

Module Catalogue

for the Subject

Mathematics

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

> Examination regulations version: 2007 Responsible: Institute of Mathematics

JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record 82|105|-|-|H|2007



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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:

ASPO2007

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

09-Dec-2008 (2008-31)

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

(95 ECTS credits)

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Madula					Abbroviation
Module title					Abbreviation
Analysi	S				10-M-ANA-072-m01
Module coordinator Module offered by					
Dean of	fStudi	es Mathematik (Mathema	atics)	Institute of Mathem	natics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
18	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
2 seme	ster	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in the section on
Conten	ts				
ries, po	wer se	ries, Taylor series, funda	mental calculus in on	e and several variab	ivergence of sequences and se- ples (including inverse and impli- ntegral and improper integrals).
Intende	ed lear	ning outcomes			
mathen	natical		hem adequately in w	ritten and oral form.	He/She is able to perform easy He/She is acquainted with the geometric interpretation.
Courses	5 (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
• 10 • 10 Method module is	D-M-AN D-M-AN D-M-AN D-M-AN I of ass creditab	IA-2-072: V + Ü (no inform IA-P-072: M (no informati sessment (type, scope, langua ile for bonus)	nation on SWS (week on on SWS (weekly c ge — if other than German, e	ly contact hours) and ontact hours) and co examination offered — if no	d course language available) d course language available) purse language available) nt every semester, information on whether e components as specified be-
vidual a Assessi	ment in ECTS,) writted approx anguag ther pr ment in ECTS,) writted approx anguag ther pr ent 10- ment in	ments. n module component 10- Method of grading: (not) n examination (approx. 9 . 20 minutes) or c) oral ex- ge of assessment: Germal rerequisites: Modules 10- n module component 10- Method of grading: (not) n examination (approx. 9 . 20 minutes) or c) oral ex- ge of assessment: Germa	M-ANA-1-072: Analys successfully complet o minutes; usually ch amination in groups n, English if agreed u M-VKM and 10-M-PP/ M-ANA-2-072: Analys successfully complet o minutes; usually ch amination in groups n, English if agreed u M-VKM and 10-M-PP d for module compor M-ANA-P-072: Examin	is 1 Analysis 1 ted osen) or b) oral exan (groups of 2, approx pon with the examin M are recommended is 2 Analysis 2 ted osen) or b) oral exan (groups of 2, approx pon with the examin M are recommended tent 10-M-ANA-2.	ner nination of one candidate each «. 30 minutes)
• 0 • La • O M	ral exa anguag nly aft 1-ANL-2	mination of one candidat ge of assessment: Germa er successful completion	te each (approx. 30 m n, English if agreed u of module componer	pon with the examin hts: 10-M-ANA-1 or 10	o-M-ANL-1 or 10-M-ANA-2 or 10-

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Allocation of places

Additional information

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Workload

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

Module appears in

Bachelor' degree (1 major) Mathematics (2007)

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Module	e title				Abbreviation
Linear Algebra					10-M-LNA-072-m01
Module	e coord	inator		Module offered by	· · · · · · · · · · · · · · · · · · ·
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
18	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
2 seme	ester	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in the section on
Conten	Its				
(subsp image, eigensj	aces, q kernel paces,	uotient spaces, linear in , rank); matrix calculus; s diagonalisability (includi	dependency, basis, d ystems of linear equang ng characteristic poly	limension); linear ma ations, determinants /nomial, minimal po	nomial rings); vector spaces aps (isomorphism theorem, s, eigenvalues, eigenvectors and lynomial), normal forms, bilinear ncipal axis transformation).
Intende	ed lear	ning outcomes			
perforn He/She	n easy e is abl	mathematical arguments	independently, and	can present them ad	ear algebra. He/She is able to lequately in written and oral form. ra and knows about their alge-
		number of weekly contact hours, I	anguage — if other than Ger	rman)	
This mo compo • 1 • 1	odule c nent. .o-M-LN .o-M-LN	omprises 3 module comp A-1-072: V + Ü (no inform A-2-072: V + Ü (no inform)	oonents. Information nation on SWS (weekl nation on SWS (week	on courses will be li y contact hours) and ly contact hours) and	sted separately for each module d course language available) d course language available) ourse language available)
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
Assessment in this module comprises the assessments in the individual module components as specified be- low. Unless stated otherwise, successful completion of the module will require successful completion of all indi- vidual assessments.					
		n module component 10- Method of grading: (not)			ebra 1

