

## Subdivided Module Catalogue for the Subject

# Chemistry

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

> Examination regulations version: 2015 Responsible: Faculty of Chemistry and Pharmacy

JMU Würzburg • generated 18-Apr-2025 • exam. reg. data record L1|032|-|-|H|2015

### 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)):

#### 08-Sep-2015 (2015-128)

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.

LA Grundschulen	Chemistry	(2015)
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### The subject is divided into

Abbreviation	Module title	ECTS credits	Method of grading	page
Scientific Discipline (54 E	CTS credits)			
Compulsory Courses (54	ECTS credits)			
08-AC1-152-m01	Principles of Inorganic Chemistry	8	NUM	7
08-AC-KAC-152-m01	Concepts of Inorganic Chemistry	5	NUM	12
08-ACP1-LA-152-m01	Inorganic and Analytical Chemistry (lab) (teaching degree)	7	B/NB	13
08-OC1-LAGMR-152- m01	Organic Chemistry 1 (teaching degree for secondary schools)	6	NUM	34
-	Organic Chemistry 2	6	NUM	36
	Organic Chemistry - laboratory course (teaching degree for se-	0	NOM	30
-	condary schools)	5	B/NB	41
			NILINA	
	Physical Chemistry (teaching degree for secondary schools)	6	NUM	43
	Biochemistry 1	5	NUM	15
-	Exercises in Experimental Presentation (teaching degree for se-	6	B/NB	49
	condary schools)		,	
Teaching (12 ECTS credits	3)			
Compulsory Courses (12	ECTS credits)			
08-FD1-LAGMR-152-	Introduction into Teaching Chemistry for Elementary, Seconda-	4	NUM	10
m01	ry and Middle School	4	NOM	19
08-FD2-LAGM-152-m01	Teaching Chemical Practice for Elementary and Secondary School	5	NUM	20
aper (4 ECTS credits) tudents studying for a teach	Chemistry in Elementary and Secondary School	3 dactics and	B/NB	ı hodo
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	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	



08-PVAC-152-m01	Training for Exams in Inorganic Chemistry	2	B/NB	45
08-PVOC-152-m01	Training for Exams in Organic Chemistry	3	B/NB	46
I 08-FD-PVI AGMRS-152-m01	Training for Exams in Chemistry Teaching for Elementary, Se- condary and Middle School Teachers	2	B/NB	32
08-FD-WA-152-m01	Instructions for Scientific Research	2	B/NB	33
08-FD-LLL-152-m01	Chemistry SchoolLabs	2	B/NB	23
08-FD-MS-152-m01	Microscale Experiments in Chemistry Teaching	2	B/NB	31
08-FD-ASL-152-m01	Out-Of-School Education	2	B/NB	22

#### Paper (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.

08-Ch-HA-UF-GS-152-m01	Final Thesis according to § 29 LPO I in Chemistry for Elementa-	10	NUM	17
00-01-11A-01-03-152-11101	ry School Teachers	10	NOM	1/

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	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Module	Module title Abbreviation					
Toxicology and legal studies 03-TR-152-m01						
Module coordinator Module offered			Module offered by			
lecture	r of lect	ure "Toxikologie und Re	chtskunde"	Faculty of Medicine		
ECTS		od of grading	Only after succ. con	pl. of module(s)		
3	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten						
Basics toxicol	-	l regulations for chemist	s (handling and trans	portation of hazardo	us materials), funda	amentals of
Intende	ed leari	ning outcomes				
		naster the basics of lega the fundamentals of to		nists (handling and t	ransport of hazardo	us substan-
Course	<b>s</b> (type	, number of weekly conta	act hours, language –	if other than Germa	n)	
V (1) + '	V (1)					
		<b>essment</b> (type, scope, la on on whether module c			tion offered — if not	every seme-
written	examiı	nation (approx. 90 minut	es)			
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
		2 para. 2 sentence 2 AP he APOLmCh and No. 5 a			er g) and i) and No. I	l 1st letter d)
Worklo	ad					
90 h						
Teachi	ng cycl	9				
Referre	ed to in	LPOI (examination regu	llations for teaching-o	legree programmes)		
§ 22	Nr. 1 h)					
§ 22	-					
§ 22	Nr. 3 f)					
Module	e appea	rs in				
		gree (1 major) Biochemis gree (1 major) Chemistry				
		gree (1 major) Food Chen				
		mination for the teaching	-	Chemistry (2015)		
		mination for the teaching			stry (Primary School)	(2015)
First state examination for the teaching degree Realschule Chemistry (2015)						
First state examination for the teaching degree Gymnasium Chemistry (2015)						
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015)						
First state examination for the teaching degree Mittelschule Chemistry (2015)						
	First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015)					
Master's degree (1 major) Chemistry (2016) Bachelor's degree (1 major) Food Chemistry (2016)						
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		gree (1 major) Chemistry				
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LA GIUNASC	inuteri Che	mistry (2015)		enerated 18-Apr-2025 • exam		page 5 / 49

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Master's degree (1 major) Chemistry (2018)

Bachelor's degree (1 major) Food Chemistry (2019)

First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

Bachelor's degree (1 major) Food Chemistry (2021)

Bachelor's degree (1 major) Biochemistry (2022)

Master's degree (1 major) Chemistry (2024)

Bachelor's degree (1 major) Food Chemistry (2025)

LA Grundschulen Chemistry (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 6 / 49
	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Module	e title				Abbreviation
Princip	les of I	norganic Chemistry			08-AC1-152-m01
Modul	e coord	linator		Module offered by	<u>I</u>
lecturer of lecture "Experimentalchemie" (Experimental Chemistry)			e" (Experimental	Institute of Inorgan	ic Chemistry
ECTS	T	od of grading	Only after succ. con	npl. of module(s)	
8		rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	nts	•			
rial and	d partic ition, th	le level, metals, acid-bas	se reactions, the perio	odic table, chemical	mphasis is placed on the mate- equilibrium and complexometry. hes the basics of inorganic che-
Intend	ed lear	ning outcomes			
cient ir actions dents l licatior	n basic s using know h n.	models of the structure of typical chemical formula ow the most important que	of matter and can des language and interp uantitative and qualit	cribe them properly. ret them by identifyin cative analytical meth	ormation from it. He/she is profi- He/she can depict chemical re- ng the type of reaction. The stu- nods work and their areas of app-
		, number of weekly conta	act hours, language –	- if other than Germa	n)
V (4) +	V (2)				
		<b>sessment</b> (type, scope, la ion on whether module c			tion offered — if not every seme-
b) oral c) oral d) log ( e) pres	examir examir (approx entatio	mination (approx. 90 to a nation of one candidate e nation in groups of up to g a. 20 pages) or on (approx. 30 minutes) assessment: German and	each (20 to 30 minute 3 candidates (approx	-	didate) or
Allocat	tion of	places			
Additio	onal inf	ormation			
	•	a para. 2 sentence 2 AP nnex 2 to the APOLmCh	OLmCh in conjunctio	n with No. I 2nd lette	er a) of annex 1 to the APOLmCh
Worklo	ad				
240 h					
Teachi	ng cvcl	e			
Referre	ed to in	LPOI (examination regu	llations for teaching-	degree programmes)	
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_	e appea	ars in			
Bachel Bachel First st	or's de or's de ate exa	gree (1 major) Biochemis gree (1 major) Chemistry mination for the teaching	(2015) g degree Grundschule	• •	
		mination for the teaching			stry (Primary School) (2015)

First state examination for the teaching degree Gymnasium Chemistry (2015)

First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2015)

First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) Bachelor's degree (1 major) Biochemistry (2017)

Bachelor's degree (1 major) Chemistry (2017)

First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

Bachelor's degree (1 major) Food Chemistry (2021)

Bachelor's degree (1 major) Biochemistry (2022)

Bachelor's degree (1 major) Food Chemistry (2025)

LA Grundschulen Chemistry (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 8 / 49
	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Elemental Organic Chemistry       08-AC-ELO-152-m01         Module coordinator       Module offered by         Institute of locure "Elementorganische Chemie" (Elemental Organic Chemistry)       Institute of Inorganic Chemistry         ECTS       Method of grading       Only after succ. compl. of module(s)         5       numerical grade          Duration       Module evel       Other prerequisites         1 semester       undergraduate          This module equips students with an advanced knowledge of organometallics. It focuses on their structures ar properties, special material classes, reactivity and technical processes.         Intended learning outcomes       Students are able to describe the structure and properties of organometallics in an appropriate manner. They a able to systemise them and characterise their structure and reactivity. In addition, they are able to develop an explain principles for the synthesis of elementary organic compounds.         Courses (type, number of weekly contact hours, language — if other than German, and whiten examination of one candidate each (20 to 30 minutes) or or (2) (2) (1)         Method of assessment: German and/or English         Allogapprox. 20 pages) or or or ela examination on whether module can't guish and assessment: German and/or English         Allocation or places	Module	title				Abbreviation	
Module coordinator         Module offered by           lecturer of lecture "Elementorganische Chemie" (Elemental Organic Chemistry)         Institute of Inorganic Chemistry Organic Chemistry           ECTS         Method of grading         Only after succ. compl. of module(s)           5         numerical grade            Duration         Module levet         Other prerequisites           1 semestre             Contents             This module equips students with an advanced knowledge of organometallics. It focuses on their structures are properties, special material classes, reactivity and technical processes.         Intended learning outcomes           Students are able to describe the structure and properties of organometallics in an appropriate manner. They are able to systemises them and characterise their structure and reactivity. In addition, they are able to develop and explain principles for the synthesis of elementary organic compounds.           Courses (type, number of weekly contact hours, language – if other than German)         Y (2) + 0 (1)           Method of assessment (type, scope, language – if other than German, examination offered – if not every sem ster, information on whether module can be chosen to earn a bonus)         a) written examination of goprox. yo to 180 minutes) or           0 oral examination of one candidate each (zo to 30 minutes) or         b) oral examination in groups of up to 3 candidate (approx. 15 minutes per candidate) or         d) log (approx. 20 page 30	Elemen	tal Org	anic Chemistry		·	08-AC-ELO-152-mo	1
lecturer of lecture "Elementorganische Chemie" (Elemental Organic Chemistry ECTS Method of grading Only after succ. compl. of module(s) i numerical grade							
Organic Chemistry)         ECTS       Method of grading       Only after succ. compl. of module(s)         5       numerical grade       -         Duration       Module level       Other prerequisites         1 semester       undergraduate       -         Contents       -       -         Contents       -       -         Contents       -       -         Students are able to describe the structure and properties of organometallics in an appropriate manner. They able to systemise them and characterise their structure and reactivity. In addition, they are able to develop and explain principles for the synthesis of elementary organic compounds.         Courses (type, number of weekly contact hours, language – if other than German, examination offered – if not every sem ster, information on whether module can be chosen to earn a bonus)       -         a) written examination of one candidate each (20 to 30 minutes) or       0) or al examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or       -         a) or al examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or       -       -         b) oral examination in groups or up to 3 candidates (approx. 15 minutes per candidate) or       -       -         Additional information       -       -       -         Additional information       -       -       -         S 2 I							
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Duration         Module level         Other prerequisites           1 semester         undergraduate				Only after succ. con	npl. of module(s)		
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LA Grundschulen Chemistry (2015) JMU Würzburg • generated 18-Apr-2025 • exam. reg. data repage 9 / 44			0 0, 0, aoran			() (2.	-,
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First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) Bachelor's degree (1 major) Biochemistry (2022) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

