

Module Catalogue

for the Subject

Biochemistry

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

Examination regulations version: 2009 Responsible: Faculty of Chemistry and Pharmacy

JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record 82|025|-|-|H|2009

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The subject is divided into

section / sub-section	ECTS credits	starting page
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Content and Objectives of the Programme

No translation available.

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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:

ASP02009

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

03-Aug-2010 (2010-41)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.



Compulsory Courses

(118 ECTS credits)

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Module	title				Abbreviation
Structural Biology 1		03-5S2ST-092-m01			
Module	coord	inator		Module offered by	
holder	of the (Chair of Structural Biology	/	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	ts				
as the f selected molecu	undan d biolo le in si	iental principles of macro gical macromolecules ar	omolecular architectu e presented. In small ructure and biologica	res. Building on this groups, participants l function and will pr	d biophysical techniques as well , the structure and function of s will analyse one specific macro- resent their results in a talk. The l problems.
Intende	ed leari	ning outcomes			
problen	ns in st		nalyse structure-func	tion relationships. T	he ability to explore common hey will also acquire skills in the ical macromolecules.
Courses	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (n	io infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
didate e	each (a		oral examination in g		r c) oral examination of one can- to 3 candidates, approx. 60 mi-
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Workloa	ad				
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	Module appears in				
		ree (1 major) Biochemistr ree (1 major) Biology (200			

Module	Module title		Abbreviation		
Inorganic Chemistry 1		08-AC1-BC-092-m01			
Module coordinator		Module offered by			
lecture Chemis		ture "Experimentalchemi	e" (Experimental	Institute of Inorgani	ic Chemistry
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
16	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
This module provides students with an overview of the fundamental principles of chemistry. It focuses on partic- les, metals, acid-base reactions, the periodic table, chemical equilibrium and complexometry. In addition, the module introduces fundamental models of chemistry and principles of inorganic chemistry. It includes practical exercises based on the lecture on experimental chemistry and its extension. After a safety briefing, the students autonomously conduct experiments in the laboratory. The course focuses on laboratory safety, simple lab techni- ques, the synthesis of simple substances and analyses of unknown substances. In addition, students have the opportunity to advance their laboratory knowledge. Intended learning outcomes Students are able to explain the principles of the periodic table and to extract information from it. They are ab- le to explain basic models of the structure of matter. They have developed the ability to use the language of che- mical formulas to describe chemical reactions and to interpret them by identifying the type of reaction. Students are able to describe the main quantitative and qualitative analytical methods and their application areas. They are able to identify fundamental problems in chemistry and perform experiments to solve them. They have deve-					
approp	riate m	Ity to perform the necess nanner, both in written an number of weekly contact hours, l	d oral form.		ibe the chemical processes in an
This mo compor • o • o	odule c nent. 8-AC1- 8-AC1-	omprises 3 module comp BC-2-092: P (no informat BC-3-092: V (no informat	oonents. Information ion on SWS (weekly o ion on SWS (weekly o	on courses will be lis contact hours) and co contact hours) and co	sted separately for each module ourse language available) ourse language available) d course language available)
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	t every semester, information on whether
	less st	ated otherwise, successf			e components as specified be- successful completion of all indi-
Majors • 4 • V a • A Assess Chemis • 2 • 2 Assess mistry F	ECTS, 'ortesta pprox. ssessm ment in stry 1 fo ECTS, written ment in Princip	Method of grading: (not) ate (pre-experiment exam 5 to 10 pages), Nachtesta nent offered: once a year n module component o8- or Biochemistry Majors Method of grading: nume n examinations (approx.	successfully comple is, approx. 15 minute ate (post-experiment , winter semester AC1-BC-3-092: Accor erical grade 45 minutes each), we AC1-1-072: Principles	ted s each), assessment exams, approx. 15 m npanying lecture to t ighted 1:1	nic Chemistry 1 for Biochemistry t of practical performance (log ninutes each) the practical course of Inorganic stry Principles of Inorganic Che-

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• a) 1 to 3 written examinations (1 written examination: 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)

Allocation of places

Additional information

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Workload

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Teaching cycle

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

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Module appears in

Bachelor' degree (1 major) Biochemistry (2009)

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Modul	e title				Abbreviation
Organi	ic Chem	istry - laboratory course	for students of bioch	nemistry	08-0C3P-092-m01
Modul	e coord	inator		Module offere	ed by
holder	of the (Chair of Organic Chemistr	y II	Institute of Or	ganic Chemistry
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)
7	(not) s	successfully completed			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
dition t their ki	to those nowled	e experiments, students v	will be expected to ta n the safe handling o	ke oral tests ar f hazardous su	t experiments in the laboratory. In ad- nd write lab reports to demonstrate bstances, simple experimental unit nalysis of the products.
Intend	ed lear	ning outcomes			
in the l	aborate	-	·		the lecture with practical experiments
		tion on SWS (weekly cont			ilable)
Metho	d of ass				– if not every semester, information on whether
		e-experiment exams, app Nachtestate (post-experii			of practical performance (log approx. 5 ch)
Allocat	tion of p	olaces			
Additio	onal inf	ormation			
Worklo	oad				
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	immes)	
		•			
	e appea				
Bachel	or' deg	ree (1 major) Biochemistr	y (2009)		

Module	e title				Abbreviation
Physic Electro		•	ry Majors: Thermodyn	amics, Kinetics,	08-PC2-BC-092-m01
Module	e coord	inator		Module offered by	/
lecture mie"	r of lec	ture "Thermodynamik,	Kinetik, Elektroche-	Institute of Physic	al and Theoretical Chemistry
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
15	nume	rical grade			
Duratio	on	Module level	Other prerequisites	6	
1 seme	ster	undergraduate	By way of exceptior assessments.	n, additional prereq	uisites are listed in the section on
Conten	Its				
dynam tunity t the stu will be	ic proc o apply dents a expect	esses, it discusses the y in practice the knowle autonomously conduct ed to take oral tests an	fundamental principle edge they have gained	s of kinetics. The m through the related oratory. In addition	ochemistry. In addition to thermo- odule gives students the oppor- lecture(s). After a safety briefing, to those experiments, students nowledge.
Intend	ed lear	ning outcomes			
rement Course This mo compo • c	s. s (type, r odule c nent. 98-PC2-	number of weekly contact hour comprises 2 module co BC-2-092: P (no inform	rs, language — if other than Ge mponents. Information nation on SWS (weekly	^{rman)} on courses will be contact hours) and	listed separately for each module
					course language available) not every semester, information on whether
		ole for bonus)			
	nless st	ated otherwise, succes			ule components as specified be- e successful completion of all indi-
namics • 6 • V a • A Assess Kinetic • 9 • a 9 • a 9 • a 9 • a 9 • a 9 • a 9 • a • a • b • v • a • A • A • A • A • A • A • A • A	5, Kinet 5 ECTS, 7 ortesta 10 pprox. Assessr 5 ment i 5 Elect 5 ECTS, 10 1 to 3 9 o minu 10 o minu 10 pprox 10 ther p espect	ics, Electrochemistry Method of grading: (no ate (pre-experiment exa 5 to 10 pages), Nachte nent offered: once a ye n module component o trochemistry Method of grading: nu written examinations (utes each; 3 written exa . 20 minutes) or c) oral rerequisites: Admissio ive classes as specified ted) as well as regular	ot) successfully complet ams, approx. 15 minute state (post-experiment ear, winter semester 8-PC2-1-092: Thermod merical grade (1 written examination: minations: 60 minutes examination in groups n prerequisite to asset at the beginning of the	eted es each), assessme exams, approx. 15 lynamics, Kinetics, approx. 90 minute each) or b) oral exa s (groups of 2, appro ssment: successful course (usually 70	Electrochemistry Thermodynamics, s; 2 written examinations: 60 or mination of one candidate each

Allocation of places

Additional information

Workload

Teaching cycle

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

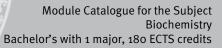
§ 62 (1) 1. Chemie "Allgemeine und Anorganische Chemie"; "Physikalische und Analytische Chemie"

Module appears in

Bachelor' degree (1 major) Biochemistry (2011) Bachelor' degree (1 major) Biochemistry (2009)

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Module	e title					Abbreviation	
Introduction to Physics for Students of Non-physics-related Minor Subjects					11-EFNF-072-m01		
Module	coord	inator			Module offered by	<u> </u>	
		ector of the Institute of	of Applied Phys	icc	Faculty of Physics	and Astronomy	
_			- F		·	and Astronomy	
ECTS		od of grading	Only after	r succ. con	npl. of module(s)		
7		rical grade					
Duratio	n	Module level	Other pre	requisites	i i i i i i i i i i i i i i i i i i i		
2 seme	ster	undergraduate					
Conten	ts						
Mecha	nics, vi	bration theory, therm	odynamics, op	otics, scien	nce of electricity, Atc	omic and Nuclear Ph	ysics.
Intende	ed lear	ning outcomes					
		nave knowledge of th	e principles of	Physics			
		umber of weekly contact ho			rman)		
						labla)	
		mation on SWS (wee	·				
		s essment (type, scope, la le for bonus)	inguage — if other tl	han German, (examination offered — if n	ot every semester, informa	ition on whether
			• • •				
		nation (approx. 120 n	ninutes)				
Allocat							
Only as	part o	f pool of general key	skills (ASQ): 10	places. P	laces will be allocat	ed by lot.	
Additio	nal inf	ormation					
Worklo	ad						
Teachi	ng cycl	e					
- Cucini	15 cyci	•					
	J 4						
Referre	a to in	LPO I (examination regul	ations for teaching-	degree progra	immes)		
Module							
	-	ree (1 major) Biochen	-				
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	-	ree (1 major) Biocher					
	-	ree (1 major) Biology ree (1 major) Biology					
	-	ree (1 major) Biology	-				
		ree (1 major) Chemist					
	-	ree (1 major) Chemist					
	-	ree (1 major) Chemis	•				
	-	ree (1 major) Chemist	,				
	-	ree (1 major) Geograp					
		ree (1 major) Geograp					
Bachelor' degree (1 major) Geography (2010)							
	-	ree (1 major) Comput		-			
Bachelor' degree (1 major) Computer Science (2014)							
Bachelor' degree (1 major) Computer Science (2010)							
	-		•				
Bachel	or' deg	ree (1 major) Food Ch)			
Bachel Bachel	or' deg or' deg		atics (2008)		• generated 26-Aug-2024 •		page 13 / 69



Bachelor' degree (1 major) Mathematics (2014) Bachelor' degree (1 major) Mathematics (2012) Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Biomedicine (2009) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2014) Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major) Computational Mathematics (2013) Bachelor' degree (1 major) Computational Mathematics (2013) Bachelor' degree (1 major) Computational Mathematics (2013) Bachelor' degree (1 major) FOKUS Chemistry (2011)