- a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Module 10-M-VKM is recommended.
- Assessment in module component 10-M-LNA-2-072: Linear Algebra 2 Linear Algebra 2
 - 8 ECTS, Method of grading: (not) successfully completed
 - a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)
 - Language of assessment: German, English if agreed upon with the examiner
 - Other prerequisites: Module 10-M-VKM is recommended; in addition, module component 10-M-LNA-1 is recommended for module component 10-M-LNA-2.

Assessment in module component 10-M-LNA-P-072: Examination in Linear Algebra

- 2 ECTS, Method of grading: numerical grade
- oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Only after successful completion of module components: 10-M-LNA-1 or 10-M-LNA-2
- Other prerequisites: Module 10-M-VKM is recommended.

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Allocation of places

Additional information

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Workload

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

Module appears in

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Module title				Abbreviation	
Advanced Analysis					10-M-VAN-072-m01
Module	coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
7	numei	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
		gral in several variables, ry Fourier theory in L^2, (on convergence and	Fubini's theorem, L^p-spaces
Intende	ed learr	ning outcomes			
		acquainted with advanc understand the construct			of the Lesbegue integral, he or
Courses	S (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
		nination (approx. 90 min tes) or c) oral examinatio			ion of one candidate each (ap- ites)
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	appea	rs in			
Bachelo	Bachelor' degree (1 major) Mathematics (2007)				

Bachelor's with 1 major Mathematics (2007)

Module title			Abbreviation		
Algebra, Geometry and Number Theory			10-M-AGZ-072-m01		
Module	e coord	inator		Module offered by	
		es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	1	od of grading	Only after succ. com		
22	1	rical grade			
Duratio		Module level	Other prerequisites		
3 seme		undergraduate		, additional prerequi	isites are listed in the section on
Conten	ts				
tic prop tures (r jective	perties residue spaces	of integers and rational n class rings and finite fiel	umbers (as well as a ds) and their geomet	lgebraic extensions) ry (quadratic forms);	s (groups, rings, fields); arithme- relating to their algebraic struc- ; axiomatic introduction of pro- and algebra, curves and hypersur-
Intende	ed lear	ning outcomes			
ry.He/S	She is a		pts with one another		ora, geometry and number theo- vantages of thinking across the
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
• 1 • 1 • 1	o-M-A0 o-M-A0 o-M-A0	5Z-2-072: V + Ü + V + Ü (no 5Z-3-072: V + Ü (no inform 5Z-P-072: M (no informati	information on langu nation on language an on on language and i	age and number of w nd number of weekly number of weekly co	v contact hours available) veekly contact hours available) v contact hours available) ntact hours available) vt every semester, information on whether
module is	s creditab	le for bonus)			
		has the following 4 assess nent components to pass	-		ise, students must pass all of
• 7	ECTS	n module component 10- credits, pass / fail	-		_
() • L	approx anguas	en examination (approx. 9 . 20 minutes) or c) oral ex ge of assessment: Germa nal prerequisites: Module	kamination in groups n; English if agreed u	of 2 candidates (app pon with examiner(s	
Assess	ment i				e (Introduction to Geometry)
 a) written examination (approx. 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups of 2 candidates (approx. 30 minutes) Language of assessment: German; English if agreed upon with examiner(s) Additional prerequisites: Module 10-M-LNA recommended. 					
• 5	 Assessment in module component 10-M-AGZ-3-072: Elementare Zahlentheorie (Elementary Number Theory) 5 ECTS credits, pass / fail 				
() • L	approx .anguaរូ	. 20 minutes) or c) oral ex ge of assessment: Germa	kamination in groups n; English if agreed u	of 2 candidates (app pon with examiner(s	-
Assess	ment i	nal prerequisites: Module n module component 10-1 netry and Number Theory	M-AGZ-P-072: Prüfun		e und Zahlentheorie (Assessment

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- oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German; English if agreed upon with examiner(s)
- Only after successful completion of module components: Two out of the following three module components: 10-M-AGZ-1, 10-M-AGZ-2, 10-M-AGZ-3.
- Additional prerequisites: Module 10-M-LNA recommended.

