

Module Catalogue

for the Subject

Chemistry

as a Bachelor's with 1 major with the degree "Bachelor of Science" (180 ECTS credits)

Examination regulations version: 2017 Responsible: Faculty of Chemistry and Pharmacy

JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record 82|032|-|-|H|2017

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The subject is divided into

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Learning Outcomes

German contents and learning outcome available but not translated yet.

Wissenschaftliche Befähigung

- Die Absolvent/innen beherrschen die grundlegenden Kenntnisse der Basis-Wissenschaften, vor allem der Allgemeinen, Anorganischen, Organischen, Physikalischen und Theoretischen Chemie, der Biochemie sowie der Mathematik und Physik. Die Grundlagen hierfür werden in den entsprechenden Vorlesungen und Übungen der verschiedenen Fächer vermittelt und in Klausuren überprüft.
- Die Absolvent/innen können unter Anleitung Experimente durchführen, analysieren und die erhaltenen Ergebnisse darstellen und bewerten. Vermittelt werden diese Fähigkeiten im Rahmen von Laborpraktika während des Studiums. Das Erreichen der Ziele wird durch Kolloquien, die erfolgreiche Versuchsdurchführung und das Verfassen von Protokollen überprüft.
- Die Absolvent/innen setzten die erlernten theoretischen und experimentellen Methoden ein, um unter Anleitung neue Erkenntnisse zu erlangen. Die erlernten theoretischen und experimentellen Methoden werden im Rahmen der Bachelorarbeit angewendet.
- Die Absolvent/innen können sich mit Hilfe von Fachliteratur in neue Fragestellungen und Aufgabengebiete einarbeiten, konkrete experimentelle oder theoretische Aufgabenstellungen verstehen, Lösungswege nachvollziehen und die Ergebnisse interpretieren und bewerten. Sie besitzen die Fähigkeit, eine thematisch und zeitlich eng umgrenzte chemische Fragestellung unter Anleitung mit den erlernten Methoden und unter wissenschaftlich-analytischer Vorgehensweise weitgehend eigenständig zu bearbeiten, die gewonnenen Daten zu analysieren, zusammenzufassen und einem Fachpublikum zu präsentieren. Diese Fähigkeiten werden in Seminaren während des Studiums und vor allem im Rahmen der Vorbereitung und Anfertigung der Bachelorarbeit sowie eines Seminarvortrags vermittelt und überprüft.

Befähigung zur Aufnahme einer Erwerbstätigkeit

- Die Absolvent/innen besitzen Abstraktionsvermögen, Problemlösungskompetenz und die Fähigkeit, komplexe Zusammenhänge in analytischer Herangehensweise zu strukturieren. Die Grundlagen hierfür werden in Vorlesungen und Übungen der Chemie vermittelt und durch Klausuren überprüft.
- Die Absolvent/innen sind in der Lage, ihr theoretisches Wissen in der Praxis anzuwenden und können mit den erlernten wissenschaftlichen Methoden auch unbekannte Probleme aus unterschiedlichen fachlichen Perspektiven analysieren und bearbeiten. Sie sind es dabei gewohnt, in einem Team aus Kommiliton/innen, Kolleg/innen und/oder Wissenschaftler/innen konstruktiv und zielorientiert zusammenzuarbeiten. Der Praxisbezug ist durch einen hohen Anteil an Laborpraktika - sowohl Kurspraktika, als auch individuelle Forschungspraktika - und nicht zuletzt der Bachelor-Arbeit gegeben, deren erfolgreiche Absolvierung durch Protokolle bzw. die Bachelor-Thesis überprüft wird.
- Die Absolvent/innen können unterschiedliche Aufgaben parallel und unter Zeit- und Erfolgsdruck auch unter schwierigen Rahmenbedingungen erfolgreich bearbeiten. Diese Fähigkeit wird durch die Prüfungsdichte am Ende der Vorlesungszeit erlernt und befähigt die Absolvent/innen auch im stressigen Berufsalltag Aufgaben erfolgreich zu bearbeiten.
- Die Absolvent/innen sind in der Lage, konstruktiv und zielorientiert in einem heterogenen Team zusammenzuarbeiten, unterschiedliche und abweichende Ansichten produktiv zur Zielerreichung zu nutzen und auftretende Konflikte zu lösen. Diese Teamfähigkeit und Konfliktkompetenz erlernen die Studierenden in der Zusammenarbeit während Laborpraktika sowie in Arbeitskreisen während der Anfertigung ihrer Bachelorarbeit.
- Diese solide Wissensbasis und Methodenkompetenz sowie die eingeübte Teamfähigkeit können die Absolvent/innen gewinnbringend in ihrer Berufspraxis einsetzen.

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Persönlichkeitsentwicklung

- Die Absolvent/innen kennen die Regeln guter wissenschaftlicher Praxis und beachten sie. Die Lehrenden fördern zudem die Selbstverantwortung für den Wissenserwerb sowie ein an wissenschaftlichen Werten orientiertes Denken und Handeln. Dies beinhaltet das Streben nach Erkenntnis und Wahrheit, Eindeutigkeit, Transparenz, Objektivität, Wertefreiheit, überpersönliche Gültigkeit, Überprüfbarkeit, Verlässlichkeit, Offenheit, Selbstreflexion und Redlichkeit sowie Neuigkeit. Insbesondere die Laborarbeit und das Erstellen von Protokollen sowie deren anschließende Korrektur stellt die Vermittlung guter wissenschaftlicher Praxis sicher.
- Die Absolvent/innen lernen, mit in der Forschung unvermeidbaren Rückschlägen umzugehen und ihre Zielsetzungen neu anzupassen.

Befähigung zum gesellschaftlichen Engagement

• Die Absolvent/innen haben ihr Wissen bezüglich naturwissenschaftlicher Fragen erweitert und erkennen deren wirtschaftliche, rechtliche und gesellschaftliche Implikationen und können begründet Position beziehen. Durch die Behandlung aktueller Forschungsthemen in den Lehrveranstaltungen und den Besuch von Vorlesungen zu Toxikologie und Rechtskunde werden Bezüge zu wirtschaftlichen, rechtlichen und gesellschaftlichen Fragestellungen hergestellt. Im Rahmen der Bachelorarbeit befassen sich die Studierenden ebenfalls mit aktuellen gesellschaftlich und wirtschaftlich relevanten chemischen Fragen.

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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:

ASPO2015

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

09-Aug-2017 (2017-48)

??-???-2024 (2024-??)

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.

Bachelor's with 1 major Chemistry (2017)	
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Compulsory Courses

(150 ECTS credits)

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Subfield General and Inorganic Chemistry

(47 ECTS credits)

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Module title			Abbreviation			
Principles of Inorganic Chemistry 08-AC1-152-m01						
Module coordinator M			Module offered by	Module offered by		
lecturer of lecture "Experimentalchemie" (Experimental Institute of Inorganic Chemistry Chemistry)			ic Chemistry			
ECTS Met	thod of grading	Only after succ. con	npl. of module(s)			
8 nun	merical grade					
Duration	Module level	Other prerequisites				
1 semester	undergraduate					
Contents		_				
rial and par	e provides an overview of t ticle level, metals, acid-ba , the module introduces fu	se reactions, the perio	odic table, chemical	equilibrium and com	plexometry.	
Intended le	arning outcomes					
cient in bas actions usir	t understands the principle sic models of the structure ng typical chemical formul / how the most important c	of matter and can des a language and interp	cribe them properly. ret them by identifyir	He/she can depict c ng the type of reactio	hemical re- n. The stu-	
Courses (typ	e, number of weekly contact hours,	language — if other than Ge	rman)			
V (4) + V (2))					
module is credi a) written ex	assessment (type, scope, langu itable for bonus) xamination (approx. 90 to nination of one candidate	180 minutes) or		t every semester, informatio	on on whether	
c) oral exan d) log (appr e) presenta	nination in groups of up to rox. 20 pages) or tion (approx. 30 minutes) of assessment: German and	3 candidates (approx	-	didate) or		
Allocation of places						
Additional i	information					
	o § 2 para. 2 sentence 2 Al f annex 2 to the APOLmCh	POLmCh in conjunctio	n with No. I 2nd lette	r a) of annex 1 to the	APOLmCh	
Workload						
240 h						
Teaching cy	ycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
§ 42 Nr. 1 and § 22 Nr. 1 h) § 62 Nr. 1						
Module appears in						
Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) First state examination for the teaching degree Grundschule Chemistry (2015) First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015)						
	achelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 10 / 124					
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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) Bachelor's degree (1 major) Biochemistry (2017)

Bachelor's degree (1 major) Discriminstry (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)

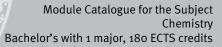
Bachelor's degree (1 major) Biochemistry (2022)

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

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	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module title			Abbreviation		
Inorganic Chemistry 1 (lab)			08-ACP1-152-m01		
Module coordinator		Module offered by			
holder	of the C	Chair of Anorganic Chemi	stry	Institute of Inorgani	ic Chemistry
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
lated le course	cture(s focuse). After a safety briefing,	the students autonor	nously conduct expe	hey have gained through the re- eriments in the laboratory. The aple substances and analyses of
Intende	ed learr	ning outcomes			
have de	evelope		he necessary stoichio	ometric calculations	periments to solve them. They and describe the chemical pro-
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
P (12) +	S (2)				
		s essment (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
[a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)] and Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical assignments (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, winter semester					
Allocat	ion of p	olaces			
		ormation			
		2 para. 2 sentence 2 AP(nnex 2 to the APOLmCh	DLmCh in conjunctior	n with No. I 1st letter	a) of annex 1 to the APOLmCh
Workload					
300 h					
Teaching cycle					
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)	
Module appears in					
Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Chemistry (2017) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Food Chemistry (2025)					
Lachen					

Module title				Abbreviation		
Inorganic Chemistry of the Elements					08-AS1-152-m01	
Module	coord	inator		Module offered by		
		ure "Chemie der Haupt of Main-group Elemen	• • • •	Institute of Inorgan	ic Chemistry	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Conten	ts					
ses on l	oondin	quips students with an g conditions, trends in es students to element	the periodic table and	the description and	structure of element	ts. In additi-
Intende	d lear	ning outcomes				
reactivi	ty and	able to characterise ma fabrication. They are at periodic table, an ess	ole to identify the coord	dination of the atoms		
Courses	5 (type, n	umber of weekly contact hours	s, language — if other than Ge	rman)		
V (2) + V	/ (2)					
module is	creditab	s essment (type, scope, lang le for bonus)		examination offered — if no	t every semester, informati	ion on whether
b) oral e c) oral e d) log (a e) prese	examin examin approx entatio	nination (approx. 90 to ation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an	each (20 to 30 minute 9 3 candidates (approx	-	didate) or	
Allocati	on of p	olaces				
Additio	nal inf	ormation				
		2 para. 2 sentence 2 A nnex 2 to the APOLmCh		n with No. I 2nd lette	r a) of annex 1 to the	APOLmCh
Worklo	ad					
180 h						
Teachin	ig cycl	e				
Referre	d to in	LPO I (examination regulation	ons for teaching-degree progra	immes)		
§ 62 Nr. 1						
Module appears in						
	Bachelor's degree (1 major) Biochemistry (2015)					
	Bachelor's degree (1 major) Chemistry (2015)					
		gree (1 major) Mathema gree (1 major) Computa	-	015)		
		mination for the teaching				
		gree (1 major) Biochemi		Chemistry (2015)		
		gree (1 major) Chemistr				
		es (Bachelor) Chemistry	• •			
		or Chemistry (2017)	JMU Würzbı	urg • generated 19-Apr-2025 • ord Bachelor (180 ECTS) Chem		page 13 / 124



Module studies (Bachelor) Orientierungsstudien (2020) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Food Chemistry (2025)

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Module title				Abbreviation	
Analytical Chemistry (lab)					08-ANP-152-m01
Module	coordi	nator		Module offered by	
holder o	of the C	hair of Anorganic Chemi	stry	Institute of Inorgani	ic Chemistry
ECTS	Metho	d of grading	Only after succ. com	pl. of module(s)	
6	(not) s	uccessfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	:s				
lated le	cture(s		the students autonor	nously conduct expe	hey have gained through the re- eriments in the laboratory. These 5.
Intende	d learr	ing outcomes			
		ble to use different meth mixtures.	ods to analyse unkno	own substances. In a	addition, they are able to separa-
Courses	i (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
P (12) +	S (1)				
module is	creditab	e for bonus)			t every semester, information on whether
pages e Languas	ach) a ge of a	chtestate (pre and post-e nd assessment of practic ssessment: German and/ ffered: Once a year, sum	al performance (2 to or English		minutes each, log approx. 5 to 10 ons)
Allocati	on of p	laces			
 Additio	nal info	ormation			
accordi	ng to §		DLmCh in conjunctior	n with No. I 1st letter	a) of annex 1 to the APOLmCh
Workloa		IIIex 2 to the AFOLINCH			
180 h	u				
Teachin	a cycle				
Teaciiii	glyli	2			
	d to in		6		
Referre		LPO I (examination regulations	for teaching-degree progra	mmes)	
 Module appears in					
Bachelor's degree (1 major) Biochemistry (2015)					
Bachelor's degree (1 major) Chemistry (2015)					
	Bachelor's degree (1 major) Biochemistry (2017)				
Bachelo	or's deg	gree (1 major) Chemistry	(2017)		
	-	gree (1 major) Food Chem	•		
	-	gree (1 major) Biochemist	•		
Bachelo	or's deg	gree (1 major) Food Chem	istry (2025)		

Module title				Abbreviation		
Inorganic Chemistry 2 (lab) 08-ACP2-172-m01					08-ACP2-172-m01	
Module	e coord	inator		Module offered by		
holder	of the (Chair of Anorganic Chemi	stry	Institute of Inorgan	ic Chemistry	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	(not) s	successfully completed	(08-0CP1 or 08-0CP	1-BC) and 08-AS1		
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
ses are	the ha		compounds, their sy	nthesis and the worl	fter an individual research. Focu- < in inert atmospheres. Spectros-	
Intende	ed lear	ning outcomes				
technic	al bacl Id carry	crounds an explain them	written and verbal us	ing technical langua	esearch. He/She can describe the age. He/She can independently apply advanced laboratory tech-	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
P (12)						
		sessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
pages e	each) a	chtestate (pre and post-e nd assessment of practic ssessment: German and,	al performance (2 to		minutes each, log approx. 5 to 10 ons)	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
150 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	e appea	ins in				
		gree (1 major) Chemistry				
Bachel	Bachelor's degree (1 major) Biochemistry (2022)					

Module title					Abbreviation	
Solid S	tate Ch	nemistry, Spectroscopic	Methods, Organoele	ment Chemistry	08-AC-FSE-152-m01	
Module	e coord	inator		Module offered by		
	and "E	cture "Festkörperchemie' Elementorganische Chem)		Institute of Inorgar	nic Chemistry	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
12	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
2 seme	ester	undergraduate				
Conten	ts					
					line compounds and organome- eactivity and technical processes	
Intend	ed lear	ning outcomes				
tallics i In addi They ca	in an ar tion, th an list s	opropriate manner. They ney are able to develop ar	are able to systemise nd explain principles	them and characte for the synthesis of	line compounds and organome- rise their structure and reactivity elementary organic compounds. s of solids and can describe them	
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Gei	rman)		
V (2) +	V (2) +	V (3) + Ü (1)				
		S essment (type, scope, langua ble for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
b) oral c) oral d) log (e) pres	examir examin approx entatio	mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 s. 20 pages) or nn (approx. 30 minutes) ussessment: German and	ach (20 to 30 minute 3 candidates (approx		ididate) or	
Allocat	ion of	places				
Additio	onal inf	ormation				
			<u>.</u>			
Worklo	ad					
360 h						
Teachi	ng cvcl	e				
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)		
			00 F/08/0	/		
Module	e appea	ars in				
		gree (1 major) Chemistry	(2015)			
	or's de	J (,,	× J/			



Subfield Organic Chemistry

(40 ECTS credits)

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	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module title				Abbreviation		
Organi	Organic Chemistry 1 08-0C1-152-m01					
Module	e coord	inator		Module offered by	_	
holder	of the l	Professorship of Organi	c Chemistry	Institute of Organic	Chemistry	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	5		
1 seme	ster	undergraduate				
Conten	ts					
the bor organic	nding s comp	provides students with a ituation of carbon and ounds. The module also mination reactions as w	introduces students to o discusses the fundar	the nomenclature of nental principles of s	simple and modera	tely complex
Intende	ed lear	ning outcomes				
of nom lecules that pu synthe	enclatu . They irpose, ses.	w important categories ure to determine simple are able to describe an they can analyse and c	substance names. Stud d formulate some of th ategorise the characte	udents are able to an e most important rea ristic reaction condit	alyse the stereochen actions in organic ch	mistry of mo- emistry. For
	-	number of weekly contact hour	s, language — if other than Ge	rman)		
V (3) +	Ü (1)					
		Sessment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether
b) oral c) oral d) log (e) pres	examir examin approx entatio	mination (approx. 90 to nation of one candidate nation in groups of up to a 20 pages) or n (approx. 30 minutes) assessment: German an	each (20 to 30 minute 33 candidates (approx	-	didate) or	
Allocat	ion of _l	places				
Additio	onal inf	ormation				
		2 para. 2 sentence 2 A nnex 2 to the APOLmCl		n with No. I 2nd lette	r b) of annex 1 to the	APOLmCh
Worklo	ad					
150 h						
Teachi	ng cycl	e				
Teachi	ng cycl	e: every year, summer s	emester			
Referred to in LPO I (examination regulations for teaching-degree programmes)						
§ 62 Nr. 2						
Module appears in						
Bachelor's degree (1 major) Biology (2011) Bachelor's degree (1 major) Chemistry (2010) Bachelor's degree (1 major) Psychology (2010) Bachelor's degree (1 major, 1 minor) Pedagogy (2013) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2013) Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2008)						
Bachelor's	with 1 ma	jor Chemistry (2017)		urg • generated 19-Apr-2025 • ord Bachelor (180 ECTS) Chem		page 19 / 124

Bachelor's degree (2 majors) Special Education (2009) Magister Theologiae Catholic Theology (2013) Bachelor's degree (2 majors) English and American Studies (2009) Bachelor's degree (2 majors) German Language and Literature (2013) Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Geography (2015) Bachelor's degree (1 major) Mathematics (2015) Bachelor's degree (1 major) Musicology (2015) Bachelor's degree (1 major) Physics (2015) Bachelor's degree (1 major) Psychology (2015) Bachelor's degree (1 major) Business Management and Economics (2015) Bachelor's degree (1 major) Nanostructure Technology (2015) Bachelor's degree (1 major) Music Education (2015) Bachelor's degree (1 major) Computational Mathematics (2015) Bachelor's degree (1 major) Political and Social Studies (2015) Bachelor's degree (1 major) Functional Materials (2015) Bachelor's degree (1 major) Academic Speech Therapy (2015) Bachelor's degree (1 major) Indology/South Asian Studies (2015) Bachelor's degree (1 major, 1 minor) Egyptology (2015) Bachelor's degree (1 major, 1 minor) Pedagogy (2015) Bachelor's degree (1 major, 1 minor) History (2015) Bachelor's degree (1 major, 1 minor) Musicology (2015) Bachelor's degree (1 major, 1 minor) Philosophy (2015) Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (1 major, 1 minor) Ancient World (2015) Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2015) Bachelor's degree (1 major, 1 minor) Theological Studies (2015) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2015) Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2015) Bachelor's degree (1 major, 1 minor) German Language and Literature (2015) Bachelor's degree (2 majors) Egyptology (2015) Bachelor's degree (2 majors) Pedagogy (2015) Bachelor's degree (2 majors) Protestant Theology (2015) Bachelor's degree (2 majors) Musicology (2015) Bachelor's degree (2 majors) Philosophy (2015) Bachelor's degree (2 majors) Special Education (2015) Bachelor's degree (2 majors) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (2 majors) Latin Philology (2015) Bachelor's degree (2 majors) Music Education (2015) Bachelor's degree (2 majors) Philosophy and Religion (2015) Bachelor's degree (2 majors) Theological Studies (2015) Bachelor's degree (2 majors) Political and Social Studies (2015) Bachelor's degree (2 majors) Russian Language and Culture (2015) Bachelor's degree (2 majors) Greek Philology (2015) Bachelor's degree (2 majors) European Ethnology (2015) Bachelor's degree (2 majors) Indology/South Asian Studies (2015) First state examination for the teaching degree Gymnasium Chemistry (2015) Bachelor's degree (2 majors) Geography (2015) Bachelor's degree (2 majors) French Studies (2015) Bachelor's degree (2 majors) History (2015) Bachelor's degree (2 majors) Sport Science (Focus on health and Pedagogics in Movement) (2015) Bachelor's degree (2 majors) German Language and Literature (2015) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Bachelor (180 ECTS) Chemie - 2017