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	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Module title Abbreviation					Abbreviation	
	Solid State Chemistry 08-AC-FK-152-m01					
Module	coord	inator		Module offered by		
lecturer mistry)	of lect	ure "Festkörperchemie" (	Solid State Che-	Institute of Inorgani	c Chemistry	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
3	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Conten	ts					
		quips students with an a ures and properties, spee			saline compounds. It focuses ical processes.	
Intende	ed learn	ning outcomes				
		ble to describe the struc . They are able to system	• •		saline compounds in an appro- and reactivity.	
Courses	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)	
V (2)						
		e <b>ssment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-	
<ul> <li>a) written examination (approx. 90 to 180 minutes) or</li> <li>b) oral examination of one candidate each (20 to 30 minutes) or</li> <li>c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or</li> <li>d) log (approx. 20 pages) or</li> <li>e) presentation (approx. 30 minutes)</li> <li>Language of assessment: German and/or English</li> </ul>						
Allocati	ion of p	olaces				
Additio	nal info	ormation				
Worklo	ad					
90 h						
Teachin	ng cycl	9				
	0 . )	-				
Referre	d to in	LPOI (examination regu	lations for teaching-	degree programmes)		
§ 22    N	Referred to in LPO I (examination regulations for teaching-degree programmes) § 22 II Nr. 1 h) § 22 II Nr. 2 f) § 62 I Nr. 1					
Module	appea	in and the second se				
First sta First sta First sta Master' Master' First sta	Module appears in         First state examination for the teaching degree Grundschule Chemistry (2015)         First state examination for the teaching degree Realschule Chemistry (2015)         First state examination for the teaching degree Gymnasium Chemistry (2015)         First state examination for the teaching degree Mittelschule Chemistry (2015)         First state examination for the teaching degree Mittelschule Chemistry (2015)         Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)         Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)         First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))         Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)         First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))         Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)					

LA Grundschulen Chemistry (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 11 / 49
	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Module	e title				Abbreviation
Concep	ots of Ir	organic Chemistry			08-AC-KAC-152-m01
Module coordinator				Module offered by	
		cture "Konzepte der Ano	rganischen Che-	Institute of Inorgan	ic Chemistry
		s of Anorganic Chemistr			ic cheffibury
ECTS	· · ·	od of grading	Only after succ. cor	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ster	undergraduate			
Conten	ts				
	and the				the orbital model, the VSEPR , acids and bases and electro-
Intende	ed lear	ning outcomes			
sis of d	lifferen				s of lower complexity on the ba- hemical compounds and know
Course	<b>s</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	in)
V (1) +	Ü (2)				
		e <b>ssment</b> (type, scope, la on on whether module o			tion offered — if not every seme-
c) oral d) log ( e) pres	examin (approx entatio	ation of one candidate of ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German and	3 candidates (approx	-	didate) or
Allocat	ion of <b>j</b>	olaces			
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cvcl	6			
	0 - 9 - 0				
Referre	ed to in	LPOI (examination reg	lations for teaching-	degree programmes)	
§ 42   N § 62   N					
	Vr. 1	irs in			

Modul					Abbreviation
Inorga	nic and	Analytical Chemistry (la	b) (teaching degree)		08-ACP1-LA-152-m01
Module	e coord	inator		Module offered by	<u> </u>
holder	of the (	Chair of Anorganic Chemi	stry	Institute of Inorgan	ic Chemistry
ECTS	Metho	od of grading	Only after succ. com		
7	(not) s	successfully completed			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	Its				
lated le course	ecture(s focuse	s). After a safety briefing,	the students autonor	mously conduct exp	they have gained through the re- eriments in the laboratory. The nple substances and analyses of
Intend	ed lear	ning outcomes			
have d	evelope		he necessary stoichi	ometric calculations	xperiments to solve them. They and describe the chemical pro-
Course	<b>s</b> (type	, number of weekly conta	ict hours, language —	- if other than Germa	an)
P (12)					
Vortest pages Langua Assess	tate/Na each) a age of a	nd assessment of practic ssessment: German and ffered: Once a year, sum	experiment examinat cal performance (2 to /or English	ion talks approx. 15	minutes each, log approx. 5 to 10 ions)
Allocal		Jaces			
 Additia	nalinf	ormation			
Auunn					
Worklo	ad				
210 h					
	ng cycl	e			
	0.934				
Referre	ed to in	LPOI (examination regu	lations for teaching-o	legree programmes)	)
§ 42   N § 62   N	Vr. 1				
Modul	e appea	ars in			
	ate exa	mination for the teachinន mination for the teachinន្		• -	
First st First st	ate exa	mination for the teaching mination for the teaching	g degree Mittelschule	Chemistry (2015)	rüfungsordnungsversion 2015))

Module title Abbreviation					Abbreviation	
Practic	Practical spectroscopy 2 08-AC-Spec-152-mo1					
Module	e coord	inator		Module offered by		
lecture	r of lect	ture "Praktische Spektros	skopie 2"	Institute of Inorgan	ic Chemistry	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
3	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
		quips students with an a cures and properties, spe			l saline compounds. It focuses ical processes.	
		ning outcomes	· · · ·			
Students are able to describe the structure and properties of metals, alloys and saline compounds in an appro- priate manner. They can list spectroscopic methods that can be used for the structural analysis of solids and can describe them in an appropriate manner.						
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	if other than Germa	n)	
V (2)						
		<b>sessment</b> (type, scope, la ion on whether module ca			tion offered — if not every seme-	
c) oral e d) log ( e) prese	examin approx entatio	nation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and,	3 candidates (approx.		didate) or	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
90 h						
Teachir	ng cycl	e				
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)						
§ 22      § 22      § 22	Nr. 2 f)					
Module	Module appears in					
First sta First sta First sta	ate exa ate exa ate exa	mination for the teaching mination for the teaching mination for the teaching mination for the teaching mination for the teaching	g degree Realschule C g degree Gymnasium g degree Mittelschule	Chemistry (2015) Chemistry (2015) Chemistry (2015)	rüfungsordnungsversion 2015))	

Module title Abbreviation					
Bioche	emistry	1			08-BC1-152-m01
A4		·····		A	
	le coord			Module offered by	
		e Chair of Biochemistry Chair of Biochemistry			try
ECTS	_	od of grading	Only after succ. con	ipl. of module(s)	
5	- <u>-</u>	rical grade			
Durati		Module level	Other prerequisites		
1 seme		undergraduate			
Conte	nts				
mistry tertian sis, glu tion, fa	A parti y and qu uconeog atty acid	cular focus is on the bio iaternary structures), ca genesis, citric acid cycle	ochemistry of proteins atalytic strategies and a cellular respiration, p metabolism, the urea	(amino acids, peptio enzyme kinetics, car photosynthesis), fatt cycle and amino aci	ndamental principles of bioche- de bonds, primary, secondary, rbohydrate metabolism (glycoly- ty acid metabolism (beta oxida- d metabolism. The module also
Intend	led learr	ning outcomes			
		become familiar with t dule. They are able to d			biochemistry that were discus- cellular systems.
Course	<b>es</b> (type,	, number of weekly con	tact hours, language –	- if other than Germa	an)
V (2) +	- Ü (1)				
		essment (type, scope, on on whether module			ation offered — if not every seme
writter	n examir	nation (approx. 60 to 90	o minutes)		
Alloca	tion of p	olaces			
		ormation			
nex 1 t	to the AF	2 para. 2 sentence 2 A POLmCh and No. 3 of ar			er e) and No. II 1st letter c) of an-
Workle	oad				
150 h					
Teachi	ing cycl	9			
Referr	ed to in	LPOI (examination reg	ulations for teaching-o	degree programmes)	
§ 42   § 62					
Modul	le appea	in			
Bache	lor's deg	gree (1 major) Biochemi	stry (2015)		
		gree (1 major) Biology (2	-		
		gree (1 major) Chemistr			
		gree (1 major) Food Che	• •		
		gree (1 major) Functiona		Chamister (	
		mination for the teachir mination for the teachir		•	
		mination for the teachir			
		mination for the teachin			
		gree (1 major) Food Che		Chemistry (2015)	
		gree (1 major) Biology (2	•		
				anaratad 40 American	
	schuten Che	emistry (2015)		enerated 18-Apr-2025 • exam	1. reg. data re- page 15 / 49





Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017) Module studies (Bachelor) Chemistry (2019) Bachelor's degree (1 major) Food Chemistry (2019) Module studies (Bachelor) Orientierungsstudien (2020) First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) Bachelor's degree (1 major) Biology (2021) Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Food Chemistry (2022) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Functional Materials (2025)