Module title	9				Abbreviation		
Practical Course Physics for Students of Non-physics-related Minor Subjects					11-PFNF-072-m01		
Module coordinator Mod				red by	<u> </u>		
	irector of the Institute of	Applied Physics	Faculty of Ph		and Astronomy		
_		- F	· · ·	•			
	hod of grading		c. compl. of module	2(5)			
) successfully completed						
Duration	Module level	Other prerequ	isites				
1 semester	undergraduate						
Contents							
Mechanics, Physics.	vibration theory, thermo	dynamics, optics	X-rays, nuclear ma	gnetic	resonance, Atomic a	and Nuclear	
Intended lea	arning outcomes						
The student	s have knowledge of the	principles of Phy	sics.				
	e, number of weekly contact hour						
	nation on SWS (weekly co			ailahl	a)		
module is credit							
a) oral test (approx. 15 minutes) duri	ng experiment an	d b) ungraded writt	en exa	mination (approx. 9	o minutes)	
Allocation o	f places						
Only as part	of pool of general key sk	ills (ASQ): 10 pla	ces. Places will be a	allocat	ed by lot.		
Additional i	nformation						
Workload							
Worktoau							
Teaching cy	cle						
Referred to	in LPO I (examination regulati	ons for teaching-degre	e programmes)				
Module app	ears in						
	egree (1 major) Biochemi						
	egree (1 major) Biochemi						
	egree (1 major) Biochemi						
	egree (1 major) Biology (2	-					
	egree (1 major) Biology (2	• •					
	egree (1 major) Biology (2 egree (1 major) Chemistry						
	egree (1 major) Chemistry						
	egree (1 major) Chemistry						
	egree (1 major) Chemistry						
	egree (1 major) Geograph	-					
	egree (1 major) Geograph						
	egree (1 major) Geograph						
	egree (1 major) Computer						
Bachelor' degree (1 major) Computer Science (2014)							
	Bachelor' degree (1 major) Computer Science (2010)						
•	egree (1 major) Food Chei	nistry (2009)					
Bachelor's with 1	major Biochemistry (2009)		/ürzburg • generated 26-Au record Bachelor (180 ECTS)		-	page 15 / 69	
		udld		Diocheili	2009		

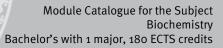


Bachelor' degree (1 major) Biomedicine (2009) Bachelor' degree (1 major) Biomedicine (2013) Bachelor' degree (1 major) FOKUS Chemistry (2011)

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	data record Bachelor (180 ECTS) Biochemie - 2009	

Module title					Abbreviation		
Organio	c Chem	istry 2			08-0C2-092-m01		
Module	coord	inator		Module offered by			
holder	of the (Chair of Physically Organi	c Chemistry	Institute of Organic	Chemistry		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)			
9	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
the exa on reac well as	mple o tions to rearrar	f carbonyl compounds, it o complex reaction mech	extends the student anisms. The course a ptroduces students to	s' knowledge of sub lso focuses on oxida	ific reactions of aromatics. Using stitution, elimination and additi- ation and reduction reactions as nethods of infrared spectrosco-		
		ning outcomes					
bonyl c they ca unknov	ompou n plan vn reac	nds. They are able to des and formulate multi-stag	scribe specific reaction e syntheses with com to describe important	ons of carbonyls and applex reaction mecha	e the varying reactivity of car- aromatics. For that purpose, anisms and can transfer them to nods, to evaluate a spectrum and		
Course	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)			
V + Ü +	V (no i	nformation on SWS (weel	kly contact hours) an	d course language a	vailable)		
		essment (type, scope, langua) le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
-			-		ninations: 60 or 90 minutes s (groups of 2, approx. 30 minu-		
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
Teachir	ng cycl	e					
Referred to in LPO I (examination regulations for teaching-degree programmes)							
	Module appears in						
Bachelo	Bachelor' degree (1 major) Biochemistry (2009) Bachelor' degree (1 major) Chemistry (2009) Bachelor' degree (1 major) Computational Mathematics (2009)						

Modul	e title				Abbreviation	
Physic	al Cher	nistry 1			08-PC1-092-m01	
Modul	e coord	inator		Module offered by	<u> </u>	
		ture "Grundlagen der C)uantenmochanik and	Module offered by	l and Theoretical Ch	omistry
Spektr		e" (Principles of Quant				ennstry
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
8	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate	ses in the respective (usually 70% of exe	e classes as specifie rcises to be success	successful completion d at the beginning o fully completed) as v aximum of 2 inciden	f the course vell as regu-
Conter	nts	•	•			
the mo UV-VIS	odule fo spectr differe	ocuses on vibrational s oscopy. In addition, th	article in a box, harmon pectroscopy, angular m e module discusses line r transform and orthogo	omentum quantisat ear operators, eigen	ion, microwave spec value problems, mat	troscopy and rix represen-
Intend	ed lear	ning outcomes				
to des	cribe di		dels of quantum mecha nethods. In addition, st			
Course	es (type, r	number of weekly contact hou	rs, language — if other than Ger	rman)		
V + Ü +	- V + Ü ((no information on SWS	6 (weekly contact hours) and course langua	ge available)	
		Sessment (type, scope, lang ble for bonus)	guage — if other than German, o	examination offered — if no	ot every semester, informat	ion on whether
nutes	each; 3	written examinations:	ten examination: appro 60 minutes each) or b) oups (groups of 2, appr	oral examination of		
Alloca	tion of	places				
Additio	onal inf	ormation				
Worklo	bad					
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulat	ions for teaching-degree progra	mmes)		
Modul	e appea	ars in				
Bache Bache	lor' deg lor' deg	ree (1 major) Biochemi ree (1 major) Biochemi ree (1 major) Biochemi	stry (2013) stry (2009)			
	-	ree (1 major) Chemistr	y (2010)			
		jor Biochemistry (2009)		• generated 26-Aug-2024 •		page 18 / 69



Bachelor' degree (1 major) Chemistry (2009) Bachelor' degree (1 major) Mathematics (2012) Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major) Computational Mathematics (2013) Bachelor' degree (1 major) FOKUS Chemistry (2011)

Module	e title				Abbreviation		
General Biology for students of biochemistry					07-1A1ZO-BC-092-n	101	
Module	e coord	inator		Module offered by			
Dean o	f Studi	es Biologie (Biology)		Faculty of Biology			
ECTS	Meth	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						
Contents The first part of the course will acquaint students with the elementary building blocks of life as well as biological categories. Building on this knowledge, the course will then discuss the cell, the smallest unit of life, starting with its macroscopic structure before moving on to its microscopic structure. The course will point out differences and similarities between prokaryotic cells (bacteria, archaebacteria) and eukaryotic cells (animals, plants). The second part will address one of the central issues of biology: evolution. Fundamental mechanisms and hypotheses will be discussed and students will be introduced to major phylogenetic reconstruction methods. Using the examples of plants and animals, the subsequent module components will introduce students to the phylogenetic diversity of eukaryotes. At the level of groups in the plant and animal kingdoms, students will acquire the fundamental knowledge necessary to understand the forms and functions of animal and plant organisms, with morphology and cytology being discussed in an evolutionary and ecological context. The contents of the module are relevant for biological disciplines at all levels of biological organisation. Intended learning outcomes - Knowledge of the structures of prokaryotic and eukaryotic cells and their (biological) macromolecules Knowledge of the specific characteristics of the intracellular and extracellular structures of prokaryotes as well as animal and plant cells Ability to recognise evolution as the driving force behind the phylogeny of species Familiarity with the concepts of phylogenetic relationships between plants/animals Familiarity with the distinguishing characteristics and major representatives of groups in the plant and animal kingdoms Ability to select those plant and animal organisms that are most suitable for particular scientific issues Familiarity with the co							
Course	S (type, r	number of weekly contact hours,	anguage — if other than Ger	man)			
V + V +	V + V (no information on SWS (v	weekly contact hours)	and course languag	ge available)		
		Sessment (type, scope, langua ble for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, informati	ion on whether	
		ninations (3 examination eighted 3:3:3:1	s: 60 minutes each; 1	examination: 30 mi	nutes; including mu	ltiple choice	
Allocat			-				
			-				
Additio	onal inf	ormation					
Worklo	ad						
Teaching cycle							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module appears in							
	-	ree (1 major) Biochemisti ree (1 major) Biochemisti					
		jor Biochemistry (2009)	JMU Würzburg	• generated 26-Aug-2024 • 6	-	page 20 / 69	

Module title				Abbreviation		
Bioanalytics 08-BAN-092-m01						
Module	e coord	inator		Module offered by		
		Chair of Biochemistry		Chair of Biochemist	Try	
ECTS	Metho	od of grading	Only after succ. con			
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
		ctures as well as theoret s of, and essential methe		rcises, this module i	ntroduces students f	to the theore-
Intende	ed lear	ning outcomes				
		e developed a knowledge riments.	e of the fundamental	principles of bioanal	ysis and are able to	apply it to
Course	S (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
		omprises 2 module com	ponents. Information	on courses will be li	sted separately for e	ach module
	8-BAN	-1-092: V + Ü (no informa -2-092: Ü (no information				
Method	d of ass	sessment (type, scope, langua				
 module is creditable for bonus) Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component o8-BAN-1-o92: Principles of Bioanalytics Principles of Bioanalytics 3 ECTS, Method of grading: numerical grade a) written examination (approx. 60 to 90 minutes) or b) log (approx. 20 pages) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (groups of 2: approx. 30 minutes, groups of 3: approx. 40 minutes) or d) presentation (approx. 30 minutes). Students will be informed about the method and length of the assessment prior to the course. Language of assessment: German or English Assessment in module component 08-BAN-2-o92: Bioanalytics (practical course) 5 ECTS, Method of grading: (not) successfully completed a) log (approx. 20 pages) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2: approx. 30 minutes, groups of 3: approx. 40 minutes) or c) oral examination in groups (groups of 2: approx. 30 minutes, groups of 3: approx. 40 minutes) or d) presentation (approx. 30 minutes) Students will be informed about the method and length of the assessment prior to the course. Assessment offered: once a year, summer semester Language of assessment: German or English 						
Allocat	ion of p	DIACES				
 Additio	nal inf	ormation				
Additional information						
 Worklo	ad					
Teachi	ng cvcl	e				
	0 -) - (
Bachelor's	with 1 maj	jor Biochemistry (2009)	-	• generated 26-Aug-2024 • 6 Bachelor (180 ECTS) Biochemi	-	page 21 / 69

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

Module appears in

Bachelor' degree (1 major) Biochemistry (2011) Bachelor' degree (1 major) Biochemistry (2013) Bachelor' degree (1 major) Biochemistry (2009)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 22 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	

Module	e title				Abbreviation
Biochemistry for Biology Majors					08-BCBC-092-m01
Module	e coord	inator		Module offered by	
holder of the Chair of Biochemistry				Chair of Biochemistry	
ECTS	Metho	od of grading	Only after succ. compl. of module(s)		
11	nume	rical grade			
Duration Module level		Other prerequisites			
2 semester un		undergraduate	By way of exception, additional prerequisites are listed in the section o assessments.		