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Bachelor's degree (1 major) Mathematical Physics (2016) Bachelor's degree (1 major, 1 minor) French Studies (2016) Bachelor's degree (2 majors) French Studies (2016) Bachelor's degree (1 major, 1 minor) Italian Studies (2016) Bachelor's degree (2 majors) Italian Studies (2016) Bachelor's degree (1 major, 1 minor) Spanish Studies (2016) Bachelor's degree (2 majors) Spanish Studies (2016) Bachelor's degree (1 major) Romanic Languages (French/Italian) (2016) Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2016) Bachelor's degree (1 major) Romanic Languages (Italian/Spanish) (2016) Bachelor's degree (1 major) Business Information Systems (2016) Bachelor's degree (1 major) Games Engineering (2016) Bachelor's degree (1 major, 1 minor) English and American Studies (2016) Bachelor's degree (2 majors) English and American Studies (2016) Bachelor's degree (1 major) Media Communication (2016) Bachelor's degree (1 major) Food Chemistry (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) Bachelor's degree (1 major) Biology (2017) Bachelor's degree (1 major, 1 minor) Geography (2017) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2017) Bachelor's degree (1 major) Aerospace Computer Science (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017) Bachelor's degree (1 major, 1 minor) Museology and material culture (2017) Bachelor's degree (1 major) Economathematics (2017) Bachelor's degree (1 major) Games Engineering (2017) Bachelor's degree (1 major) Computer Science (2017) Bachelor's degree (1 major) Media Communication (2018) Bachelor's degree (1 major) Biomedicine (2018) Bachelor's degree (1 major) Human-Computer Systems (2018) Bachelor's degree (2 majors) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Digital Humanities (2018) Bachelor's degree (2 majors) Digital Humanities (2018) Bachelor's degree (1 major) Computer Science (2019) Bachelor's degree (1 major, 1 minor) English and American Studies (2019) Bachelor's degree (1 major) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Information Systems (2019) Bachelor's degree (2 majors) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Management and Economics (2019) Bachelor's degree (1 major) Modern China (2019) Module studies (Bachelor) Orientierungsstudien (2020) Bachelor's degree (1 major) Biomedicine (2020) Bachelor's degree (1 major) Pedagogy (2020) Bachelor's degree (1 major) Political and Social Studies (2020) Bachelor's degree (1 major) Business Information Systems (2020) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2020) Bachelor's degree (2 majors) European Ethnology (2020) Bachelor's degree (2 majors) Political and Social Studies (2020) Bachelor's degree (2 majors) Special Education (2020) Bachelor's degree (1 major) Physics (2020) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major) Nanostructure Technology (2020) Bachelor's degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major) Aerospace Computer Science (2020) Bachelor's degree (1 major, 1 minor) Museology and material culture (2020) Bachelor's degree (1 major, 1 minor) Pedagogy (2020) Bachelor's degree (2 majors) Pedagogy (2020) Bachelor's degree (1 major) Psychology (2020) Bachelor's degree (1 major) Biology (2021) Magister Theologiae Catholic Theology (2021) Bachelor's degree (2 majors) History (2021) Bachelor's degree (1 major, 1 minor) History (2021) Bachelor's degree (1 major) Media Communication (2021) Bachelor's degree (2 majors) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) English and American Studies (2021) Bachelor's degree (2 majors) English and American Studies (2021) Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Computer Science und Sustainability (2021) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2021) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Quantum Technology (2021) Bachelor's degree (2 majors) Special Education (2021) Bachelor's degree (1 major) Business Information Systems (2021) Bachelor's degree (1 major) Economathematics (2021) Bachelor's degree (1 major) Business Management and Economics (2021) Bachelor's degree (1 major) Human-Computer Systems (2022) Bachelor's degree (1 major, 1 minor) Museology and material culture (2022) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Economathematics (2022) Bachelor's degree (1 major) Mathematical Data Science (2022) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2022) Bachelor's degree (2 majors) Ancient Near Eastern Archaeology (2022) Bachelor's degree (1 major, 1 minor) Ancient World (2022) Bachelor's degree (2 majors) Ancient Near Eastern Studies (2022) Bachelor's degree (1 major) Franco-German studies: language, culture, digital competence (2022) Bachelor's degree (1 major) European Law (2023) Bachelor's degree (1 major, 1 minor) English and American Studies (2023) Bachelor's degree (2 majors) English and American Studies (2023) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2023) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Business Information Systems (2023) Bachelor's degree (1 major) Economathematics (2023) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) Special Education (2023) Bachelor's degree (1 major) Business Management and Economics (2023) Bachelor's degree (1 major) Geography (2023) Bachelor's degree (2 majors) Geography (2023) Bachelor's degree (1 major, 1 minor) Geography (2023) Bachelor's degree (2 majors) European Ethnology/Empiric Cultural Studies (2023) Bachelor's degree (1 major) Mathematical Physics (2024) Bachelor's degree (2 majors) German Language and Literature (2024) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 22 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major, 1 minor) German Language and Literature (2024) Bachelor's degree (1 major) Music Education (2024) Bachelor's degree (2 majors) Music Education (2024) Bachelor's degree (1 major, 1 minor) Music Education (2024) Bachelor's degree (1 major) Indology/South Asian Studies (2024) Bachelor's degree (2 majors) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Ancient World (2024) Bachelor's degree (2 majors) Digital Humanities (2024) Bachelor's degree (1 major, 1 minor) Digital Humanities (2024) Bachelor's degree (1 major) Midwifery (2024) Bachelor's degree (2 majors) Greek Philology (2024) Bachelor's degree (2 majors) Latin Philology (2024) Bachelor's degree (1 major) Business Information Systems (2024) Bachelor's degree (1 major) Economathematics (2024) Bachelor's degree (1 major) Business Management and Economics (2024) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2024) Bachelor's degree (1 major) Human-Computer-Interaction (2024) Bachelor's degree (2 majors) Art Education (2024) Bachelor's degree (1 major) Digital Business & Data Science (2024) Bachelor's degree (1 major) Classics (2024) Bachelor's degree (1 major) Diversity, Ethics and Religions (2024) Bachelor's degree (1 major) Functional Materials (2025) Bachelor's degree (1 major) (2025) Bachelor's degree (1 major) Food Chemistry (2025) Bachelor's degree (1 major, 1 minor) European Ethnology/Empiric Cultural Studies (2025) Bachelor's degree (1 major) Pedagogy (2025) Bachelor's degree (2 majors) Pedagogy (2025) Bachelor's degree (1 major) Economathematics (2025) Bachelor's degree (1 major) Academic Speech Therapy (2025) Bachelor's degree (1 major, 1 minor) Pedagogy (2025) Bachelor's degree (1 major) Games Engineering (2025)

Module title					Abbreviation		
Organi	c Chem	istry 2 and analytical n	nethods in organi	ic chemistry	08-0C2-152-m01		
Module	e coord	inator		Module offer	ed by		
holder	of the (Chair of Physically Orga	nic Chemistry	Institute of C	rganic Chemistry		
ECTS	Metho	od of grading	Only after succ	. compl. of module	(s)		
9	nume	rical grade					
Duratio		Module level	Other prerequi	sites			
1 seme	ster	undergraduate					
Conten							
the exa on read well as	ample o ctions to rearrar	of carbonyl compounds, o complex reaction me	, it extends the stu chanisms. The cou introduces stude	udents' knowledge urse also focuses o	s specific reactions of aromatics. Usin of substitution, elimination and addit n oxidation and reduction reactions a copic methods of infrared spectrosco-		
Intend	ed lear	ning outcomes					
bonyl c they ca unknow to drav	compou in plan wn reac v conclu	Inds. They are able to d and formulate multi-sta itions. Students are abl usions regarding the mo	escribe specific r age syntheses wit e to describe imp blecular structure	eactions of carbony h complex reaction ortant spectroscop	analyse the varying reactivity of car- ls and aromatics. For that purpose, mechanisms and can transfer them t ic methods, to evaluate a spectrum ar		
	-	number of weekly contact hours	s, language — if other th	nan German)			
V (3) +	Ü (1) +	V (2)					
module i	s creditab	le for bonus)		rman, examination offere	d — if not every semester, information on whether		
b) oral c) oral d) log (e) pres	examir examin (approx entatio	mination (approx. 90 to nation of one candidate lation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an	each (20 to 30 m 93 candidates (ap		er candidate) or		
Allocat							
Additio	onal inf	ormation					
Worklo	ad						
270 h							
Teachi	ng cycl	e					
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree	programmes)			
Module	e annea	ars in					
			istry (2015)				
Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015)							
200.00	or's de	gree (1 major) Mathema	atics (2015)				
	Bachelor's degree (1 major) Mathematics (2015) Bachelor's degree (1 major) Computational Mathematics (2015)						
Bachel Bachel	or's de	gree (1 major) Computa		cs (2015)			
Bachel Bachel Bachel	or's de or's de	gree (1 major) Computa gree (1 major) Biochem	istry (2017)	cs (2015)			
Bachel Bachel Bachel Bachel	or's de or's de or's de	gree (1 major) Computa	istry (2017) y (2017)	CS (2015) Würzburg • generated 19-A	pr-2025 • exam. page 24 / 12.		

Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Functional Materials (2025)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 25 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module title					Abbreviation				
Organic Chemistry - lab 1 08					08-0CP1-172-m01				
Module coordinator Module offered by									
holder	of the (Chair of Organic Chemisti	ry II	Institute of Organic	Chemistry				
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)					
8	(not) s	successfully completed	08-OC1 and (08-ACF	P1 or o8-ANP)					
Duratio	on	Module level	Other prerequisites						
1 seme	ster	undergraduate							
Conten	ts								
Das Mo den exj suche v Umgan	odul bie perime wird da g mit G	ntieren nach einer Sicher s Wissen der Studierend efahrenstoffen, einfache	Wissen der Grundvor heitseinweisung selt en in Kolloquien und experimentelle Grun	ostständig im Labor. Protokollen geprüft.	n anzuwenden. Die Studieren- Neben der Durchführung der Ver- Schwerpunkte sind der sichere ganischen Chemie, einfache bis				
	_	ynthesen sowie Analyse	der Produkte.						
		ning outcomes ded learning outcomes a [.]							
analysi teten tł	eren so neoretis		llen identifizieren. Die aktischen Experiment	e Studierenden könn en im Labor vernetze	Bezug auf Ausbeute und Reinheit Ien die in der Vorlesung erarbei- en.				
P (14)									
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	t every semester, information on whether				
pages e	each) a	chtestate (pre and post- nd assessment of practic ssessment: German and	cal performance (2 to		minutes each, log approx. 5 to 10 ions)				
Allocat	ion of p	olaces							
Additio	nal inf	ormation							
Worklo	ad								
240 h									
Teaching cycle									
-									
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	Referred to in LPO I (examination regulations for teaching-degree programmes)					
 Module appears in									
Module	e appea	ars in							

Module title Abbrevia					Abbreviation	
Organi	Organic Chemistry - advanced laboratory course for students of chemistry 08-0CP2-152-m01					
Module	e coord	linator		Module offered by	y	
holder	ofthe	Chair of Organic Chemist	y II	Institute of Organ	ic Chemistry	
ECTS	Meth	od of grading	Only after succ. com	npl. of module(s)		
5	(not)	successfully completed	08-0C2 and (08-0C	P1 or OCP1-BC)		
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	Its					
dous s	ubstan		ing and synthesis tec		ls by working with special hazar- extensive purification methods	
Intend	ed lear	ning outcomes				
	ex syntl				ances. They are able to perform to use specialist literature to pla	
Course	S (type, 1	number of weekly contact hours, l	anguage — if other than Ger	rman)		
P (11)						
		sessment (type, scope, langua ble for bonus)	ge — if other than German, e	examination offered — if	not every semester, information on whether	
pages	each) a	achtestate (pre and post- and assessment of practions assessment: German and	cal performance (2 to		5 minutes each, log approx. 5 to 1 ations)	
Allocat	tion of	places				
Additic	onal inf	ormation				
Worklo	ad					
150 h						
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
Module	e appea	ars in				
		gree (1 major) Biochemis	try (2015)			
		gree (1 major) Chemistry				
Bachel	or's de	gree (1 major) Biochemis	try (2017)			
		gree (1 major) Chemistry				
Bachel	or's de	gree (1 major) Biochemis	try (2022)			

Module title					Abbreviation	
Organic Chemistry 3 & 4					08-0C3+4-152-m01	
Module	coord	inator		Module offered by		
holder	of the F	Professorship of Organic	Chemistry	Institute of Organic	Chemistry	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
13	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
2 seme	ster	undergraduate				
Conten	ts					
radicals tallic ch	s. It dis 1emistr	cusses the fundamental	principles of stereose module also explore	elective synthesis, a	eactions, carbenes, nitriles and symmetric catalysis, organome- ounds, dyes, naturally occurring	
Intende	ed learn	ning outcomes				
asymm thetic a and syr and sel	etric ca nalyse ntheses ective	atalyses. Students are ab s of molecules. They are s. They are able to charac	le to describe organo able to name importa terise and categorise	metallic reactions. T ant heteroaromatics dyes. Students are	ereoselective syntheses and hey are able to conduct retrosyn- and to formulate their reactions able to describe the structure ucture of the DNA, carbohydra-	
Courses	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
V (2) +	Ü (2) +	V (2) + Ü (2) + S (1)				
		s essment (type, scope, langua ₎ le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
b) oral (c) oral e d) log (a e) prese	examin examin approx entatio	nination (approx. 90 to 1 lation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/	ach (20 to 30 minute) 3 candidates (approx.		didate) or	
Allocat						
Additio	nal inf	ormation				
Worklo	ad					
390 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
		gree (1 major) Chemistry gree (1 major) Chemistry				



Subfield Physical and Theoretical Chemistry

(40 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 29 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module title Abbreviation					Abbreviation	
Principles of quantum mechanics and spectroscopy o8-PC-QMS-152-mo1					08-PC-QMS-152-m01	
Module coordinator				Module offered by		
	oskopie	ture "Grundlagen der Qua e" (Principles of Quantum		Institute of Physica	l and Theoretical Chemistry	
			Only after succ. con	npl. of module(s)		
10	nume	rical grade				
Duratio	on .	Module level	Other prerequisites	sites		
1 seme	semester undergraduate					
Conten	ts					
the bas the mo UV-VIS	sis of th dule fo spectre differe	e following models: part cuses on vibrational spe oscopy. In addition, the r	icle in a box, harmon ctroscopy, angular m nodule discusses line	ic oscillator and rigi omentum quantisati ear operators, eigen	chanics. It analyses molecules or d rotor. As regards spectroscopy, ion, microwave spectroscopy and value problems, matrix represen- thematical bases of the topics li-	
Intend	ed lear	ning outcomes				
to desc	ribe di				em to molecules. They are able apply the mathematical bases o	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
V (4) +	Ü (2) +	V (2)				
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
b) oral c) oral d) log (e) pres	examir examin approx entatio ige of a	mination (approx. 90 to 1 nation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and, bonus	ach (20 to 30 minute 3 candidates (approx	-	didate) or	
Allocat	ion of j	olaces				
Additio	onal inf	ormation	·			
Worklo	ad					
300 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	immes)		
Module	e appea	urs in				
		gree (1 major) Chemistry				
Bachel	or's de	gree (1 major) Chemistry	(2017)			

Thermo	Module title				Abbreviation	
Thermodynamics, Kinetics, Electrochemistryo8-PC-TKE-152-mo1			L			
Module coordinator Module offered by						
		ture "Thermodynamik,	Kinetik, Elektroche-	-	l and Theoretical Ch	emistry
ECTS						
9	1	rical grade		• • • •		
 Duratio		Module level	Other prerequisite	c		
		_		3		
1 seme: Conten		undergraduate				
chemic dynami	al equi	ntroduces students to ilibria, ideal and real g esses, it discusses the	asses/solutions/mixe	d phases and electro		
Intende	ed lear	ning outcomes				
solutio	ns, gas	able to explain the law ses, mixed phases and eactions.				
Course	S (type, r	number of weekly contact hou	rs, language — if other than G	erman)		
V (4) +	Ü (2)					
a) writte b) oral c) oral d) log (e) prese	en exa examir examir approx entatio ige of a	nination (approx. 90 t mination of one candidate nation of one candidate nation in groups of up t a. 20 pages) or on (approx. 30 minutes assessment: German an	e each (20 to 30 minut o 3 candidates (appro)	-	didate) or	
Allocat 						
Allocat Additio 	onal inf	places				
Allocat Additio Worklo	onal inf	places				
Allocat Additio Worklo 270 h	onal inf oad	places				
Allocat Additio Worklo 270 h	onal inf oad	places				
Allocat Additio Worklo 270 h Teachii	nal inf ad ng cycl	places formation		rammes)		
Allocat Additio Worklo 270 h Teachin Referre	nal inf ad ng cycl ed to in	places		rammes)		
Allocat Additio 270 h Teachin Referre § 62 N	ng cycl ed to in	places formation e LPOI (examination regulat		rammes)		
Allocat Additio 270 h Teachin Referre § 62 N Module	nal inf ad ng cycl ed to in Jr. 1 e appea	places formation e LPOI (examination regulat	ions for teaching-degree prog	rammes)		
Allocat Worklo 270 h Teachin Referre § 62 l N Module Bacheld	nal inf ad ng cycl ed to in Nr. 1 e appea or's de	places formation e LPOI (examination regulat	ions for teaching-degree prog	rammes)		
Allocat Additio Worklo 270 h Teachin Referre § 62 N Module Bachelo Bachelo	ng cycl ed to in Nr. 1 e appea or's de or's de	places formation e LPO I (examination regulat ars in gree (1 major) Biochem	ions for teaching-degree prog nistry (2015) ry (2015)	rammes)		
Allocat Additio Worklo 270 h Teachin Referre § 62 N Bachelo Bachelo Bachelo	enal inf ad ng cycl ed to in Jr. 1 e appea or's de or's de or's de	places formation e LPO I (examination regulat ars in gree (1 major) Biochem gree (1 major) Chemist	ions for teaching-degree prog nistry (2015) ry (2015) atics (2015)			
Allocat Additio Worklo 270 h Teachin Teachin S 62 I N Module Bachele Bachele Bachele	nal inf ad ng cycl d to in dr. 1 e appea or's de or's de or's de or's de	e EVALUATE INTERIOR INTERIORI I	ions for teaching-degree prog nistry (2015) ry (2015) latics (2015) ational Mathematics (2			
Allocat Additio Worklo 270 h Teachin Referre § 62 I N Module Bachele Bachele Bachele Bachele First sta	ed to in ad ed to in Nr. 1 e appea or's de or's de or's de or's de or's de or's de	e EVALUATE INTRODUCTION PARTICLE INTRODUCTI	ions for teaching-degree prog nistry (2015) ry (2015) atics (2015) ational Mathematics (2 nal Materials (2015) ing degree Gymnasiun	2015)		
Allocat Additio Worklo 270 h Teachin Teachin S 62 I N Module Bachele Bachele Bachele Bachele Bachele Bachele Bachele Bachele Bachele Bachele	ad ng cycl ed to in dr. 1 e appea or's de or's de or's de or's de or's de or's de or's de or's de	e EPOI (examination regulat ars in gree (1 major) Biochem gree (1 major) Mathem gree (1 major) Mathem gree (1 major) Computs gree (1 major) Functior mination for the teach gree (1 major) Biochem	ions for teaching-degree prog nistry (2015) ry (2015) latics (2015) ational Mathematics (2015) ational Mathematics (2015) ing degree Gymnasiun nistry (2017)	2015)		
Allocat Additio Worklo 270 h Teachin Teachin S 62 I N Module Bachele Bachele Bachele Bachele Bachele Bachele Bachele Bachele Bachele Bachele Bachele Bachele	ng cycl ng cycl ed to in dr. 1 e appea or's de or's de or's de or's de or's de or's de or's de or's de or's de or's de	e EVALUATE INTRODUCTION PARTICLE INTRODUCTI	ions for teaching-degree prog nistry (2015) rry (2015) atics (2015) ational Mathematics (2015) ing degree Gymnasiun nistry (2017) rry (2017)	2015)		

Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Functional Materials (2025)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 32 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation
Physical Chemistry (lab) 08-PCP-152-m01					
Module coordinator Module offered by					
lecture mie"	r of lec	ture "Thermodynamik, Ki	netik, Elektroche-	-	l and Theoretical Chemistry
ECTS	Method of grading Only after succ. co			npl. of module(s)	
9	(not) s	successfully completed	o8-PC-QMS or o8-P	QMS or o8-PC-TKE	
Duration Module level Other prerequisite			Other prerequisites	;	
1 semester undergraduate					
Conten	ts		• •		
lated le dition t their kr	ecture(s o those nowled	s). After a safety briefing, e experiments, students ge.	the students autono	mously conduct exp	they have gained through the re- eriments in the laboratory. In ad- ite lab reports to demonstrate
Intende	ed lear	ning outcomes			
		able to connect the theor practical laboratory expe			etics, electrochemistry and spec- ulting measurements.
Course	S (type, r	number of weekly contact hours, I	language — if other than Ge	rman)	
P (6)					
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
pages e	each) a	chtestate (pre and post- nd assessment of practions ssessment: German and	cal performance (2 to		minutes each, log approx. 5 to 10 ions)
Allocat					
			-		
Additio	nal inf	ormation			
			-		
Worklo	ad				
270 h					
Teachi	ng cycl	e			
			-		
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	
Module	e appea	urs in			
		gree (1 major) Chemistry	·		
Bachel	or's de	gree (1 major) Chemistry	(2017)		