Bachelor's degree (1 major) Food Chemistry (2025)

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	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Module	Module title Abbreviation					
	Final Thesis according to § 29 LPO I in Chemistry for Elementary School Tea- 08-Ch-HA-UF-GS-152-mo1					
chers						
Module	Module coordinator Module offered by					
	1	search group offering the		Faculty of Chemistr	y and Pharmacy	
ECTS		od of grading	Only after succ. con	npl. of module(s)		
10		rical grade				
Duratio		Module level	Other prerequisites			
1 seme		undergraduate				
Conten						
in cher	nistry o		y have agreed upon v	with an authorised e	ly research and write on a topic xaminer in accordance with the rammes).	
Intend	ed lear	ning outcomes				
To pass this module, students will be expected to: - be able to independently write an academic paper (define and analyse a problem, conduct a literature search, refer to relevant theories, interpret data, draw logical conclu- sions, and offer approaches to the solution of said problem) be able to work to deadlines be able to prepare an appropriate written account of the results of their work.						
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	ın)	
No cou	rses as	signed to module				
		<b>essment</b> (type, scope, la on on whether module ca			ition offered — if not every seme-	
to 50 p Langua	ages) age of a		-	-	aching-degree programmes) (30 on 4 LPO I (examination regulati-	
Allocat	ion of p	olaces				
Additio	onal inf	ormation				
Worklo	ad					
300 h						
-	ng cycl	e				
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)		
§ 29						
	e appea	urs in				
			degree Grundschule	e Chemistry (2015)		
First state examination for the teaching degree Grundschule Chemistry (2015)						

Modul					Abbreviation	
Interns	Internship at Elementary Schools 08-Ch-SBPrakt-LAGS-152-mo1					
Module coordinator Module offered by					<u> </u>	
holder	ofthe	Professorship of Didactic	s of Chemistry	Faculty of Chemistr	y and Pharmacy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
4	(not)	successfully completed				
Durati	on	Module level	Other prerequisites			
1 seme	ester	unknown				
Conter	nts					
No info	ormatio	n on contents available.				
Intend	ed lear	ning outcomes				
No info	ormatio	n on learning outcomes a	available.			
Course	<b>es</b> (type	, number of weekly conta	ict hours, language –	- if other than Germa	ın)	
P (o) +	S (2)					
ster, in term p Conter regulat	format aper (w nts and tions fo	ion on whether module c ritten elaboration of teac duration of placement as	an be chosen to earn hing practice, approx s specified in Section mmes); participation	a bonus) «. 8 pages) 34 Subsection 1 Ser	ition offered — if not every seme- ntence 1 No. 4 LPO I (examination ing practice, completion of all set	
Allocat	tion of	places				
Additio	onal inf	ormation				
Worklo	bad					
120 h						
Teachi	ng cycl	e				
 Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)		
		LPO I (examination regu	lations for teaching-o	degree programmes)		
§ 34 l 1			lations for teaching-o	degree programmes)		

Module	e title				Abbreviation			
Introdu	Introduction into Teaching Chemistry for Elementary, Secondary and Middle 08-FD1-LAGMR-152-m01							
School	School							
Module	Module coordinator Module offered by							
holder	ofthe	Professorship of Dida	ctics of Chemistry	Institute of Inorgan	ic Chemistry			
ECTS		od of grading	Only after succ. con	npl. of module(s)				
4	nume	rical grade						
Duratio	on	Module level	Other prerequisites	i				
1 seme	1 semester unknown							
Conten	Its							
No info	ormatio	n on contents availat	ole.					
Intend	ed lear	ning outcomes						
No info	ormatio	n on learning outcom	es available.					
Course	e <b>s</b> (type	, number of weekly c	ontact hours, language –	- if other than Germa	an)			
V (2) +	S (2)							
			e, language — if other th le can be chosen to earn		ation offered — if not every seme-			
		mination (approx. 90 ssessment: German	minutes) and b) present and/or English	ation (approx. 20 m	inutes)			
Allocat	tion of	places						
Additio	onal inf	ormation						
Worklo	ad							
120 h								
Teachi	ng cycl	e						
Referre	ed to in	LPOI (examination	regulations for teaching-	degree programmes)	)			
§ 42   N	vr. 4							
Module	e appea	ars in						
First sta First sta	ate exa ate exa	mination for the teac mination for the teac	hing degree Grundschule hing degree Realschule hing degree Mittelschule hing degree Mittelschule	Chemistry (2015) Chemistry (2015)	rüfungsordnungsversion 2015))			

Module ofholder ofECTSN5rDuration2 semestContentsNo informIntended	ter unknown		Module offered by Institute of Inorgan Ipl. of module(s)	o8-FD2-LAGM-152-mo1 ic Chemistry					
holder of ECTS / 5 r Duration 2 semest Contents No inforr Intended	the Professorship of Didact Method of grading numerical grade Module level ter unknown	Only after succ. con	Institute of Inorgan	ic Chemistry					
ECTSI5rDuration2 semestContentsNo informIntended	Method of grading numerical grade Module level ter unknown	Only after succ. con	npl. of module(s)	ic Chemistry					
5 r Duration 2 semest Contents No inforr Intended	numerical grade Module level ter unknown								
Duration 2 semest Contents No inforr Intended	Module level ter unknown	 Other prerequisites 							
2 semest Contents No inforr Intended	ter unknown	Other prerequisites							
Contents No inforr Intended									
No inforr Intended	6		2 semester unknown						
Intended									
	nation on contents available	•							
No inforn	l learning outcomes								
	nation on learning outcome	available.							
Courses	(type, number of weekly cor	tact hours, language –	- if other than Germa	an)					
S (2) + S									
	of assessment (type, scope, rmation on whether module			ation offered — if not every seme-					
	ntation with practical examine of assessment: German ar		ites) and b) present	ation (approx. 20 minutes)					
Allocatio	on of places								
Addition	al information								
Workload	d								
150 h									
Teaching	z cycle								
	, eye.e								
Referred	to in LPO I (examination re	ulations for teaching.	egree programmes						
§ 38   Nr.									
	appears in								
	e examination for the teachi	ng degree Grundschule	Chemistry (2015)						
	e examination for the teachi			stry (Primary School) (2015)					
				hemistry (Middle School) (2015)					
	e examination for the teachi			,. ,. ,. ,,					
First stat	e examination for the teachi	ng degree Mittelschule	Didactics in Chemis	stry (Middle School) (2015)					
			•	rüfungsordnungsversion 2015))					
		ng degree Mittelschule	Didactics in Chemis	stry (Middle School) (2020 (Prü-					
-	nungsversion 2015))								
	e examination for the teachi sordnungsversion 2015))	ng degree Sonderpäda	gogik Didactics in C	hemistry (Middle School) (2020					

Modul	e title				Abbreviation	
Chemi	Chemistry in Elementary and Secondary School 08-FD <sub>3</sub> -LAGM-152-mo1					
Modul	e coord	inator		Module offered by	<u> </u>	
holder	ofthe	Professorship of Didactic	s of Chemistry	Institute of Inorgan	ic Chemistry	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
3	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	1 semester unknown					
Conter	nts					
No info	ormatio	n on contents available.				
Intend	ed lear	ning outcomes				
No info	ormatio	n on learning outcomes a	available.			
Course	e <b>s</b> (type	, number of weekly conta	ict hours, language –	- if other than Germa	ın)	
S (2)						
ster, in presen	format tation	ion on whether module ca (approx. 20 minutes) ssessment: German and	an be chosen to earn		ition offered — if not every seme-	
Allocat	tion of	places				
Additio	onal inf	ormation				
Worklo	bad					
90 h						
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)		
§ 42   N	Vr. 4					
Modul	e appea	ars in				
		mination for the teaching				
		mination for the teaching		,		
First st	ate exa	mination for the teaching	g degree Mittelschule	Chemistry (2020 (P	rüfungsordnungsversion 2015))	

Module	e title				Abbreviation
		l Education			08-FD-ASL-152-m01
Module	e coord	inator		Module offered by	
holder	of the F	Professorship of Didactics	s of Chemistry	Institute of Inorgani	c Chemistry
ECTS		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	unknown			
Conten	ts				
No info	rmatio	n on contents available.			
Intende	ed learı	ning outcomes			
		n on learning outcomes a	vailable.		
		, number of weekly conta		- if other than Germa	n)
S (2)	- (-)	,			.,
		s <b>essment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-
		ntation of a project (appr ssessment: German and/			
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
60 h					
Teachi	ıg cycl	e			
Referre	d to in	LPOI (examination regu	lations for teaching-o	degree programmes)	
§ 22      § 22      § 22	Nr. 2 f)				
Module	e appea	ins in			
First sta First sta First sta First sta First sta First sta First sta fungson First sta	ate exa ate exa	mination for the teaching mination for the teaching sversion 2015))	degree Grundschule degree Realschule O degree Gymnasium degree Sonderpäda degree Mittelschule degree Mittelschule degree Mittelschule degree Mittelschule	e Didactics in Chemis Chemistry (2015) Chemistry (2015) gogik Didactics in Ch Chemistry (2015) Didactics in Chemis Chemistry (2020 (Pr Didactics in Chemis	etry (Primary School) (2015) nemistry (Middle School) (2015) try (Middle School) (2015) üfungsordnungsversion 2015)) try (Middle School) (2020 (Prü- nemistry (Middle School) (2020