Contents

Comprising lectures and exercises, this module acquaints students with the fundamental principles of biochemistry. Practical exercises give students the opportunity to learn the fundamental principles of conducting biochemical experiments.

Intended learning outcomes

Students have become familiar with the fundamental principles of biochemistry. They are able to describe the key biochemical processes in cellular systems. Students have become proficient in essential methods in biochemistry.

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

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 08-BC-1-092: V + Ü + V + Ü (no information on SWS (weekly contact hours) and course language available)
- 08-BCBCP-1-092: Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component o8-BC-1-092: Principles of Biochemistry Principles of Biochemistry Principles of Biochemistry Principles of Biochemistry

- 6 ECTS, Method of grading: numerical grade
- a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)
- Other prerequisites: Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).

Assessment in module component o8-BCBCP-1-092: Biochemistry for Biology Majors (Exercises)

- 5 ECTS, Method of grading: (not) successfully completed
- a) log (approx. 20 pages) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2: approx. 30 minutes, groups of 3: approx. 40 minutes) or d) presentation (approx. 30 minutes) Students will be informed about the method and length of the assessment prior to the course.
- Assessment offered: once a year, summer semester

Allocation of places

Additional information

achelor's with 1 major Biochemistry (2009)	
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Workload

Teaching cycle

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

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Module appears in

Bachelor' degree (1 major) Biochemistry (2011) Bachelor' degree (1 major) Biochemistry (2009)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 24 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	

Module title Abbreviation						
Molecular Biology 08-BC-MOL-092-m01					01	
Module	e coord	inator		Module offered by		
holder	of the (Chair of Biochemistry		Chair of Biochemist	try	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade	o8-BC (module com	ponent o8-BC-1 only)	
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
		lecture and an exercise nistry. Another lecture				gy and func-
Intende	ed lear	ning outcomes				
each of usage r netic ei	f the fo rules fo ngineer	e developed a sound kr ur safety levels into wh r them. They have deve ring and are able to des sociated safety issues	ich genetic engineering loped a knowledge an cribe relevant example	g facilities are catego d understanding of t	prised and are familian he theoretical princi	ar with the ples of ge-
Course	S (type, r	number of weekly contact hours	s, language — if other than Ge	rman)		
compo • 0	nent. 98-BC-N	omprises 2 module cor 10L-1-092: V + Ü (no int 5-1-092: V (no informati	formation on SWS (wee	ekly contact hours) a	nd course language	available)
Metho	d of ass	sessment (type, scope, lang le for bonus)	· · · · ·			
	iless st	n this module comprise ated otherwise, succes ments.				
 Assessment in module component o8-BC-MOL-1-092: Molecular Biology Lab Molecular Biology Lab 5 ECTS, Method of grading: numerical grade a) written examination (approx. 60 to 90 minutes) or b) log (approx. 20 pages) or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (groups of 2: approx. 30 minutes, groups of 3: approx. 40 minutes) or d) presentation (approx. 30 minutes). Students will be informed about the method and length of the assessment prior to the course. Language of assessment: German or English Assessment in module component o3-GTBS-1-092: Genetic Engineering and Biosafety 1 ECTS, Method of grading: (not) successfully completed written examination (approx. 30 minutes) 						
Allocat	ion of p	olaces				
Additional information						
Workload						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Bachelor's	with 1 ma	jor Biochemistry (2009)	-	• generated 26-Aug-2024 • 6 Bachelor (180 ECTS) Biochemi	-	page 25 / 69

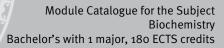
Module appears in

Bachelor' degree (1 major) Biochemistry (2009)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 26 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	

Modul	Module title Abbreviation					
Bache	Bachelor's Thesis Colloquium 08-KOLL-BC-092-m01					
Modul	e coord	inator		Module offered by	J	
chairp mistry)		f examination committee	Biochemie (Bioche-	Chair of Biochemis	stry	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
3	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
Studer audier		ver a presentation on the	findings of their Bac	helor's thesis and c	ritically discuss them with their	
Intend	ed lear	ning outcomes	-			
Studer	nts are a	able to orally defend thei	r Bachelor's thesis.			
Course	es (type, r	number of weekly contact hours,	anguage — if other than Ge	rman)		
K (no i	nformat	tion on SWS (weekly cont	act hours) and cours	e language availabl	e)	
		Sessment (type, scope, langua Ile for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
		um (approx. 30 minutes) ssessment: German or E	nglish			
	tion of		-			
Additi	onal inf	ormation				
Workle	oad					
Teachi	ing cycl	e				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	immes)		
Modul	e appea	ars in				
	0	ree (1 major) Biochemist	, , ,			
Bache	lor' deg	ree (1 major) Biochemist	ry (2009)			

Module	e title				Abbreviation		
Mathematics for students in Chemistry and Biology					10-M-MCB-101-m01		
Module coordinator				Module offered by			
		es Mathematik (Mather	matics)	Institute of Mathem	natics		
ECTS				npl. of module(s)			
5		rical grade					
Duratio		Module level	Other prerequisites				
1 seme	ster	undergraduate	Registration for the exercise must be made via SB@home at the begin- ning of the course or as announced by the lecturer in accordance with the specified registration deadlines. Certain prerequisites must be met to qualify for admission to assessment (e. g. successful completion of a certain percentage of exercises). The lecturer will inform students about the respective details at the beginning of the course. Registration for the exercise will be considered a declaration of will to seek admission to as- sessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their re- gistration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent seme- ster. For assessment at a later date, students will have to obtain the qua- lification for admission to assessment anew and have to register anew,				
Conten	Its						
	tions ir	n several variables, pov	and integration of funct ver series, ordinary diff				
Intende	ed lear	ning outcomes					
			phrase simple questio o them and interpret th		nces as mathematica	al problems,	
Course	S (type, r	number of weekly contact hour	s, language — if other than Ger	rman)			
V + Ü (r	no info	rmation on SWS (weekl	y contact hours) and co	ourse language avail	able)		
		sessment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	ot every semester, informati	ion on whether	
written	exami	nation (approx. 90 to 12	20 minutes)				
Allocat	ion of _l	olaces					
Additio	onal inf	ormation					
			_				
Worklo	ad						
			_				
Teachi	Teaching cycle						
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree progra	mmes)			
		•					
Module							
Bachel	or' deg	ree (1 major) Biochemis ree (1 major) Biochemis ree (1 major) Biology (2	stry (2009)				
Bachelor's	with 1 ma	jor Biochemistry (2009)	-	• generated 26-Aug-2024 • G Bachelor (180 ECTS) Biochem	-	page 28 / 69	



Bachelor' degree (1 major) Biology (2010) Bachelor' degree (1 major) Chemistry (2010) Bachelor' degree (1 major) Food Chemistry (2009) Bachelor' degree (1 major) FOKUS Chemistry (2011) No final examination Special study offering (2010)

Module coord holder of the ECTS Meth 5 nume Duration I 1 semester I This module the bonding songanic comportion and elite Intende team Students knoo of nomenciat Iecules. They that purpose, syntheses. Students knoo of nomenciat Iecules. They that purpose, syntheses. Ourses (type, V + Ü (no informenciat) Intende team Additional informenciat Ifferencenciation of ast minutes each; gininutes) or common songanic comportion and elite Allocation of ast minutes each; gininutes) or common songanic comportion and elite Intende teach Additional informenciat Intende teach Gourse (type, V + Ü (no informenciat) Intende teach Method of ast minutes each; gininutes) or common songanic common songanic Intende teach Additional informenciat Intende teach Gourse (type, V + Ü (no informenciat) Intende teach Method of ast minutes (type, V + Ü (no informenciat) Intende teach Minutes (type, V + Ü (no informenciat) Intende teach Gourse (type, V + Ü (no informenciat) Intende teach Gourse (type, V + Ü (no informenciat) Intende teach	-	Module title Abbreviation					
holder of the ECTS Meth 5 nume 5 nume Duration 1 1 semester Internet of the sonoring sonor comparison of nomenclatilecules. They that purpose, syntheses. Students knoo of nomenclatilecules. They that purpose, syntheses. Courses (type, V + Ü (no informenclatilecules. They that purpose, syntheses. Method of as module is creditaa a) 1 to 3 written nutes each; 3 minutes) or comparison of compar		Organic Chemistry 1					
holder of the ECTS Meth 5 nume 5 nume Duration 1 1 semester Internet Contents This module the bonding songanic comparent of the bonding songanic comparent o			Module offered by				
ECTS Meth 5 nume 5 nume Duration 1 1 semester 1 1 semester 1 Contents 1 This module the bonding sorganic component of the bonding sorganic com		Chemistry	Institute of Organic	Chemistry			
5 nume Duration 1 1 semester 1 1 semester 1 1 semester 1 This module the bonding sorganic component of t	thod of grading	Only after succ. cor		chemistry			
Duration Duration Summer Service Duration Summer Service Duration Summer Service Summer Summe		Unity after Succ. cor					
Contents This module is the bonding so organic comp dition and eli Intended lear Students kno of nomenclat lecules. They that purpose syntheses. Courses (type, V + Ü (no info Method of as module is credita a) 1 to 3 written nutes each; 3 minutes) or co Allocation of 	merical grade						
Contents This module is the bonding solution and eli Intended lear Students knoo of nomenclat lecules. They that purpose, syntheses. Courses (type, V + Ü (no information) Method of as module is credita a) 1 to 3 written nutes each; 3 minutes) or content Additional in Workload Teaching cyc Referred to in § 62 (1) 2. Ch	Module level	Other prerequisites					
This module the bonding s organic comp dition and eli Intended lean Students kno of nomenclat lecules. They that purpose, syntheses. Courses (type, V + Ü (no info Method of as module is credita a) 1 to 3 written nutes each; 3 minutes) or c Allocation of Additional in Workload Teaching cyc Referred to in § 62 (1) 2. Ch	undergraduate	ses in the respectiv (usually 70% of exe	isite to assessment: e classes as specifie ercises to be success cercises (usually a m	d at the beginning o fully completed) as v	f the course vell as regu-		
the bonding s organic comp dition and eli Intended lead Students kno of nomenclat lecules. They that purpose, syntheses. Courses (type, V + Ü (no info Method of as module is credita a) 1 to 3 written nutes each; 3 minutes) or c Allocation of Additional im Workload Teaching cyc Referred to ir § 62 (1) 2. Ch							
Students kno of nomenclat lecules. They that purpose, syntheses. Courses (type, V + Ü (no info Method of as module is credita a) 1 to 3 writt nutes each; 3 minutes) or c Allocation of Additional in Workload Teaching cyc Referred to ir § 62 (1) 2. Ch	le provides students with a g situation of carbon and ir mpounds. The module also elimination reactions as we	ntroduces students to discusses the fundar	the nomenclature o nental principles of s	f simple and modera	tely comple		
of nomenclat lecules. They that purpose, syntheses. Courses (type, V + Ü (no info Method of as module is credita a) 1 to 3 writte nutes each; 3 minutes) or c Allocation of Additional in Workload Teaching cyc Referred to ir § 62 (1) 2. Ch	earning outcomes						
V + Ü (no info Method of as module is credita a) 1 to 3 writte nutes each; 3 minutes) or c Allocation of Additional in Workload Teaching cyc Referred to ir § 62 (1) 2. Ch	ey are able to describe and se, they can analyse and ca	formulate some of th ategorise the characte	e most important rea ristic reaction condit	actions in organic ch	emistry. For		
Method of as module is credita a) 1 to 3 writt nutes each; 3 minutes) or c Allocation of Additional in Workload Teaching cyc Referred to ir § 62 (1) 2. Ch	pe, number of weekly contact hours,						
module is credita a) 1 to 3 writtenutes each; 3 minutes) or c Allocation of Additional in Workload Teaching cyc Referred to ir § 62 (1) 2. Ch	nformation on SWS (weekly	contact hours) and c	ourse language avail	able)			
nutes each; 3 minutes) or c Allocation of Additional in Workload Teaching cyc Referred to ir § 62 (1) 2. Ch	assessment (type, scope, langu litable for bonus)	age — if other than German,	examination offered — if no	ot every semester, informat	ion on whether		
Allocation of Additional in Workload Teaching cyc Referred to ir § 62 (1) 2. Ch	itten examinations (1 writte ; 3 written examinations: 6 r c) oral examination in grou	o minutes each) or b)	oral examination of				
 Additional in Workload Teaching cyc Referred to ir § 62 (1) 2. Ch							
 Workload Teaching cyc Referred to ir § 62 (1) 2. Ch							
 Workload Teaching cyc Referred to ir § 62 (1) 2. Ch	information						
 Teaching cyc Referred to ir § 62 (1) 2. Ch							
 Teaching cyc Referred to ir § 62 (1) 2. Ch							
 Referred to ir § 62 (1) 2. Ch							
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§ 62 (1) 2. Ch	ycle						
§ 62 (1) 2. Ch							
	in LPO I (examination regulation	ns for teaching-degree progra	ammes)				
	-	ioorganische Chemie'	1				
Module appe	Chemie "Organische und Bi						
Bachelor' deg Bachelor' deg Bachelor' deg Bachelor' deg	-	try (2013)					
Bachelor's with 1 m	-	(2010) (2009)					

Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major) Computational Mathematics (2013) Bachelor' degree (1 major) FOKUS Chemistry (2011) First state examination for the teaching degree Gymnasium Chemistry (2009)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 31 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	



Compulsory Electives

(30 ECTS credits)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 32 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	

Module title Abbrevia					Abbreviation	
Pathob	Pathobiochemistry 03-PBC-092-m01					
Module	e coord	inator		Module offered by		
	holder of the Chair of Clinical Biochemistry and Pathobio- chemistry Faculty of Medicine					
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Fundan	nentals	of selected topics in pat	hobiochemistry and	pathophysiology.		
Intende	ed leari	ning outcomes				
Studen	ts are f	amiliar with the fundame	entals of pathobioche	emistry and pathophy	ysiology.	
Course	S (type, n	number of weekly contact hours, l	anguage — if other than Gei	rman)		
compoi • 0	nent. 3-PBC-		ion on SWS (weekly	contact hours) and c	sted separately for each module ourse language available) se language available)	
		s essment (type, scope, langua ₎ le for bonus)	ge — if other than German,	examination offered — if no	t every semester, information on whether	
low. Un vidual a Assess 2 w W L Assess 3 a 1 1 A A	 Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component og-PBC-1-og2: Basics in Pathobiochemistry Basics in Pathobiochemistry 2 ECTS, Method of grading: numerical grade written examination (approx. 90 minutes) Language of assessment: German or English Assessment in module component og-PBC-2-og2: Pathobiochemistry Practical Course 3 ECTS, Method of grading: (not) successfully completed assessment of practical performance, Nachtestate (post-experiment exams: examination talks, approx. 15 minutes each), logs (approx. 20 pages) Assessment offered: once a year, winter semester Language of assessment: German or English 					
Allocat	ion of p	olaces				
 Information on the allocation of places will be listed separately for each module component. o3-PBC-1-092: o3-PBC-2-092: Biochemie (Biochemistry) Bachelor's: 6 places. Selection process Biochemie (Biochemistry) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places) number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become available. 						
Additio	Additional information					
Worklo	ad					

Teaching cycle

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

Module appears in

Bachelor' degree (1 major) Biochemistry (2011) Bachelor' degree (1 major) Biochemistry (2009)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 34 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	

Module	Module title Abbreviation						
Advanc	Advanced lab 08-AVP5-BC-092-m01						
Module	Module coordinator Module offered by						
chairpe mistry)	erson o	f examination committee	Biochemie (Bioche-	Chair of Biochemis	try		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
5	(not) s	successfully completed					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
		ives students the opport en report.	unity to explore a spe	ecific research topic	and present the results of their		
Intende	ed lear	ning outcomes					
Studen	ts are a	able to explore a specific	research topic and p	resent the results of	f their work in a written report.		
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)			
Ü (no ir	nforma	tion on SWS (weekly cont	act hours) and cours	e language availabl	e)		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
tion in minute	groups s) Stud		minutes, groups of 3 out the method and l	: approx. 40 minute	. 20 minutes) or c) oral examina- s) or d) presentation (approx. 30 ment prior to the course.		
Allocat	ion of _l	olaces					
Additio	nal inf	ormation					
Worklo	ad						
Teachi	ng cycl	e					
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	e appea	ars in					
		ree (1 major) Biochemisti					
Bachel	or' deg	ree (1 major) Biochemistr	ry (2009)				

Module	Module title Abbreviation						
Advanc	Advanced lab 08-AVP10-BC-092-m01						
Module	Module coordinator Module offered by						
chairpe mistry)	erson o	f examination committee	Biochemie (Bioche-	Chair of Biochemis	try		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
10	nume	rical grade					
Duratio	on	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
		vives students the opport	unity to explore a spe	ecific research topic	and present the results of their		
Intend	ed lear	ning outcomes					
Studen	ts are a	able to explore a specific	research topic and p	resent the results of	their work in a written report.		
Course	S (type, 1	number of weekly contact hours, l	anguage — if other than Gei	rman)			
Ü (no ir	nforma	tion on SWS (weekly cont	act hours) and cours	e language availabl	e)		
		sessment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
tion in minute	groups s) Stuc		minutes, groups of 3 out the method and l	: approx. 40 minute	20 minutes) or c) oral examina- s) or d) presentation (approx. 30 ment prior to the course.		
Allocat	ion of	places					
Additio	onal inf	ormation					
Worklo	ad						
Teachi	Teaching cycle						
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	e appea	ars in					
	-	ree (1 major) Biochemistr					
Bachel	or' deg	ree (1 major) Biochemistr	y (2009)				

Module title				Abbreviation	
Cell biology					03-ZBP-092-m01
Module	e coord	inator		Module offered by	
holder	of the (Chair of Medical Radiation	n and Cell Research	Faculty of Medicine	
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				
	ral orga				l seminars. Major topics are the proliferation, differentiation and
Intende	ed lear	ning outcomes			
niques their siរ្	for the gnifica	analysis of cells. Unders	tanding the molecula tent. Independent ex	r basis of cell biolog	erstanding of principles of tech- gy and cellular malfunctions and nformation and presentation of
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
P + S (n	io infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)
		sessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
		nation (approx. 60 minut ssessment: German or Er			
Allocat	ion of p	olaces			
the nun lowing applica subject	Biochemie (Biochemistry) Bachelor's: 12 places. Selection process Biochemie (Biochemistry) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated according to the fol- lowing quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places) number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become availa- blo				
Additio	nal inf	ormation			
Worklo	Workload				
Teaching cycle					
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module					
	Bachelor' degree (1 major) Biochemistry (2011) Bachelor' degree (1 major) Biochemistry (2009)				

Module title				Abbreviation	
Molecular Tumor Biology					03-MTUB-092-m01
Module coordinator				Module offered by	
holder	of the (Chair of Physiological Che	emistry	Faculty of Medicine	
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				
		duction to model system . Reading and presentati			imental methods of molecular tu-
Intende	ed learı	ning outcomes			
		amiliar with tumour mod ply this knowledge in pra		techniques in mole	cular cancer research, and they
Course	S (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
Ü (no ir	format	tion on SWS (weekly cont	act hours) and cours	e language available	2)
		essment (type, scope, langua) le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
about t Assess	he met ment o	roups of 3: approx. 40 mi hod and length of the as: ffered: once a year, winte ssessment: German, Eng	sessment prior to the er semester		nutes). Students will be informed
Allocat	ion of p	olaces			
ons exc (two th me ave the res by lot.	Number of places: 12. Selection process Biochemie (Biochemistry) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become available. Selection process Biochemie (Biochemistry) Master's: allocation by lot.				
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module					
	-	ree (1 major) Biochemistr	-		
	Bachelor' degree (1 major) Biochemistry (2009) Master's degree (1 major) Biochemistry (2012)				

Module	e title				Abbreviation
Immun	ology 1				03-4S1IM-101-m01
Module	e coord	inator		Module offered by	
holder	of the F	Professorship of Immuno	genetics	Faculty of Medicine	
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	By way of exception assessments.	, additional prerequi	isites are listed in the section on
Conten	Its				
dy reco ergies, on gen stem. T	ognise a autoim etic and The mos	and eliminate pathogens imunity)? Organs, cells an d molecular mechanisms st important immunologio	and tumour cells? Ho nd molecules of the in of recognition and el	w can the immune s mmune system will l imination of foreign	be addressed: How does the bo- system damage its own body (all- be presented with an emphasis substances by the immune sy- plied.
Intende	ed learı	ning outcomes			
system mune s	i. The an systems	re familiar with the mech	anisms of self and no	on-self discriminatio	s for the analysis of the immune n by the adaptive and innate im- nent as well as major immune ef-
Course	S (type, n	number of weekly contact hours, l	anguage — if other than Ger	man)	
compo • c	nent.)3-4S1ll	M-1IM-101: V + Ü (no infor	rmation on SWS (wee	kly contact hours) a	sted separately for each module nd course language available) course language available)
		sessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether
	nless st	ated otherwise, successf			e components as specified be- successful completion of all indi-
 Assessment in module component o3-4S1IM-1IM-101: Introduction to Immunology Introduction to Immunology 2 ECTS, Method of grading: numerical grade written examination (approx. 30 minutes) Language of assessment: German or English Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course. Assessment in module component o3-4S1IM-2IM-101: Practical Course Immunology 3 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Assessment offered: once a year, summer semester Language of assessment: German or English Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion (approx. 20 to 30 minutes) Assessment offered: once a year, summer semester Language of assessment: German or English Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course. 					