Module	title				Abbreviation	
Quantum Chemistry					08-TC-152-m01	
Module coordinator			Mandada a ffarmad har			
lecturer of lecture "Quantenchemie"			Module offered by	l and Theoretical Ch	omicta	
_				•		emistry
ECTS		od of grading	Only after succ. com	ipl. of module(s)		
3		rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
spin, th	ie Paul	rovides students with de i principle, Slater determ ed states, the Born-Oppe	inants, the Hartree-Fo	ock method, correlat	ion energy, configur	
Intende	ed leari	ning outcomes				
Studen	ts are a	able to describe excited s	states of molecules w	ith the help of key co	oncepts and models	•
Course	S (type, n	umber of weekly contact hours, l	language — if other than Ger	man)		
V (2) +	Ü (1)					
Method	d of ass	eessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, informati	ion on whether
e) pres	entatio ge of a ble for		/or English			
Allocat	ion of p	Diaces				
Additio	nal inf	ormation				
Worklo	ad		-			
90 h						
Teachiı	ng cycl	e				
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
§ 22 § 22 § 22	Nr. 2 f)					
Module	e appea	ars in				
Bachel	or's de	gree (1 major) Chemistry	(2015)			
		gree (1 major) Mathemati				
		gree (1 major) Computati		015)		
		gree (1 major) Functional	_			
		mination for the teaching				
		mination for the teaching		• •		
		mination for the teaching		• -		
First state examination for the teaching degree Mittelschule Chemistry (2015) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)						
		or Chemistry (2017)		rg • generated 19-Apr-2025 •		page 34 / 124
				rd Bachelor (180 ECTS) Chem		

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)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 35 / 1
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module title					Abbreviation
Symmetry, chemical bonding and light			ght		08-PC-SBL-152-m01
Module coordinator				Module offered by	
lecturer of lecture "Symmetrie, chemische Bindung and Licht"		nische Bindung and		l and Theoretical Chemistry	
ECTS Method of grading Only after succ. compl. of module(s)					
9	1	rical grade		•	
Duratio		Module level	Other prerequisites	5	
2 seme	ester	undergraduate			
Conten					
tions, p qualita studen	point gr ative MC ats the c	oups, character tables) theory and gives an i opportunity to analyse	and selection rules. The fund	ne module deals with lamentals of comput	on group theory, symmetry opera the chemical bond based on th ational chemistry. It also gives cal bonding and light in detail.
	-	ning outcomes	mmotry of molecules. Th	any are able to draw.	analyziana about the spectros
			nmetry of molecules. If		conclusions about the spectros-
		· · · · · · · · · · · · · · · · · · ·	rs, language — if other than Ge	·	
		V (2) + Ü (2)			
			guage — if other than German,	examination offered — if no	ot every semester, information on whether
		le for bonus)			· ·
e) pres Langua	entatio age of a	. 20 pages) or n (approx. 30 minutes ssessment: German a			
Allocat	tion of _l	olaces			
Additio	onal inf	ormation			
Worklo	bad				
270 h					
Teachi	ng cycl	e			
 Referre	ed to in	LPO I (examination regulat	tions for teaching-degree progr	ammes)	
 Referre			tions for teaching-degree progr	ammes)	
 Referre Module	e appea	ars in		ammes)	
 Referre Module Bachel	e appea lor's de		nistry (2015)	ammes)	
 Referre Module Bachel Bachel Bachel	e appea lor's de lor's de lor's de	ars in gree (1 major) Biochen gree (1 major) Chemist gree (1 major) Matherr	nistry (2015) try (2015) natics (2015)		
 Referre Bachel Bachel Bachel Bachel Bachel	e appea lor's de lor's de lor's de lor's de	ars in gree (1 major) Biochen gree (1 major) Chemisi gree (1 major) Mathem gree (1 major) Comput	nistry (2015) try (2015) natics (2015) ational Mathematics (2		
 Referre Bachel Bachel Bachel Bachel Bachel Bachel	e appea lor's de lor's de lor's de lor's de lor's de	ars in gree (1 major) Biochen gree (1 major) Chemist gree (1 major) Mathem gree (1 major) Comput gree (1 major) Biochen	nistry (2015) try (2015) natics (2015) ational Mathematics (2 nistry (2017)		
 Referre Bachel Bachel Bachel Bachel Bachel Bachel	e appea lor's de lor's de lor's de lor's de lor's de lor's de	ars in gree (1 major) Biochen gree (1 major) Chemist gree (1 major) Mather gree (1 major) Comput gree (1 major) Biochen gree (1 major) Chemist	nistry (2015) try (2015) natics (2015) ational Mathematics (2 nistry (2017) try (2017)		
 Referre Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel	e appea lor's de lor's de lor's de lor's de lor's de lor's de lor's de	ars in gree (1 major) Biochen gree (1 major) Chemist gree (1 major) Mathem gree (1 major) Comput gree (1 major) Biochen	nistry (2015) try (2015) natics (2015) ational Mathematics (2 nistry (2017) try (2017) nistry (2022)		
 Referre Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel	e appea lor's de lor's de lor's de lor's de lor's de lor's de lor's de	ars in gree (1 major) Biochen gree (1 major) Chemist gree (1 major) Mathem gree (1 major) Comput gree (1 major) Biochen gree (1 major) Biochen	nistry (2015) try (2015) natics (2015) ational Mathematics (2 nistry (2017) try (2017) nistry (2022)		



Subfield Basics of Natural Sciences

(23 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 37 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation	
Bioche	mistry	1			08-BC1-152-m01	
Module	e coord	inator		Module offered by	1	
holder	of the (Chair of Biochemistry		Chair of Biochemistry		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade		-		
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
mistry. tertiary sis, glu tion, fa discuss	Comprising lectures and exercises, this module acquaints students with the fundamental principles of bioche- mistry. A particular focus is on the biochemistry of proteins (amino acids, peptide bonds, primary, secondary, tertiary and quaternary structures), catalytic strategies and enzyme kinetics, carbohydrate metabolism (glycoly- sis, gluconeogenesis, citric acid cycle, cellular respiration, photosynthesis), fatty acid metabolism (beta oxida- tion, fatty acid synthesis), nucleotide metabolism, the urea cycle and amino acid metabolism. The module also discusses the structure of the DNA and the central dogma of molecular biology.					
		ning outcomes				
		e become familiar with th dule. They are able to de				ere discus-
Course	S (type, r	number of weekly contact hours,	language — if other than Ger	man)		
V (2) +	Ü (1)					
		Sessment (type, scope, langua le for bonus)	age — if other than German, e	examination offered — if no	ot every semester, informati	ion on whether
written	exami	nation (approx. 60 to 90	minutes)			
Allocat	ion of p	olaces				
Additio	onal inf	ormation				
		2 para. 2 sentence 2 AP POLmCh and No. 3 of anr			er e) and No. II 1st le	tter c) of an-
Worklo	ad					
150 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
§ 42 N § 62 N						
Module	e appea	ars in				
Bachel	or's de	gree (1 major) Biochemis	try (2015)			
		gree (1 major) Biology (20	-			
		gree (1 major) Chemistry gree (1 major) Food Chen	-			
		gree (1 major) Food Chen gree (1 major) Functional	• -			
		mination for the teaching	-	Chemistry (2015)		
		mination for the teaching				
		mination for the teaching	,	• -		
		mination for the teaching gree (1 major) Food Chen		Cnemistry (2015)		
			115(1y (2010)			
Bachelor's	with 1 ma	jor Chemistry (2017)		rg • generated 19-Apr-2025 • rd Bachelor (180 ECTS) Chem		page 38 / 124

Bachelor's degree (1 major) Biology (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2019) Module studies (Bachelor) 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 (2021) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Functional Materials (2025) Bachelor's degree (1 major) Functional Materials (2025)

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WÜRZBURG

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 39 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation	
Mathe	matics	for students in Chemist	ry and Biochemistry		10-M-MCH-172-m01	
Module	e coord	inator		Module offered by		
Dean o	f Studi	es Mathematik (Mathem	atics)	Institute of Mathen	natics	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade		• • • •		
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts		4			
		ations, differentiation ar n of functions in several			, curve sketching, differentiation 5, power series.	
Intend	ed lear	ning outcomes				
		able to recognise and p atical methods to them			mathematical problems, apply	
Course	S (type, r	number of weekly contact hours,	language — if other than Ger	rman)		
V (3) +	Ü (2)					
		Sessment (type, scope, langu ile for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
written	exami	nation (approx. 90 to 12	o minutes) and writter	n exercises (approx.	25)	
Allocat	ion of _l	olaces				
Additio	onal inf	ormation				
Worklo	ad					
150 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	ns for teaching-degree progra	immes)		
Module	e appea	ars in				
Bachel	or's de	gree (1 major) Biochemi	stry (2017)			
		gree (1 major) Chemistry				
		gree (1 major) Biochemi				
exchan	ige pro	gram Mathematics (202	3)			

Module	e title				Abbreviation	
Introdu	uction t	o Physics for Students	of other Disciplines	· · · · · · · · · · · · · · · · · · ·	11-EFNF-152-m01	
Modul	e coord	inator		Module offered by	1	
		ector of the Institute of	Applied Physics	Faculty of Physics and Astronomy		
ECTS	1	od of grading		compl. of module(s)	and Astronomy	
	1	rical grade				
7 Duratio		Module level	Other prerequisit			
	-	-		165		
2 seme		undergraduate				
Conten		<u> </u>			<u> </u>	
Fundar physic:		s of mechanics, vibratio	on theory, thermodyr	namics, optics, science	of electricity, atomi	c and nuclea
Intend	ed lear	ning outcomes				
		are able to identify fund cs. They are able to ap			•	
		number of weekly contact hour				
V (4) +	_					
		Sessment (type, scope, lang	uage — if other than Germa	an, examination offered — if no	ot every semester. informat	ion on whether
		le for bonus)				
written	exami	nation (60 to 120 minu	tes)			
Allocat	tion of p	olaces				
Additic	onal inf	ormation				
		2 para. 2 sentence 2 A	POLmCh in conjunct	tion with No. I 2nd lette	er d) and No. I 1st let	ter d) of an-
		POLmCh and No. 4 of a			· · · · · · · · · · · · · · · · · · ·	
Worklo	bad					
210 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulati	ons for teaching-degree pro	ogrammes)		
				-3		
Modul	e appea	ars in				
mouut						
	lor's de	gree (1 maior) Biology (2011)			
Bachel		gree (1 major) Biology (gree (1 major) Chemisti				
Bachel Bachel	lor's de	gree (1 major) Biology (gree (1 major) Chemisti gree (1 major) Psycholo	y (2010)			
Bachel Bachel Bachel Bachel	lor's de lor's de lor's de	gree (1 major) Chemisti gree (1 major) Psycholo gree (1 major, 1 minor)	y (2010) gy (2010) Pedagogy (2013)			
Bachel Bachel Bachel Bachel Bachel	lor's de lor's de lor's de lor's de	gree (1 major) Chemistr gree (1 major) Psycholo gree (1 major, 1 minor) gree (1 major, 1 minor)	y (2010) gy (2010) Pedagogy (2013) Political and Social S			
Bachel Bachel Bachel Bachel Bachel Bachel	lor's de lor's de lor's de lor's de lor's de	gree (1 major) Chemistr gree (1 major) Psycholo gree (1 major, 1 minor) gree (1 major, 1 minor) gree (1 major, 1 minor)	y (2010) gy (2010) Pedagogy (2013) Political and Social S Russian Language a			
Bachel Bachel Bachel Bachel Bachel Bachel Bachel	lor's de lor's de lor's de lor's de lor's de lor's de	gree (1 major) Chemistr gree (1 major) Psycholo gree (1 major, 1 minor) gree (1 major, 1 minor) gree (1 major, 1 minor) gree (2 majors) Special	y (2010) gy (2010) Pedagogy (2013) Political and Social S Russian Language a Education (2009)			
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Bachel Bachel Bachel Bachel Bachel Bachel Magist First st	lor's de lor's de lor's de lor's de lor's de lor's de lor's de ate exa	gree (1 major) Chemistr gree (1 major) Psycholo gree (1 major, 1 minor) gree (1 major, 1 minor) gree (1 major, 1 minor) gree (2 majors) Special logiae Catholic Theolo mination for the teachi	y (2010) ogy (2010) Pedagogy (2013) Political and Social S Russian Language an Education (2009) gy (2013) ng degree Gymnasiu	nd Culture (2008) ım English (2009)		
Bachel Bachel Bachel Bachel Bachel Bachel Bachel Magist First st	lor's de lor's de lor's de lor's de lor's de lor's de lor's de ate exa ate exa	gree (1 major) Chemistr gree (1 major) Psycholo gree (1 major, 1 minor) gree (1 major, 1 minor) gree (1 major, 1 minor) gree (2 majors) Special ologiae Catholic Theolog	y (2010) ogy (2010) Pedagogy (2013) Political and Social S Russian Language an Education (2009) gy (2013) ng degree Gymnasiu ng degree Gymnasiu	nd Culture (2008) ım English (2009) ım Biology (2009)		
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Bachel Bachel Bachel Bachel Bachel Bachel Magist First st First st First st First st	lor's de lor's de lor's de lor's de lor's de lor's de lor's de lor's de ate exa ate exa ate exa ate exa ate exa ate exa	gree (1 major) Chemistr gree (1 major) Psycholo gree (1 major, 1 minor) gree (1 major, 1 minor) gree (1 major, 1 minor) gree (2 majors) Special ologiae Catholic Theolo mination for the teachi mination for the teachi mination for the teachi mination for the teachi mination for the teachi	y (2010) ogy (2010) Pedagogy (2013) Political and Social S Russian Language an Education (2009) gy (2013) ng degree Gymnasiu ng degree Gymnasiu ng degree Gymnasiu ng degree Gymnasiu ng degree Gymnasiu	nd Culture (2008) Im English (2009) Im Biology (2009) Im Chemistry (2009) Im Geography (2009) Im French Studies (200	9)	
Bachel Bachel Bachel Bachel Bachel Bachel Bachel Magist First st First st First st First st First st	lor's de lor's de lor	gree (1 major) Chemistr gree (1 major) Psycholo gree (1 major, 1 minor) gree (1 major, 1 minor) gree (1 major, 1 minor) gree (2 majors) Special ologiae Catholic Theolo mination for the teachi mination for the teachi	y (2010) ogy (2010) Pedagogy (2013) Political and Social S Russian Language an Education (2009) gy (2013) ng degree Gymnasiu ng degree Gymnasiu ng degree Gymnasiu ng degree Gymnasiu ng degree Gymnasiu ng degree Gymnasiu	nd Culture (2008) Im English (2009) Im Biology (2009) Im Chemistry (2009) Im Geography (2009) Im French Studies (200 Im German (2009)	99)	
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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) Bachelor's degree (2 majors) English and American Studies (2009) Bachelor's degree (2 majors) German Language and Literature (2013) Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Geography (2015) Bachelor's degree (1 major) Computer Science (2015) Bachelor's degree (1 major) Food Chemistry (2015) Bachelor's degree (1 major) Mathematics (2015) Bachelor's degree (1 major) Musicology (2015) Bachelor's degree (1 major) Physics (2015) Bachelor's degree (1 major) Psychology (2015) Bachelor's degree (1 major) Business Management and Economics (2015) Bachelor's degree (1 major) Nanostructure Technology (2015) Bachelor's degree (1 major) Biomedicine (2015) Bachelor's degree (1 major) Music Education (2015) Bachelor's degree (1 major) Computational Mathematics (2015) Bachelor's degree (1 major) Political and Social Studies (2015) Bachelor's degree (1 major) Functional Materials (2015) Bachelor's degree (1 major) Academic Speech Therapy (2015) Bachelor's degree (1 major) Indology/South Asian Studies (2015) Bachelor's degree (1 major, 1 minor) Egyptology (2015) Bachelor's degree (1 major, 1 minor) Pedagogy (2015) Bachelor's degree (1 major, 1 minor) History (2015) Bachelor's degree (1 major, 1 minor) Musicology (2015) Bachelor's degree (1 major, 1 minor) Philosophy (2015) Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (1 major, 1 minor) Ancient World (2015) Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2015) Bachelor's degree (1 major, 1 minor) Theological Studies (2015) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2015) Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2015) Bachelor's degree (1 major, 1 minor) German Language and Literature (2015) Bachelor's degree (2 majors) Egyptology (2015) Bachelor's degree (2 majors) Pedagogy (2015) Bachelor's degree (2 majors) Protestant Theology (2015) Bachelor's degree (2 majors) Musicology (2015) Bachelor's degree (2 majors) Philosophy (2015) Bachelor's degree (2 majors) Special Education (2015) Bachelor's degree (2 majors) Pre- and Protohistoric Archaeology (2015) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 42 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (2 majors) Latin Philology (2015) Bachelor's degree (2 majors) Music Education (2015) Bachelor's degree (2 majors) Philosophy and Religion (2015) Bachelor's degree (2 majors) Theological Studies (2015) Bachelor's degree (2 majors) Political and Social Studies (2015) Bachelor's degree (2 majors) Russian Language and Culture (2015) Bachelor's degree (2 majors) Greek Philology (2015) Bachelor's degree (2 majors) European Ethnology (2015) Bachelor's degree (2 majors) Indology/South Asian Studies (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) First state examination for the teaching degree Gymnasium Greek Philology (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) Bachelor's degree (2 majors) Geography (2015) Bachelor's degree (2 majors) French Studies (2015) Bachelor's degree (2 majors) History (2015) Bachelor's degree (2 majors) Sport Science (Focus on health and Pedagogics in Movement) (2015) Bachelor's degree (2 majors) German Language and Literature (2015) Bachelor's degree (1 major) Mathematical Physics (2016) First state examination for the teaching degree Gymnasium Music (2015) First state examination for the teaching degree Gymnasium Music Education, Advanced Studies (2015) Bachelor's degree (1 major, 1 minor) French Studies (2016) Bachelor's degree (2 majors) French Studies (2016) Bachelor's degree (1 major, 1 minor) Italian Studies (2016) Bachelor's degree (2 majors) Italian Studies (2016) Bachelor's degree (1 major, 1 minor) Spanish Studies (2016) Bachelor's degree (2 majors) Spanish Studies (2016) Bachelor's degree (1 major) Romanic Languages (French/Italian) (2016) Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2016) Bachelor's degree (1 major) Romanic Languages (Italian/Spanish) (2016) Bachelor's degree (1 major) Business Information Systems (2016) 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) Bachelor's degree (1 major) Games Engineering (2016) Bachelor's degree (1 major, 1 minor) English and American Studies (2016) Bachelor's degree (2 majors) English and American Studies (2016) First state examination for the teaching degree Gymnasium English (2016) Bachelor's degree (1 major) Media Communication (2016) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 43 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major) Food Chemistry (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) Bachelor's degree (1 major) Biology (2017) Bachelor's degree (1 major, 1 minor) Geography (2017) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2017) Bachelor's degree (1 major) Aerospace Computer Science (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017) Bachelor's degree (1 major, 1 minor) Museology and material culture (2017) Bachelor's degree (1 major) Economathematics (2017) Bachelor's degree (1 major) Games Engineering (2017) Bachelor's degree (1 major) Computer Science (2017) First state examination for the teaching degree Gymnasium Greek Philology (2018) Bachelor's degree (1 major) Media Communication (2018) Bachelor's degree (1 major) Biomedicine (2018) Bachelor's degree (1 major) Human-Computer Systems (2018) Bachelor's degree (2 majors) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Digital Humanities (2018) Bachelor's degree (2 majors) Digital Humanities (2018) First state examination for the teaching degree Gymnasium Physics (2018) Bachelor's degree (1 major) Computer Science (2019) First state examination for the teaching degree Gymnasium Mathematics (2019) Bachelor's degree (1 major, 1 minor) English and American Studies (2019) Bachelor's degree (1 major) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Information Systems (2019) Bachelor's degree (2 majors) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Management and Economics (2019) Bachelor's degree (1 major) Modern China (2019) Bachelor's degree (1 major) Food Chemistry (2019) Bachelor's degree (1 major) Biomedicine (2020) Bachelor's degree (1 major) Pedagogy (2020) Bachelor's degree (1 major) Political and Social Studies (2020) Bachelor's degree (1 major) Business Information Systems (2020) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2020) Bachelor's degree (2 majors) European Ethnology (2020) Bachelor's degree (2 majors) Political and Social Studies (2020) Bachelor's degree (2 majors) Special Education (2020) Bachelor's degree (1 major) Physics (2020) Bachelor's degree (1 major) Nanostructure Technology (2020) Bachelor's degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major) Aerospace Computer Science (2020) Bachelor's degree (1 major, 1 minor) Museology and material culture (2020) First state examination for the teaching degree Gymnasium Physics (2020) Bachelor's degree (1 major, 1 minor) Pedagogy (2020) Bachelor's degree (2 majors) Pedagogy (2020) First state examination for the teaching degree Gymnasium Political and Social Studies (2020) Bachelor's degree (1 major) Psychology (2020) Bachelor's degree (1 major) Biology (2021) Magister Theologiae Catholic Theology (2021) Bachelor's degree (2 majors) History (2021) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 44 / 124

reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major, 1 minor) History (2021) First state examination for the teaching degree Gymnasium History (2021) Bachelor's degree (1 major) Media Communication (2021) Bachelor's degree (2 majors) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) English and American Studies (2021) Bachelor's degree (2 majors) English and American Studies (2021) First state examination for the teaching degree Gymnasium English (2021) Bachelor's degree (1 major) Functional Materials (2021) First state examination for the teaching degree Gymnasium Philosophy and Ethics (2021) Bachelor's degree (1 major) Computer Science und Sustainability (2021) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2021) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Quantum Technology (2021) Bachelor's degree (2 majors) Special Education (2021) Bachelor's degree (1 major) Business Information Systems (2021) Bachelor's degree (1 major) Economathematics (2021) Bachelor's degree (1 major) Business Management and Economics (2021) Bachelor's degree (1 major) Human-Computer Systems (2022) Bachelor's degree (1 major, 1 minor) Museology and material culture (2022) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Economathematics (2022) Bachelor's degree (1 major) Mathematical Data Science (2022) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2022) First state examination for the teaching degree Gymnasium Philosophy and Ethics (2022) Bachelor's degree (2 majors) Ancient Near Eastern Archaeology (2022) Bachelor's degree (1 major, 1 minor) Ancient World (2022) Bachelor's degree (2 majors) Ancient Near Eastern Studies (2022) Bachelor's degree (1 major) Franco-German studies: language, culture, digital competence (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 Gymnasium Geography (2023) Bachelor's degree (1 major) European Law (2023) Bachelor's degree (1 major, 1 minor) English and American Studies (2023) Bachelor's degree (2 majors) English and American Studies (2023) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2023) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Business Information Systems (2023) Bachelor's degree (1 major) Economathematics (2023) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) Special Education (2023) Bachelor's degree (1 major) Business Management and Economics (2023) Bachelor's degree (1 major) Geography (2023) Bachelor's degree (2 majors) Geography (2023) Bachelor's degree (1 major, 1 minor) Geography (2023) Bachelor's degree (2 majors) European Ethnology/Empiric Cultural Studies (2023) First state examination for the teaching degree Gymnasium German (2024) Bachelor's degree (1 major) Mathematical Physics (2024) Bachelor's degree (2 majors) German Language and Literature (2024) Bachelor's degree (1 major, 1 minor) German Language and Literature (2024) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 45 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major) Music Education (2024) Bachelor's degree (2 majors) Music Education (2024) Bachelor's degree (1 major, 1 minor) Music Education (2024) Bachelor's degree (1 major) Indology/South Asian Studies (2024) Bachelor's degree (2 majors) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Ancient World (2024) Bachelor's degree (2 majors) Digital Humanities (2024) Bachelor's degree (1 major, 1 minor) Digital Humanities (2024) Bachelor's degree (1 major) Midwifery (2024) Bachelor's degree (2 majors) Greek Philology (2024) Bachelor's degree (2 majors) Latin Philology (2024) First state examination for the teaching degree Gymnasium Latin Philology (2024) Bachelor's degree (1 major) Business Information Systems (2024) Bachelor's degree (1 major) Economathematics (2024) Bachelor's degree (1 major) Business Management and Economics (2024) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2024) First state examination for the teaching degree Gymnasium English (2024) First state examination for the teaching degree Gymnasium History (2024) First state examination for the teaching degree Gymnasium Greek Philology (2024) Bachelor's degree (1 major) Human-Computer-Interaction (2024) Bachelor's degree (2 majors) Art Education (2024) Bachelor's degree (1 major) Digital Business & Data Science (2024) Bachelor's degree (1 major) Classics (2024) Bachelor's degree (1 major) Diversity, Ethics and Religions (2024) Bachelor's degree (1 major) Functional Materials (2025) Bachelor's degree (1 major) (2025) Bachelor's degree (1 major) Food Chemistry (2025) Bachelor's degree (1 major, 1 minor) European Ethnology/Empiric Cultural Studies (2025) Bachelor's degree (1 major) Pedagogy (2025) Bachelor's degree (2 majors) Pedagogy (2025) Bachelor's degree (1 major) Economathematics (2025) Bachelor's degree (1 major) Academic Speech Therapy (2025) Bachelor's degree (1 major, 1 minor) Pedagogy (2025) Bachelor's degree (1 major) Games Engineering (2025)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 46 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation	
Labora	tory Cou	urse Physics for Stude	nts of other Discipline	s	11-PFNF-152-m01	
Module	e coordi	nator		Module offered by	<u> </u>	
Managi	ing Dire	ctor of the Institute of <i>i</i>	Applied Physics	Faculty of Physics and Astronomy		
ECTS	-	d of grading	Only after succ. con	•	,	
3		uccessfully completed				
Duratio	r i	Module level	Other prerequisites			
1 seme		undergraduate				
Conten			ļ			
		nents in the fields of m atomic and nuclear phy			cs, optics, x-rays, nu	iciear magne
Intende	ed learn	ing outcomes				
perime of error derstar	nts. The s in exp nding of	ave recognised and ur y can conduct simple eriments. They are abl physical phenomena ethods as well as their	experiments in the lab e to compile a protoco and know the basic ide	oratory. They are abl l for experimental pr eas and ways of func	e to identify and ass ocedures. They have tioning of different n	ess sources e a basic un-
Course	S (type, ni	umber of weekly contact hours	, language — if other than Ge	rman)		
P (4)						
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	can eac ion of p	h be repeated once. laces				
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	-	ree (1 major, 1 minor) l		-		
Bachel	or's deg	ree (2 majors) Special	Education (2009)			
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First sta	ate exar	nination for the teachi	ng degree Gymnasium	English (2009)		
Bachelor's	with 1 majo	or Chemistry (2017)	JMU Würzbı	urg • generated 19-Apr-2025	• exam.	page 47 / 124
				ord Bachelor (180 ECTS) Chen		

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) Bachelor's degree (2 majors) English and American Studies (2009) Bachelor's degree (2 majors) German Language and Literature (2013) Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Geography (2015) Bachelor's degree (1 major) Computer Science (2015) Bachelor's degree (1 major) Food Chemistry (2015) Bachelor's degree (1 major) Mathematics (2015) Bachelor's degree (1 major) Musicology (2015) Bachelor's degree (1 major) Physics (2015) Bachelor's degree (1 major) Psychology (2015) Bachelor's degree (1 major) Business Management and Economics (2015) Bachelor's degree (1 major) Nanostructure Technology (2015) Bachelor's degree (1 major) Biomedicine (2015) Bachelor's degree (1 major) Music Education (2015) Bachelor's degree (1 major) Computational Mathematics (2015) Bachelor's degree (1 major) Political and Social Studies (2015) Bachelor's degree (1 major) Functional Materials (2015) Bachelor's degree (1 major) Academic Speech Therapy (2015) Bachelor's degree (1 major) Indology/South Asian Studies (2015) Bachelor's degree (1 major, 1 minor) Egyptology (2015) Bachelor's degree (1 major, 1 minor) Pedagogy (2015) Bachelor's degree (1 major, 1 minor) History (2015) Bachelor's degree (1 major, 1 minor) Musicology (2015) Bachelor's degree (1 major, 1 minor) Philosophy (2015) Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (1 major, 1 minor) Ancient World (2015) Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2015) Bachelor's degree (1 major, 1 minor) Theological Studies (2015) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2015) Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2015) Bachelor's degree (1 major, 1 minor) German Language and Literature (2015) Bachelor's degree (2 majors) Egyptology (2015) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 48 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (2 majors) Pedagogy (2015) Bachelor's degree (2 majors) Protestant Theology (2015) Bachelor's degree (2 majors) Musicology (2015) Bachelor's degree (2 majors) Philosophy (2015) Bachelor's degree (2 majors) Special Education (2015) Bachelor's degree (2 majors) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (2 majors) Latin Philology (2015) Bachelor's degree (2 majors) Music Education (2015) Bachelor's degree (2 majors) Philosophy and Religion (2015) Bachelor's degree (2 majors) Theological Studies (2015) Bachelor's degree (2 majors) Political and Social Studies (2015) Bachelor's degree (2 majors) Russian Language and Culture (2015) Bachelor's degree (2 majors) Greek Philology (2015) Bachelor's degree (2 majors) European Ethnology (2015) Bachelor's degree (2 majors) Indology/South Asian Studies (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) First state examination for the teaching degree Gymnasium Greek Philology (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) Bachelor's degree (2 majors) Geography (2015) Bachelor's degree (2 majors) French Studies (2015) Bachelor's degree (2 majors) History (2015) Bachelor's degree (2 majors) Sport Science (Focus on health and Pedagogics in Movement) (2015) Bachelor's degree (2 majors) German Language and Literature (2015) Bachelor's degree (1 major) Mathematical Physics (2016) First state examination for the teaching degree Gymnasium Music (2015) First state examination for the teaching degree Gymnasium Music Education, Advanced Studies (2015) Bachelor's degree (1 major, 1 minor) French Studies (2016) Bachelor's degree (2 majors) French Studies (2016) Bachelor's degree (1 major, 1 minor) Italian Studies (2016) Bachelor's degree (2 majors) Italian Studies (2016) Bachelor's degree (1 major, 1 minor) Spanish Studies (2016) Bachelor's degree (2 majors) Spanish Studies (2016) Bachelor's degree (1 major) Romanic Languages (French/Italian) (2016) Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2016) Bachelor's degree (1 major) Romanic Languages (Italian/Spanish) (2016) Bachelor's degree (1 major) Business Information Systems (2016) First state examination for the teaching degree Gymnasium French Studies (2016) First state examination for the teaching degree Gymnasium Italian Studies (2016) Bachelor's with 1 major Chemistry (2017) IMII Würzburg • generated 10-Apr-2025 • exam. page 49 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

First state examination for the teaching degree Gymnasium Spanish Studies (2016) Bachelor's degree (1 major) Games Engineering (2016) Bachelor's degree (1 major, 1 minor) English and American Studies (2016) Bachelor's degree (2 majors) English and American Studies (2016) First state examination for the teaching degree Gymnasium English (2016) Bachelor's degree (1 major) Media Communication (2016) Bachelor's degree (1 major) Food Chemistry (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) Bachelor's degree (1 major) Biology (2017) Bachelor's degree (1 major, 1 minor) Geography (2017) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2017) Bachelor's degree (1 major) Aerospace Computer Science (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017) Bachelor's degree (1 major, 1 minor) Museology and material culture (2017) Bachelor's degree (1 major) Economathematics (2017) Bachelor's degree (1 major) Games Engineering (2017) Bachelor's degree (1 major) Computer Science (2017) First state examination for the teaching degree Gymnasium Greek Philology (2018) Bachelor's degree (1 major) Media Communication (2018) Bachelor's degree (1 major) Biomedicine (2018) Bachelor's degree (1 major) Human-Computer Systems (2018) Bachelor's degree (2 majors) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Digital Humanities (2018) Bachelor's degree (2 majors) Digital Humanities (2018) First state examination for the teaching degree Gymnasium Physics (2018) Bachelor's degree (1 major) Computer Science (2019) First state examination for the teaching degree Gymnasium Mathematics (2019) Bachelor's degree (1 major, 1 minor) English and American Studies (2019) Bachelor's degree (1 major) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Information Systems (2019) Bachelor's degree (2 majors) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Management and Economics (2019) Bachelor's degree (1 major) Modern China (2019) Bachelor's degree (1 major) Food Chemistry (2019) Module studies (Bachelor) Orientierungsstudien (2020) Bachelor's degree (1 major) Biomedicine (2020) Bachelor's degree (1 major) Pedagogy (2020) Bachelor's degree (1 major) Political and Social Studies (2020) Bachelor's degree (1 major) Business Information Systems (2020) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2020) Bachelor's degree (2 majors) European Ethnology (2020) Bachelor's degree (2 majors) Political and Social Studies (2020) Bachelor's degree (2 majors) Special Education (2020) Bachelor's degree (1 major) Physics (2020) Bachelor's degree (1 major) Nanostructure Technology (2020) Bachelor's degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major) Aerospace Computer Science (2020) Bachelor's degree (1 major, 1 minor) Museology and material culture (2020) First state examination for the teaching degree Gymnasium Physics (2020) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Bachelor (180 ECTS) Chemie - 2017

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Bachelor's degree (1 major, 1 minor) Pedagogy (2020) Bachelor's degree (2 majors) Pedagogy (2020) First state examination for the teaching degree Gymnasium Political and Social Studies (2020) Bachelor's degree (1 major) Psychology (2020) Bachelor's degree (1 major) Biology (2021) Magister Theologiae Catholic Theology (2021) Bachelor's degree (2 majors) History (2021) Bachelor's degree (1 major, 1 minor) History (2021) First state examination for the teaching degree Gymnasium History (2021) Bachelor's degree (1 major) Media Communication (2021) Bachelor's degree (2 majors) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) English and American Studies (2021) Bachelor's degree (2 majors) English and American Studies (2021) First state examination for the teaching degree Gymnasium English (2021) Bachelor's degree (1 major) Functional Materials (2021) First state examination for the teaching degree Gymnasium Philosophy and Ethics (2021) Bachelor's degree (1 major) Computer Science und Sustainability (2021) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2021) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Quantum Technology (2021) Bachelor's degree (2 majors) Special Education (2021) Bachelor's degree (1 major) Business Information Systems (2021) Bachelor's degree (1 major) Economathematics (2021) Bachelor's degree (1 major) Business Management and Economics (2021) Bachelor's degree (1 major) Human-Computer Systems (2022) Bachelor's degree (1 major, 1 minor) Museology and material culture (2022) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Economathematics (2022) Bachelor's degree (1 major) Mathematical Data Science (2022) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2022) First state examination for the teaching degree Gymnasium Philosophy and Ethics (2022) Bachelor's degree (2 majors) Ancient Near Eastern Archaeology (2022) Bachelor's degree (1 major, 1 minor) Ancient World (2022) Bachelor's degree (2 majors) Ancient Near Eastern Studies (2022) Bachelor's degree (1 major) Franco-German studies: language, culture, digital competence (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 Gymnasium Geography (2023) Bachelor's degree (1 major) European Law (2023) Bachelor's degree (1 major, 1 minor) English and American Studies (2023) Bachelor's degree (2 majors) English and American Studies (2023) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2023) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Business Information Systems (2023) Bachelor's degree (1 major) Economathematics (2023) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) Special Education (2023) Bachelor's degree (1 major) Business Management and Economics (2023) Bachelor's degree (1 major) Geography (2023) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 51 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (2 majors) Geography (2023) Bachelor's degree (1 major, 1 minor) Geography (2023) Bachelor's degree (2 majors) European Ethnology/Empiric Cultural Studies (2023) First state examination for the teaching degree Gymnasium German (2024) Bachelor's degree (1 major) Mathematical Physics (2024) Bachelor's degree (2 majors) German Language and Literature (2024) Bachelor's degree (1 major, 1 minor) German Language and Literature (2024) Bachelor's degree (1 major) Music Education (2024) Bachelor's degree (2 majors) Music Education (2024) Bachelor's degree (1 major, 1 minor) Music Education (2024) Bachelor's degree (1 major) Indology/South Asian Studies (2024) Bachelor's degree (2 majors) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Ancient World (2024) Bachelor's degree (2 majors) Digital Humanities (2024) Bachelor's degree (1 major, 1 minor) Digital Humanities (2024) Bachelor's degree (1 major) Midwifery (2024) Bachelor's degree (2 majors) Greek Philology (2024) Bachelor's degree (2 majors) Latin Philology (2024) First state examination for the teaching degree Gymnasium Latin Philology (2024) Bachelor's degree (1 major) Business Information Systems (2024) Bachelor's degree (1 major) Economathematics (2024) Bachelor's degree (1 major) Business Management and Economics (2024) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2024) First state examination for the teaching degree Gymnasium English (2024) First state examination for the teaching degree Gymnasium History (2024) First state examination for the teaching degree Gymnasium Greek Philology (2024) Bachelor's degree (1 major) Human-Computer-Interaction (2024) Bachelor's degree (2 majors) Art Education (2024) Bachelor's degree (1 major) Digital Business & Data Science (2024) Bachelor's degree (1 major) Classics (2024) Bachelor's degree (1 major) Diversity, Ethics and Religions (2024) Bachelor's degree (1 major) Functional Materials (2025) Bachelor's degree (1 major) (2025) Bachelor's degree (1 major) Food Chemistry (2025) Bachelor's degree (1 major, 1 minor) European Ethnology/Empiric Cultural Studies (2025) Bachelor's degree (1 major) Pedagogy (2025) Bachelor's degree (2 majors) Pedagogy (2025) Bachelor's degree (1 major) Economathematics (2025) Bachelor's degree (1 major) Academic Speech Therapy (2025) Bachelor's degree (1 major, 1 minor) Pedagogy (2025) Bachelor's degree (1 major) Games Engineering (2025)

Module	title				Abbreviation	
Toxicol	ogy an	d legal studies			03-TR-152-m01	
Module	coord	inator		Module offered by		
		ure "Toxikologie und Re	chtskunde"	Faculty of Medicine		
ECTS		od of grading		ompl. of module(s)		
3		rical grade				
<u> </u>		Module level	Other prerequisites			
1 seme	ster	undergraduate	 			
Conten	ts	5	Į			
Basics of legal regulations for chemists (handling and transportation of hazardous materials), fundamentals of toxicology.						
		ning outcomes				
The stu	dents r	master the basics of legates the fundamentals of to		nists (handling and t	ransport of hazardo	us substan-
		umber of weekly contact hours,	language — if other than Ger	rman)		
V (1) + V	/ (1)					
		essment (type, scope, langu le for bonus)	age — if other than German, o	examination offered — if no	t every semester, informati	on on whether
written	examir	nation (approx. 90 minu	tes)			
Allocat	ion of p	olaces				
			_			
Additio	nal info	ormation				
		2 para. 2 sentence 2 AF he APOLmCh and No. 5			er g) and i) and No. I	l 1st letter d)
Worklo	ad					
90 h						
Teachir	ng cycl	9				
Referre	d to in	LPO I (examination regulation	ns for teaching-degree progra	mmes)		
§ 22 § 22 § 22	vr. 2 f)					
Module	appea	in and the second se				
Bacheld Bacheld First sta First sta First sta First sta First sta First sta Master' Bacheld	or's deg ate exa ate exa	gree (1 major) Biochemis gree (1 major) Chemistry gree (1 major) Food Cher mination for the teachin mination for the teachin gree (1 major) Chemistry (2 gree (1 major) Biochemis	r (2015) mistry (2015) g degree Grundschule g degree Grundschule g degree Realschule C g degree Gymnasium g degree Sonderpäda g degree Mittelschule g degree Mittelschule 2016) nistry (2016)	e Didactics in Chemis Chemistry (2015) Chemistry (2015) gogik Didactics in Ch Chemistry (2015)	nemistry (Middle Sch	100l) (2015)
	اممد بالغاب	or Chemistry (2017)	IMII Würzbı	Irg • generated 19-Apr-2025 •	exam	page 53 / 124

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

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)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 54 / 124
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Key Skills Area (20 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 55 / 124
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General Key Skills

(5 ECTS credits)

Students may select any of the modules offered as part of the pool of general transferable skills (ASQ) of JMU.