Module	e title				Abbreviation	
Chemi	stry Scl	noolLabs			08-FD-LLL-152-m01	
Modul	e coord	inator		Module offered by		
holder	of the F	Professorship of Didact	rics of Chemistry	Institute of Inorgani	ic Chemistry	
ECTS	-	od of grading	Only after succ. con	, j		
2		successfully completed				
_ Duratio	<u> </u>	Module level	Other prerequisites			
1 seme		unknown				
Conten						
No info	ormatio	n on contents available				
		ning outcomes				
		n on learning outcome			```	
	<b>s</b> (type	, number of weekly cor	itact hours, language –	f other than Germa	n)	
P (3)	-					
			language — if other the can be chosen to earn		tion offered — if not	every seme-
		gnment (successful sup ssessment: German ar	pervision of 2 sessions nd/or English	in learn-teach-lab, a	pprox. 4 to 6 hours e	ach)
Allocat						
Additio	onal inf	ormation				
Worklo	ad					
60 h						
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination re	gulations for teaching-o	legree programmes)		
§ 22						
§ 22						
§ 22	Nr. 3 f)					
Modul	e appea	ars in				
First st	ate exa	mination for the teach	ng degree Grundschule	English (2009)		
First st	ate exa	mination for the teach	ng degree Grundschule	e Biology (2009)		
			ng degree Grundschule			
			ng degree Grundschule			
			ng degree Grundschule		/ (2009)	
			ng degree Grundschule	-		
			ng degree Grundschule			
			ng degree Grundschule			
			ng degree Grundschule		-	
			ng degree Grundschule	-	))	
			ng degree Grundschule	-		
			ng degree Grundschule		<b>、</b>	
			ng degree Grundschule			
			ng degree Grundschule		009)	
			ng degree Hauptschule			
			ng degree Hauptschule		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
LA Grundso	chulen Che	emistry (2015)		enerated 18-Apr-2025 • exam odschulen (Unterrichtsfach) (		page 23 / 49

First state examination for the teaching degree Hauptschule Chemistry (2009) First state examination for the teaching degree Hauptschule Geography (2009) First state examination for the teaching degree Hauptschule Protestant Theology (2009) First state examination for the teaching degree Hauptschule German (2009) First state examination for the teaching degree Hauptschule History (2009) First state examination for the teaching degree Hauptschule Catholic Theology (2009) First state examination for the teaching degree Hauptschule Mathematics (2009) First state examination for the teaching degree Hauptschule Music (2009) First state examination for the teaching degree Hauptschule Physics (2009) First state examination for the teaching degree Hauptschule Social Science (2009) First state examination for the teaching degree Hauptschule Science of Sport (2009) First state examination for the teaching degree Realschule English (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Realschule Chemistry (2009) First state examination for the teaching degree Realschule Geography (2009) First state examination for the teaching degree Realschule Protestant Theology (2009) First state examination for the teaching degree Realschule French Studies (2009) First state examination for the teaching degree Realschule German (2009) First state examination for the teaching degree Realschule History (2009) First state examination for the teaching degree Realschule Computer Science (2012) First state examination for the teaching degree Realschule Catholic Theology (2009) First state examination for the teaching degree Realschule Mathematics (2009) First state examination for the teaching degree Realschule Music (2009) First state examination for the teaching degree Realschule Physics (2009) First state examination for the teaching degree Realschule Science of Sport (2009) First state examination for the teaching degree Gymnasium English (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Gymnasium Chemistry (2009) First state examination for the teaching degree Gymnasium Geography (2009) First state examination for the teaching degree Gymnasium French Studies (2009) First state examination for the teaching degree Gymnasium German (2009) First state examination for the teaching degree Gymnasium History (2009) First state examination for the teaching degree Gymnasium Greek Philology (2009) First state examination for the teaching degree Gymnasium Computer Science (2009) First state examination for the teaching degree Gymnasium Italian Studies (2009) First state examination for the teaching degree Gymnasium Catholic Theology (2009) First state examination for the teaching degree Gymnasium Latin Philology (2009) First state examination for the teaching degree Gymnasium Mathematics (2012) First state examination for the teaching degree Gymnasium Mathematics (2009) First state examination for the teaching degree Gymnasium Music (2009) First state examination for the teaching degree Gymnasium Physics (2009) First state examination for the teaching degree Gymnasium Russian (2009) First state examination for the teaching degree Gymnasium Social Science (2009) First state examination for the teaching degree Gymnasium Spanish Studies (2009) First state examination for the teaching degree Gymnasium Science of Sport (2009) First state examination for the teaching degree Gymnasium Music Education, Advanced Studies (2009) First state examination for the teaching degree Sonderpädagogik Pedagogy of Secondary Education (2009) First state examination for the teaching degree Sonderpädagogik Pedagogy of Primary Education (2009) First state examination for the teaching degree Sonderpädagogik Teaching at the German Mittelschule (2013) First state examination for the teaching degree Mittelschule English (2013) First state examination for the teaching degree Mittelschule Biology (2013) First state examination for the teaching degree Mittelschule Chemistry (2013) First state examination for the teaching degree Mittelschule Geography (2013) LA Grundschulen Chemistry (2015) JMU Würzburg • generated 18-Apr-2025 • exam. reg. data repage 24 / 49 cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015

First state examination for the teaching degree Mittelschule Protestant Theology (2013) First state examination for the teaching degree Mittelschule German (2013) First state examination for the teaching degree Mittelschule History (2013) First state examination for the teaching degree Mittelschule Catholic Theology (2013) First state examination for the teaching degree Mittelschule Mathematics (2013) First state examination for the teaching degree Mittelschule Physics (2013) First state examination for the teaching degree Mittelschule Social Science (2013) First state examination for the teaching degree Mittelschule Science of Sport (2013) First state examination for the teaching degree Grundschule English (2015) First state examination for the teaching degree Grundschule Biology (2015) First state examination for the teaching degree Grundschule Chemistry (2015) First state examination for the teaching degree Grundschule Geography (2015) First state examination for the teaching degree Grundschule German (2015) First state examination for the teaching degree Grundschule Catholic Theology (2015) First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Pedagogy of Primary Education (2015) First state examination for the teaching degree Grundschule Physics (2015) First state examination for the teaching degree Grundschule Social Science (2015) First state examination for the teaching degree Grundschule Didactics in English (Primary School) (2015) First state examination for the teaching degree Grundschule Didactics in Biology (Primary School) (2015) First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015) First state examination for the teaching degree Grundschule Didactics in Geography (Primary School) (2015) First state examination for the teaching degree Grundschule Didactics in German (Primary School) (2015) First state examination for the teaching degree Grundschule Didactics in History (Primary School) (2015) First state examination for the teaching degree Grundschule Didactics in Catholic Theology (Primary School) (2015) First state examination for the teaching degree Grundschule Art Education in Primary School (2015) First state examination for the teaching degree Grundschule Didactics in Science of Sport (Primary School) (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Grundschule Music Education in Primary School (2015) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015) First state examination for the teaching degree Grundschule Didactics in Social Science (Primary School) (2015) First state examination for the teaching degree Grundschule Science of Sport (2015) First state examination for the teaching degree Realschule English (2015) First state examination for the teaching degree Realschule Biology (2015) First state examination for the teaching degree Realschule Chemistry (2015) First state examination for the teaching degree Realschule Geography (2015) First state examination for the teaching degree Realschule Protestant Theology (2015) First state examination for the teaching degree Realschule French Studies (2015) First state examination for the teaching degree Realschule German (2015) First state examination for the teaching degree Realschule History (2015) First state examination for the teaching degree Realschule Computer Science (2015) First state examination for the teaching degree Realschule Catholic Theology (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Realschule Physics (2015) First state examination for the teaching degree Realschule Science of Sport (2015) First state examination for the teaching degree Gymnasium English (2015) First state examination for the teaching degree Gymnasium Biology (2015) First state examination for the teaching degree Gymnasium Chemistry (2015) First state examination for the teaching degree Gymnasium Geography (2015) First state examination for the teaching degree Gymnasium French Studies (2015) First state examination for the teaching degree Gymnasium German (2015) First state examination for the teaching degree Gymnasium History (2015) LA Grundschulen Chemistry (2015) JMU Würzburg • generated 18-Apr-2025 • exam. reg. data repage 25 / 49 cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015

First state examination for the teaching degree Gymnasium Computer Science (2015) First state examination for the teaching degree Gymnasium Italian Studies (2015) First state examination for the teaching degree Gymnasium Catholic Theology (2015) First state examination for the teaching degree Gymnasium Latin Philology (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Gymnasium Physics (2015) First state examination for the teaching degree Gymnasium Russian (2015) First state examination for the teaching degree Gymnasium Social Science (2015) First state examination for the teaching degree Gymnasium Spanish Studies (2015) First state examination for the teaching degree Gymnasium Science of Sport (2015) First state examination for the teaching degree Sonderpädagogik Pedagogy of Primary Education (2015) First state examination for the teaching degree Sonderpädagogik Didactics in German (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Catholic Theology (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Art Education in Primary School (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Science of Sport (Primary School) (2015)First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Music Education in Primary School (2015) First state examination for the teaching degree Sonderpädagogik Didactics in English (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Ergonomics (Teaching at the German Mittelschule) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Geography (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Protestant Theology (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in German (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in History (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Catholic Theology (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Art Education in Middle School (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Science of Sport (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Music Education in Middle School (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Social Science (Middle School) (2015) First state examination for the teaching degree Sonderpädagogik Teaching at the German Mittelschule (2015) First state examination for the teaching degree Mittelschule English (2015) First state examination for the teaching degree Mittelschule Biology (2015) First state examination for the teaching degree Mittelschule Chemistry (2015) First state examination for the teaching degree Mittelschule Geography (2015) First state examination for the teaching degree Mittelschule Protestant Theology (2015) First state examination for the teaching degree Mittelschule German (2015) First state examination for the teaching degree Mittelschule History (2015) First state examination for the teaching degree Mittelschule Catholic Theology (2015) First state examination for the teaching degree Mittelschule Mathematics (2015)

First state examination for the teaching degree Gymnasium Greek Philology (2015)

First state examination for the teaching degree Mittelschule Physics (2015)

