stu	udents l	have knowledge of a cu	rrent subdiscipline of	physics education ar	nd are able to classif	y the acqui-
		e according to subject-s				, ,
Course	es (type, r	number of weekly contact hours	, language — if other than Gei	man)		
S (2)						
	d of ass	sessment (type, scope, langu	1299 — if other than German	examination offered — if no	t even comester informati	ion on whether
		le for bonus)			tevery semester, mormati	on on whether
a) term	n paper	(approx. 8 pages) or				
		n (approx. 45 minutes)	or			
		mination (approx. 45 mi				
		nation of one candidate				
		ation in groups (groups ssessment: German an		tes per candidate)		
Allocat	tion of p	Diaces				
Additio	onal inf	ormation				
Worklo	ad					
90 h						
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination regulation	ons for teaching-degree progra	mmes)		
§ 22	Nr. 1 h)					
§ 22	Nr. 2 f)					
§ 22	Nr. 3 f)					
Modul	e appea	urs in				
First st	ate exa	mination for the teachir	ng degree Grundschule	Physics (2015)		
		mination for the teachir			s (Primary School) (2	.015)
		mination for the teachir		-		
		mination for the teachir	,	-		
		mination for the teachir			nysics (Middle Schoo)I) (2015)
		mination for the teachir		• •	(Middle Cabeel) (ar	
		mination for the teachir		•	6 (MIGULE SCHOOL) (20	115)
		mination for the teachir mination for the teachir		-	s (Primary School) (a	2018)
1		mination for the teachir				010)
				,		
LA Mittelso School) (20		actics in Physics (Middle		enerated 19-Apr-2025 • exam ittelschulen (Didaktikfach) Pł	-	page 26 / 39

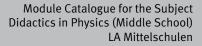


First state examination for the teaching degree Gymnasium Physics (2018) First state examination for the teaching degree Mittelschule Physics (2018) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) First state examination for the teaching degree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

holder of the Chair of Physics and its Didactics Faculty of Physics and Astronomy ECTS Method of grading Only after succ. compl. of module(s) 2 (not) successfully completed Duration Module level Other prerequisites 1 semester undergraduate Contents The module provides an introduction to successful supervision of pupils independently carrying out experiments in the teaching-learning-laboratory. Intended learning 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 then during independent experimenting (supervision competencies in open classroom situations). The students develop professional behaviour patterns and to support the students' stengths. The students develop professional behaviour patterns and to support the students' stengths. The students develop professional behaviour patterns and to support the students' stengths. The students develop professional behaviour patterns and to support the students' stengths. The students develop professional behaviour patterns and to support the students' stengths. The student's develop professional behaviour patterns and to support the students' stengths. The student's develop professional behaviour patterns and to support the student's tengths. The student's develop professional behaviour patterns and to support the student's tengths. The student's tength	Module title					Abbreviation	
holder of the Chair of Physics and its Didactics Faculty of Physics and Astronomy ECTS Method of grading Only after succ. compl. of module(s) (not) successfully completed - Duration Module level Other prerequisites I undergraduate - Contents The module provides an introduction to successful supervision of pupils independently carrying out experiments in the teaching-learning-laboratory. Intended learning-laboratory. In	Studen	Student Lab Supervision (Physics) 11-L-L3B-152-m01					
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Module title Abbreviation													
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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 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)

Modul	Module title Abbreviation						
Scienti	Scientific Work in Teaching Concepts 11-L-WPD-152-mo1						
Module coordinator Module offered b							
Managing Director of the Institute of Ap			oplied Physics	Faculty of Physics and Astronomy			
ECTS	<u> </u>	od of grading	Only after succ. com		ind / iscienteriny		
	1	successfully completed					
3							
Duratio		Module level	Other prerequisites				
1 seme	ester	undergraduate					
Conter	nts						
Curren	t topics	in scientific work in phy	sics education				
Intend	ed lear	ning outcomes					
The stu	dents	have knowledge of a cu	rent subdiscipline of p	physics education ar	nd are able to proces	s questions	
		ucation on the basis of s		,	,		
Course	S (type, r	number of weekly contact hours,	language — if other than Ger	man)			
S (2)		· ·					
	e taugh	t in: German or English					
Metho	d of ass	sessment (type, scope, langu	age — if other than German.	examination offered — if no	t every semester, informati	on on whether	
		le for bonus)					
talk (30	o to 45	minutes)					
	tion of j						
Allocut		Jucco					
			_				
Additio	onal inf	ormation	-				
			_				
Worklo	ad		_				
90 h							
Teachi	ng cycl	e					
Referre	ed to in	LPO I (examination regulatio	ns for teaching-degree progra	mmes)			
	Nr. 1 h)			inites)			
§ 22 II § 22 II							
§ 22	,						
Modul	e appea	ars in					
		mination for the teachin	g degree Grundschule	Physics (2015)			
		mination for the teachin		• •	s (Primary School) (2	.015)	
		mination for the teachir				57	
First st	ate exa	mination for the teachin	g degree Gymnasium	Physics (2015)			
First st	ate exa	mination for the teachin	g degree Sonderpäda	gogik Didactics in Ph	nysics (Middle Schoo	ol) (2015)	
First st	ate exa	mination for the teachin	g degree Mittelschule	Physics (2015)			
		mination for the teachin		•	(Middle School) (20)15)	
1		mination for the teachin		•			
		mination for the teachin		•	6 (Primary School) (2	018)	
		mination for the teachin		-			
1		mination for the teachir mination for the teachir		•			
1		mination for the teachin			nysics (Middle Schoo)) (2018)	
1		mination for the teachin					
LA Mittelso School) (20		actics in Physics (Middle		enerated 19-Apr-2025 • exam ittelschulen (Didaktikfach) Ph	_	page 32 / 39	