Bachelor's with 1 major Chemistry (2017)	achelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam.	
	reg. data record Bachelor (180 ECTS) Chemie - 2017	



Subject-specific Key Skills

(15 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 57 / 124
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Subject-specific Key Skills, Compulsory Courses

(5 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 58 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

	ad labe				Abbreviation
	eu land	oratory course			08-VP-152-m01
Module	coord	inator		Module offered by	L
head of	the re	search group offering the	module	Faculty of Chemistr	y and Pharmacy
ECTS			Only after succ. con	npl. of module(s)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
		ives students the opport ne in question.	unity to explore a res	earch topic and app	ly the methods commonly used
Intende	ed learr	ning outcomes			
Studen oral pre			research topic and p	resent the results of	their work in a written report or
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Gei	rman)	
P (10)					
		e essment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	t every semester, information on whether
		5 minutes) ssessment: German and,	/or English		
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Additio 20 days		ormation on module dura	tion: block placemer	nt / block taught pra	ctical course with a duration of
Worklo	ad				
150 h					
Teachir	ng cycl	e			
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
Module	appea	irs in			
		gree (1 major) Chemistry gree (1 major) Chemistry			

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 59 / 124
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Subject-specific Key Skills, Compulsory Electives

(10 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 60 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation	
Bioche	mistry	2			08-BC2-152-m01	
Module	e coord	inator		Module offered by	<u> </u>	
holder	of the (Chair of Biochemistry		Chair of Biochemist	try	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts	U	•			
mistry. tional r	A parti egulati	ctures and exercises, th cular focus is on replica on, protein targeting, n principles of cellular sig	ition, DNA repair, trans uclear transport and pi	cription, mRNA matu	uration, translation a	and transla-
Intende	ed lear	ning outcomes				
Studen	ts have	e become familiar with t dule. They are able to d				ere discus-
		umber of weekly contact hours		•		
V (2) +		,		-		
Method	d of ass	Sessment (type, scope, langule for bonus)	uage — if other than German, e	examination offered — if no	t every semester, informat	ion on whether
		nation (approx. 60 to 90	o minutes)			
Allocat						
Additio	nal inf	ormation				
prüften state-ce	Leben ertified	ection 2 Subsection 2 S smittelchemikerinnen L food chemists, APOLm No. 3 of Annex 3 of APO	Ind Lebensmittelchem Ch) in conjunction with	iker (Regulation on t	he training and exar	nination of
Worklo	ad					
150 h						
Teachir	ng cycl	e				
Referre	d to in	LPO I (examination regulation	ns for teaching-degree progra	mmes)		
Module	e appea	irs in				
Bachel	or's de	gree (1 major) Biochemi gree (1 major) Biology (2				
		gree (1 major) Chemistr				
Bachel	or's de	gree (1 major) Food Che	mistry (2015)			
		gree (1 major) Food Che				
		gree (1 major) Biology (2				
		gree (1 major) Biochemi				
		gree (1 major) Chemistr				
		gree (1 major) Food Che gree (1 major) Biology (2				
		gree (1 major) Food Che				
		or Chemistry (2017)	JMU Würzbu	rg ● generated 19-Apr-2025 ● rd Bachelor (180 ECTS) Cherr		page 61 / 124

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Food Chemistry (2025)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 62 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation
Practic	al cour	se of Biochemistry			08-BCP-152-m01
Module	e coord	inator		Module offered by	<u> </u>
holder	of the (Chair of Biochemistry		Chair of Biochemis	try
ECTS	TS Method of grading Only after succ. compl. of module(s)				
5		successfully completed	08-BC1	•	
Duratio		Module level	Other prerequisites		
1 seme		undergraduate			
Conten			<u> </u>		
	al exer	cises give students the o	pportunity to learn th	e fundamental princ	iples of conducting biochemical
Intend	ed lear	ning outcomes			
Studen	its have	e become proficient in es	sential methods in bi	iochemistry.	
		number of weekly contact hours,	-		
P (6)					
Metho		s essment (type, scope, langua	age — if other than German,	examination offered — if no	ot every semester, information on whether
		30 pages) ffered: Once a year, sum	mar comoctor		
Allocat					
regard Studen ces wil subject	to avai its of th l be allo t semes	lable places. he Bachelor's degree prog ocated according to the r	gramme Chemie (Che number of subject ser	mistry, 180 ECTS cre nesters, among app	TS credits): no restrictions with dits): no more than 6 places; pla licants with the same number of ed and places re-allocated by lot
Additio	onal inf	ormation			
Worklo	ad				
150 h					
Teachi	ng cycl	e	-		
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)	
			00		
Module	annes	ars in			
		gree (1 major) Biochemis	trv (2015)		
Bachel					
	or's de	gree (1 maior) Chemistry	(2017)		
Bachel		gree (1 major) Chemistry gree (1 major) Biochemis			
Bachel Bachel	or's de	• • • • •	try (2017)		

Module	e title				Abbreviation
Applied	d Spect	troscopy 3			08-PS3-152-m01
Module	e coord	inator		Module offered by	
lecture	r of lec	ture "Praktische Spektros	skopie 3"	Institute of Physica	l and Theoretical Chemistry
ECTS	Methe	od of grading	Only after succ. com	npl. of module(s)	
5	nume	rical grade			
Duratio		Module level	Other prerequisites		
1 seme	ster	undergraduate	 		
Conten		undergraduate	l		
practic	e and t		aphs. We will record		e of spectroscopic methods in fluorescence and vibration spec
Intend	ed lear	ning outcomes			
		able to work with differen discussions.	t spectrometers and	to interpret the resul	lting spectra. They are able to
Course	S (type, r	number of weekly contact hours, I	language — if other than Ger	rman)	
V (3)					
b) oral c) oral d) log (e) pres Langua Allocat	examir examin approx entatio ige of a ion of j	mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 . 20 pages) or .n (approx. 30 minutes) .ssessment: German and places ormation	ach (20 to 30 minute 3 candidates (approx.	-	didate) or
Worklo	ad				
150 h	1		-		
Teachi	ng cycl	e			
 Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
 Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	mmes)	
			s for teaching-degree progra	mmes)	
 Module Bachel Bachel Master Bachel Bachel	e appea or's de or's de 's degr or's de or's de		(2015) Materials (2015) laterials (2016) (2017) Materials (2021)	mmes)	

	e title				Abbreviation
Progra	mming	and numerical methods			08-PKC-152-m01
Modul	e coord	inator		Module offered by	<u> </u>
lecture	r of lec	ture "Programmierkurs fü	ir Chemiker"	Institute of Physica	l and Theoretical Chemistry
ECTS	CTS Method of grading Only after succ. compl. of module(s)		· · · · · · · · · · · · · · · · · · ·		
5	1	successfully completed			
Duratio		Module level	Other prerequisites	i	
1 seme	-	undergraduate			
Conten			1		
		provides an introduction t d to problems in chemist		of a programming la	nguage and discusses how they
Intend	ed lear	ning outcomes			
Studer chemis		able to describe the fund	amentals of the prog	ramming language a	nd to apply them to problems in
Course	S (type, r	number of weekly contact hours,	language — if other than Ge	rman)	
S (2) +	Ü (2)				
b) oral c) oral d) log (e) pres	examir examin (approx	mination (approx. 90 to a nation of one candidate e nation in groups of up to g a 20 pages) or	each (20 to 30 minute	-	didate) or
Allocat	age of a ment o t ion of J	n (approx. 30 minutes) ssessment: German and ffered: Once a year, sum	· •		
Allocat	age of a ment o ion of p	n (approx. 30 minutes) ssessment: German and ffered: Once a year, sum places	· •		
Allocat Additic	age of a ment o ion of p	n (approx. 30 minutes) ssessment: German and ffered: Once a year, sum places	· •		
Allocat Additic Worklo	age of a ment o tion of p onal inf	n (approx. 30 minutes) Issessment: German and Iffered: Once a year, sum places ormation	· •		
Allocat Additic Worklo 150 h	age of a ment o tion of p onal inf	n (approx. 30 minutes) Issessment: German and Iffered: Once a year, sum places ormation	· •		
Allocat Additio Worklo 150 h Teachi	age of a ment o tion of p onal inf pad	n (approx. 30 minutes) Issessment: German and Iffered: Once a year, sum places ormation	mer semester	ımmes)	
Allocat Additio Worklo 150 h Teachi	age of a ment o tion of p onal inf pad	n (approx. 30 minutes) Issessment: German and Iffered: Once a year, sum places ormation	mer semester	ummes)	
Allocat Additic Worklo 150 h Teachi Referre	age of a ment o ion of p onal inf pad	n (approx. 30 minutes) ssessment: German and ffered: Once a year, sum places ormation e LPOI (examination regulation	mer semester	ımmes)	
Allocat Additic Worklo 150 h Teachi Referre Modulo Bachel Bachel Bachel	age of a ment o ion of p onal inf oad ad ad ad ad ad ad ad ad ad ad ad ad a	n (approx. 30 minutes) ssessment: German and ffered: Once a year, sum places ormation e LPOI (examination regulation	mer semester s for teaching-degree progra (2015) Materials (2015) (2017)	ımmes)	

Modul	e title				Abbreviation
Advan	ced che	mical practical course			08-0P-152-m01
Modul	e coord	inator		Module offered by	<u> </u>
head of the research group offering the module		module	Faculty of Chemistr	y and Pharmacy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
5	(not)	successfully completed			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
		vives students the opport ne in question.	unity to explore a res	earch topic and app	ly the methods commonly used
Intend	ed lear	ning outcomes			
	nts are a esentat		research topic and p	resent the results of	their work in a written report or
Course	es (type, i	number of weekly contact hours, l	anguage — if other than Gei	rman)	
P (10)					
		sessment (type, scope, langua ele for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) log	(approx	x. 15 minutes) or . 10 to 20 pages) ssessment: German and	/or English		
	tion of		5		
Additio	onal inf	ormation			
Additio 20 day		ormation on module dura	tion: block placemer	nt / block taught pra	ctical course with a duration of
Worklo					
150 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
Modul	e appea	ars in			
Bache	lor's de	gree (1 major) Chemistry	(2015)		
		gree (1 major) Chemistry			
Modul	e studie	es (Bachelor) Chemistry (2019)		

moudu	e title				Abbreviation
Green a	and sus	stainable (organic) chen	nistry		08-GC-242-m01
		• •			
Module				Module offered by	
Chemie		ture "Grüne und nachha	ltige (organische)	Institute of Organic	Chemistry
ECTS	Metho	od of grading	Only after succ. co	mpl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	5	
1 seme	ster	undergraduate			
Conten	ts	<u> </u>	1		
be on t environ	he twe imenta	lve principles of green cl	nemistry with exampl	es from organic chen	istainable chemistry. A focus wil nistry complemented by current nability beyond the directly che-
Intende	ed lear	ning outcomes			
damen sessme	t to crit ents an	ically assess chemical r	eactions and process lity aspects beyond c	es. He/She acquired	can use this knowledge as fun- basic knowledge in life cycle as he can transfer the learnings to a
Course	S (type, r	number of weekly contact hours,	language — if other than Ge	erman)	
V (2) + Module	• •	t in: German or English			
Method	d of ass	Sessment (type, scope, langu	age — if other than German,	examination offered — if no	ot every semester, information on whether
		le for bonus)	,		, ,
b) writt Langua	en exa Ige of a	pprox. approx. 40 hours mination (approx. 60 to ssessment: German and ffered: Once a year, win	90 minutes) I/or English		
Allocat					
Additio	nat inf	ormation			
			_		
Worklo	ad				
			_		
150 h					
150 h Teachi i	ng cycl	e			
Teachi		e e: Once a year, winter se	mester		
Teachi Teachir	ng cycle			ammes)	
Teachi Teachir	ng cycle	e: Once a year, winter se		ammes)	
Teachi Teachir	ng cycle ed to in	e: Once a year, winter se		ammes)	
Teachin Teachin Referre	ng cycle ed to in e appea	e: Once a year, winter se	ns for teaching-degree progr		
Teachin Teachin Referre Module First sta	ng cycle ed to in e appea ate exa	e: Once a year, winter se LPO I (examination regulation	ns for teaching-degree progr g degree Grundschul	e English (2009)	
Teachin Teachin Referre Module First sta First sta	ed to in e appea ate exa ate exa	e: Once a year, winter se LPO I (examination regulation ars in mination for the teachin	ns for teaching-degree progr g degree Grundschul g degree Grundschul	e English (2009) e Biology (2009)	
Teachin Teachin Referre First sta First sta First sta	ed to in e appea ate exa ate exa ate exa	e: Once a year, winter se LPOI (examination regulation ars in mination for the teachin mination for the teachin	ns for teaching-degree progr g degree Grundschul g degree Grundschul g degree Grundschul g degree Grundschul	e English (2009) e Biology (2009) e Chemistry (2009)	
Teachin Teachin Referre First sta First sta First sta First sta First sta	e appea ate exa ate exa ate exa ate exa ate exa ate exa ate exa	e: Once a year, winter se LPO I (examination regulation ars in mination for the teachin mination for the teachin	s for teaching-degree progr g degree Grundschul g degree Grundschul g degree Grundschul g degree Grundschul g degree Grundschul g degree Grundschul	e English (2009) e Biology (2009) e Chemistry (2009) e Geography (2009) e Protestant Theolog	y (2009)
Teachin Teachin Referre First sta First sta First sta First sta First sta First sta First sta	e appea ate exa ate exa ate exa ate exa ate exa ate exa ate exa ate exa ate exa	e: Once a year, winter se LPO I (examination regulation ars in mination for the teachin mination for the teachin	s for teaching-degree progr g degree Grundschul g degree Grundschul g degree Grundschul g degree Grundschul g degree Grundschul g degree Grundschul g degree Grundschul	e English (2009) e Biology (2009) e Chemistry (2009) e Geography (2009) e Protestant Theolog e German (2009)	y (2009)
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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) First state examination for the teaching degree Gymnasium Greek Philology (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)

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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 Mittelschule Physics (2015) 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) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017)

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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)) 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)) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 72 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

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))

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)

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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)

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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) Bachelor's degree (1 major) Biochemistry (2022) 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) JMU Würzburg • generated 19-Apr-2025 • exam. Bachelor's with 1 major Chemistry (2017) page 74 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017



Thesis (10 ECTS credits)

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Modul	e title				Abbreviation
Bache	lor Thes	sis			08-BA-152-m01
Modul	e coord	inator		Module offered by	<u> </u>
head o	of the re	search group offering the	e module	Faculty of Chemistr	y and Pharmacy
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
10	10 numerical grade				
Duration Module level Other prerequisites					
1 seme	ester	undergraduate	The supervisor may make the successful completion of certain modu- les that are relevant for the respective topic a prerequisite for the assig ment of the topic.		
Conter	nts				
		ives students the opport scientific methods they			problem within a given time frame
Intend	ed lear	ning outcomes			
		able to conduct research to present the results of t			the principles of good scientific
Course	es (type, r	number of weekly contact hours, I	language — if other than Gei	rman)	
Νο cou	irses as	signed to module			
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
		esis (approx. 40 pages) ssessment: German and	/or English		
Alloca	tion of _l	olaces			
Additio	onal inf	ormation			
Time to	o comp	ete: 8 weeks.			
Worklo	oad				
300 h					
Teachi	ng cycl	е			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	immes)	
Modul	e appea	ars in			
		gree (1 major) Chemistry			
Bache	lor's de	gree (1 major) Chemistry	(2017)		



Compulsory Electives, Appendix DA

(170 ECTS credits)

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Subfield General and Inorganic Chemistry

(35 ECTS credits)

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Module title Abbreviation					
Principles o	f Inorganic Chemistry			08-AC1-152-m01	
Module coo	rdinator		Module offered by		
lecturer of le Chemistry)	ecture "Experimentalchem	ie" (Experimental	Institute of Inorgan	ic Chemistry	
ECTS Met	hod of grading	Only after succ. con	npl. of module(s)		
8 nun	nerical grade				
Duration	Module level	Other prerequisites	i		
1 semester	undergraduate				
Contents					
The module provides an overview of the fundamental knowledge of chemistry. Emphasis is placed on the mate- rial and particle level, metals, acid-base reactions, the periodic table, chemical equilibrium and complexometry. In addition, the module introduces fundamental concepts of chemistry and teaches the basics of inorganic che- mistry.					
Intended le	Intended learning outcomes				
The student understands the principles of the periodic table and can obtain information from it. He/she is profi- cient in basic models of the structure of matter and can describe them properly. He/she can depict chemical re- actions using typical chemical formula language and interpret them by identifying the type of reaction. The stu- dents know how the most important quantitative and qualitative analytical methods work and their areas of app- lication.					
Courses (typ	e, number of weekly contact hours,	language — if other than Ge	rman)		
V (4) + V (2)					
module is credi a) written ex	assessment (type, scope, langu table for bonus) kamination (approx. 90 to nination of one candidate	180 minutes) or		t every semester, informati	on on whether
c) oral exam d) log (appr e) presenta	nination in groups of up to ox. 20 pages) or tion (approx. 30 minutes) f assessment: German and	3 candidates (approx	-	didate) or	
Allocation of		<u> </u>			
	•				
Additional i	nformation	_			
	o§2 para. 2 sentence 2 AF annex 2 to the APOLmCh	POLmCh in conjunctio	n with No. I 2nd lette	r a) of annex 1 to the	e APOLmCh
Workload					
240 h					
Teaching cy	rcle				
Referred to	in LPO I (examination regulatio	ns for teaching-degree progra	ammes)		
§ 42 Nr. 1 a § 62 Nr. 1	and § 22 II Nr. 1 h)				
Module app	ears in				
Bachelor's o First state e	degree (1 major) Biochemi degree (1 major) Chemistry xamination for the teachir xamination for the teachir	g degree Grundschule		stry (Primary School)	(2015)
	major Chemistry (2017)		urg • generated 19-Apr-2025 •		page 79 / 124
			ord Bachelor (180 ECTS) Chem		Page / 7 / 124

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) 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)

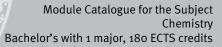
Bachelor's degree (1 major) Biochemistry (2022)

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

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 80 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module title Abbreviation			Abbreviation		
Inorgan	nic Che	mistry 1 (lab)			08-ACP1-152-m01
Module	coord	inator		Module offered by	
holder	of the C	hair of Anorganic Chemi	stry	Institute of Inorgani	ic Chemistry
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
This module gives students the opportunity to apply in practice the knowledge they have gained through the re- lated lecture(s). After a safety briefing, the students autonomously conduct experiments in the laboratory. The course focuses on laboratory safety, simple lab techniques, the synthesis of simple substances and analyses of unknown substances.					
Intende	ed learr	ning outcomes			
have de	Students are able to identify fundamental problems in chemistry and perform experiments to solve them. They have developed the ability to perform the necessary stoichiometric calculations and describe the chemical processes in an appropriate manner, both in written and oral form.				
Courses	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
P (12) +	S (2)				
		e ssment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
tes) or o 20 page nation t (2 to 4 r Langua	c) oral e es) or e talks ap random ge of a	examination in groups of) presentation (approx. 3	up to 3 candidates (a o minutes)] and Vort og approx. 5 to 10 pa /or English	approx. 15 minutes p estate/Nachtestate (e candidate each (20 to 30 minu- per candidate) or d) log (approx. (pre and post-experiment exami- sment of practical assignments
Allocati	ion of p	olaces			
Additio	nal info	ormation			
	-	2 para. 2 sentence 2 APC nnex 2 to the APOLmCh	OLmCh in conjunctior	n with No. I 1st letter	a) of annex 1 to the APOLmCh
Worklo	ad				
300 h					
Teachir	ng cycl	9			
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
Module	appea	rs in			
Bachelo Bachelo	or's deg or's deg	gree (1 major) Chemistry gree (1 major) Chemistry gree (1 major) Food Chem gree (1 major) Food Chem	(2017) iistry (2021)		

Module	Module title Abbreviation					
Inorgan	nic Che	mistry of the Elements			08-AS1-152-m01	
Module	coordi	nator		Module offered by		
lecturer of lecture "Chemie der Hauptgruppenelemen- te" (Chemistry of Main-group Elements)		• • •	Institute of Inorgani	ic Chemistry		
ECTS	Metho	d of grading	Only after succ. con	npl. of module(s)		
6	numer	ical grade				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Conten	ts					
ses on l	This module equips students with an advanced knowledge of the periodic table and selected elements. It focu- ses on bonding conditions, trends in the periodic table and the description and structure of elements. In additi- on, it introduces students to elementary organic chemistry, coordination chemistry and complex chemistry.					
Intende	Intended learning outcomes					
Students are able to characterise main group elements and transition metal elements in terms of their structure, reactivity and fabrication. They are able to identify the coordination of the atoms. In addition, they have learned how to use the periodic table, an essential tool for chemists.						
Courses (type, number of weekly contact hours, language – if other than German)						
V (2) + V	V (2)					
		essment (type, scope, lang e for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether
b) oral e c) oral e d) log (a e) prese	examin examina approx. entatio	nination (approx. 90 to ation 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	
Allocati	ion of p	laces				
Additio	nal info	ormation				
		2 para. 2 sentence 2 A nnex 2 to the APOLmCh	POLmCh in conjunctio	n with No. I 2nd lette	r a) of annex 1 to the	e APOLmCh
Worklo	ad					
180 h						
Teachin	ng cycle	2				
Referre	d to in	LPO I (examination regulation	ns for teaching-degree progra	mmes)		
§ 62 N	r. 1					
Module	appea	rs in				
Bachelo	or's deg	gree (1 major) Biochemi	stry (2015)			
	-	gree (1 major) Chemistr	-			
	-	gree (1 major) Mathema	-)		
		gree (1 major) Computa				
		mination for the teachir gree (1 major) Biochemi		Chemistry (2015)		
	-	gree (1 major) Biochenni gree (1 major) Chemistr	•			
	-	-	-			
	Aodule studies (Bachelor) Chemistry (2019) JMU Würzburg • generated 19-Apr-2025 • exam. page 82 / 122 ichelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 82 / 122 reg. data record Bachelor (180 ECTS) Chemie - 2017 Page 82 / 122 Page 82 / 122					page 82 / 124



Module studies (Bachelor) Orientierungsstudien (2020) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Food Chemistry (2025)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 83 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	Module title Abbreviation				
Analyti	cal Che	emistry (lab)			08-ANP-152-m01
Module coordinator				Module offered by	
holder	of the O	Chair of Anorganic Chemi	stry	Institute of Inorgani	ic Chemistry
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
6	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	Contents				
This module gives students the opportunity to apply in practice the knowledge they have gained through the re- lated lecture(s). After a safety briefing, the students autonomously conduct experiments in the laboratory. These experiments focus on different methods for the analysis of unknown substances.					
Intende	ed learr	ning outcomes			
		ble to use different meth mixtures.	ods to analyse unkno	own substances. In a	addition, they are able to separa-
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
P (12) +	S (1)				
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus) Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, summer semester Allocation of places Additional information					minutes each, log approx. 5 to 10
		nnex 2 to the APOLmCh			
Worklo	du				
180 h Teachir		a			
	is cycli	u			
Referre	d to in	LPO I (examination regulations	for teaching-degree progra	mmes)	
Module	appea	rs in			
Bachelo Bachelo Bachelo Bachelo Bachelo	Module appears in Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2021) Bachelor's degree (1 major) Food Chemistry (2022) Bachelor's degree (1 major) Food Chemistry (2025)				