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First state examination for the teaching degree Mittelschule Social Science (2015) First state examination for the teaching degree Mittelschule Didactics in English (Middle School) (2015) First state examination for the teaching degree Mittelschule Ergonomics (Teaching at the German Mittelschule) (2015) First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Geography (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Protestant Theology (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in German (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in History (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Catholic Theology (Middle School) (2015)First state examination for the teaching degree Mittelschule Art Education in Middle School (2015) First state examination for the teaching degree Mittelschule Didactics in Science of Sport (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Music Education in Middle School (2015) First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Social Science (Middle School) (2015) First state examination for the teaching degree Mittelschule Science of Sport (2015) First state examination for the teaching degree Mittelschule Teaching at the German Mittelschule (2015) First state examination for the teaching degree Grundschule Protestant Theology (2015) First state examination for the teaching degree Grundschule Music (2015) First state examination for the teaching degree Grundschule Didactics in Protestant Theology (Primary School) (2015) First state examination for the teaching degree Realschule Music (2015) First state examination for the teaching degree Gymnasium Music (2015) First state examination for the teaching degree Gymnasium Music Education, Advanced Studies (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Protestant Theology (Primary School) (2015) First state examination for the teaching degree Mittelschule Music (2015) First state examination for the teaching degree Gymnasium French Studies (2016) First state examination for the teaching degree Gymnasium Italian Studies (2016) First state examination for the teaching degree Gymnasium Spanish Studies (2016) First state examination for the teaching degree Realschule French Studies (2016) First state examination for the teaching degree Grundschule English (2016) First state examination for the teaching degree Grundschule Didactics in English (Primary School) (2016) First state examination for the teaching degree Realschule English (2016) First state examination for the teaching degree Gymnasium English (2016) First state examination for the teaching degree Mittelschule English (2016) First state examination for the teaching degree Mittelschule Didactics in English (Middle School) (2016) First state examination for the teaching degree Sonderpädagogik Didactics in English (Middle School) (2016) First state examination for the teaching degree Gymnasium Greek Philology (2018) 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 Gymnasium Mathematics (2019) First state examination for the teaching degree Mittelschule Biology (2020 (Prüfungsordnungsversion 2015))

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First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule German (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in German (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule English (2020 (Prüfungsordnungsversion 2016)) First state examination for the teaching degree Mittelschule Didactics in English (Middle School) (2020 (Prüfungsordnungsversion 2016))

First state examination for the teaching degree Mittelschule Protestant Theology (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Protestant Theology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Geography (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in Geography (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule History (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in History (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Catholic Theology (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Catholic Theology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Art Education in Middle School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Science of Sport (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Science of Sport (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Music (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Music Education in Middle School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Teaching at the German Mittelschule (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in English (Middle School) (2020 (Prüfungsordnungsversion 2016))

First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Geography (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Protestant Theology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in German (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in History (Middle School) (2020 (Prüfungsordnungsversion 2015))

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First state examination for the teaching degree Sonderpädagogik Didactics in Catholic Theology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Art Education in Middle School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Science of Sport (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Music Education in Middle School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Teaching at the German Mittelschule (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Art Education in Primary School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Music Education in Primary School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Science of Sport (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in German (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Pedagogy of Primary Education (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Protestant Theology (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Catholic Theology (Primary School) (2020 (Prüfungsordnungsversion 2015))

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)

First state examination for the teaching degree Grundschule Political and Social Studies (2020) First state examination for the teaching degree Grundschule Didactics in Political and Social Studies (Primary School) (2020)

First state examination for the teaching degree Sonderpädagogik MS-Didaktik Career and Economics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Political and Social Studies (Secondary School) (2020)

First state examination for the teaching degree Mittelschule MS-Didaktik Career and Economics (2020) First state examination for the teaching degree Mittelschule Didactics in Political and Social Studies (Secondary School) (2020)

First state examination for the teaching degree Mittelschule Political and Social Studies (2020)

First state examination for the teaching degree Gymnasium Political and Social Studies (2020)

First state examination for the teaching degree Grundschule History (2021)

First state examination for the teaching degree Gymnasium History (2021)

First state examination for the teaching degree Realschule History (2021)

First state examination for the teaching degree Mittelschule History (2021)

First state examination for the teaching degree Grundschule Pedagogy of Primary Education (2021)

First state examination for the teaching degree Gymnasium English (2021)

First state examination for the teaching degree Gymnasium Philosophy and Ethics (2021)

First state examination for the teaching degree Sonderpädagogik Pedagogy of Primary Education (2021)

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First state examination for the teaching degree Gymnasium Philosophy and Ethics (2022) First state examination for the teaching degree Gymnasium Russian (2023) First state examination for the teaching degree Gymnasium Mathematics (2023) First state examination for the teaching degree Gymnasium English (2023) First state examination for the teaching degree Realschule English (2023) First state examination for the teaching degree Grundschule English (2023) First state examination for the teaching degree Grundschule Didactics in English (Primary School) (2023) First state examination for the teaching degree Mittelschule English (2023) First state examination for the teaching degree Mittelschule Didactics in English (Middle School) (2023) First state examination for the teaching degree Sonderpädagogik Didactics in English (Middle School) (2023) First state examination for the teaching degree Gymnasium Geography (2023) First state examination for the teaching degree Realschule Geography (2023) First state examination for the teaching degree Grundschule Geography (2023) First state examination for the teaching degree Mittelschule Geography (2023) First state examination for the teaching degree Grundschule German (2024) First state examination for the teaching degree Gymnasium German (2024) First state examination for the teaching degree Realschule German (2024) First state examination for the teaching degree Sonderpädagogik Didactics in German (Middle School) (2024) First state examination for the teaching degree Mittelschule Didactics in German (Middle School) (2024) First state examination for the teaching degree Grundschule Didactics in German (Primary School) (2024) First state examination for the teaching degree Sonderpädagogik Didactics in German (Primary School) (2024) First state examination for the teaching degree Mittelschule German (2024) First state examination for the teaching degree Grundschule Music Education in Primary School (2024) First state examination for the teaching degree Sonderpädagogik Music Education in Primary School (2024) First state examination for the teaching degree Mittelschule Music Education in Middle School (2024) First state examination for the teaching degree Sonderpädagogik Music Education in Middle School (2024) First state examination for the teaching degree Gymnasium Latin Philology (2024) First state examination for the teaching degree Gymnasium English (2024) First state examination for the teaching degree Mittelschule MS-Didaktik Career and Economics (2024) First state examination for the teaching degree Sonderpädagogik MS-Didaktik Career and Economics (2024) First state examination for the teaching degree Grundschule History (2024) First state examination for the teaching degree Gymnasium History (2024) First state examination for the teaching degree Realschule History (2024) First state examination for the teaching degree Mittelschule History (2024) First state examination for the teaching degree Mittelschule Didactics in History (Middle School) (2024) First state examination for the teaching degree Sonderpädagogik Didactics in History (Middle School) (2024) First state examination for the teaching degree Grundschule Didactics in History (Primary School) (2024) First state examination for the teaching degree Gymnasium Greek Philology (2024) First state examination for the teaching degree Grundschule Art Education in Primary School (2024) First state examination for the teaching degree Sonderpädagogik Art Education in Primary School (2024) First state examination for the teaching degree Sonderpädagogik Art Education in Middle School (2024) First state examination for the teaching degree Mittelschule Art Education in Middle School (2024)

Module	e title				Abbreviation
Micros	cale Ex	periments in Chemistry 1	<b>Feaching</b>		08-FD-MS-152-m01
Module	e coord	inator		Module offered by	<u> </u>
		Professorship of Didactic	s of Chemistry	Institute of Inorgan	ic Chemistry
ECTS	-	od of grading	Only after succ. con	-	
2		successfully completed			
Duratio		Module level	Other prerequisites		
1 seme		unknown	other prerequisites		
Conten					
		n on contents available.			
Intend	ed lear	ning outcomes			
No info	ormatio	n on learning outcomes a	vailable.		
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	in)
S (2)					
	d of ass	sessment (type scope la	nguage — if other the	an German, examina	tion offered — if not every seme-
		ion on whether module ca			and shered in not every serie
-		ntation of a project (appr			
		ssessment: German and			
Allocat	ion of I	places			
Additio	nalinf	ormation			
Auuitiu	matim				
 Warkia					
Worklo	ad				
60 h					
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)	
§ 22	Nr. 1 h)				
§ 22					
§ 22					
Module	e appea	ars in			
		mination for the teaching	-		
					stry (Primary School) (2015)
		mination for the teaching	-		
		mination for the teaching			
					nemistry (Middle School) (2015)
		mination for the teaching	-		
			-		try (Middle School) (2015)
			-	-	rüfungsordnungsversion 2015))
			g degree Mittelschule	Didactics in Chemis	stry (Middle School) (2020 (Prü-
-	-	sversion 2015))			
			g degree Sonderpäda	gogik Didactics in Cl	nemistry (Middle School) (2020
(Prüfur	ngsordr	ungsversion 2015))			

Module	e title				Abbreviation
Trainin	g for E	kams in Chemistry Teach	ing for Elementary, S	Secondary and	08-FD-PVLAGMRS-152-m01
Middle	Schoo	l Teachers			, , , , , , , , , , , , , , , , , , ,
Module	e coord	inator		Module offered b	у
holder	of the l	Professorship of Didactic	s of Chemistry	Institute of Inorga	anic Chemistry
ECTS	1	od of grading	Only after succ. con	npl. of module(s)	
2	(not)	successfully completed			
Duratio		Module level	Other prerequisites		
1 seme	ster	unknown			
Conten	ts		-		
No info	ormatio	n on contents available.			
Intende	ed lear	ning outcomes			
No info	rmatio	n on learning outcomes a	available.		
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Gerr	nan)
S (2)					
		sessment (type, scope, la ion on whether module ca			nation offered — if not every seme-
		cted assignments (approx ssessment: German and			
Allocat	ion of <sub>l</sub>	olaces			
Additio	onal inf	ormation			
Worklo	ad				
60 h					
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programme	es)
§ 22    § 22					
Module	e appea	ars in			
First sta	ate exa	mination for the teaching	g degree Grundschule	e Chemistry (2015)	
		mination for the teaching			
		mination for the teaching			
First sta	ate exa	mination for the teaching	g degree Mittelschule	Chemistry (2020	(Prüfungsordnungsversion 2015))