Allocation of places

Julius-Maxi

UNIVERSITÄT

WÜRZBURG

Additional information

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Workload

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

Module appears in

Bachelor' degree (1 major) Mathematics (2007)

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Module	e title				Abbreviation
Ordinary Differential Equations and Complex Analysis			10-M-DFT-072-m01		
Module coordinator				Module offered by	
Dean of	f Studie	s Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	d of grading	Only after succ. com	pl. of module(s)	
14		ical grade			
Duratio		Module level	Other prerequisites		
2 seme	ster	undergraduate			
Conten					
stems c ons, ba functior	of linear Isic noti ns, mere	diffferential equations, ons in the qualitative the omorphic functions and	introduction to the pr eory of ordinary differ conformal maps, bas	roblem of systems o rential equations, ba ic proof methods in	ons, solution theorems on sy- f nonlinear differential equati- asic properties of holomorphic differential equations and com- nd other fields of mathematics.
Intende	ed learn	ing outcomes			
equatio	ons and		He/she is able to inte	erconnect these con	neory of ordinary differential cepts and realises the advanta-
Courses	S (type, nu	umber of weekly contact hours, l	anguage — if other than Ger	man)	
 This module comprises 3 module components. Information on courses will be listed separately for each module component. 10-M-DFT-1-072: V + Ü (no information on SWS (weekly contact hours) and course language available) 10-M-DFT-2-072: V + Ü (no information on SWS (weekly contact hours) and course language available) 10-M-DFT-P-072: M (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 indi- 					
 Assessment in module component 10-M-DFT-1-072: Ordinary Differential Equations Ordinary Differential Equations 5 ECTS, Method of grading: (not) successfully completed a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner Assessment in module component 10-M-DFT-2-072: Introduction to Complex Analysis Introduction to Complex Analysis 7 ECTS, Method of grading: (not) successfully completed a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner Assessment in module component 10-M-DFT-P-072: Examination in Ordinary Differential Equations and Complex Analysis 2 ECTS, Method of grading: numerical grade oral examination of one candidate each (approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner Assessment in module component 10-M-DFT-P-072: Examination in Ordinary Differential Equations and Complex Analysis 2 ECTS, Method of grading: numerical grade oral examination of one candidate each (approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner Only after successful completion of module components: 10-M-DFT-1 or 10-M-DFT-2 Allocation of places 					

Additional information

Workload

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

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Module appears in

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Module title			Abbreviation		
Numerical Mathematics 1					10-M-NM1-072-m01
Module	e coord	inator		Module offered by	
Dean of	f Studie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
8	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
		stems of linear equations tion with polynomials, sp			uations and systems of equati- rical integration.
Intende	ed learr	ning outcomes			
		acquainted with the fun oblems and knows about			erical mathematics, applies them
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)	
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		e essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
		nination (90 minutes; us nination in groups (group		ral examination of or	ne candidate each (20 minutes)
Allocat	ion of p	olaces			
Additio	nal info	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Computer Science (2007)					
	-	ree (1 major) Mathematic			
Bachel	Bachelor' degree (1 major) Physics (2007)				

Module title				Abbreviation	
Stochastics 1					10-M-ST1-072-m01
Module	e coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	natics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
8	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
continu chastic	ious di: indepe	stributions: normal distri	bution, random varia ditional probability, o	ble, distribution fun haracteristics of dis	asure and integration theory, ction, product measures and sto- tributions: expected value and
Intende	ed learr	ning outcomes			
		acquainted with fundam lems and knows about th			ics, applies these methods to
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
		mination (90 minutes; us nination in groups (group		ral examination of o	ne candidate each (20 minutes)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module					
	-	ree (1 major) Computer S			
Bachelo	Bachelor' degree (1 major) Mathematics (2007)				