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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)

Module title					Abbreviation		
Current Topics in Physics 11-LX6-152-mo1							
Module coordinator Module offe					ed by		
chairpe	erson o	f examination committe	ee	Faculty of Physics a	nd Astronomy		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)			
6		rical grade		-			
Duratio		Module level	Other prerequisites				
1 seme	ster	undergraduate		ination committee re	equired.		
Conten		undergradate					
		in physics.					
		ning outcomes					
		have knowledge of a cu		Dhysics and underst	and the measuring a	nd/or colou	
lation r	nethod	is necessary to acquire lication areas.					
Course	S (type, r	number of weekly contact hour	s, language — if other than Gei	rman)			
V (3) +	R (1)						
		Sessment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether	
c) oral d d) proje e) prese lf a writ stead ta of asse nation Langua Allocat	 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						
Worklo	ad						
180 h							
Teachi	ng cvcl	e					
Referre	d to in	IPOI (examination regulation	ons for teaching-degree progra	mmes)			
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	e appea	ars in					
First sta First sta First sta First sta First sta	Module appears inFirst 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)						
LA Mittelsc School) (20		actics in Physics (Middle		enerated 19-Apr-2025 • exam ittelschulen (Didaktikfach) Pł	-	page 34 / 39	



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 Realschule Physics (2018) First state examination for the teaching degree Gymnasium 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 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 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 Realschule Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Mittelschule Physics (2020) First state examination for the teaching degree Mittelschule Physics (2020) First state examination for the teaching degree Mittelschule 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)

Module title Abbreviation								
Selecte	Selected Topics of Physics 11-LCS6-152-m01							
Module coordinator			Module offered by					
chairpe	rson o	f examination committe	ee	Faculty of Physics and Astronomy				
ECTS	Metho	od of grading	Only after succ. con	only after succ. compl. of module(s)				
4	nume	rical grade						
Duratio	n	Module level	Other prerequisites					
1 semes	ster	undergraduate	Approval from exam	ination committee re	equired.			
Content	ts							
Current study al	•	in experimental physic	cs. Credited academic a	achievements, e.g. ir	ι case of change of ι	iniversity or		
Intende	d learı	ning outcomes						
sics of t underst	he Bao and th	nave advanced compet chelor's programme. Th e measuring and/or ev bject-specific contexts	ey have knowledge of aluation methods nece	a current subdiscipli essary to acquire this	ne of Experimental F	Physics and		
Courses	5 (type, n	umber of weekly contact hour	s, language — if other than Gei	man)				
V (2) + F	R (1)							
		s essment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informat	ion on whether		
d) proje e) prese If a writt stead ta of asses nation c	ect repo entatio ten exa ake the ssmen date at	ation in groups (groups ort (approx. 8 to 10 pag n/talk (approx. 30 min amination was chosen form of an oral examin t is changed, the lectur the latest. ssessment: German an	es) or utes) as method of assessmo nation of one candidate er must inform student	ent, this may be chan e each or an oral exa	nged and assessmer mination in groups.	If the method		
Allocati	on of p	olaces						
Additio	nal inf	ormation						
Workloa	ad							
120 h								
Teachin	ig cycl	е						
Referre	d to in	LPO I (examination regulation	ons for teaching-degree progra	mmes)				
§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)								
		irs in						
First sta First sta First sta	Module appears inFirst 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)							
LA Mittelsch	A Mittelschulen Didactics in Physics (Middle JMU Würzburg • generated 19-Apr-2025 • exam. reg. data re- chool) (2018) cord Lehramt Mittelschulen (Didaktikfach) Physik - 2018					1		



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)





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 Mittelschule may write this thesis in the subject Didaktik einer Fächergruppe der Mittelschule (Didactics of a Group of Subjects of Mittelschule), 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	Module title Abbreviation					
Thesis i	Thesis in Physics Secondary General School 11-L-HA-MS-DF-152-m01					
Module coordinator Module offered by						
chairpe	rson of	f examination committee		Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
10	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1-2 sem	ester	undergraduate				
Content	ts					
Indeper	ndent p	processing of a topic of P	hysics and/or Didact	ics of Physics, chose	en in consultation with a lecturer.	
Intende	d learn	ning outcomes				
and me	thods				while applying the knowledge sent their results in written form in	
Courses	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)		
No cour	ses as	signed to module				
		e ssment (type, scope, langua) le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
prox. 40 Langua	o pages ge of a	5)	-	-	aching-degree programmes) (ap- on 4 LPO I (examination regulati-	
Allocati						
Additio	nal inf	ormation				
Workloa	ad					
300 h						
Teachin	ig cycl	9				
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)		
§ 29						
Module	appea	irs in				
First sta	ite exa	mination for the teaching	degree Mittelschule	Didactics in Physics	s (Middle School) (2015)	
		mination for the teaching	-			
First sta	ite exa	mination for the teaching	degree Mittelschule	Didactics in Physics	s (Middle School) (2020)	