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Module	e title				Abbreviation
Instruc	tions f	or Scientific Research			08-FD-WA-152-m01
Module	e coord	inator		Module offered by	
holder	of the l	Professorship of Didactic	s of Chemistry	Institute of Inorgan	ic Chemistry
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
2	(not) s	successfully completed			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	unknown			
Conten	ts				
No info	ormatio	n on contents available.			
Intend	ed lear	ning outcomes			
No info	ormatio	n on learning outcomes a	vailable.		
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)
S (2)					
presen	tation ( ige of a	ion on whether module ca (approx. 30 minutes) ssessment: German and, places		a Donus)	
Allocal		Jaces			
Additio	nal inf	ormation			
Worklo	ad				
60 h					
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)	
§ 22    § 22    § 22	Nr. 2 f)				
Module	e appea	ars in			
First sta First sta First sta	ate exa ate exa ate exa	mination for the teaching mination for the teaching mination for the teaching mination for the teaching mination for the teaching	g degree Realschule ( g degree Gymnasium g degree Mittelschule	Chemistry (2015) Chemistry (2015) Chemistry (2015)	rüfungsordnungsversion 2015))

Modul					Abbreviation	
Organi	ic Chem	istry 1 (teaching degre	e for secondary schoo	ls)	08-0C1-LAGMR-152	-m01
Modul	e coord	inator		Module offered by	<u> </u>	
		Professorship of Organi	c Chemistry	Institute of Organic	Chemistry	
ECTS		od of grading	Only after succ. con		chemistry	
6		rical grade				
Durati		Module level	Other prerequisites			
1 seme	-	undergraduate				
Conter		undergraduite				
the bo organi	nding s c comp	rovides students with a ituation of carbon and i ounds. The module also nination reactions as w	introduces students to o discusses the fundan	the nomenclature on nental principles of s	f simple and modera	tely comple>
Intend	led lear	ning outcomes				
lecules that pu synthe	s. They a urpose, eses.	ire to determine simple are able to describe and they can analyse and c	d formulate some of th ategorise the characte	e most important rea ristic reaction condit	actions in organic ch ions and can use the	emistry. For
		, number of weekly con	tact hours, language –	- if other than Germa	in)	
V (3) +	Ü (1)					
		<b>sessment</b> (type, scope, on on whether module			tion offered — if not	every seme-
b) oral c) oral d) log e) pres	examir examin (approx sentatio	mination (approx. 90 to nation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an	each (20 to 30 minute 3 candidates (approx	-	didate) or	
Alloca	tion of p	olaces				
Additio	onal inf	ormation				
Worklo	oad					
	Jau					
180 h		_				
reachi	ing cycl	e				
		LPOI (examination reg	gulations for teaching-o	degree programmes)		
§ 42	Nr. 2 an	d § 22 ll Nr. 1 h)				
Modul	le appea	ars in				
First st	tate exa	mination for the teachi	ng degree Grundschule	e Chemistry (2015)		
		mination for the teachi			stry (Primary School)	(2015)
		mination for the teachi		• -		
		mination for the teachi			nemistry (Middle Sch	100l) (2015)
		mination for the teachi			to (Middle Caber)	(2015)
		mination for the teachi mination for the teachi				
A Grunds	schulen Che	emistry (2015)		enerated 18-Apr-2025 • exam ndschulen (Unterrichtsfach) (		page 34 / 49
				(internetionality)	· · · - <b>,</b>	

First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

LA Grundschulen Chemistry (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 35 / 49
	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Organi	e title			Abbreviation	
2.24.11	c Chemistry 2			08-0C2-VL-152-mo	1
Module	e coordinator		Module offered by		
	of the Chair of Physically Organ	ic Chemistry	Institute of Organic	Chemistry	
ECTS	Method of grading	Only after succ. con			
6	numerical grade				
Duratio		Other prerequisites	•		
1 seme					
Conten		<u> </u>			
the exa on reac	odule introduces students to the imple of carbonyl compounds, i tions to complex reaction mech rearrangement.	t extends the student	ts' knowledge of sub	stitution, eliminatio	n and additi-
Intende	ed learning outcomes				
bonyl c they ca unknov	ts have become familiar with th ompounds. They are able to dee n plan and formulate multi-stag vn reactions.	scribe specific reactions of the specific reaction of the set of t	ons of carbonyls and nplex reaction mech	aromatics. For that anisms and can tran	purpose,
	<b>s</b> (type, number of weekly conta	act hours, language –	– If other than Germa	n)	
V (3) +					
	d of assessment (type, scope, la			tion offered — if not	every seme-
	formation on whether module c en examination (approx. 90 to 1				
	examination of one candidate e	ach (20 to 30 minute			
d) log ( e) pres	examination in groups of up to approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and	3 candidates (approx	-	lidate) or	
d) log ( e) pres Langua	approx. 20 pages) or entation (approx. 30 minutes)	3 candidates (approx	-	didate) or	
d) log ( e) pres Langua	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and	3 candidates (approx	-	lidate) or	
d) log ( e) prese Langua Allocat	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and	3 candidates (approx	-	didate) or	
d) log ( e) prese Langua Allocat  Additio accordi	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and <b>ion of places</b>	3 candidates (approx /or English	. 15 minutes per cano		e APOLmCh
d) log ( e) prese Langua Allocat  Additio accordi	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and <b>ion of places</b> <b>nal information</b> ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh	3 candidates (approx /or English	. 15 minutes per cano		e APOLmCh
d) log ( e) press Langua Allocat  Additio accordi and No	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and <b>ion of places</b> <b>nal information</b> ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh	3 candidates (approx /or English	. 15 minutes per cano		e APOLmCh
d) log ( e) prese Langua Allocat  Additio accordi and No Worklo 180 h	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and <b>ion of places</b> <b>nal information</b> ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh	3 candidates (approx /or English	. 15 minutes per cano		e APOLmCh
d) log ( e) prese Langua Allocat  Additio accordi and No Worklo 180 h	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad	3 candidates (approx /or English	. 15 minutes per cano		e APOLmCh
d) log ( e) prese Langua Allocat  Additio accordi and No Worklo 180 h Teachin 	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad	3 candidates (approx /or English OLmCh in conjunctio	n with No. I 2nd lette		e APOLmCh
d) log ( e) prese Langua Allocat  Additio accordi and No Worklo 180 h Teachin  Referre § 42 l N	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad ad ed to in LPO I (examination regu Ir. 2 and § 22 II Nr. 1 h)	3 candidates (approx /or English OLmCh in conjunctio	n with No. I 2nd lette		e APOLmCh
d) log ( e) prese Langua Allocat  Additio accordi and No Worklo 180 h Teachin  Referre § 42   N § 62   N	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad ng cycle ed to in LPO I (examination regu Ir. 2 and § 22 II Nr. 1 h) Ir. 2	3 candidates (approx /or English OLmCh in conjunctio	n with No. I 2nd lette		e APOLmCh
d) log ( e) press Langua Allocat  Additio accordi and No Worklo 180 h Teachin  Referre § 42   N § 62   N Module	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad ng cycle ed to in LPO I (examination regu Ir. 2 and § 22 II Nr. 1 h) Ir. 2 e appears in	3 candidates (approx /or English OLmCh in conjunctio	n with No. I 2nd lette		e APOLmCh
d) log ( e) press Langua Allocat  Additio accordi and No Worklo 180 h Teachin  § 42   N § 62   N Bachele	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad ng cycle ed to in LPO I (examination regu Ir. 2 and § 22 II Nr. 1 h) Ir. 2 e appears in or's degree (1 major) Functional	3 candidates (approx /or English OLmCh in conjunctio Ilations for teaching- Materials (2015)	n with No. I 2nd lette		e APOLmCh
d) log ( e) prese Langua Allocat  Additio accordi and No Worklo 180 h Teachin  § 42   N § 62   N Module Bachelo First sta	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad ng cycle ed to in LPO I (examination regu Ir. 2 and § 22 II Nr. 1 h) Ir. 2 e appears in	3 candidates (approx /or English OLmCh in conjunctio Ilations for teaching- Materials (2015) g degree Grundschule	n with No. I 2nd lette degree programmes)	r b) of annex 1 to the	
d) log ( e) press Langua Allocat  Additio accordi and No Worklo 180 h Teachin  8 42 I N § 62 I N Bachele First sta First sta	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad ng cycle ed to in LPO I (examination regu Ir. 2 and § 22 II Nr. 1 h) Ir. 2 e appears in or's degree (1 major) Functional ate examination for the teaching	3 candidates (approx /or English OLmCh in conjunctio allations for teaching- g degree Grundschule g degree Grundschule	n with No. I 2nd lette degree programmes) e Chemistry (2015) e Didactics in Chemis	r b) of annex 1 to the	
d) log ( e) press Langua Allocat  Additio accordi and No Worklo 180 h Teachin  Referre § 42 I N § 62 I N Module First sta First sta	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad mg cycle ed to in LPO I (examination regu Ir. 2 and § 22 II Nr. 1 h) Ir. 2 e appears in or's degree (1 major) Functional ate examination for the teaching ate examination for the teaching	3 candidates (approx /or English OLmCh in conjunctio ulations for teaching- g degree Grundschule g degree Grundschule g degree Realschule (	n with No. I 2nd lette degree programmes) e Chemistry (2015) e Didactics in Chemis Chemistry (2015)	r b) of annex 1 to the	
d) log ( e) press Langua Allocat  Additio accordi and No Worklo 180 h Teachin  § 42 I N § 62 I N Bachele First sta First sta First sta	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad ad ad ad ad ad ad ad ad ad ad ad ad	3 candidates (approx /or English OLmCh in conjunctio ulations for teaching- g degree Grundschule g degree Realschule ( g degree Gymnasium	n with No. I 2nd lette degree programmes) e Chemistry (2015) e Didactics in Chemis Chemistry (2015)	r b) of annex 1 to the	(2015)
d) log ( e) press Langua Allocat  Additio accordi and No Worklo 180 h Teachin  Referre § 42 I N § 62 I N Module First sta First sta First sta First sta	approx. 20 pages) or entation (approx. 30 minutes) ge of assessment: German and ion of places mal information ing to § 2 para. 2 sentence 2 AP . 2 of annex 2 to the APOLmCh ad ng cycle ed to in LPO I (examination regu Ir. 2 and § 22 II Nr. 1 h) Ir. 2 e appears in or's degree (1 major) Functional ate examination for the teaching ate examination for the teaching ate examination for the teaching ate examination for the teaching ate examination for the teaching	3 candidates (approx /or English OLmCh in conjunctio lations for teaching- degree Grundschule g degree Grundschule g degree Gymnasium g degree Sonderpäda	n with No. I 2nd lette degree programmes) e Chemistry (2015) e Didactics in Chemis Chemistry (2015) chemistry (2015) igogik Didactics in Ch	r b) of annex 1 to the	(2015)