Module title Abbreviation					
Solid	State Cl	nemistry, Spectroscopic	Methods (DD)		08-AC-FS-DA-152-m01
Modu	le coord	linator		Module offered by	
lectur mistry		ture "Festkörperchemie'	' (Solid State Che-	Institute of Inorgar	ic Chemistry
ECTS	Meth	od of grading	Only after succ. cor	mpl. of module(s)	
5	nume	rical grade			
Durati	ion	Module level	Other prerequisites	5	
1 sem	ester	undergraduate			
Conte	nts				
on the	eir struct	tures and properties, sp			d saline compounds. It focuses nical processes.
Intend	led lear	ning outcomes			
priate	manne pic met	r. They are able to syster	nise them and charac	terise their structure	l saline compounds in an appro- e and reactivity. They can list spec n describe them in an appropriate
Cours	es (type, 1	number of weekly contact hours,	language — if other than Ge	erman)	
V (2) +	- V (2)				
		sessment (type, scope, langu ble for bonus)	age — if other than German,	examination offered — if n	ot every semester, information on whether
b) ora c) oral d) log e) pres	l examir l examir (approx sentatio	mination (approx. 90 to nation of one candidate nation in groups of up to x. 20 pages) or on (approx. 30 minutes) assessment: German and	each (20 to 30 minute 3 candidates (approx		ididate) or
	tion of		<u>,</u> 0		
Additi	onal inf	ormation			
			-		
Workl	oad				
150 h					
150 h Teach	ing cycl	e			
-	ing cycl	e			
Teach			ns for teaching-degree progr	ammes)	
Teach		e LPO I (examination regulatio	ns for teaching-degree progr	ammes)	
Teach Referr	ed to in	LPOI (examination regulatio	ns for teaching-degree progr	ammes)	
Teach Referr Modu	ed to in le appea	LPOI (examination regulatio		ammes)	



Subfield Organic Chemistry

(28 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 86 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation	
Organic Chemistry 1 08-0C1-152-m01						
Module	e coord	inator		Module offered by		
holder	of the l	Professorship of Organi	c Chemistry	Institute of Organic	Chemistry	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	5		
1 seme	ster	undergraduate				
Conten	Its					
the bor organic	nding s c comp	provides students with a ituation of carbon and ounds. The module also mination reactions as w	introduces students to o discusses the fundar	the nomenclature of nental principles of s	simple and modera	tely complex
Intende	ed lear	ning outcomes				
of nom lecules that pu synthe	enclatu . They Irpose, ses.	w important categories ure to determine simple are able to describe an they can analyse and c	substance names. Stud d formulate some of th ategorise the characte	udents are able to an e most important rea ristic reaction condit	alyse the stereochen actions in organic ch	mistry of mo- emistry. For
	_	number of weekly contact hour	s, language — if other than Ge	rman)		
V (3) +	Ü (1)					
		Sessment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether
b) oral c) oral d) log (e) pres	examir examin (approx entatio	mination (approx. 90 to nation of one candidate nation in groups of up to a 20 pages) or n (approx. 30 minutes) assessment: German an	each (20 to 30 minute 33 candidates (approx	-	didate) or	
Allocat	ion of _l	places				
Additio	onal inf	ormation				
		2 para. 2 sentence 2 A nnex 2 to the APOLmCh		n with No. I 2nd lette	r b) of annex 1 to the	e APOLmCh
Worklo	ad					
150 h						
Teachi	ng cycl	e				
Teachi	ng cycl	e: every year, summer s	emester			
Referre	ed to in	LPO I (examination regulati	ons for teaching-degree progra	ammes)		
§621N	Vr. 2					
Module	e appea	ars in				
Bachel Bachel Bachel Bachel	or's de or's de or's de or's de	gree (1 major) Biology (gree (1 major) Chemistr gree (1 major) Psycholo gree (1 major, 1 minor) gree (1 major, 1 minor) gree (1 major, 1 minor)	y (2010) gy (2010) Pedagogy (2013) Political and Social Stu	-		
Bachelor's	with 1 ma	jor Chemistry (2017)		urg • generated 19-Apr-2025 • ord Bachelor (180 ECTS) Chem		page 87 / 124

Bachelor's degree (2 majors) Special Education (2009) Magister Theologiae Catholic Theology (2013) Bachelor's degree (2 majors) English and American Studies (2009) Bachelor's degree (2 majors) German Language and Literature (2013) Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Geography (2015) Bachelor's degree (1 major) Mathematics (2015) Bachelor's degree (1 major) Musicology (2015) Bachelor's degree (1 major) Physics (2015) Bachelor's degree (1 major) Psychology (2015) Bachelor's degree (1 major) Business Management and Economics (2015) Bachelor's degree (1 major) Nanostructure Technology (2015) Bachelor's degree (1 major) Music Education (2015) Bachelor's degree (1 major) Computational Mathematics (2015) Bachelor's degree (1 major) Political and Social Studies (2015) Bachelor's degree (1 major) Functional Materials (2015) Bachelor's degree (1 major) Academic Speech Therapy (2015) Bachelor's degree (1 major) Indology/South Asian Studies (2015) Bachelor's degree (1 major, 1 minor) Egyptology (2015) Bachelor's degree (1 major, 1 minor) Pedagogy (2015) Bachelor's degree (1 major, 1 minor) History (2015) Bachelor's degree (1 major, 1 minor) Musicology (2015) Bachelor's degree (1 major, 1 minor) Philosophy (2015) Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (1 major, 1 minor) Ancient World (2015) Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2015) Bachelor's degree (1 major, 1 minor) Theological Studies (2015) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2015) Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2015) Bachelor's degree (1 major, 1 minor) German Language and Literature (2015) Bachelor's degree (2 majors) Egyptology (2015) Bachelor's degree (2 majors) Pedagogy (2015) Bachelor's degree (2 majors) Protestant Theology (2015) Bachelor's degree (2 majors) Musicology (2015) Bachelor's degree (2 majors) Philosophy (2015) Bachelor's degree (2 majors) Special Education (2015) Bachelor's degree (2 majors) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (2 majors) Latin Philology (2015) Bachelor's degree (2 majors) Music Education (2015) Bachelor's degree (2 majors) Philosophy and Religion (2015) Bachelor's degree (2 majors) Theological Studies (2015) Bachelor's degree (2 majors) Political and Social Studies (2015) Bachelor's degree (2 majors) Russian Language and Culture (2015) Bachelor's degree (2 majors) Greek Philology (2015) Bachelor's degree (2 majors) European Ethnology (2015) Bachelor's degree (2 majors) Indology/South Asian Studies (2015) First state examination for the teaching degree Gymnasium Chemistry (2015) Bachelor's degree (2 majors) Geography (2015) Bachelor's degree (2 majors) French Studies (2015) Bachelor's degree (2 majors) History (2015) Bachelor's degree (2 majors) Sport Science (Focus on health and Pedagogics in Movement) (2015) Bachelor's degree (2 majors) German Language and Literature (2015) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Bachelor (180 ECTS) Chemie - 2017

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Bachelor's degree (1 major) Mathematical Physics (2016) Bachelor's degree (1 major, 1 minor) French Studies (2016) Bachelor's degree (2 majors) French Studies (2016) Bachelor's degree (1 major, 1 minor) Italian Studies (2016) Bachelor's degree (2 majors) Italian Studies (2016) Bachelor's degree (1 major, 1 minor) Spanish Studies (2016) Bachelor's degree (2 majors) Spanish Studies (2016) Bachelor's degree (1 major) Romanic Languages (French/Italian) (2016) Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2016) Bachelor's degree (1 major) Romanic Languages (Italian/Spanish) (2016) Bachelor's degree (1 major) Business Information Systems (2016) Bachelor's degree (1 major) Games Engineering (2016) Bachelor's degree (1 major, 1 minor) English and American Studies (2016) Bachelor's degree (2 majors) English and American Studies (2016) Bachelor's degree (1 major) Media Communication (2016) Bachelor's degree (1 major) Food Chemistry (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) Bachelor's degree (1 major) Biology (2017) Bachelor's degree (1 major, 1 minor) Geography (2017) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2017) Bachelor's degree (1 major) Aerospace Computer Science (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017) Bachelor's degree (1 major, 1 minor) Museology and material culture (2017) Bachelor's degree (1 major) Economathematics (2017) Bachelor's degree (1 major) Games Engineering (2017) Bachelor's degree (1 major) Computer Science (2017) Bachelor's degree (1 major) Media Communication (2018) Bachelor's degree (1 major) Biomedicine (2018) Bachelor's degree (1 major) Human-Computer Systems (2018) Bachelor's degree (2 majors) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Digital Humanities (2018) Bachelor's degree (2 majors) Digital Humanities (2018) Bachelor's degree (1 major) Computer Science (2019) Bachelor's degree (1 major, 1 minor) English and American Studies (2019) Bachelor's degree (1 major) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Information Systems (2019) Bachelor's degree (2 majors) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Management and Economics (2019) Bachelor's degree (1 major) Modern China (2019) Module studies (Bachelor) Orientierungsstudien (2020) Bachelor's degree (1 major) Biomedicine (2020) Bachelor's degree (1 major) Pedagogy (2020) Bachelor's degree (1 major) Political and Social Studies (2020) Bachelor's degree (1 major) Business Information Systems (2020) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2020) Bachelor's degree (2 majors) European Ethnology (2020) Bachelor's degree (2 majors) Political and Social Studies (2020) Bachelor's degree (2 majors) Special Education (2020) Bachelor's degree (1 major) Physics (2020) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major) Nanostructure Technology (2020) Bachelor's degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major) Aerospace Computer Science (2020) Bachelor's degree (1 major, 1 minor) Museology and material culture (2020) Bachelor's degree (1 major, 1 minor) Pedagogy (2020) Bachelor's degree (2 majors) Pedagogy (2020) Bachelor's degree (1 major) Psychology (2020) Bachelor's degree (1 major) Biology (2021) Magister Theologiae Catholic Theology (2021) Bachelor's degree (2 majors) History (2021) Bachelor's degree (1 major, 1 minor) History (2021) Bachelor's degree (1 major) Media Communication (2021) Bachelor's degree (2 majors) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) English and American Studies (2021) Bachelor's degree (2 majors) English and American Studies (2021) Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Computer Science und Sustainability (2021) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2021) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Quantum Technology (2021) Bachelor's degree (2 majors) Special Education (2021) Bachelor's degree (1 major) Business Information Systems (2021) Bachelor's degree (1 major) Economathematics (2021) Bachelor's degree (1 major) Business Management and Economics (2021) Bachelor's degree (1 major) Human-Computer Systems (2022) Bachelor's degree (1 major, 1 minor) Museology and material culture (2022) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Economathematics (2022) Bachelor's degree (1 major) Mathematical Data Science (2022) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2022) Bachelor's degree (2 majors) Ancient Near Eastern Archaeology (2022) Bachelor's degree (1 major, 1 minor) Ancient World (2022) Bachelor's degree (2 majors) Ancient Near Eastern Studies (2022) Bachelor's degree (1 major) Franco-German studies: language, culture, digital competence (2022) Bachelor's degree (1 major) European Law (2023) Bachelor's degree (1 major, 1 minor) English and American Studies (2023) Bachelor's degree (2 majors) English and American Studies (2023) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2023) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Business Information Systems (2023) Bachelor's degree (1 major) Economathematics (2023) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) Special Education (2023) Bachelor's degree (1 major) Business Management and Economics (2023) Bachelor's degree (1 major) Geography (2023) Bachelor's degree (2 majors) Geography (2023) Bachelor's degree (1 major, 1 minor) Geography (2023) Bachelor's degree (2 majors) European Ethnology/Empiric Cultural Studies (2023) Bachelor's degree (1 major) Mathematical Physics (2024) Bachelor's degree (2 majors) German Language and Literature (2024) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 90 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major, 1 minor) German Language and Literature (2024) Bachelor's degree (1 major) Music Education (2024) Bachelor's degree (2 majors) Music Education (2024) Bachelor's degree (1 major, 1 minor) Music Education (2024) Bachelor's degree (1 major) Indology/South Asian Studies (2024) Bachelor's degree (2 majors) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Ancient World (2024) Bachelor's degree (2 majors) Digital Humanities (2024) Bachelor's degree (1 major, 1 minor) Digital Humanities (2024) Bachelor's degree (1 major) Midwifery (2024) Bachelor's degree (2 majors) Greek Philology (2024) Bachelor's degree (2 majors) Latin Philology (2024) Bachelor's degree (1 major) Business Information Systems (2024) Bachelor's degree (1 major) Economathematics (2024) Bachelor's degree (1 major) Business Management and Economics (2024) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2024) Bachelor's degree (1 major) Human-Computer-Interaction (2024) Bachelor's degree (2 majors) Art Education (2024) Bachelor's degree (1 major) Digital Business & Data Science (2024) Bachelor's degree (1 major) Classics (2024) Bachelor's degree (1 major) Diversity, Ethics and Religions (2024) Bachelor's degree (1 major) Functional Materials (2025) Bachelor's degree (1 major) (2025) Bachelor's degree (1 major) Food Chemistry (2025) Bachelor's degree (1 major, 1 minor) European Ethnology/Empiric Cultural Studies (2025) Bachelor's degree (1 major) Pedagogy (2025) Bachelor's degree (2 majors) Pedagogy (2025) Bachelor's degree (1 major) Economathematics (2025) Bachelor's degree (1 major) Academic Speech Therapy (2025) Bachelor's degree (1 major, 1 minor) Pedagogy (2025) Bachelor's degree (1 major) Games Engineering (2025)

Module	e title				Abbreviation		
Organi	c Chem	istry 2 and analytical n	nethods in organi	c chemistry	08-0C2-152-m01		
Module	e coord	inator		Module offer	Module offered by		
holder	of the (Chair of Physically Orga	nic Chemistry	Institute of O	rganic Chemistry		
ECTS	Metho	od of grading	Only after succ	. compl. of module	(s)		
9	nume	rical grade		-			
Duratio		Module level	Other prerequi	sites			
1 seme	ster	undergraduate					
Conten			I				
the exa on read well as py, mas	ample o ctions to rearrar ss spec	f carbonyl compounds, o complex reaction mean ngement. In addition, it trometry and NMR spea	, it extends the stu chanisms. The cou introduces stude	idents' knowledge irse also focuses of	s specific reactions of aromatics. Usir of substitution, elimination and addin n oxidation and reduction reactions a copic methods of infrared spectrosco		
Intende	ed lear	ning outcomes					
bonyl c they ca unknov	ompou In plan vn reac	nds. They are able to d and formulate multi-sta	escribe specific re age syntheses with e to describe impo	eactions of carbony h complex reaction ortant spectroscopi	analyse the varying reactivity of car- ls and aromatics. For that purpose, mechanisms and can transfer them t c methods, to evaluate a spectrum an		
Course	S (type, r	umber of weekly contact hours	s, language — if other th	an German)			
V (3) +	Ü (1) +	V (2)					
module is	s creditab	le for bonus)		rman, examination offere	d — if not every semester, information on whether		
b) oral c) oral d) log (e) pres	examir examin approx entatio	nination (approx. 90 to ation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an	each (20 to 30 m 3 candidates (ap		er candidate) or		
Allocat	-						
Additio	nal inf	ormation					
Worklo	ad						
270 h							
Teachi	ng cycl	۵					
	3	-					
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree	programmes)			
		_					
Module	e appea	irs in					
		gree (1 major) Biochem	istry (2015)				
		gree (1 major) Chemistr					
		gree (1 major) Mathema	_				
		gree (1 major) Computa		cs (2015)			
		gree (1 major) Biochem	•				
HICOOL	ur s de	gree (1 major) Chemistr	V (2017)				
		or Chemistry (2017)		Würzburg • generated 19-A	pr-2025 • exam. page 92 / 12		

Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Functional Materials (2025)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 93 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation
Organi	c Chem	iistry - lab 1			08-0CP1-172-m01
Module	e coord	inator		Module offered by	
holder	of the (Chair of Organic Chemisti	y II	Institute of Organic	Chemistry
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
8	(not) s	successfully completed	08-OC1 and (08-ACF	P1 or o8-ANP)	
Duratio	n	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	ts				
Das Mo den ex suche v Umgan	odul bie perime wird da g mit G	ntieren nach einer Sicher s Wissen der Studierend efahrenstoffen, einfache	Wissen der Grundvor heitseinweisung selt en in Kolloquien und experimentelle Grun	ostständig im Labor. Protokollen geprüft.	n anzuwenden. Die Studieren- Neben der Durchführung der Ver- Schwerpunkte sind der sichere ganischen Chemie, einfache bis
	_	ynthesen sowie Analyse	der Produkte.		
		ning outcomes ded learning outcomes a [.]			
analysi teten tł	eren so neoretis		llen identifizieren. Die aktischen Experiment	e Studierenden könr en im Labor vernetze	Bezug auf Ausbeute und Reinheit Ien die in der Vorlesung erarbei- en.
P (14)					
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	t every semester, information on whether
pages	each) a	chtestate (pre and post- nd assessment of practic ssessment: German and	cal performance (2 to		minutes each, log approx. 5 to 10 ions)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
240 h					
Teachi	ng cycl	e			
Referre	d to in				
		LPO I (examination regulation	s for teaching-degree progra	ammes)	
		LPO I (examination regulation	s for teaching-degree progra	nmmes)	
 Module			s for teaching-degree progra	ummes)	

Module	e title				Abbreviation	
Organic Chemistry 3 (DD) 08-0C-0C3-DA-152-mo						
Module	e coord	inator		Module offered by		
holder	of the F	Professorship of Organic	Chemistry	Institute of Organic	Chemistry	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
radicals	s. It dis				eactions, carbenes, nitriles and symmetric catalysis, organome-	
Intende	ed learr	ning outcomes				
asymm	etric ca				ereoselective syntheses and 'hey are able to conduct retrosyn-	
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
V (2) +	Ü (2)					
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
b) oral c) oral e d) log (a e) prese	examin examin approx entatio	nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and,	ach (20 to 30 minute 3 candidates (approx.		didate) or	
Allocat						
Additio	nal inf	ormation				
Worklo	ad					
180 h						
Teachir	ng cycl	e				
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)		
Module	e appea	in and a second s				
		gree (1 major) Chemistry	-			
Bachel	or's deg	gree (1 major) Chemistry	(2017)			



Subfield Physical and Theoretical Chemistry

(37 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 96 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation
Princip	les of c	quantum mechanics and	spectroscopy		08-PC-QMS-152-m01
Module	e coord	inator		Module offered by	l
	oskopie	ture "Grundlagen der Qua e" (Principles of Quantun)		Institute of Physica	l and Theoretical Chemistry
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
10	nume	rical grade		· · · · · · · · · · · · · · · · · · ·	
Duratio		Module level	Other prerequisites		
1 seme	ster	undergraduate	 		
Conten	Its		I		
the bas the mo UV-VIS	sis of th dule fo spectro differe	ne following models: part cuses on vibrational spe oscopy. In addition, the r	icle in a box, harmon ctroscopy, angular m nodule discusses line	ic oscillator and rigi omentum quantisati ear operators, eigen	chanics. It analyses molecules o d rotor. As regards spectroscopy on, microwave spectroscopy an value problems, matrix represen thematical bases of the topics li
Intende	ed lear	ning outcomes			
	ribe di	fferent spectroscopic me			em to molecules. They are able apply the mathematical bases of
Course	S (type, r	number of weekly contact hours,	language — if other than Gei	rman)	
V (4) +	Ü (2) +	V (2)			
		Sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oral c) oral d) log (e) pres	examir examin (approx entatio age of a	mination (approx. 90 to a nation of one candidate e ation in groups of up to g . 20 pages) or n (approx. 30 minutes) ssessment: German and bonus	each (20 to 30 minute 3 candidates (approx		didate) or
Allocat	ion of p	olaces			
Additio	onal inf	ormation			
Worklo	ad				
300 h					
Teachi	ng cvcl	e			
	0.94				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
Module	e appea	ars in			
		gree (1 major) Chemistry	(2015)		
		gree (1 major) Chemistry			