Allocation of places

Biologie (Biology) Bachelor's: 16 places. Biochemie (Biochemistry) Bachelor's: 18 places. Selection process Biochemie (Biochemistry) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places) number of subject semesters of the respective applicant; among applicants

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	data record Bachelor (180 ECTS) Biochemie - 2009	

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with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become available. Selection process Biologie (Biology) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biologie (Biology) (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25 % of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

Additional information

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Workload

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Teaching cycle

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

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Module appears in

Bachelor' degree (1 major) Biochemistry (2009) Bachelor' degree (1 major) Biology (2010)

Bachelor's with 1 majo	r Biochemistry (2009)
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Module title					Abbreviation
Virology 1					03-4S1VL-101-m01
Module coordinator				Module offered by	
holder of the Chair of Virology				Faculty of Medicine	9
ECTS Method of grading Only after succ. con		npl. of module(s)			
5	nume	rical grade	de		
Duratio	on	Module level	Other prerequisites	5	
1 semester undergraduate By way of exception assessments.				, additional prerequ	isites are listed in the section on
Conten	ts				
The mo	dule n	rovides an introductio	n to virology. The follow	ing questions will be	addressed. What is a virus?

The module provides an introduction to virology. The following questions will be addressed: What is a virus? What is the difference between viruses and bacteria? Which viruses exist? What are their replication strategies? How do antiviral compounds act? What is the concept of prion diseases? In addition, the module will discuss fundamental techniques in virology.

Intended learning outcomes

Students have developed a fundamental knowledge in molecular virology concerning the structure and replication of viruses, virus-host cell interactions and mechanisms of action of antiviral compounds. They have developed a knowledge of the application of cell and molecular techniques of virological basic science

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

This module comprises 3 module components. Information on courses will be listed separately for each module component.

- 03-4S1VL-1-101: V (no information on SWS (weekly contact hours) and course language available)
- 03-4S1VL-2-101: S (no information on SWS (weekly contact hours) and course language available)
- 03-4S1VL-3-101: P (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component o3-4S1VL-1-101: General Virology

- 1 ECTS, Method of grading: numerical grade
- written examination (approx. 20 minutes)
- Language of assessment: German or English

Assessment in module component o3-4S1VL-2-101: General Virology - Seminar

- 1 ECTS, Method of grading: (not) successfully completed
- presentation (approx. 20 to 30 minutes)
- Language of assessment: German or English
- Assessment in module component o3-4S1VL-3-101: Practical Course Virology
 - 3 ECTS, Method of grading: numerical grade
 - written examination (approx. 20 minutes) or oral examination (approx. 20 minutes)
 - Language of assessment: German or English
 - Only after successful completion of module components: Successful completion of module components o3-4S1VL-1 and o3-4S1VL-2 is a prerequisite for participation in module component o3-4S1VL-3.
 - Other prerequisites: Admission prerequisite to assessment: regular attendance of lab course as specified at the beginning of the course.

Allocation of places

Biologie (Biology) Bachelor's: 18 places. Biochemie (Biochemistry) Bachelor's: 12 places. Selection process Biochemie (Biochemistry) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average gra-

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de of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places) number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become available. Selection process Biologie (Biology) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biologie (Biology) (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25 % of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

Additional information

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Workload

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Teaching cycle

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

Module appears in

Bachelor' degree (1 major) Biochemistry (2009) Bachelor' degree (1 major) Biology (2010)

Bachelor's with 1 majo	r Biochemistry (2009)
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Module title					Abbreviation	
Human genetics for students of biochemistry			03-4S1HG-BC-092-m01			
Module coordinator				Module offered by		
holder	of the C	Chair of of Human Geneti	cs	Faculty of Medicine		
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		undergraduate				
Conten						
		of and analytical methoo ype and chromosome ab			Characterisation of the normal volution.	
Intende	ed learr	ning outcomes				
					actical experience in human cyto- critically interpret cytogenetic fin-	
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
compor • o b • o Method	nent. 3-4S1H le) 3-4S1H l of ass	G-BC-1HZ-092: V + Ü (no G-BC-2HZ-092: S (no info	information on SWS (ormation on SWS (wee	weekly contact hour ekly contact hours) a	sted separately for each module s) and course language availa- ind course language available) it every semester, information on whether	
 Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component o3-4S1HG-BC-1HZ-o92: Human cytogenetics for students of biochemistry Human cytogenetics for students of biochemistry 3 ECTS, Method of grading: numerical grade 2 written examinations (multiple choice): mid-semester examination (approx. 15 minutes), end-of-semester examination (approx. 20 minutes), weighted 1:1 Assessment in module component o3-4S1HG-BC-2HZ-o92: Human cytogenetics for students of biochemistry (Seminar) 2 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) 						
Allocat	-					
Biochemie (Biochemistry) Bachelor's: 4 places. Selection process Biochemie (Biochemistry) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated according to the fol- lowing quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places) number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become availa- ble.						
Additional information						
Worklo	ad					
	<u> </u>					

Teaching cycle

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

Module appears in

Bachelor' degree (1 major) Biochemistry (2011) Bachelor' degree (1 major) Biochemistry (2009)

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Module title Abbreviation					Abbreviation	
Molecular Biology Lab			08-BC-MOLP-092-m01			
Module	coord	inator		Module offered by		
holder	of the (Chair of Biochemistry	_	Chair of Biochemist	try	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)		
5	nume	rical grade	o8-BC (module com	ponent o8-BC-1 only)	
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Conten	ts					
of macr	omole				ngineering and characterisation is of biochemical processes, and	
Intende	ed leari	ning outcomes				
Studen	ts have	e developed a knowledge	of molecular biology	and are able to app	ly it to practical experiments.	
Courses	5 (type, n	number of weekly contact hours, l	anguage — if other than Ger	man)		
Ü (no in	format	tion on SWS (weekly cont	act hours) and cours	e language available	<u>a)</u>	
		sessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
didate e 30 minu about ti Assessi	each (a utes, gi he met ment o	approx. 20 minutes) or d)	oral examination in g nutes) or d) presenta sessment prior to the er semester	groups of up to 3 car ition (approx. 30 min	or c) oral examination of one can- adidates (groups of 2: approx. autes). Students will be informed	
Allocati	ion of p	olaces				
Biochemie (Biochemistry) Bachelor's: 12 places. Selection process Biochemie (Biochemistry) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated according to the fol- lowing quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places) number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become availa- ble.						
Additio	nal inf	ormation				
Workload						
Teaching cycle						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
	-					
Module appears in						
Bachelor' degree (1 major) Biochemistry (2009)						

Module	e title				Abbreviation	
Bioinfo	rmatic	s for advanced Students	in Biochemistry		07-4BFMZ4-BC-092-m01	
Module	e coord	inator		Module offered by		
		Chair of Bioinformatics		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	· -·		
5		rical grade		•		
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate		pletion of the respec	regular attendance of exercises ctive exercises as specified at the	
Conten	ts					
					ver the following topics: se- etworks as well as gene regulati-	
Intende	ed lear	ning outcomes				
Studen their re		able to use appropriate b	ioinformatic algorithr	ns to address simpl	e problems as well as to interpret	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
V + Ü (r	no infoi	mation on SWS (weekly	contact hours) and co	ourse language avail	able)	
		sessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether	
Assess	ment o	o to 20 pages) ffered: once a year, sumr ssessment: German or El				
Allocat	ion of p	olaces				
the nur lowing applica subject	nber of quotas ints wit semes	applications exceed the : Quota 1 (two thirds of p h the same average grad sters of the respective ap	number of available laces): current averag e, places will be alloc plicant; among applic	places, places will b ge grade of successf cated by lot. Quota 2 cants with the same	iochemistry) Bachelor's: Should be allocated according to the fol- fully completed modules; among a (one third of places) number of number of subject semesters, located as they become availa-	
Additio	nal inf	ormation				
Worklo	ad					
Teachi	Teaching cycle					
	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
	Module appears in					
Bachel	Bachelor' degree (1 major) Biochemistry (2011) Bachelor' degree (1 major) Biochemistry (2009) Master's degree (1 major) Biochemistry (2012)					

Modul	e title				Abbreviation
Specifi	ic Micro	biology 2 for Students in	n Biochemistry		07-5S2MZ2-BC-092-m01
Modul	e coord	inator		Module offered by	
holder of the Chair of Microbiology				Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in the section on
Conter	Contents				
In this	module	e, students will acquire a	n in-depth insight int	o approaches and m	ethods in microbiology.
Intend	ed lear	ning outcomes			
		e acquired knowledge ab form scientific laboratory		s and methods of mi	crobiology. They are able to inde-
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
a • (07-5S2N availabl	e)			hours) and course language
module i	s creditab	le for bonus)			t every semester, information on whether
low. Ur		ated otherwise, successf			e components as specified be- successful completion of all indi-
mistry	Molecu 4 ECTS, a) writte one can 50 minu anguag Other p cessful	lar Microbiology for Stud Method of grading: nume en examination (approx. of didate each (approx. 30 r ates) or e) presentation (a ge of assessment: Germa rerequisites: Admission completion of the respec	ents in Biochemistry erical grade 50 minutes) or b) log ninutes) or d) oral ex approx. 20 to 30 minu n or English prerequisite to asses tive exercises as spe	(approx. 10 to 20 pa amination in groups ites) ssment: regular atte cified at the beginnin	ages) or c) oral examination of of up to 3 candidates (approx. ndance of exercises and suc- ng of the course.
 Biochemistry 1 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Assessment offered: once a year, winter semester Allocation of places 					
			a places Selection -	procoss Piochamia (Biochemistry) Bachelor's: Should
the nur lowing applica subjec	mber of quotas ants wit t semes	applications exceed the : Quota 1 (two thirds of p h the same average grad sters of the respective ap	number of available laces): current avera e, places will be alloo plicant; among appli	places, places will b ge grade of successf cated by lot. Quota 2 cants with the same	e allocated according to the fol- ully completed modules; among (one third of places) number of number of subject semesters, located as they become availa-