## Julius-Maximilians-UNIVERSITÄT WÜRZBURG

First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Food Chemistry (2025)

LA Grundschulen Chemistry (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 37 / 49
	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Module title Abbreviation						
Organic Chemistry 3			08-0C3-152-m01			
Module coordinator		Module offered by				
holder of the Professorship of Orga		Institute of Organic	Chemistry			
ECTS Method of grading	Only after succ. con	npl. of module(s)				
6 numerical grade						
Duration Module level	Other prerequisites					
1 semester undergraduate						
Contents						
radicals. It discusses the fundame	This module focuses on polar rearrangements, olefination reactions, pericyclic reactions, carbenes, nitriles and radicals. It discusses the fundamental principles of stereoselective synthesis, asymmetric catalysis, organome-tallic chemistry and retrosynthesis.					
Intended learning outcomes						
Students are able to formulate olef asymmetric catalyses. Students are thetic analyses of molecules.						
Courses (type, number of weekly co	ontact hours, language –	- if other than Germa	n)			
V (2) + Ü (2)						
Method of assessment (type, scop ster, information on whether modu			tion offered — if not every seme-			
<ul> <li>a) written examination (approx. 90</li> <li>b) oral examination of one candida</li> <li>c) oral examination in groups of up</li> <li>d) log (approx. 20 pages) or</li> <li>e) presentation (approx. 30 minute</li> <li>Language of assessment: German</li> </ul>	te each (20 to 30 minute to 3 candidates (approx s)	-	didate) or			
Allocation of places						
Additional information						
Workload						
180 h						
Teaching cycle						
Referred to in LPO I (examination	regulations for teaching-	degree programmes)				
§ 22    Nr. 1 h) § 22    Nr. 2 f) § 22    Nr. 3 f)						
Module appears in						
First state examination for the teac First state examination for the teac First state examination for the teac First state examination for the teac Master's teaching degree Gymnasi	hing degree Realschule ( hing degree Gymnasium hing degree Mittelschule um MINT Teacher Educat	Chemistry (2015) Chemistry (2015) Chemistry (2015) ion PLUS, Elite Netwo				
Master's teaching degree Gymnasi First state examination for the teac Master's teaching degree Gymnasi	hing degree Mittelschule	Chemistry (2020 (Pr	üfungsordnungsversion 2015))			

LA Grundschulen Chemistry (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 38 / 49
	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Module title Abbreviation						
Organi	c Chem	istry 4			08-0C4-152-m01	
Modul	e coord	inator		Module offered by		
holder	of the (	Chair of Organic Chemis	stry II	Institute of Organic Chemistry		
ECTS	1	od of grading	Only after succ. con		,	
5	<u> </u>	rical grade		•		
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
	zardous	liscusses biologically in s substances, complica				
Intend	ed learı	ning outcomes				
Students are able to name important heteroaromatics and to formulate their reactions and syntheses. They are able to characterise and categorise dyes. Students are able to describe the structure and selective synthesis of proteins. In addition, they are able to describe the structure of the DNA, carbohydrates, fats, terpenes and stero-ids.						
Course	<b>s</b> (type	, number of weekly con	tact hours, language –	- if other than Germa	n)	
V (2) +	Ü (2)					
		sessment (type, scope, on on whether module			tion offered — if not	every seme-
b) oral c) oral d) log e) pres	examin examin (approx entatio	mination (approx. 90 to nation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an	each (20 to 30 minute 3 candidates (approx	-	didate) or	
	tion of p					
Additio	onal inf	ormation				
maaren						
Worklo						
	Jau					
150 h						
Teachi	ng cycl	e				
	_					
Referre	ed to in	LPO I (examination reg	ulations for teaching-	degree programmes)		
-	Nr. 1 h)					
§ 22						
§6211		•				
	e appea					
		gree (1 major) Biochemi				
		mination for the teachiı mination for the teachiı		• •		
				• -		
	First state examination for the teaching degree Gymnasium Chemistry (2015) First state examination for the teaching degree Mittelschule Chemistry (2015)					
		ee (1 major) Functional				
	-	ning degree Gymnasium		ion PLUS, Elite Netwo	ork Bavaria (ENB) (20	016)
		gree (1 major) Biochemi		-		
LA Grunds	chulen Che	emistry (2015)		enerated 18-Apr-2025 • exam ndschulen (Unterrichtsfach) C	-	page 39 / 49

## Julius-Maxin UNIVERSITÄT WÜRZBURG

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) Bachelor's degree (1 major) Biochemistry (2022)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

LA Grundschulen Chemistry (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 40 / 49
	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015	

Modul	e title				Abbreviation	
Organi school		nistry - laboratory course	e (teaching degree for	secondary	08-OCP-LAGMR-152-m01	
Modul	e coord	linator		Module offered	by	
lecture	rs Orga	anische Chemie (Organic	Chemistry)	Institute of Orga	nic Chemistry	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	(not)	successfully completed	08-OC1-LAGMR	•		
Duratio	on	Module level	Module level Other prerequisites			
1 seme	ster	undergraduate				
Conten	Its	·				
lated le dition f their ki	ecture( to thos nowled	s). After a safety briefing e experiments, students	, the students autono will be expected to ta in the safe handling o	mously conduct e ke oral tests and f hazardous subs	ge they have gained through the re experiments in the laboratory. In ad write lab reports to demonstrate tances, simple experimental unit lysis of the products.	
		ning outcomes			· ·	
rations error so in the l	of orgources. aborat	anic chemistry. They are They are able to connec	able to analyse the yi t the theoretical aspe	eld and purity of cts covered in the	conduct simple experimental ope- the products and identify possible e lecture with practical experiments	
	s (type	, number of weekly conta	act nours, language –		many	
P (7)					in the offered if not supervised	
		ion on whether module of			ination offered — if not every seme	
pages Langua	each) a age of a	achtestate (pre and post- and assessment of practi assessment: German and offered: Once a year, sum	cal performance (2 to /or English		15 minutes each, log approx. 5 to 1 nations)	
Allocat						
Additic	onal inf	ormation				
Worklo	ad					
	ad					
150 h		e				
150 h		le				
150 h <b>Teachi</b> 	ng cycl		ulations for teaching-	degree programm	es)	
150 h Teachi  Referre	ng cycl ed to in	e LPOI (examination reg	ulations for teaching-o	degree programm	es)	
150 h Teachi  Referre § 42   N	ng cycl ed to in Nr. 2	LPOI (examination reg	ulations for teaching-	degree programm	es)	
§ 42   M Module	ng cycl ed to in Nr. 2 e appea	LPOI (examination regu				
150 h Teachi  Referre § 42   N Module First st	ng cycl ed to in Vr. 2 e appea ate exa	LPOI (examination regu ars in mination for the teachin	g degree Grundschule	e Chemistry (2015		
150 h Teachi  § 42   N Module First st First st	ng cycl ed to in Nr. 2 e appea ate exa ate exa	LPOI (examination regu	g degree Grundschule g degree Realschule (	e Chemistry (2015 Chemistry (2015)	)	

Module	e title				Abbreviation
Practic	al spec	troscopy 1			08-0C-Spec-152-m01
Modul	e coord	inator		Module offered by	
		ture "Organische Chemie	2"	Institute of Organic	Chemistry
ECTS		od of grading	Only after succ. com		chemistry
3		rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	Its				
	odule ir pectros		e spectroscopic meth	ods of infrared spec	troscopy, mass spectrometry and
Intend	ed learı	ning outcomes			
		able to describe importan molecular structure.	t spectroscopic meth	ods, to evaluate a s	pectrum and to draw conclusions
Course	<b>s</b> (type	, number of weekly conta	ct hours, language —	if other than Germa	an)
V (2)					
Metho	d of ass	essment (type, scope, la	nguage — if other tha	an German, examina	ition offered — if not every seme-
		on on whether module ca			, ,
c) oral d) log ( e) pres Langua	examin approx entatio age of a	ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and,	candidates (approx.		didate) or
Allocat	ion of p	olaces			
Additio	onal info	ormation			
Worklo	ad				
90 h					
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	lations for teaching-o	legree programmes)	1
-	Nr. 1 h)				
§ 22    § 62   1					
	e appea	ors in			
		gree (1 major) Functional	Materials (2015)		
		mination for the teaching		Chemistry (2015)	
		mination for the teaching			
		mination for the teaching		• -	
		mination for the teaching	-		
First st	ate exa	mination for the teaching	gaegree Mittelschule	Chemistry (2020 (P	rüfungsordnungsversion 2015))