The	e title				Abbreviation	
Inermo	odynam	ics, Kinetics, Electro	chemistry		08-PC-TKE-152-mo:	1
Module	e coord	inator		Module offered by	<u> </u>	
lecture mie"	r of lect	ure "Thermodynamil	k, Kinetik, Elektroche-	-	l and Theoretical Ch	emistry
ECTS	Metho	od of grading	Only after succ. co	mpl. of module(s)		
9	1	rical grade		<u> </u>		
_ Duratio	·	Module level	Other prerequisite	S		
1 seme		undergraduate				
Conten	l	undergraduate				
chemic dynami	al equi	libria, ideal and real esses, it discusses th	o the principles of therm gasses/solutions/mixe e fundamental principle	d phases and electro		
		ning outcomes				
solutio	ns, gas		ws of thermodynamics. d electrochemical react			
Course	S (type, n	umber of weekly contact ho	urs, language — if other than G	erman)		
V (4) +	Ü (2)					
		e ssment (type, scope, la le for bonus)	nguage — if other than German	, examination offered — if no	ot every semester, informat	tion on whether
		nination (approx. 90				
d) log (e) pres	approx entatio Ige of a	. 20 pages) or n (approx. 30 minute ssessment: German		x. 15 minutes per can	didate) or	
Allocat						
Additio	nal inf					
Additio	onal info	prmation				
 Worklo						
 Worklo 270 h	ad	ormation				
 Worklo 270 h	ad	ormation				
 Worklo 270 h Teachin	oad ng cyclo	ormation e	ations for teaching-degree prog	rammes)		
 Worklo 270 h Teachin	ad ng cycle ed to in	ormation e	ations for teaching-degree prog	rammes)		
 Worklo 270 h Teachin Referre § 62 N	ng cyclo ed to in Vr. 1	prmation e LPOI (examination regul	ations for teaching-degree prog	rammes)		
 Worklo 270 h Teachin Referre § 62 N Module	ad ng cyclo ed to in Nr. 1 e appea	prmation e LPOI (examination regul		rammes)		
 Worklo 270 h Teachin Referre § 62 N Module Bachel	ng cyclo ed to in dr. 1 e appea or's deg	prmation e LPOI (examination regul	mistry (2015)	rammes)		
 Worklo 270 h Teachin Referre § 62 N Module Bachel Bachel	ad ng cyclo ed to in Nr. 1 e appea or's deg or's deg	prmation e LPO I (examination regul rs in gree (1 major) Bioche	mistry (2015) stry (2015)	rammes)		
 Worklo 270 h Teachin & 62 N & 62 N Bachel Bachel Bachel Bachel	ad ng cyclo ed to in Jr. 1 e appea or's deg or's deg or's deg	e LPOI (examination regul rs in gree (1 major) Bioche gree (1 major) Chemis gree (1 major) Mathe	mistry (2015) stry (2015)			
 Worklo 270 h Teachin Referre § 62 N Module Bachel Bachel Bachel Bachel Bachel Bachel	ad ng cyclo ed to in √r. 1 e appea or's deg or's deg or's deg or's deg or's deg or's deg	e LPO I (examination regul rs in gree (1 major) Bioche gree (1 major) Chemis gree (1 major) Mather gree (1 major) Compu gree (1 major) Functio	mistry (2015) stry (2015) natics (2015) itational Mathematics (2 onal Materials (2015)	2015)		
 Worklo 270 h Teachin & 62 N Bachel Bachel Bachel Bachel Bachel First sta	ad ng cyclo ed to in Nr. 1 e appea or's deg or's deg or's deg or's deg or's deg ate exa	Examination Examination regularies Example (1 major) Biocher gree (1 major) Chemis gree (1 major) Chemis gree (1 major) Mather gree (1 major) Compu gree (1 major) Function mination for the teac	mistry (2015) stry (2015) natics (2015) Itational Mathematics (2 onal Materials (2015) hing degree Gymnasiun	2015)		
 Worklo 270 h Teachin Referre § 62 I N Bachel Bachel Bachel Bachel First sta Bachel	ad ng cycle ed to in dr. 1 e appea or's deg or's deg or's deg or's deg ate exa or's deg ate exa	e LPO I (examination regul rs in gree (1 major) Bioche gree (1 major) Chemis gree (1 major) Mathe gree (1 major) Compu gree (1 major) Function mination for the teac gree (1 major) Bioche	mistry (2015) stry (2015) matics (2015) Itational Mathematics (2 onal Materials (2015) hing degree Gymnasiun mistry (2017)	2015)		
 Worklo 270 h Teachin Referre § 62 I N Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel	ad ng cycle ed to in dr. 1 e appea or's deg or's deg or's deg or's deg or's deg ate exa or's deg or's deg or's deg or's deg or's deg or's deg	Examination Examination regularies Example (1 major) Biocher gree (1 major) Chemis gree (1 major) Chemis gree (1 major) Mather gree (1 major) Compu gree (1 major) Function mination for the teac	mistry (2015) stry (2015) matics (2015) Itational Mathematics (2 onal Materials (2015) hing degree Gymnasiun mistry (2017) stry (2017)	2015)		page 98 / 122

Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Functional Materials (2025)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 99 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation
Physic	al Cher	nistry (lab)			08-PCP-152-m01
Module	e coord	inator		Module offered by	
lecture mie"	r of lec	ture "Thermodynamik, Ki	netik, Elektroche-	Institute of Physica	l and Theoretical Chemistry
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
9	(not)	successfully completed	o8-PC-QMS or o8-P	C-TKE	
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	ts		·		
lated le dition t their kr	ecture(s those nowled	s). After a safety briefing, e experiments, students ge.	the students autono	mously conduct exp	hey have gained through the re- eriments in the laboratory. In ad- te lab reports to demonstrate
		ning outcomes			
		able to connect the theor practical laboratory expe			tics, electrochemistry and spec- ulting measurements.
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Ge	rman)	
P (6)					
		Sessment (type, scope, langua Ile for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
pages	each) a	chtestate (pre and post- nd assessment of practions ssessment: German and	cal performance (2 to		minutes each, log approx. 5 to 10 ions)
Allocat					
Additio	onal inf	ormation			
Worklo	ad				
270 h	_				
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	
Module	e appea	ars in			
Bachel	or's de	gree (1 major) Chemistry	(2015)		
Bachel	or's de	gree (1 major) Chemistry	(2017)		

	В	ac	ne	lor'	S	wit	th	1	majoi	Ċ	hemi	istry	(2017))
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Module	title				Abbreviation	
Quantu	m Che	mistry			08-TC-152-m01	
Module	coord	inator		Module offered by		
		ure "Quantenchemie"			l and Theoretical Ch	omictry
_		-			l and Theoretical Ch	emistry
ECTS		od of grading	Only after succ. com	ipl. of module(s)		
3		rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
spin, th	ie Pauli	rovides students with d principle, Slater detern ed states, the Born-Opp	ninants, the Hartree-Fo	ock method, correlat	ion energy, configur	
Intende	ed learr	ning outcomes				
Studen	ts are a	ble to describe excited	states of molecules w	ith the help of key co	oncepts and models	•
Course	S (type, n	umber of weekly contact hours,	language — if other than Ger	man)		
V (2) +						
Method	l of ass	eessment (type, scope, langu le for bonus)	age — if other than German, e	examination offered — if no	t every semester, informat	ion on whether
d) log (e) pres	approx entatio ge of a	ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German and bonus		15 minutes per can	illuate) of	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
90 h						
Teachi	ng cycl	<u>م</u>				
	<u></u>	•	-			
Deferre	d to in		a fartaaching dar			
		LPO I (examination regulation	is for teaching-degree progra	mmes)		
§ 22 § 22 § 22	Nr. 2 f)					
Module		irs in				
		gree (1 major) Chemistry	(2015)			
		gree (1 major) Mathemat				
		gree (1 major) Computat	-	015)		
		gree (1 major) Functiona	-			
		mination for the teachin				
		mination for the teachin		• •		
		mination for the teachin		• -		
		mination for the teachin			ork Dougris (END) (-	or()
		ning degree Gymnasium or Chemistry (2017)		on PLUS, Elite Netwo		016) page 101 / 124
				rd Bachelor (180 ECTS) Chem		

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)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 102 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Modul	e title				Abbreviation
Symme	etry, ch	emical bonding and light	t (DD)		08-PC-SBL-DA-152-m01
Module	e coord	inator		Module offered by	I
lecture Licht"	r of lec	ture "Symmetrie, chemise	che Bindung and	Institute of Physica	l and Theoretical Chemistry
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	Its				
tions, p	ooint gi		nd selection rules. Th	e module deals with	on group theory, symmetry opera- n the chemical bond based on the ational chemistry.
Intend	ed lear	ning outcomes			
		able to analyse the symm es of a particular molecu			conclusions about the spectros-
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)	
V (3) +	Ü (2)				
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
b) oralc) orald) log (e) pres	examir examin (approx entatio	mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and	ach (20 to 30 minute 3 candidates (approx	-	didate) or
Allocat					
Additio	onal inf	ormation			
Worklo	ad				
180 h					
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	
Modul	e appea	ars in			
		gree (1 major) Chemistry gree (1 major) Chemistry			
Dachel	01 5 UE	Sice (1 major) chemistry	(201/)		



Chemistry

Subfield Basics of Natural Sciences

(20 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 104 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module	e title				Abbreviation	
Bioche	mistry	1			08-BC1-152-m01	
Module	e coord	inator		Module offered by		
		Chair of Biochemistry		Chair of Biochemist	trv	
ECTS		od of grading	Only after succ. com		,	
5	1	rical grade				
Duratio		Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
mistry. tertiary sis, glu tion, fa discuss	A parti and qu coneos tty acic ses the	ctures and exercises, thi cular focus is on the bio uaternary structures), cat genesis, citric acid cycle, I synthesis), nucleotide r structure of the DNA and ning outcomes	chemistry of proteins alytic strategies and o cellular respiration, p netabolism, the urea	(amino acids, peptic enzyme kinetics, car photosynthesis), fatt cycle and amino aci	le bonds, primary, s bohydrate metaboli y acid metabolism (l	econdary, sm (glycoly- beta oxida-
				nlas of the tenies in	hia chamictur that w	ara diagua
		e become familiar with th dule. They are able to de				ere discus-
		number of weekly contact hours,	· · · ·			
V (2) +				-		
module is	s creditab	Sessment (type, scope, langua le for bonus)		examination offered — if no	t every semester, informat	ion on whether
		nation (approx. 60 to 90	minutes)			
Allocat	ion of _l	olaces				
	-					
		ormation				
		2 para. 2 sentence 2 AP POLmCh and No. 3 of anr			er e) and No. II 1st le	tter c) of an-
Worklo	ad					
150 h						
Teachi	ng cycl	e	-			
			-			
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
§ 42 N § 62 N						
Module	e appea	ars in				
		gree (1 major) Biochemis				
		gree (1 major) Biology (2)	-			
		gree (1 major) Chemistry gree (1 major) Food Chen				
		gree (1 major) Functional				
		mination for the teaching		Chemistry (2015)		
		mination for the teaching				
		mination for the teaching	,			
		mination for the teaching gree (1 major) Food Chen		Chemistry (2015)		
Bachelor's	with 1 ma	jor Chemistry (2017)		rg • generated 19-Apr-2025 • rd Bachelor (180 ECTS) Chem		page 105 / 124

Bachelor's degree (1 major) Biology (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2019) Module studies (Bachelor) 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 (2021) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Functional Materials (2025) Bachelor's degree (1 major) Functional Materials (2025)

UNIVERSITÄT

WÜRZBURG

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 106 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Modul	e title				Abbreviation
Mathe	matics	for students in Chemis	stry and Biochemistry		10-M-MCH-172-m01
Modul	e coord	inator		Module offered by	I
Dean c	of Studi	es Mathematik (Mathe	matics)	Institute of Mathen	natics
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
5		rical grade		• • • •	
Duration Module level Other prerequi			Other prerequisites	;	
1 seme	ester	undergraduate			
Conter	nts				
			and integration of funct al variables, curve integ		, curve sketching, differentiation s, power series.
Intend	ed lear	ning outcomes			
			l phrase questions from m and interpret the resu		mathematical problems, apply
Course	es (type, r	number of weekly contact hou	rs, language — if other than Ge	rman)	
V (3) +	Ü (2)				
		S essment (type, scope, lan ole for bonus)	guage — if other than German,	examination offered — if no	ot every semester, information on whether
writter	n exami	nation (approx. 90 to 1	.20 minutes) and writte	n exercises (approx.	25)
Allocat	tion of _l	places			
Additio	onal inf	ormation			
Worklo	bad				
150 h					
Teachi	ing cycl	e			
Referre	ed to in	LPO I (examination regulat	ions for teaching-degree progra	ammes)	
Modul	e appea	ars in			
		gree (1 major) Biochen	nistry (2017)		
		gree (1 major) Chemist			
		gree (1 major) Biochen			
exchar	nge pro	gram Mathematics (20	23)		

	e title				Abbreviation	
Introdu	uction t	o Physics for Students	of other Disciplines		11-EFNF-152-m01	
Module	e coord	inator		Module offered by		
		ector of the Institute of A	Applied Physics	Faculty of Physics a	nd Astronomy	
ECTS	<u> </u>	od of grading	Only after succ. cor	1	ind / istronomy	
7 Duratio		rical grade Module level	Other prerequisites	•		
			1	•		
2 seme		undergraduate				
Conten						
Fundar physics		of mechanics, vibration	n theory, thermodyna	mics, optics, science	of electricity, atomic and r	nuclear
Intend	ed lear	ning outcomes				
					o assign them to correspor evaluate these contexts.	nding
Course	S (type, r	umber of weekly contact hours	, language — if other than Ge	rman)		
V (4) +	_					
Metho	d of ass	essment (type, scope, langule for bonus)	age — if other than German,	examination offered — if no	t every semester, information on w	hether
		nation (60 to 120 minut	 es)			
Allocat						
Allocal		Jaces				
	1. 6		_			
		ormation			<u> </u>	
nex 1 to	o the Al	2 para. 2 sentence 2 A POLmCh and No. 4 of an			r d) and No. I 1st letter d) c	of an-
Worklo	ad					
210 h						
Teachi	ng cycl	e				
-	ng cycl	e				
Teachi		e LPOI (examination regulatio	ns for teaching-degree progr	ammes)		
Teachi			ns for teaching-degree progr	ammes)		
Teachin Referre	ed to in	LPOI (examination regulatio	ns for teaching-degree progr	ammes)		
Teachin Referre Module	ed to in e appea	LPO I (examination regulatio		ammes)		
Teachin Referre Bachel	ed to in e appea or's de	LPOI (examination regulation regulation regulation) Irs in gree (1 major) Biology (2	2011)	ammes)		
Teachin Referre Bachel Bachel	ed to in e appea or's de or's de	LPO I (examination regulation Irs in gree (1 major) Biology (2 gree (1 major) Chemistry	2011) / (2010)	ammes)		
Teachin Referrer Bachel Bachel Bachel Bachel	ed to in e appea or's de or's de or's de	LPOI (examination regulation regulation regulation) Irs in gree (1 major) Biology (2	2011) / (2010) gy (2010)	ammes)		
Teachin Referre Bachel Bachel Bachel Bachel Bachel	ed to in e appea or's de or's de or's de or's de	LPO I (examination regulation Irs in gree (1 major) Biology (2 gree (1 major) Chemistry gree (1 major) Psycholog	2011) / (2010) gy (2010) Pedagogy (2013)			
Teachii Referrer Bachel Bachel Bachel Bachel Bachel Bachel	ed to in e appea or's deg or's deg or's deg or's deg or's deg	LPO I (examination regulation Irs in gree (1 major) Biology (2 gree (1 major) Chemistry gree (1 major) Psycholog gree (1 major, 1 minor) F	2011) / (2010) gy (2010) Pedagogy (2013) Political and Social Stu	udies (2013)		
Teachin Referre Bachel Bachel Bachel Bachel Bachel Bachel Bachel	ed to in e appea or's de or's de or's de or's de or's de or's de or's de	LPO I (examination regulation ars in gree (1 major) Biology (2 gree (1 major) Chemistry gree (1 major) Psycholog gree (1 major, 1 minor) F gree (1 major, 1 minor) F	2011) 7 (2010) gy (2010) Pedagogy (2013) Political and Social Stu Russian Language and	udies (2013)		
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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) Bachelor's degree (2 majors) English and American Studies (2009) Bachelor's degree (2 majors) German Language and Literature (2013) Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Geography (2015) Bachelor's degree (1 major) Computer Science (2015) Bachelor's degree (1 major) Food Chemistry (2015) Bachelor's degree (1 major) Mathematics (2015) Bachelor's degree (1 major) Musicology (2015) Bachelor's degree (1 major) Physics (2015) Bachelor's degree (1 major) Psychology (2015) Bachelor's degree (1 major) Business Management and Economics (2015) Bachelor's degree (1 major) Nanostructure Technology (2015) Bachelor's degree (1 major) Biomedicine (2015) Bachelor's degree (1 major) Music Education (2015) Bachelor's degree (1 major) Computational Mathematics (2015) Bachelor's degree (1 major) Political and Social Studies (2015) Bachelor's degree (1 major) Functional Materials (2015) Bachelor's degree (1 major) Academic Speech Therapy (2015) Bachelor's degree (1 major) Indology/South Asian Studies (2015) Bachelor's degree (1 major, 1 minor) Egyptology (2015) Bachelor's degree (1 major, 1 minor) Pedagogy (2015) Bachelor's degree (1 major, 1 minor) History (2015) Bachelor's degree (1 major, 1 minor) Musicology (2015) Bachelor's degree (1 major, 1 minor) Philosophy (2015) Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (1 major, 1 minor) Ancient World (2015) Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2015) Bachelor's degree (1 major, 1 minor) Theological Studies (2015) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2015) Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2015) Bachelor's degree (1 major, 1 minor) German Language and Literature (2015) Bachelor's degree (2 majors) Egyptology (2015) Bachelor's degree (2 majors) Pedagogy (2015) Bachelor's degree (2 majors) Protestant Theology (2015) Bachelor's degree (2 majors) Musicology (2015) Bachelor's degree (2 majors) Philosophy (2015) Bachelor's degree (2 majors) Special Education (2015) Bachelor's degree (2 majors) Pre- and Protohistoric Archaeology (2015) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 109 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (2 majors) Latin Philology (2015) Bachelor's degree (2 majors) Music Education (2015) Bachelor's degree (2 majors) Philosophy and Religion (2015) Bachelor's degree (2 majors) Theological Studies (2015) Bachelor's degree (2 majors) Political and Social Studies (2015) Bachelor's degree (2 majors) Russian Language and Culture (2015) Bachelor's degree (2 majors) Greek Philology (2015) Bachelor's degree (2 majors) European Ethnology (2015) Bachelor's degree (2 majors) Indology/South Asian Studies (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) First state examination for the teaching degree Gymnasium Greek Philology (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) Bachelor's degree (2 majors) Geography (2015) Bachelor's degree (2 majors) French Studies (2015) Bachelor's degree (2 majors) History (2015) Bachelor's degree (2 majors) Sport Science (Focus on health and Pedagogics in Movement) (2015) Bachelor's degree (2 majors) German Language and Literature (2015) Bachelor's degree (1 major) Mathematical Physics (2016) First state examination for the teaching degree Gymnasium Music (2015) First state examination for the teaching degree Gymnasium Music Education, Advanced Studies (2015) Bachelor's degree (1 major, 1 minor) French Studies (2016) Bachelor's degree (2 majors) French Studies (2016) Bachelor's degree (1 major, 1 minor) Italian Studies (2016) Bachelor's degree (2 majors) Italian Studies (2016) Bachelor's degree (1 major, 1 minor) Spanish Studies (2016) Bachelor's degree (2 majors) Spanish Studies (2016) Bachelor's degree (1 major) Romanic Languages (French/Italian) (2016) Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2016) Bachelor's degree (1 major) Romanic Languages (Italian/Spanish) (2016) Bachelor's degree (1 major) Business Information Systems (2016) 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) Bachelor's degree (1 major) Games Engineering (2016) Bachelor's degree (1 major, 1 minor) English and American Studies (2016) Bachelor's degree (2 majors) English and American Studies (2016) First state examination for the teaching degree Gymnasium English (2016) Bachelor's degree (1 major) Media Communication (2016) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 110 / 124

reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major) Food Chemistry (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) Bachelor's degree (1 major) Biology (2017) Bachelor's degree (1 major, 1 minor) Geography (2017) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2017) Bachelor's degree (1 major) Aerospace Computer Science (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017) Bachelor's degree (1 major, 1 minor) Museology and material culture (2017) Bachelor's degree (1 major) Economathematics (2017) Bachelor's degree (1 major) Games Engineering (2017) Bachelor's degree (1 major) Computer Science (2017) First state examination for the teaching degree Gymnasium Greek Philology (2018) Bachelor's degree (1 major) Media Communication (2018) Bachelor's degree (1 major) Biomedicine (2018) Bachelor's degree (1 major) Human-Computer Systems (2018) Bachelor's degree (2 majors) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Digital Humanities (2018) Bachelor's degree (2 majors) Digital Humanities (2018) First state examination for the teaching degree Gymnasium Physics (2018) Bachelor's degree (1 major) Computer Science (2019) First state examination for the teaching degree Gymnasium Mathematics (2019) Bachelor's degree (1 major, 1 minor) English and American Studies (2019) Bachelor's degree (1 major) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Information Systems (2019) Bachelor's degree (2 majors) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Management and Economics (2019) Bachelor's degree (1 major) Modern China (2019) Bachelor's degree (1 major) Food Chemistry (2019) Bachelor's degree (1 major) Biomedicine (2020) Bachelor's degree (1 major) Pedagogy (2020) Bachelor's degree (1 major) Political and Social Studies (2020) Bachelor's degree (1 major) Business Information Systems (2020) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2020) Bachelor's degree (2 majors) European Ethnology (2020) Bachelor's degree (2 majors) Political and Social Studies (2020) Bachelor's degree (2 majors) Special Education (2020) Bachelor's degree (1 major) Physics (2020) Bachelor's degree (1 major) Nanostructure Technology (2020) Bachelor's degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major) Aerospace Computer Science (2020) Bachelor's degree (1 major, 1 minor) Museology and material culture (2020) First state examination for the teaching degree Gymnasium Physics (2020) Bachelor's degree (1 major, 1 minor) Pedagogy (2020) Bachelor's degree (2 majors) Pedagogy (2020) First state examination for the teaching degree Gymnasium Political and Social Studies (2020) Bachelor's degree (1 major) Psychology (2020) Bachelor's degree (1 major) Biology (2021) Magister Theologiae Catholic Theology (2021) Bachelor's degree (2 majors) History (2021) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 111 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major, 1 minor) History (2021) First state examination for the teaching degree Gymnasium History (2021) Bachelor's degree (1 major) Media Communication (2021) Bachelor's degree (2 majors) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) English and American Studies (2021) Bachelor's degree (2 majors) English and American Studies (2021) First state examination for the teaching degree Gymnasium English (2021) Bachelor's degree (1 major) Functional Materials (2021) First state examination for the teaching degree Gymnasium Philosophy and Ethics (2021) Bachelor's degree (1 major) Computer Science und Sustainability (2021) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2021) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Quantum Technology (2021) Bachelor's degree (2 majors) Special Education (2021) Bachelor's degree (1 major) Business Information Systems (2021) Bachelor's degree (1 major) Economathematics (2021) Bachelor's degree (1 major) Business Management and Economics (2021) Bachelor's degree (1 major) Human-Computer Systems (2022) Bachelor's degree (1 major, 1 minor) Museology and material culture (2022) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Economathematics (2022) Bachelor's degree (1 major) Mathematical Data Science (2022) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2022) First state examination for the teaching degree Gymnasium Philosophy and Ethics (2022) Bachelor's degree (2 majors) Ancient Near Eastern Archaeology (2022) Bachelor's degree (1 major, 1 minor) Ancient World (2022) Bachelor's degree (2 majors) Ancient Near Eastern Studies (2022) Bachelor's degree (1 major) Franco-German studies: language, culture, digital competence (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 Gymnasium Geography (2023) Bachelor's degree (1 major) European Law (2023) Bachelor's degree (1 major, 1 minor) English and American Studies (2023) Bachelor's degree (2 majors) English and American Studies (2023) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2023) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Business Information Systems (2023) Bachelor's degree (1 major) Economathematics (2023) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) Special Education (2023) Bachelor's degree (1 major) Business Management and Economics (2023) Bachelor's degree (1 major) Geography (2023) Bachelor's degree (2 majors) Geography (2023) Bachelor's degree (1 major, 1 minor) Geography (2023) Bachelor's degree (2 majors) European Ethnology/Empiric Cultural Studies (2023) First state examination for the teaching degree Gymnasium German (2024) Bachelor's degree (1 major) Mathematical Physics (2024) Bachelor's degree (2 majors) German Language and Literature (2024) Bachelor's degree (1 major, 1 minor) German Language and Literature (2024) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 112 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (1 major) Music Education (2024) Bachelor's degree (2 majors) Music Education (2024) Bachelor's degree (1 major, 1 minor) Music Education (2024) Bachelor's degree (1 major) Indology/South Asian Studies (2024) Bachelor's degree (2 majors) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Ancient World (2024) Bachelor's degree (2 majors) Digital Humanities (2024) Bachelor's degree (1 major, 1 minor) Digital Humanities (2024) Bachelor's degree (1 major) Midwifery (2024) Bachelor's degree (2 majors) Greek Philology (2024) Bachelor's degree (2 majors) Latin Philology (2024) First state examination for the teaching degree Gymnasium Latin Philology (2024) Bachelor's degree (1 major) Business Information Systems (2024) Bachelor's degree (1 major) Economathematics (2024) Bachelor's degree (1 major) Business Management and Economics (2024) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2024) First state examination for the teaching degree Gymnasium English (2024) First state examination for the teaching degree Gymnasium History (2024) First state examination for the teaching degree Gymnasium Greek Philology (2024) Bachelor's degree (1 major) Human-Computer-Interaction (2024) Bachelor's degree (2 majors) Art Education (2024) Bachelor's degree (1 major) Digital Business & Data Science (2024) Bachelor's degree (1 major) Classics (2024) Bachelor's degree (1 major) Diversity, Ethics and Religions (2024) Bachelor's degree (1 major) Functional Materials (2025) Bachelor's degree (1 major) (2025) Bachelor's degree (1 major) Food Chemistry (2025) Bachelor's degree (1 major, 1 minor) European Ethnology/Empiric Cultural Studies (2025) Bachelor's degree (1 major) Pedagogy (2025) Bachelor's degree (2 majors) Pedagogy (2025) Bachelor's degree (1 major) Economathematics (2025) Bachelor's degree (1 major) Academic Speech Therapy (2025) Bachelor's degree (1 major, 1 minor) Pedagogy (2025) Bachelor's degree (1 major) Games Engineering (2025)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 113 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module title				Abbreviation		
Laboratory Course Physics for Students of other Disciplines			5	11-PFNF-152-m01		
Module coordinator			Module offered by			
Managing Director of the Institute of Applied Physics			Applied Physics	Faculty of Physics a	ind Astronomy	
ECTS						
3		uccessfully completed				
<u> </u>	r	Module level	Other prerequisites			
1 seme		undergraduate				
Conten		undergraduate				
		eente in the fields of m				
		nents in the fields of m atomic and nuclear phy			cs, optics, x-rays, nu	clear magne
Intende	ed learn	ing outcomes				
perime of error derstar	nts. The s in exp nding of	ave recognised and un y can conduct simple e eriments. They are abl physical phenomena a ethods as well as their	experiments in the labore to compile a protoco and know the basic ide	oratory. They are abl l for experimental pr eas and ways of func	e to identify and ass ocedures. They have tioning of different n	ess sources e a basic un-
Course	S (type, ni	umber of weekly contact hours	, language — if other than Ger	rman)		
P (4)						
a) pract prox. 90 Each ex	tical ass o minut perime	nt comprises preparati	(approx. 15 minutes, c	luring experiments)	and b) written exami	nation (ap-
Allocat		h be repeated once.				
		pool of general transfe	rable skills (ASO): 10	places (lotterv)		
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accordi	ng to §	2 para. 2 sentence 2 A OLmCh and No. 4 of ar			er d) and No. I 1st lett	er d) of an-
Worklo	ad	•				
90 h						
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Module appears in						
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Bachelor's degree (1 major) Psychology (2010)						
Bachelor's degree (1 major, 1 minor) Pedagogy (2013)						
Bachelor's degree (1 major, 1 minor) Political and Social Studies (2013)						
Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2008)						
Bachelor's degree (2 majors) Special Education (2009)						
Magister Theologiae Catholic Theology (2013) First state examination for the teaching degree Gymnasium English (2009)						
First sta	ate exar	nination for the teachir	ng degree Gymnasium	English (2009)		
Bachelor's	with 1 majo	or Chemistry (2017)	JMU Würzbı	Irg • generated 19-Apr-2025	• exam.	page 114 / 124
	,			rd Bachelor (180 ECTS) Chen		

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) Bachelor's degree (2 majors) English and American Studies (2009) Bachelor's degree (2 majors) German Language and Literature (2013) Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Geography (2015) Bachelor's degree (1 major) Computer Science (2015) Bachelor's degree (1 major) Food Chemistry (2015) Bachelor's degree (1 major) Mathematics (2015) Bachelor's degree (1 major) Musicology (2015) Bachelor's degree (1 major) Physics (2015) Bachelor's degree (1 major) Psychology (2015) Bachelor's degree (1 major) Business Management and Economics (2015) Bachelor's degree (1 major) Nanostructure Technology (2015) Bachelor's degree (1 major) Biomedicine (2015) Bachelor's degree (1 major) Music Education (2015) Bachelor's degree (1 major) Computational Mathematics (2015) Bachelor's degree (1 major) Political and Social Studies (2015) Bachelor's degree (1 major) Functional Materials (2015) Bachelor's degree (1 major) Academic Speech Therapy (2015) Bachelor's degree (1 major) Indology/South Asian Studies (2015) Bachelor's degree (1 major, 1 minor) Egyptology (2015) Bachelor's degree (1 major, 1 minor) Pedagogy (2015) Bachelor's degree (1 major, 1 minor) History (2015) Bachelor's degree (1 major, 1 minor) Musicology (2015) Bachelor's degree (1 major, 1 minor) Philosophy (2015) Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (1 major, 1 minor) Ancient World (2015) Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2015) Bachelor's degree (1 major, 1 minor) Theological Studies (2015) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2015) Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2015) Bachelor's degree (1 major, 1 minor) German Language and Literature (2015) Bachelor's degree (2 majors) Egyptology (2015) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 115 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (2 majors) Pedagogy (2015) Bachelor's degree (2 majors) Protestant Theology (2015) Bachelor's degree (2 majors) Musicology (2015) Bachelor's degree (2 majors) Philosophy (2015) Bachelor's degree (2 majors) Special Education (2015) Bachelor's degree (2 majors) Pre- and Protohistoric Archaeology (2015) Bachelor's degree (2 majors) Latin Philology (2015) Bachelor's degree (2 majors) Music Education (2015) Bachelor's degree (2 majors) Philosophy and Religion (2015) Bachelor's degree (2 majors) Theological Studies (2015) Bachelor's degree (2 majors) Political and Social Studies (2015) Bachelor's degree (2 majors) Russian Language and Culture (2015) Bachelor's degree (2 majors) Greek Philology (2015) Bachelor's degree (2 majors) European Ethnology (2015) Bachelor's degree (2 majors) Indology/South Asian Studies (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) First state examination for the teaching degree Gymnasium Greek Philology (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) Bachelor's degree (2 majors) Geography (2015) Bachelor's degree (2 majors) French Studies (2015) Bachelor's degree (2 majors) History (2015) Bachelor's degree (2 majors) Sport Science (Focus on health and Pedagogics in Movement) (2015) Bachelor's degree (2 majors) German Language and Literature (2015) Bachelor's degree (1 major) Mathematical Physics (2016) First state examination for the teaching degree Gymnasium Music (2015) First state examination for the teaching degree Gymnasium Music Education, Advanced Studies (2015) Bachelor's degree (1 major, 1 minor) French Studies (2016) Bachelor's degree (2 majors) French Studies (2016) Bachelor's degree (1 major, 1 minor) Italian Studies (2016) Bachelor's degree (2 majors) Italian Studies (2016) Bachelor's degree (1 major, 1 minor) Spanish Studies (2016) Bachelor's degree (2 majors) Spanish Studies (2016) Bachelor's degree (1 major) Romanic Languages (French/Italian) (2016) Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2016) Bachelor's degree (1 major) Romanic Languages (Italian/Spanish) (2016) Bachelor's degree (1 major) Business Information Systems (2016) First state examination for the teaching degree Gymnasium French Studies (2016) First state examination for the teaching degree Gymnasium Italian Studies (2016) Bachelor's with 1 major Chemistry (2017) IMII Würzburg • generated 10-Apr-2025 • exam. page 116 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

First state examination for the teaching degree Gymnasium Spanish Studies (2016) Bachelor's degree (1 major) Games Engineering (2016) Bachelor's degree (1 major, 1 minor) English and American Studies (2016) Bachelor's degree (2 majors) English and American Studies (2016) First state examination for the teaching degree Gymnasium English (2016) Bachelor's degree (1 major) Media Communication (2016) Bachelor's degree (1 major) Food Chemistry (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) Bachelor's degree (1 major) Biology (2017) Bachelor's degree (1 major, 1 minor) Geography (2017) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) History of Medieval and Modern Art (2017) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2017) Bachelor's degree (1 major) Aerospace Computer Science (2017) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017) Bachelor's degree (1 major, 1 minor) Museology and material culture (2017) Bachelor's degree (1 major) Economathematics (2017) Bachelor's degree (1 major) Games Engineering (2017) Bachelor's degree (1 major) Computer Science (2017) First state examination for the teaching degree Gymnasium Greek Philology (2018) Bachelor's degree (1 major) Media Communication (2018) Bachelor's degree (1 major) Biomedicine (2018) Bachelor's degree (1 major) Human-Computer Systems (2018) Bachelor's degree (2 majors) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Classical Archaeology (2018) Bachelor's degree (1 major, 1 minor) Digital Humanities (2018) Bachelor's degree (2 majors) Digital Humanities (2018) First state examination for the teaching degree Gymnasium Physics (2018) Bachelor's degree (1 major) Computer Science (2019) First state examination for the teaching degree Gymnasium Mathematics (2019) Bachelor's degree (1 major, 1 minor) English and American Studies (2019) Bachelor's degree (1 major) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Information Systems (2019) Bachelor's degree (2 majors) Indology/South Asian Studies (2019) Bachelor's degree (1 major) Business Management and Economics (2019) Bachelor's degree (1 major) Modern China (2019) Bachelor's degree (1 major) Food Chemistry (2019) Module studies (Bachelor) Orientierungsstudien (2020) Bachelor's degree (1 major) Biomedicine (2020) Bachelor's degree (1 major) Pedagogy (2020) Bachelor's degree (1 major) Political and Social Studies (2020) Bachelor's degree (1 major) Business Information Systems (2020) Bachelor's degree (1 major, 1 minor) Political and Social Studies (2020) Bachelor's degree (2 majors) European Ethnology (2020) Bachelor's degree (2 majors) Political and Social Studies (2020) Bachelor's degree (2 majors) Special Education (2020) Bachelor's degree (1 major) Physics (2020) Bachelor's degree (1 major) Nanostructure Technology (2020) Bachelor's degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major) Aerospace Computer Science (2020) Bachelor's degree (1 major, 1 minor) Museology and material culture (2020) First state examination for the teaching degree Gymnasium Physics (2020) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Bachelor (180 ECTS) Chemie - 2017

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Bachelor's degree (1 major, 1 minor) Pedagogy (2020) Bachelor's degree (2 majors) Pedagogy (2020) First state examination for the teaching degree Gymnasium Political and Social Studies (2020) Bachelor's degree (1 major) Psychology (2020) Bachelor's degree (1 major) Biology (2021) Magister Theologiae Catholic Theology (2021) Bachelor's degree (2 majors) History (2021) Bachelor's degree (1 major, 1 minor) History (2021) First state examination for the teaching degree Gymnasium History (2021) Bachelor's degree (1 major) Media Communication (2021) Bachelor's degree (2 majors) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) Theological Studies (2021) Bachelor's degree (1 major, 1 minor) English and American Studies (2021) Bachelor's degree (2 majors) English and American Studies (2021) First state examination for the teaching degree Gymnasium English (2021) Bachelor's degree (1 major) Functional Materials (2021) First state examination for the teaching degree Gymnasium Philosophy and Ethics (2021) Bachelor's degree (1 major) Computer Science und Sustainability (2021) Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2021) Bachelor's degree (1 major) Food Chemistry (2021) Bachelor's degree (1 major) Quantum Technology (2021) Bachelor's degree (2 majors) Special Education (2021) Bachelor's degree (1 major) Business Information Systems (2021) Bachelor's degree (1 major) Economathematics (2021) Bachelor's degree (1 major) Business Management and Economics (2021) Bachelor's degree (1 major) Human-Computer Systems (2022) Bachelor's degree (1 major, 1 minor) Museology and material culture (2022) Bachelor's degree (1 major) Biochemistry (2022) Bachelor's degree (1 major) Biology (2022) Bachelor's degree (1 major) Economathematics (2022) Bachelor's degree (1 major) Mathematical Data Science (2022) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2022) First state examination for the teaching degree Gymnasium Philosophy and Ethics (2022) Bachelor's degree (2 majors) Ancient Near Eastern Archaeology (2022) Bachelor's degree (1 major, 1 minor) Ancient World (2022) Bachelor's degree (2 majors) Ancient Near Eastern Studies (2022) Bachelor's degree (1 major) Franco-German studies: language, culture, digital competence (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 Gymnasium Geography (2023) Bachelor's degree (1 major) European Law (2023) Bachelor's degree (1 major, 1 minor) English and American Studies (2023) Bachelor's degree (2 majors) English and American Studies (2023) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2023) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Business Information Systems (2023) Bachelor's degree (1 major) Economathematics (2023) Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) History of Medieval and Modern Art (2023) Bachelor's degree (2 majors) Special Education (2023) Bachelor's degree (1 major) Business Management and Economics (2023) Bachelor's degree (1 major) Geography (2023) Bachelor's with 1 major Chemistry (2017) JMU Würzburg • generated 19-Apr-2025 • exam. page 118 / 124 reg. data record Bachelor (180 ECTS) Chemie - 2017

Bachelor's degree (2 majors) Geography (2023) Bachelor's degree (1 major, 1 minor) Geography (2023) Bachelor's degree (2 majors) European Ethnology/Empiric Cultural Studies (2023) First state examination for the teaching degree Gymnasium German (2024) Bachelor's degree (1 major) Mathematical Physics (2024) Bachelor's degree (2 majors) German Language and Literature (2024) Bachelor's degree (1 major, 1 minor) German Language and Literature (2024) Bachelor's degree (1 major) Music Education (2024) Bachelor's degree (2 majors) Music Education (2024) Bachelor's degree (1 major, 1 minor) Music Education (2024) Bachelor's degree (1 major) Indology/South Asian Studies (2024) Bachelor's degree (2 majors) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2024) Bachelor's degree (1 major, 1 minor) Ancient World (2024) Bachelor's degree (2 majors) Digital Humanities (2024) Bachelor's degree (1 major, 1 minor) Digital Humanities (2024) Bachelor's degree (1 major) Midwifery (2024) Bachelor's degree (2 majors) Greek Philology (2024) Bachelor's degree (2 majors) Latin Philology (2024) First state examination for the teaching degree Gymnasium Latin Philology (2024) Bachelor's degree (1 major) Business Information Systems (2024) Bachelor's degree (1 major) Economathematics (2024) Bachelor's degree (1 major) Business Management and Economics (2024) Bachelor's degree (1 major) Artificial Intelligence and Data Science (2024) First state examination for the teaching degree Gymnasium English (2024) First state examination for the teaching degree Gymnasium History (2024) First state examination for the teaching degree Gymnasium Greek Philology (2024) Bachelor's degree (1 major) Human-Computer-Interaction (2024) Bachelor's degree (2 majors) Art Education (2024) Bachelor's degree (1 major) Digital Business & Data Science (2024) Bachelor's degree (1 major) Classics (2024) Bachelor's degree (1 major) Diversity, Ethics and Religions (2024) Bachelor's degree (1 major) Functional Materials (2025) Bachelor's degree (1 major) (2025) Bachelor's degree (1 major) Food Chemistry (2025) Bachelor's degree (1 major, 1 minor) European Ethnology/Empiric Cultural Studies (2025) Bachelor's degree (1 major) Pedagogy (2025) Bachelor's degree (2 majors) Pedagogy (2025) Bachelor's degree (1 major) Economathematics (2025) Bachelor's degree (1 major) Academic Speech Therapy (2025) Bachelor's degree (1 major, 1 minor) Pedagogy (2025) Bachelor's degree (1 major) Games Engineering (2025)



Subfield Competences from foreign university

(50 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 120 / 124
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Module title Abbreviation						
Qualifications - Partner University 1 08-VPUB1-152-m01						
Module coordinator				Module offered by		
progra	mme co	pordinator of the exchang	e programme	Faculty of Chemist	y and Pharmacy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
25	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites			
2 seme	ester	undergraduate	Please consult with	course advisory ser	vice in advance.	
Conter	nts					
This m	odule c	liscusses topics from the	curriculum of the pa	rtner university abro	ad.	
Intend	ed lear	ning outcomes				
Studer sity.	nts have	e developed the knowled	ge and skills taught i	n the courses attend	led by them at the partner univer-	
Course	es (type, 1	number of weekly contact hours, l	anguage — if other than Ger	rman)		
		ssigned to module specified by partner unive	ersity abroad			
		s essment (type, scope, langua ole for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
		as specified by partner u ssessment: German and		at partner university	/ abroad	
Allocat	tion of	places				
Additio	onal inf	ormation				
Worklo	bad					
750 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Modul	e appea	ars in				
Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Chemistry (2017)						
Dacheloi S degree (1 major) Chemistry (201/)						

Module title Abbreviation					
Qualifications - Partner University 2 08-VPUB2-152-mo1					
Module coordinator Module offered by					1
progra	mme co	oordinator of the exchang	ge programme	Faculty of Chemistr	y and Pharmacy
ECTS	Meth	od of grading	Only after succ. con	pl. of module(s)	
25	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
2 seme	ester	undergraduate	Please consult with	course advisory ser	vice in advance.
Conten	its	•			
This m	odule c	discusses topics from the	curriculum of the par	rtner university abro	ad.
Intend	ed lear	ning outcomes			
Studen sity.	its have	e developed the knowled	ge and skills taught i	n the courses attend	led by them at the partner univer-
Course	S (type, 1	number of weekly contact hours, l	anguage — if other than Ger	man)	
No cou	rses as	ssigned to module			
		sessment (type, scope, langua ble for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
		as specified by partner u assessment: German and		at partner university	<i>r</i> abroad
Allocat	ion of	places			
Additio	onal inf	ormation			
Worklo	ad				
750 h			-		
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	e appea	ars in			
Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Chemistry (2017)					



Thesis (10 ECTS credits)

Bachelor's with 1 major Chemistry (2017)	JMU Würzburg • generated 19-Apr-2025 • exam.	page 123 / 124
	reg. data record Bachelor (180 ECTS) Chemie - 2017	

Module title Abbreviation					Abbreviation	
Bachelor Thesis 08-BA-152-m01					08-BA-152-m01	
Module coordinator				Module offered by	<u> </u>	
head of the research group offering the module			e module	Faculty of Chemistr	y and Pharmacy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
10	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate		The supervisor may make the successful completion of certain modu- les that are relevant for the respective topic a prerequisite for the assign ment of the topic.		
Conter	nts					
		ives students the opport scientific methods they			problem within a given time frame	
Intend	ed lear	ning outcomes				
		able to conduct research to present the results of t			the principles of good scientific	
Course	es (type, r	number of weekly contact hours,	language — if other than Gei	rman)		
Νο cou	irses as	signed to module				
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
		esis (approx. 40 pages) ssessment: German and	/or English			
Alloca	tion of _l	olaces				
Additio	onal inf	ormation				
Time to	o comp	ete: 8 weeks.				
Worklo	oad					
300 h						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Modul	e appea	ars in				
	Bachelor's degree (1 major) Chemistry (2015)					
Bache	Bachelor's degree (1 major) Chemistry (2017)					