Bachelor's with 1 major Biochemistry (2009)

Additional information

Workload

Teaching cycle

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

Module appears in

Bachelor' degree (1 major) Biochemistry (2009)

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0	Module title Abbreviation					
Organic Chemistry 4					08-0C4-101-m01	
Modul	e coord	inator		Module offered by		
		Chair of Organic Chemis	try II	Institute of Organic	Chemistry	
ECTS	1	od of grading	Only after succ. con	· · ·		
10	1	rical grade	08-AC1 (module cor	nponent 08-AC1-2 01 2 only) or 08-AN1 (mo		
Duration Module level Other prerequisites						
1 seme	ester	undergraduate	By way of exception assessments.	, additional prerequ	isites are listed in th	e section on
Conten	nts					
ting gro ces, us	oup tec sing cor	ocuses on heterocyclic on hete	nce their experimenta	al skills by working w	ith special hazardou	us substan-
Intend	ed lear	ning outcomes				
protein roids. S form co	ns. In ac Studen	terise and categorise dy ddition, they are able to ts know how to safely ar syntheses, purification ents.	describe the structure nd responsibly handle	e of the DNA, carbohy special hazardous s	ydrates, fats, terpen substances. They are	es and ste- able to per-
Course	S (type, 1	number of weekly contact hours	, language — if other than Ge	rman)		
compo • c						
• c Metho	08-0C4	-2-101: P (no informatior -1-092: V + Ü (no inform sessment (type, scope, langu sle for bonus)	· · · · ·	contact hours) and o	course language ava	ilable)
• C Metho module is Assess	08-OC4 d of as: s creditation sment in nless st	-1-092: V + Ü (no inform sessment (type, scope, langu ole for bonus) n this module comprises ated otherwise, success	ation on SWS (weekly lage — if other than German, s the assessments in t	contact hours) and o examination offered — if no he individual modul	course language ava ot every semester, informat e components as sp	ilable) ion on whether recified be-
 Control Method module is Assession Solution Assession Assession Assession Control Cont	b8-OC4 d of ass screditab ment in aless st assess ment i 5 ECTS, ortesta approx. 5 ECTS, a) 1 to 3 5 or 90 candida Dther p respect completa	-1-092: V + Ü (no inform. sessment (type, scope, langu- tel for bonus) In this module comprises ated otherwise, success ments. n module component of Method of grading: (not ate (pre-experiment exal 5 to 10 pages), Nachtes n module component of Method of grading: num written examinations (1) o minutes each; 3 writte te each (approx. 20 mir rerequisites: Admission ive classes as specified a ted) as well as regular a e).	ation on SWS (weekly lage – if other than German, is the assessments in t sful completion of the B-OC4-2-101: Organic () successfully comple ms, approx. 15 minute tate (post-experiment B-OC4-1-092: Organic herical grade written examination: a n examinations: appro- nutes) or c) oral exami- prerequisite to asses at the beginning of the	contact hours) and o examination offered — if no the individual modul module will require Chemistry 4 (Lab Cou ted es each), assessmen exams, approx. 15 m Chemistry 4 Organic pprox. 90 minutes; 2 ox. 60 minutes each nation in groups (gro ssment: successful o course (usually 70%	course language ava of every semester, informat e components as sp successful completio urse) t of practical perform ninutes each) Chemistry 4 e written examination) or b) oral examination oups of 2, approx. 30 completion of exercises to be su	ilable) ion on whether ecified be- on of all indi- mance (log ns: approx. tion of one o minutes) ises in the uccessfully
 Control Method module is Assession Assession Solution Assession Solution Assession Solution Control Contreteeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee	b8-OC4 d of ass screditab ment in assess ment i assess ment i 5 ECTS, ortesta approx. ment i 5 ECTS, a) 1 to 3 5 or 90 candida Dther p respect completabsence	-1-092: V + Ü (no inform. sessment (type, scope, langu- tel for bonus) In this module comprises ated otherwise, success ments. n module component of Method of grading: (not ate (pre-experiment exal 5 to 10 pages), Nachtes n module component of Method of grading: num written examinations (1) o minutes each; 3 writte ate each (approx. 20 min rerequisites: Admission ive classes as specified a ted) as well as regular a e). places	ation on SWS (weekly lage – if other than German, is the assessments in t sful completion of the B-OC4-2-101: Organic () successfully comple ms, approx. 15 minute tate (post-experiment B-OC4-1-092: Organic herical grade written examination: a n examinations: appro- nutes) or c) oral exami- prerequisite to asses at the beginning of the	contact hours) and o examination offered — if no the individual modul module will require Chemistry 4 (Lab Cou ted es each), assessmen exams, approx. 15 m Chemistry 4 Organic pprox. 90 minutes; 2 ox. 60 minutes each nation in groups (gro ssment: successful o course (usually 70%	course language ava of every semester, informat e components as sp successful completio urse) t of practical perform ninutes each) Chemistry 4 e written examination) or b) oral examination oups of 2, approx. 30 completion of exercises to be su	ilable) ion on whether ecified be- on of all indi- mance (log ns: approx. tion of one o minutes) ises in the uccessfully
 Control Method module is Assession Assession Solution Assession Solution Assession Assession	b8-OC4 d of ass screditab ment in assess ment i assess ment i 5 ECTS, ortesta approx. ment i 5 ECTS, a) 1 to 3 5 or 90 candida Dther p respect completabsence	-1-092: V + Ü (no inform. sessment (type, scope, langu- tel for bonus) In this module comprises ated otherwise, success ments. n module component of Method of grading: (not ate (pre-experiment exal 5 to 10 pages), Nachtes n module component of Method of grading: num written examinations (1) o minutes each; 3 writte te each (approx. 20 mir rerequisites: Admission ive classes as specified a ted) as well as regular a e).	ation on SWS (weekly lage – if other than German, is the assessments in t sful completion of the B-OC4-2-101: Organic () successfully comple ms, approx. 15 minute tate (post-experiment B-OC4-1-092: Organic herical grade written examination: a n examinations: appro- nutes) or c) oral exami- prerequisite to asses at the beginning of the	contact hours) and o examination offered — if no the individual modul module will require Chemistry 4 (Lab Cou ted es each), assessmen exams, approx. 15 m Chemistry 4 Organic pprox. 90 minutes; 2 ox. 60 minutes each nation in groups (gro ssment: successful o course (usually 70%	course language ava of every semester, informat e components as sp successful completio urse) t of practical perform ninutes each) Chemistry 4 e written examination) or b) oral examination oups of 2, approx. 30 completion of exercises to be su	ilable) ion on whether ecified be- on of all indi mance (log ns: approx. tion of one o minutes) ises in the uccessfully
 Control Method module is Assession Assession Solution Assession Solution Assession Assession	b8-OC4 d of ass screditab ment in assess ment i assess ment i 5 ECTS, ortesta approx. ment i 5 ECTS, a) 1 to 3 5 or 90 candida Dther p respect completabsence	-1-092: V + Ü (no inform. sessment (type, scope, langu- tel for bonus) In this module comprises ated otherwise, success ments. n module component of Method of grading: (not ate (pre-experiment exal 5 to 10 pages), Nachtes n module component of Method of grading: num written examinations (1) o minutes each; 3 writte ate each (approx. 20 min rerequisites: Admission ive classes as specified a ted) as well as regular a e). places	ation on SWS (weekly lage – if other than German, is the assessments in t sful completion of the B-OC4-2-101: Organic () successfully comple ms, approx. 15 minute tate (post-experiment B-OC4-1-092: Organic herical grade written examination: a n examinations: appro- nutes) or c) oral exami- prerequisite to asses at the beginning of the	contact hours) and o examination offered — if no the individual modul module will require Chemistry 4 (Lab Cou ted es each), assessmen exams, approx. 15 m Chemistry 4 Organic pprox. 90 minutes; 2 ox. 60 minutes each nation in groups (gro ssment: successful o course (usually 70%	course language ava of every semester, informat e components as sp successful completio urse) t of practical perform ninutes each) Chemistry 4 e written examination) or b) oral examination oups of 2, approx. 30 completion of exercises to be su	ilable) ion on whether ecified be- on of all indi mance (log ns: approx. tion of one o minutes) ises in the uccessfully

Workload

Teaching cycle

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

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Module appears in

Bachelor' degree (1 major) Biochemistry (2009)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 50 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	



Thesis

(12 ECTS credits)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 51 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	

Modul	Module title Abbreviation					
Bachel	lor The	sis in Biochemistry			08-BA-BC-092-m01	
Modul	e coord	inator		Module offered by	<u> </u>	
chairpo mistry)		f examination committee	Biochemie (Bioche-	Chair of Biochemis	try	
ECTS Method of grading Only after succ. compl. of module(s)						
12	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
		vives students the opport scientific methods they h			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, i	number of weekly contact hours, l	anguage — if other than Ger	rman)		
no cou	rses as	signed				
		s essment (type, scope, langua ole for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
written Langua		issessment: German or Er	nglish			
Allocat	tion of	places				
Additio	onal inf	ormation				
Additio	onal inf	ormation on module dura	tion: 10 weeks.			
Worklo	bad					
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulations	s for teaching-degree progra	mmes)		
Modul	e appea	ars in				
	-	ree (1 major) Biochemistr ree (1 major) Biochemistr				



Subject-specific Key Skills

(ECTS credits)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	pa
	data record Bachelor (180 ECTS) Biochemie - 2009	

Module	Module title Abbreviation					
Philoso	ophy 2				06-B-P2TF2-072-m01	
Module	e coord	inator		Module offered by		
holder	holder of the Chair of Theoretical Philosophy			Institute of Philoso	phy	
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	Contents					
Introdu science		o the theory of intellectua	l disciplines; philosc	phical bases of the	humanities and the social	
Intende	ed learr	ning outcomes				
al intell ability t limits o though losophi al sche	ectual to organ f varion t, cultu ical tex mata -	disciplines - ability to ref nise topics into overarchi us intellectual disciplines re, and knowledge Forma ts and issues - ability to o	lect on the historical ing historical, social, s - knowledge of, and al outcomes (skills to organise concepts an phical positions in a	and intellectual orig and political schema ability to criticise, b be tested in the ass d philosophical pos structured and lingu	onship of philosophy to individu- tins of our knowledge culture - ata - insight into the scope and asic assumptions in systems of essment): - ability to analyse phi- itions into overarching intellectu- uistically appropriate manner	
S (no in	format	ion on SWS (weekly cont	act hours) and cours	e language available	2)	
Method	l of ass	essment (type, scope, langua	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
		le for bonus)				
		nation (approx. 120 minu	tes)			
Allocat	ion of p	olaces				
Additio	nal info	ormation				
Worklo	ad					
Teachir	ng cycl	e				
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module						
		ree (1 major) Biochemistr ree (1 major) Chemistry (2				
	0	ree (1 major) Chemistry (2				
	-	ree (1 major) Economathe				
Bachel	or' degi	ree (1 major) Economathe	ematics (2008)			