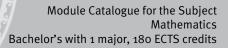


Compulsory Electives

(55 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record Bachelor (180 ECTS) Mathematik - 2007	page 21 / 249
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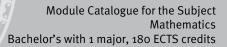
Mathematics 1 (5 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 22 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title				Abbreviation	
Numeri	Numerical Mathematics 2				10-M-NM2-072-m01
Module	e coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	natics
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				
		ods and applications for al equations, boundary v		s, linear programmin	g, initial value problems for ordi-
Intende	ed learı	ning outcomes			
about t	heir ad		concerning the poss		erical mathematics and knows on in different fields of natural
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)	
V + Ü (r	no 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, o	examination offered — if no	ot every semester, information on whether
		nination (90 minutes) or ps of 2 candidates (30 m		of one candidate eac	ch (20 minutes) or c) oral exami-
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
		ree (1 major) Mathematic ree (1 major) Physics (200			

Module title					Abbreviation
Stochastics 2					10-M-ST2-072-m01
Module	coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
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				
Elemen	ts of da	ata analysis, statistics of	data in normal and o	ther distributions, e	lements of multivariate statistics.
Intende	ed learn	ning outcomes			
		acquainted with fundam and knows about the ty			, applies these methods to prac-
Course	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (r	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
		mination (approx. 90 min tes) or c) oral examinatio			ion of one candidate each (ap- ites)
Allocat	ion of p	olaces			
Additio	nal info	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelo	or' deg	ree (1 major) Mathematic	s (2007)		





Mathematics 2 (5 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 25 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	Module title Abbreviation						
Introduction to Discrete Mathematics 10-M-EDM-072-mo1						L	
Module coordinator				Module offered by			
Dean o	f Studie	es Mathematik (Mather	natics)	Institute of Mathem	natics		
ECTS	Metho	d of grading	Only after succ. com	npl. of module(s)			
5		ical grade		, ,,			
Duratio	<u> </u>	Module level	Other prerequisites				
					alify for admission to		
1 semester undergraduate			Certain prerequisites must be met to qualify for admission to as- sessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be con- sidered a declaration of will to seek admission to assessment. If stu- dents have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for as- sessment into effect. Students who meet all prerequisites will be admit- ted to assessment in the current or in the subsequent semester. For as- sessment at a later date, students will have to obtain the qualification for admission to assessment anew.				
Conten	ts						
Technic	ques fro	om combinatorics, intro g codes.	duction to graph theor	y (including applica	tions), cryptographic	: methods,	
		ing outcomes					
levant j realises	proof te s the sc	acquainted with the fu chniques, is able to ap ope of applications of umber of weekly contact hours	ply methods from num discrete structures.	ber theory and alge			
		mation on SWS (weekly			abla)		
		essment (type, scope, lang e for bonus)	uage — If other than German, e	examination offered — if no	ot every semester, informati	on on whether	
by an o 2, appr	oral exa ox. 30 i	nation (approx. 90 mini mination of one candid ninutes) ssessment: German, Er	ate each (approx. 20 n	ninutes) or an oral ex			
Allocat	ion of p	laces					
Additio	nal info	ormation					
Worklo	ad						
Referre	d to in	LPO I (examination regulation	ons for teaching-degree progra	mmes)			
		hematik Lineare Algebi			2		
Module		-	-, ·	and a summer of the second	-		
Bachele Bachele Bachele Bachele Bachele	or' degi or' degi or' degi or' degi or' degi	ree (1 major) Computer ree (1 major) Computer ree (1 major) Mathemat ree (1 major) Mathemat ree (1 major) Economat ree (1 major) Economat	Science (2010) ics (2008) ics (2007) hematics (2009)				
	achelor's with 1 major Mathematics (2007) JMU Würzburg • generated 11-Jan-2023 • exam. reg. page 26 / 22 data record Bachelor (180 ECTS) Mathematik - 2007						

Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008) First state examination for the teaching degree Gymnasium Mathematics (2009)