Module					Abbreviation	
Physica	al Chen	nistry (teaching degree	e for secondary schools	5)	08-PC-LAGMR-152-I	m01
Module	coord	inator		Module offered by	<u> </u>	
lecturer	of lect	ure "Thermodynamik,	Kinetik, Elektrochemie		l and Theoretical Ch	emistry
für Stuc	lierend	le der Biologie, Lebens				,
		emie GHR"				
<b>ECTS</b> 6		od of grading rical grade	Only after succ. con	npl. of module(s)		
-						
Duratio		Module level undergraduate	Other prerequisites			
		undergraduate				
Content		:				
			ntal principles of therm	odynamics, kinetics	and electrochemisti	ry.
		ning outcomes				
			the fundamental princi and explain fundament			ectroche-
			itact hours, language –	•	<u> </u>	
		V (1) + Ü (1)			,	
			language — if other the	an German, examina	tion offered — if not	everv seme
			can be chosen to earn			every seme
a) writte	en exai	mination (approx. 90 to	o 180 minutes) or			
b) oral e	examin	ation of one candidate	e each (20 to 30 minute	-		
			o 3 candidates (approx	. 15 minutes per can	didate) or	
		. 20 pages) or n (approx. 30 minutes)				
		ssessment: German ar				
Allocati						
Additio	nal inf	ormation				
Worklo	ad					
180 h						
Teachin		2				
reaction	is cycl	5				
Doforro	d to in	IDOL (avamination to	gulations for toaching	dagraa programmac)		
			gulations for teaching-o	legree programmes)		
		d§22    Nr. 1 h)				
Module						
			ng degree Grundschule			
			ng degree Grundschule		stry (Primary School)	(2015)
			ng degree Realschule ( ng degree Sonderpäda	• -	nemistry (Middle Sch	1001) (201r)
			ng degree Mittelschule			.000 (2015)
			ng degree Mittelschule	• -	try (Middle School)	(2015)
			ng degree Mittelschule			
			ng degree Mittelschule	-		-
-	-	sversion 2015))				
			ng degree Sonderpäda	gogik Didactics in Cl	nemistry (Middle Sch	100l) (2020
(Prüfun	gsordn	ungsversion 2015))				
A Grundscl	hulen Che	mistry (2015)		enerated 18-Apr-2025 • exam		page 43 / 49
			cord Lehramt Grui	ndschulen (Unterrichtsfach) (	Chemie - 2015	ļ

Symmetry, chemical bonding and light - Part 1       0=PC-SB1:-152-mo1         Module correliator       Module offered by         lecture:       Tissuator of based       Institute of Physical and Theoretical Chemicator of the symmetry of module(s)         ECTS       Method for grading       Only after succ. comp L of module(s)         Sommetry       Module tevel       Other prerequisites         Duration       Module tevel       Other prerequisites         Sommetry, character tables and selection rules. The module deals with the chemical bond by qualitative MO theory and gives an introduction to the symmetry of medicules. The module deals with the chemical bond by qualitative MO theory and gives an introduction to the symmetry of that molecule. The module deals with the chemical bond by qualitative MO theory and gives an introduction to the symmetry of that molecule. The module deals with the chemical bond by qualitative MO theory and gives an introduction to the symmetry of that molecule.         Courses       Internet of excellation molecules. They are able to analyze molecules able to analyze molecule. They are able to analyze molecules are be chosen to earn a bonus?         Y (3) + 0 (2)       Method of assessment (type, scope, language – if other than German, examination offered – if note ster, information (approx. 3p on intels) or         9) or examination in groups of up to 3 candidates (approx. 1s minutes per candidate) or         10 and examination in groups of up to 3 candidates (approx. 1s minutes per candidate) or         10 anaprox. 2p angesion         9 o	Module	e title				Abbreviation	
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A Grundschulen Chemistry (2015)       JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-							
A Grundschulen Chemistry (2015) JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-					•		-
	master	s teach	ing degree Gymnasiur	n MINT Teacher Educa	tion PLUS, Elite Netw	огк Bavaria (ENB) (20	)25)
	A Grundso	hulen Cher	mistry (2015)	JMU Würzburg • g	generated 18-Apr-2025 • exan	n. reg. data re-	page 44 / 49
cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015						-	

Module	e title				Abbreviation
Trainin	g for E	xams in Inorganic Chemi	stry		08-PVAC-152-m01
Modul	e coord	linator		Module offered by	
lecture	r of the	seminar		Faculty of Chemistr	y and Pharmacy
ECTS	Meth	od of grading	Only after succ. con	· ·	· · ·
2	(not)	successfully completed			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	Its				
					try that are likely to be covered
		xamination and try exam	papers from previou	s years.	
Intend	ed lear	ning outcomes			
Studer previou			estions on inorganic	chemistry that were	asked in the state examination in
Course	e <b>s</b> (type	, number of weekly conta	ict hours, language –	- if other than Germa	ın)
S (2)					
		<b>sessment</b> (type, scope, la ion on whether module c			tion offered — if not every seme-
2 to 4 s	short ta	Iks on selected assignme	ents (approx. 10 minu	ites each)	
		ssessment: German and			
Allocat	ion of	places			
Additio	onal inf	ormation			
Worklo	ad	-			
60 h					
Teachi	ng cvcl	e			
	0.9				
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)	
§ 22	Nr. 1 h)				
§ 22	Nr. 2 f)				
§ 22	Nr. 3 f)				
Modul					
		mination for the teaching			
		mination for the teaching	-		
		mination for the teaching	, ,	, , , ,,	
		mination for the teaching	-		
First st	ate exa	mination for the teaching	g degree Mittelschule	Chemistry (2020 (P	rüfungsordnungsversion 2015))

Modul	e title				Abbreviation	
Trainin	g for E	xams in Organic Chemist	ry		08-PVOC-152-m01	
Modul	e coord	inator		Module offered by		
lecture	r of the	seminar		Faculty of Chemistr	y and Pharmacy	
ECTS	Meth	od of grading	Only after succ. con		· · ·	
3	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	Its					
					<i>that are likely to be covered on</i>	
		nination and try exam pa	pers from previous ye	ears.		
	-	ning outcomes				
Studer previou		-	estions on organic ch	emistry that were as	sked in the state examination in	
Course	e <b>s</b> (type	, number of weekly conta	ict hours, language –	- if other than Germa	ın)	
S (2)						
		sessment (type, scope, la ion on whether module c			tion offered — if not every seme-	
		lks on selected assignme		ites each)		
		ssessment: German and	/or English			
Allocat	ion of	places				
Additio	onal inf	ormation				
Worklo	ad					
90 h						
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination regu	lations for teaching-o	degree programmes)		
§ 22	Nr. 1 h)					
§ 22						
§ 22	Nr. 3 f)					
Modul						
		mination for the teaching				
		mination for the teaching		• -		
		mination for the teaching		,		
		mination for the teaching	-			
First st	ate exa	mination for the teaching	g degree Mittelschule	Chemistry (2020 (P	rüfungsordnungsversion 2015))	

Module	e title			Abbreviation		
Quantu	Quantum Chemistry 08-TC-152-m01					
Module	e coordinator		Module offered by			
	r of lecture "Quantenchemie"		· · ·	l and Theoretical Ch	emistry	
ECTS	Method of grading	Only after succ. con	· · ·		ennistry	
3	numerical grade					
Duratio		Other prerequisites				
1 seme						
Conten						
This mo spin, th	odule provides students with ne Pauli principle, Slater dete d excited states, the Born-Op	minants, the Hartree-Fe	ock method, correlat	ion energy, configura		
Intende	ed learning outcomes					
Studen	ts are able to describe excite	d states of molecules w	ith the help of key co	oncepts and models		
	s (type, number of weekly co		· · ·		•	
V(2) +		inder nours, language –		11)		
. ,				tion offered if use		
	d of assessment (type, scope formation on whether module			tion offered — if not	every seme-	
d) log ( e) prese Langua	examination in groups of up t approx. 20 pages) or entation (approx. 30 minutes ge of assessment: German a ble for bonus	)	. 15 minutes per cano	didate) or		
Allocat	ion of places					
Additio	nal information					
Worklo	ad					
90 h						
Teachi	ng cycle					
Referre	ed to in LPO I (examination re	gulations for teaching-	degree programmes)			
§ 22      § 22      § 22	Nr. 2 f)					
Module	e appears in					
Bachel	or's degree (1 major) Chemist	ry (2015)				
	or's degree (1 major) Mathem					
	or's degree (1 major) Comput		015)			
	or's degree (1 major) Functior					
	ate examination for the teach		• •			
	ate examination for the teach		• -			
	ate examination for the teach		• -			
	ate examination for the teach 's teaching degree Gymnasiu			ork Bavaria (ENB) (20	016)	
LA Grundsc	hulen Chemistry (2015)		enerated 18-Apr-2025 • exam 1dschulen (Unterrichtsfach) (	-	page 47 / 49	
				2		

## Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Mathematics (2023) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Bachelor's degree (1 major) Functional Materials (2025)

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Module	e title				Abbreviation	
Exercises in Experimental Presentation (teaching degree for seconda					08-ÜiVmD-LAGMR-152-m01	
schools)						
Module coordinator				Module offered by		
lecturers of the three lectures offered i			h this module Faculty of Chemistry and Pharmacy			
ECTS		od of grading		succ. compl. of module(s)		
6	(not) successfully completed 08-OCP-LAGMR					
Duration		Module level	Other prerequisites			
1 semester undergraduate						
Conten	ts					
		design, prepare and deliv nonstrations.	ver presentations on	a range of topics in	chemistry. Presentations will in-	
Intended learning outcomes						
the spe particu chemis	ecific ne lar teac try kno	eeds of their audience. Th ching goal as well as to p wledge and skills and th	ney are able to select lan and safely perform eir teaching skills.	experiments on the m them. Students w	n a given topic that is tailored to e topic in question that support a <i>i</i> ill be expected to apply both their	
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)						
Ü (3) +	Ü (3) +	Ü (3)				
		<b>sessment</b> (type, scope, la ion on whether module ca	• •		ation offered — if not every seme-	
One talk each in the fields of inorganic, organic and physical chemistry including demonstrations (approx. 45 mi- nutes each) Language of assessment: German and/or English Assessment offered: Once a year, winter semester						
Allocat	ion of <b>j</b>	places				
Additio	nal inf	ormation				
Workload						
180 h						
Teachi	ng cycl	e				
Referre	d to in	LPOI (examination regu	lations for teaching-	degree programmes	;)	
§ 42   N						
Module		ars in				
First state examination for the teaching degree Grundschule Chemistry (2015)						
First state examination for the teaching degree Realschule Chemistry (2015)						
First state examination for the teaching degree Mittelschule Chemistry (2015)						
First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))						

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	cord Lehramt Grundschulen (Unterrichtsfach) Chemie - 2015