Module title					Abbreviation
Mathe	natical	Biology and Biostatistic	:S		07-2BM-072-m01
Module	e coord	inator		Module offered by	
holder of the Chair of Bioinformatics				Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. con	· · · ·	
4		rical grade			
		Module level	Other prerequisites		
1 seme		undergraduate	Admission prerequi	site to assessment: pletion of the respe	regular attendance of exercises ctive exercises as specified at the
Conten	ts	~	• •		
Fundar	nental	principles of the most im	portant mathematica	l and statistical met	hods in biology.
Intend	ed lear	ning outcomes	·		
		have acquired fundamen as well as the mathemat			s, the interpretation of readings
Course	S (type, r	number of weekly contact hours,	language — if other than Ger	rman)	
1) Ü + V	no infoi	rmation on SWS (weekly	contact hours) and co	ourse language avail	lable)
module is	creditab	le for bonus)			ot every semester, information on whether
		nation (approx. 45 minut	es) including multiple	e choice questions	
Allocat					
		f "spezielles Studienang	ebot": 30 places.		
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	d to in	LPOI (examination regulation	s for teaching-degree progra	immes)	
Module	e appea	ars in			
		ree (1 major) Biochemist	ry (2011)		
	-	ree (1 major) Biochemist			
		ree (1 major) Biology (20			
Bachel	or' deg	ree (1 major) Biology (20	07)		
	-	ree (1 major) Biology (20	-		
	Bachelor' degree (1 major) Mathematics (2012)				
	-	ree (1 major) Mathematic			
	-	ree (1 major) Computatio			
		ree (1 major) Computatio		13)	
		gree (1 major, 1 minor) Bi			
		gree (1 major, 1 minor) Bi	•,		
No tina	l exam	ination Special study off	ering (2010)		

Module title					Abbreviation	
Bioinfo	rmatic	S			07-3A3BI-072-m01	
Module	e coord	inator		Module offered by		
holder	of the (Chair of Bioinformatics		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
2	nume	rical grade				
Duratio	ration Module level Other prerequisites					
1 seme	1 semester undergraduate					
Conten	Contents					
Fundan	nental	principles of bioinforma	tics.			
		ning outcomes				
		proficient in methods fo	r the analysis of DNA a	and protein database	25.	
		number of weekly contact hours		•		
		omprises 2 module cor			stad saparately for a	ach module
compoi			iponents. mormation	on courses will be in	sted separately for e	
• 0	7-3A3E	8l-1B-072: V (no informa 8l-2B-072: S (no informa				
		s essment (type, scope, langu le for bonus)	age — if other than German,	examination offered — if no	t every semester, informati	on on whether
low. Un vidual a Assess • 1 • w Assess • 1 • te	ment in ECTS, vritten o ment in ECTS, erm pa	n module component o7 Method of grading: num examination (approx. 20 n module component o7 Method of grading: (not per (approx. 5 to 10 pag	sful completion of the 7-3A3BI-1B-072: Bioinf herical grade o minutes) 7-3A3BI-2B-072: Bioint) successfully complet	module will require s formatics (Lecture) formatics (Seminar)		
Allocat						
Only as	part o	f Biochemistry Master's	: 5 places. Places will	be allocated by lot.		
Additio	nal inf	ormation				
Worklo	ad					
Teachir	ng cycl	e				
Referre	d to in	LPO I (examination regulation	ns for teaching-degree progra	mmes)		
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Bachelor' degree (1 major) Biochemistry (2011)						
Bachelor' degree (1 major) Biochemistry (2009)						
Bachelor' degree (1 major) Biology (2007)						
Bachelor' degree (1 major) Mathematics (2008)						
	Bachelor' degree (1 major) Mathematics (2007)					
	-	ree (1 major) Computati		09)		
	-	ee (1 major) Biochemist	ry (2012)			
Bachelor's	with 1 ma	jor Biochemistry (2009)	-	• generated 26-Aug-2024 • e Bachelor (180 ECTS) Biochemi	-	page 56 / 69



Bachelor's degree (1 major, 1 minor) Biology (Minor, 2008)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 57 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	

Module	Module title Abbreviation					
Conter	nporary	/ Research in Biochemist	ry		03-FOR-BC-092-m01	
Module	e coord	inator		Module offered by		
holder of the Chair of Biochemistry Chair of Bio			Chair of Biochemis	try		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
2	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites			
2 seme	ester	undergraduate				
Conten	ts	·	·			
Presen	tation	of current research result	s in the Biocentre col	loquium and discus	sion of recent literature.	
Intend	ed lear	ning outcomes				
Studer	its are	introduced to the topics o	of current research in	the life sciences.		
Course	S (type, 1	number of weekly contact hours, l	anguage — if other than Ger	man)		
V + S (I	no info	rmation on SWS (weekly o	contact hours) and co	ourse language avail	lable)	
			ge — if other than German, o	examination offered — if n	ot every semester, information on whether	
		ble for bonus) 80% of talks				
Allocat	ION OI	places				
 Additic	nalinf	ormation				
Additio	nat m	ormation				
	- d					
Worklo	ad					
Teachi	ng cyci	e				
	1					
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
		•				
Module						
	-	ree (1 major) Biochemistı ree (1 major) Biochemistı				
	-	ree (1 major) Biochemisti				

Module	e title				Abbreviation	
Physio	logy				03-Phys-092-m01	
Module	e coord	linator		Module offered by		
Manag	ing Dir	ector of the Institute of Ph	nysiology	Faculty of Medicine		
ECTS	Meth	od of grading	Only after succ. con	pl. of module(s)		
3	nume	rical grade				
Duration Module level Other prerequ			Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts	•				
		ogy, cardiac/circulatory found digestion, liver function		d, respiration, acid/	base homeostasis, endocrinolo-	
Intende	ed lear	ning outcomes				
Studen	ts are	familiar with the fundame	ental principles of hu	man physiology.		
Course	S (type, I	number of weekly contact hours, l	anguage — if other than Ger	man)		
V (no ir	nforma	tion on SWS (weekly cont	act hours) and cours	e language available	<u>e)</u>	
		sessment (type, scope, langua ble for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
written	exami	nation (30 multiple choic	e questions)			
Allocat	ion of	places				
Additio	nal inf	ormation				
Worklo	ad					
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
Module	e appea	ars in				
Bachel	or' deg	rree (1 major) Biochemisti rree (1 major) Biochemisti rree (1 major) Biochemisti	y (2013)			

Module title Abbreviation						
Labora	tory an	imal sciences			03-VTK-092-m01	
Module	e coord	inator		Module offered by		
Animal	Animal Welfare Officer of the University of Würzburg			Faculty of Medicine		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
2	(not) s	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate		site to assessment: Deginning of the cour	regular attendance of lab course rse.	
Conten	ts					
Theore mal sci		nd practical basic knowle	dge of animal welfare	e legislation, animal	welfare ethics and laboratory ani-	
Intende	ed lear	ning outcomes				
Studen SA (Cat		e the expertise to carry ou	ut or participate in an	imal experiments ac	cording to the guidelines of FELA-	
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Ger	rman)		
V + P (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
		sessment (type, scope, langua vle for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
written	exami	nation (approx. 60 minut	es)			
Allocat	ion of _l	places				
Additio	onal inf	ormation				
Worklo	ad					
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)		
Module	e appea	ars in				
	-	ree (1 major) Biochemisti				
	-	ree (1 major) Biochemisti				
Master	's degr	ee (1 major) Biochemistry	/ (2012)			

Modul	e title				Abbreviation
Practic	al Cou	rse - external			08-EP-092-m01
Modul	e coord	inator		Module offered by	
chairperson of examination committee Biochemie (Bioche mistry)			Biochemie (Bioche-	Chair of Biochemis	try
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
10	(not)	successfully completed			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conter	nts				
course with th Intend Studer	offered e comp ed lear nts have	I in the context of the Bac betent coordinator in adv ning outcomes e become familiar with th	chelor's programme i ance. e structures of non-u	n Biochemistry (180	rrespond to the contents of a lab ECTS credits); please consult stitutions and have developed
		ualify them to work in the			
		number of weekly contact hours, I			
		tion on SWS (weekly cont			
		Gessment (type, scope, langua ile for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
didate 30 min about 1	each (a utes, g the met	approx. 20 minutes) or d)	oral examination in g inutes) or d) presenta sessment prior to the	groups of up to 3 car ition (approx. 30 mir	or c) oral examination of one can- ndidates (groups of 2: approx. nutes). Students will be informed
Allocat	tion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
Modul	e appea	ars in			
	-	ree (1 major) Biochemisti	•		
Bachel	or' deg	ree (1 major) Biochemisti	ry (2009)		

Module title					Abbreviation	
Practic	al Cour	se as Exchange Student			03-AP-092-m01	
Module	e coord	inator		Module offered by		
degree programme coordinator Biochemie (Biochemistry)			mie (Biochemistry)	Faculty of Medicine		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
10	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
change	progra		e contents should co	rrespond to those of	eted within the context of an ex- the electives of the degree pro-	
Intende	ed learı	ning outcomes				
		are familiar with the work ave also acquired langua		ersities abroad. In ad	dition to professional compe-	
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)		
P (no ir	format	ion on SWS (weekly cont	act hours) and cours	e language available	e)	
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
didate	each (a		oral examination in §		r c) oral examination of one can- to 3 candidates, approx. 60 mi-	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Teachi	Teaching cycle					
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
Module	e appea	in				
Bachel	or' deg	ree (1 major) Biochemistr	y (2009)			

	e title				Abbreviation	
Toxicol	logy an	d legal studies			03-TR-072-m01	
NA - J. 1.		9		Madula offered by		
Module			1.1.1.1.1	Module offered by		
lecture		ture "Toxikologie und R		Faculty of Medicine		
ECTS	Metho	od of grading	Only after succ. con	y after succ. compl. of module(s)		
3	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Basics toxicol		l regulations for chemis	sts (handling and trans	portation of hazardo	ous materials), funda	amentals of
		ning outcomes				
The stu	idents i	master the basics of leg the fundamentals of t		nists (handling and t	ransport of hazardo	us substan-
Course	S (type, r	umber of weekly contact hours	s, language — if other than Ge	rman)		
V + V (r	no infor	mation on SWS (weekly	y contact hours) and co	ourse language avail	able)	
		s essment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informat	ion on whether
written	exami	nation (approx. 90 min	utes)			
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
TOTAL						
Taashi		•				
Teachi		e				
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree progra	mmes)		
Module	e appea	irs in				
	-	ree (1 major) Biochemis ree (1 major) Biochemis				
Bachele Bachele Bachele Bachele Bachele Master Master First sta First sta First sta	or' deg or' deg or' deg or' deg or' deg 's degr 's degr 's degr ate exa ate exa ate exa	ree (1 major) Chemistry ree (1 major) Chemistry ree (1 major) Chemistry ree (1 major) Chemistry ree (1 major) Food Cher ree (1 major) FOKUS Ch ee (1 major) Chemistry ee (1 major) Chemistry ee (1 major) Chemistry mination for the teachi mination for the teachi mination for the teachi mination for the teachi	(2007) (2008) (2010) (2009) mistry (2009) emistry (2011) (2013) (2013) (2010) (2014) ng degree Grundschule ng degree Realschule (Chemistry (2009) Chemistry (2009)		