Module title Abbreviation						
Introduction to Functional Analysis 10-M-FAN-072-m01						
Module coordinator				Module offered by		
Dean c	of Studio	es Mathematik (Mather	natics)	Institute of Mathem	natics	
ECTS		od of grading	Only after succ. con			
	1					
5 numerical grade						
Duratio		Module level	Other prerequisites			
1 semester undergraduate		Certain prerequisites must be met to qualify for admission to as- sessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be con- sidered a declaration of will to seek admission to assessment. If stu- dents have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for as- sessment into effect. Students who meet all prerequisites will be admit- ted to assessment in the current or in the subsequent semester. For as- sessment at a later date, students will have to obtain the qualification for admission to assessment anew.				
Conter	ote					
		a and 1100-1-1-1		ninlan - f.f	an aluai -	
	-	s and Hilbert spaces, b	ounded operators, prir	nciples of functional	analysis.	
Intend	ed lear	ning outcomes				
V + Ü (Metho module i written by an c 2, app	no infor d of ass s creditab n examin oral exa rox. 30	number of weekly contact hours mation on SWS (weekly sessment (type, scope, lang le for bonus) nation (approx. 90 minu mination of one candid minutes) ssessment: German, Er	v contact hours) and co uage — if other than German, w utes); if announced by ate each (approx. 20 n	ourse language avail examination offered — if no the lecturer, the writ ninutes) or an oral ex	ot every semester, informat	n be replaced
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Worklo	bad					
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree progra	mmes)		
		hematik Analysis				
	e appea	*				
		ree (1 major) Mathemat	ics (2008)			
	-	ree (1 major) Mathemat				
	-	ree (1 major) Technolog		als (2009)		
	-	ree (1 major) Technolog	•	-		
	-	ree (1 major) Economat	•	-		
Bachel	lor' deg	ree (1 major) Economat	hematics (2008)			
Bachel	lor' deg	ree (1 major) Mathemat	ical Physics (2009)			
Bachelor's	with 1 ma	or Mathematics (2007)	IMII Wiirzburg	g ● generated 11-Jan-2023 ● e	xam, reg.	page 28 / 249
		(======================================		achelor (180 ECTS) Mathema		1

Bachelor' degree (1 major) Computational Mathematics (2009) Master's degree (1 major) Technology of Functional Materials (2010) Master's degree (1 major) Technology of Functional Materials (2009) Master's degree (1 major) Functional Materials (2012) Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008) First state examination for the teaching degree Gymnasium Mathematics (2009) Bachelor' degree (1 major) Technology of Functional Materials (2006)

Module	Module title Abbreviation					
Operations Research					10-M-ORS-072-m01	
Module coordinator				Module offered by		
Dean of	f Studie	es Mathematik (Mather	natics)	Institute of Mathem	natics	
ECTS		od of grading	Only after succ. com			
5 numerical grade Duration Module level Other prerequisites						
		Module level	Other prerequisites			
1 semesterundergraduateCertain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective at the beginning of the course. Registration for the course will be sidered a declaration of will to seek admission to assessment. If dents have obtained the qualification for admission to assessment the course of the semester, the lecturer will put their registration sessment into effect. Students who meet all prerequisites will be ted to assessment in the current or in the subsequent semester. sessment at a later date, students will have to obtain the qualifi admission to assessment anew.				tive details ill be con- nt. If stu- ssment over ation for as- ill be admit- ster. For as-		
Conten	ts					
		aming duality theory	ransport problems, int	ogral linear program	ming graph theoret	ic problems
		ning outcomes		egial linear program	innig, graph theoret	ic problems.
for solv probler Course	ring ma ns, bot s (type, n	ny practical problems h theoretically and nur umber of weekly contact hour	s, language — if other than Ger	s. He/She is able to	apply these method	
V + Ü (r	no infor	mation on SWS (weekl	y contact hours) and co	ourse language avail	able)	
module is	creditab	le for bonus)	uage — if other than German, e			
by an o 2, appr	oral exa ox. 30 i	mination of one candic minutes)	utes); if announced by late each (approx. 20 n nglish if agreed upon w	ninutes) or an oral ex		•
Allocat	ion of p	laces				
	nal info	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regulation	ons for teaching-degree progra	mmes)		
§ 73 (1) 5. Mathematik Angewandte Mathematik						
Module	e appea	rs in				
Bachelo Bachelo Bachelo Bachelo Bachelo	or' degi or' degi or' degi or' degi or' degi	ree (1 major) Computer ree (1 major) Computer ree (1 major) Mathemat ree (1 major) Mathemat ree (1 major) Economat ree (1 major) Economat ree (1 major) Mathemat	Science (2010) tics (2008) tics (2007) hematics (2009) hematics (2008)			
Bachelor's	with 1 maj	or Mathematics (2007)		g • generated 11-Jan-2023 • e achelor (180 ECTS) Mathema	-	page 30 / 249

Bachelor' degree (1 major) Computational Mathematics (2009) Master's degree (1 major) Nanostructure Technology (2011) Master's degree (1 major) Nanostructure Technology (2010) Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008) First state examination for the teaching degree Gymnasium Mathematics (2009)

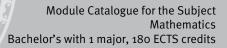
Module title Abbreviation						
Non-Linear Dynamics 10-M-NLD-072-m01						
Module coordinator				Module offered by	dule offered by	
Dean o	of Studie	es Mathematik (Mather	natics)	Institute of Mathem	natics	
ECTS	1	od of grading	Only after succ. con	npl. of module(s)		
		rical grade				
5 Duratio	· · · · · ·	Module level				
			Other prerequisites			
1 semesterundergraduateCertain prerequisites must be met to qualify for admission t sessment. The lecturer will inform students about the respe at the beginning of the course. Registration for the course w sidered a declaration of will to seek admission to assessme 				ctive details ill be con- nt. If stu- ssment over ation for as- ill be admit- ster. For as-		
Conter	te		admission to assess			
		in stability theory, Lyar	unov theory: stable m	anifolds periodic co	lutions including Po	incare-Ren.
		c dynamics; applicatio				
	-	ning outcomes		<u>, , , , , , , , , , , , , , , , , , , </u>	, .	
		acquainted with the fu	 Indamental concepts a	nd results in non-lin	ear dynamics and th	eir proof me-
		e is able to apply these				
Course	S (type, n	umber of weekly contact hour	, language — if other than Gei	rman)		
		mation on SWS (weekl			able)	
		sessment (type, scope, lang				ion on whether
		le for bonus)			se every semester, mormat	
by an c 2, appi	oral exa rox. 30	nation (approx. 90 min mination of one candic minutes) ssessment: German, E	late each (approx. 20 n	ninutes) or an oral ex		
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPO I (examination regulati	ons for teaching-degree progra	ammes)		
		hematik Analysis				
	e appea	,				
		ree (1 major) Mathemat	ics (2008)			
	-	ree (1 major) Mathemat				
Bachelor' degree (1 major) Economathematics (2009)						
	-	ree (1 major) Economat				
	-	ree (1 major) Mathemat				
	-	ree (1 major) Computat		•		
Bachel	or' deg	ree (1 major) Aerospace	e Computer Science (20	009)		
Bachelor's	with 1 maj	or Mathematics (2007)		g • generated 11-Jan-2023 • e	-	page 32 / 249
			data record B	achelor (180 ECTS) Mathema	tik - 2007	



Bachelor' degree (1 major) Aerospace Computer Science (2011) Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008) First state examination for the teaching degree Gymnasium Mathematics (2009)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.
	data record Bachelor (180 ECTS) Mathematik - 2007





Mathematics 3 (5 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 34 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title Abbreviation						
Readir	ng Cour	se Numerical Mather	natics		10-M-RCN-072-m01	
Modul	e coord	inator		Module offered by	, ,	
Dean o	of Studi	es Mathematik (Math	nematics)	Institute of Mather	natics	
ECTS	CTS Method of grading Only after succ. co			npl. of module(s)		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites	6		
1 seme	ester	undergraduate				
Conter	nts					
Advan	ced top	ics in numerical mat	hematics.			
Intend	ed lear	ning outcomes				
		able to work indepe se standard literatur	, .	tific topic. He or she	can tackle a simple mathematical	
Course	es (type, r	number of weekly contact h	ours, language — if other than Ge	rman)		
A (no i	nforma	tion on SWS (weekly	contact hours) and cours	se language availabl	e)	
		sessment (type, scope, la le for bonus)	anguage — if other than German,	examination offered — if n	ot every semester, information on whether	
a) talk	(approx	x. 30 minutes) or b) v	vritten elaboration (appro	ox. 5 to 10 pages)		
Alloca	tion of _l	places				
Additi	onal inf	ormation				
Workle	oad					
Referre	ed to in	LPO I (examination regu	lations for teaching-degree progra	ammes)		
Modul	e appea	ars in				
Bache	lor' deg	ree (1 major) Mathen	natics (2007)			