First state examination for the teaching degree Mittelschule Chemistry (2013)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	pa
	data record Bachelor (180 ECTS) Biochemie - 2009	

Module	e title				Abbreviation
Introdu	uctory I	Neurobiology for student	s of biomedicine		03-98-PGN-092-m01
Module	e coord	inator		Module offered by	
holder of the Chair of Clinical Neurobiology			ology	Faculty of Medicine	2
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duration Module level Other prerequisites		i			
1 seme	ster	undergraduate			regular attendance of courses beginning of the course.
Conten	its				
		amentals of neuroanatom agnosis, therapeutic opti			iseases of the nervous system: 5.
Intend	ed lear	ning outcomes			
and fur	nction o		ving oral presentatio	ns, they have develo	al knowledge about the structure oped the ability to critically reflect obiology.
Course	S (type, r	number of weekly contact hours,	language — if other than Ge	rman)	
V + S +	Ü (no i	nformation on SWS (wee	kly contact hours) an	d course language a	available)
		Sessment (type, scope, langua ile for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
on of o	ne can		minutes) or d) oral ex	amination in groups	to 20 pages) or c) oral examinaties of up to 3 candidates (approx. 19
Allocat		· ·		5)	
Additio	onal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	
			• • •		
Module	e appea	ars in			
		ree (1 major) Biochemist	ry (2011)		
	-	ree (1 major) Biochemist			
	0	ree (1 major) Biochemist			
	-	ree (1 major) Biomedicin	-		
васпеі	or aeg	ree (1 major) Biomedicin	e (2013)		

Module	e title			Abbreviation				
Informa	ation Li	teracy for Students of	he Natural Sciences (I	Basic Level)	41-IK-NW1-101-m01			
Module	e coord	inator		Module offered by				
head o	f Unive	rsity Library	F	University Library				
ECTS	Metho	od of grading	Only after succ. con	Only after succ. compl. of module(s)				
2	(not) s	successfully completed						
Duratio	on	Module level	Other prerequisites					
1 seme	ster	undergraduate						
Conten	ts							
 Search Using Resound Onling Overv Reference 	h strate the lib irces fo e searc iew of a ence ma	eracy in an academic c egies and tools. rary's electronic resour r natural sciences: data hes and search engines additional resources (el anagement. Some secti in the natural sciences	ces. abases and journals. 5. Learning etc.). ons of the module will	focus on particular o	disciplines (whereve	r possible,		
		ning outcomes	<u>.</u>					
within t differer ses) an they ha with th	Students know what information is needed for what purpose. They are able to locate information that is relevant within their discipline and beyond in a variety of resources and to evaluate this information. They recognise the difference in quality between information they have retrieved from specific, restricted access resources (databases) and information they have found on the free web. Students are able to manage and process the information they have found, using reference management software and eLearning tools. The module aims to equip students with the skills needed to find information and literature that is relevant to the topics of their Bachelor's theses.							
		umber of weekly contact hours			>			
		tion on SWS (weekly co			-			
		s essment (type, scope, lang le for bonus)	uage — If other than German,	examination offered — if no	it every semester, informati	on on whether		
10 mini sentati prox. 5	utes or on with minute	mination (approx. 60 m approx. 5 minutes and out slides (approx. 20 es) and completing exer nd completing exercise	approx. 1 page) or c) c to 30 minutes) or e) pr cises (approx. 5 exerci	ompleting exercises eparing and delivering	(approx. 10 exercise ng a presentation wit	es) or d) pre- th slides (ap-		
Allocat	ion of p	olaces						
Studen ration. science to the r	Number of places: 5-50. There is a restricted number of places. If necessary, places will be allocated as follows: Students of the degree programmes of the respective subject-specific focuses will be given preferential conside- ration. The remaining places, if and when any become available, will be allocated to students of the other natural sciences degree programmes. In each of the above-mentioned groups, 30% of places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. The remaining 70% of places will each be allocated by lot.							
Additio	nal inf	ormation						
Worklo	Workload							
Teachi	ng cycl	e						
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree progra	immes)				
Bachelor's	with 1 ma	or Biochemistry (2009)	-	• generated 26-Aug-2024 • 6 Bachelor (180 ECTS) Biochemi	-	page 66 / 69		

Module appears in

Bachelor' degree (1 major) Biochemistry (2011) Bachelor' degree (1 major) Biochemistry (2013) Bachelor' degree (1 major) Biochemistry (2009) Master's degree (1 major) Nanostructure Technology (2011) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010) No final examination Special study offering (2010)

2 (not) successfully completed Duration Module level Other prerequisites a semester undergraduate Knowledge and skills equivalent to those achieved in the basic module desirable. Contents Information literacy in an academic context: More in-depth discussion of selected topics that were covered in the level one module, e. g. searching sub- sect-specific databases. Publishing and information practices in the natural sciences. Subject-specific information and communication technologies. Subject-specific information and communication technologies. Searching for subject-specific facts (e. g. substances and physical data). Information search skills for the workplace. Copyright and citations. Electronic publishing. Some sessions will focus on particular disciplines (wherever possible, on disciplines in the natural sciences). Students have developed a differentiated understanding of the publishing and information practices in their dicipline and are familiar with the possibilities offered by electronic publishing. They are able to use electronic cools to locate subject-specific facts in a variety of resources. Students are able to work with subject-specific information retrieval tools as well as to use new web-based technologies to share information. They have developed an understanding of the legal framework surrounding publications, information, and communication in a academic context and are able to use information responsibly. Courses (type, number of weekly contact hours, la	Modul	e title				Abbreviation
head of University Library University Library ECTS Method of grading Only after succ. compl. of module(s) 2 (not) successfully completed Duration Module level Other prerequisites a semester undergraduate Knowledge and skills equivalent to those achieved in the basic module desirable. Contents Information literacy in an academic context: Nore in-depth discussion of selected topics that were covered in the level one module, e. g. searching sub- elect-specific databases. - Publishing and information practices in the natural sciences. - Subject-specific information retrieval tools, e. g. classifications and thesauri. - New web-based information and communication technologies. - Searching for subject-specific facts (e. g. substances and physical data). - Information search skills for the workplace. - - Copyright and citations. - Butleshing and information practices in the ridic cipline and are familiar with the possibilities offered by electronic publishing and information practices in their dicipline and are familiar with the possibilities offered by electronic publishing, may and communication in an academic context and are able to use information responsibly. Courset subject-specific facts in a variety of resources. Students are able to work with subject-specific information in an	Inform	ation Li	teracy for Students of th	e Natural Sciences (A	Advanced Level)	41-IK-NW2-101-m01
Method of grading Only after succ. compl. of module(s) 2 (not) successfully completed 1 semester undergraduate Other prerequisites 1 semester undergraduate Knowledge and skills equivalent to those achieved in the basic module desirable. Contents Information literacy in an academic context: More in depth discussion of selected topics that were covered in the level one module, e. g. searching subject-specific databases. Publishing and information practices in the natural sciences. Subject-specific farts (e. g. substances and physical data). Information search skills for the workplace. Copyright and citations. Cleatroning or subject-specific farts (e. g. substances and physical data). Information search skills for the workplace. Copyright and citations. Electronic publishing. Some sessions will focus on particular disciplines (wherever possible, on disciplines in the natural sciences). Intended learning outcomes Students have developed a differentiated understanding of the publishing and information practices in their discipline and are familiar with the possibilities offered by electronic publishing. They are able to use electronic tools to locate subject-specific farts (e. g. enew web-based technologies to share information, and communication in an academic context and are able to use information responsibly. Courses (type, number of weedy contact hours, langage — if other than Geman) <t< td=""><td>Modul</td><td>e coord</td><td>inator</td><td></td><td>Module offered by</td><td></td></t<>	Modul	e coord	inator		Module offered by	
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Students have developed a differentiated understanding of the publishing and information practices in their discipline and are familiar with the possibilities offered by electronic publishing. They are able to use electronic tools to locate subject-specific facts in a variety of resources. Students are able to work with subject-specific information retrieval tools as well as to use new web-based technologies to share information. They have developed an understanding of the legal framework surrounding publications, information, and communication in an academic context and are able to use information responsibly. Courses (type, number of weekly contact hours, language – if other than German) Ü (no information on SWS (weekly contact hours) and course language available) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus) a) written examination (approx. 60 minutes) or b) preparing and delivering a presentation with slides (approx. 10 minutes or approx. 5 minutes and approx. 1 page) or c) completing exercises (approx. 10 exercises) or d) presentation without slides (approx. 20 to 30 minutes) or e) preparing and delivering a presentation with slides (approx. 5 minutes) and completing exercises (approx. 5 exercises) Allocation of places Number of places: 10 to 50. There is a restricted number of places. If necessary, places will be allocated as follows: Students of the degree programmes of the respective subject-specific focuses will be allocated to students of the other natural sciences degree programmes. In each of the above-mentioned groups, 30% of places will be allocated by lot. Additional information		-	· ·			
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	Additio	onal inf	ormation			
	 Worklo	ad				

Teaching cycle

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

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Module appears in

Bachelor' degree (1 major) Biochemistry (2011)

Bachelor' degree (1 major) Biochemistry (2013)

Bachelor' degree (1 major) Biochemistry (2009)

Master's degree (1 major) Nanostructure Technology (2011)

Master's degree (1 major) Nanostructure Technology (2010)

Master's degree (1 major) FOKUS Physics - Nanostructuring Technology (2010)

Bachelor's with 1 major Biochemistry (2009)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 69 / 69
	data record Bachelor (180 ECTS) Biochemie - 2009	