Module title Abbreviation							
Readin	Reading Course Stochastics 10-M-RCS-072-m01						
Modul	e coord	inator		Module offered by			
Dean o	of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics		
			Only after succ. con	npl. of module(s)			
5	5 numerical grade						
Duratio	on	Module level	Other prerequisites	i			
1 seme	ester	undergraduate					
Conter	nts						
Advan	ced top	ics in stochastics.					
Intend	ed lear	ning outcomes					
		able to work independe se standard literature.	ntly on a given scient	ific topic. He or she	can tackle a simple mathematical		
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)			
A (no i	nformat	tion on SWS (weekly cont	act hours) and cours	e language available	e)		
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether		
a) talk	(approx	x. 30 minutes) or b) writte	en elaboration (appro	ox. 5 to 10 pages)			
Allocat	tion of p	olaces					
Additio	onal inf	ormation					
Worklo	ad						
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)			
Modul	e appea	ars in					
Bachel	or' deg	ree (1 major) Mathematic	s (2007)				

Modul	e title				Abbreviation	
Reading Course Discrete Mathematics 10-M-RCD-072-m01						
Modul	e coord	inator		Module offered by		
Dean o	of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
Basics	in disc	rete mathematics.				
Intend	ed lear	ning outcomes				
		able to work independe se standard literature.	ntly on a given scient	ific topic. He or she	can tackle a simple mathematical	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)		
A (no i	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	e)	
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
a) talk	(approx	k. 30 minutes) or b) writte	en elaboration (appro	ox. 5 to 10 pages)		
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Bachelor' degree (1 major) Mathematics (2007)						

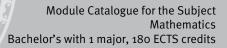
Module title Abbreviation					
Reading Course Functional Analysis 10-M-RCF-072-m01					
Modul	e coord	inator		Module offered by	
Dean o	of Studio	es Mathematik (Mathema	atics)	Institute of Mathem	natics
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conter	Its				
Basics	in func	tional analysis.			
Intend	ed lear	ning outcomes			
		able to work independe se standard literature.	ntly on a given scient	ific topic. He or she	can tackle a simple mathematical
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)	
A (no i	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	e)
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
a) talk	(approx	k. 30 minutes) or b) writte	en elaboration (appro	ox. 5 to 10 pages)	
Allocat	ion of p	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Mathematics (2007)					

Module title Abbreviation					
Reading Course Operations Research 10-M-RCO-072-m01					
Modul	e coord	inator		Module offered by	
Dean o	of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
Basics	in oper	ations research.			
Intend	ed lear	ning outcomes			
		able to work independe se standard literature.	ntly on a given scient	ific topic. He or she	can tackle a simple mathematical
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)	
A (no i	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	e)
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
a) talk	(approx	k. 30 minutes) or b) writte	en elaboration (appro	ox. 5 to 10 pages)	
Allocat	tion of p	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Mathematics (2007)					

Modul	e title				Abbreviation	
Reading Course Dynamical Systems 10-M-RCY-072-m01						
Modul	e coord	inator		Module offered by		
Dean c	of Studi	es Mathematik (Mathema	atics)	Institute of Mathen	natics	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ester	undergraduate				
Conter	nts					
Basics	in dyna	amical systems and nonli	near dynamics.			
Intend	ed lear	ning outcomes				
		able to work independe se standard literature.	ntly on a given scient	tific topic. He or she	can tackle a simple mathematical	
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Ge	rman)		
A (no i	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	
a) talk	(approx	x. 30 minutes) or b) writte	en elaboration (appro	ox. 5 to 10 pages)		
Allocat	tion of _l	olaces				
Additio	onal inf	ormation				
Worklo	bad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Bachelor' degree (1 major) Mathematics (2007)						

Modul	e title				Abbreviation	
Reading Course Optimisation 10-M-RCP-072-m01						
Modul	e coord	inator		Module offered by		
Dean c	of Studi	es Mathematik (Mathem	atics)	Institute of Mathen	natics	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	;		
1 seme	ester	undergraduate				
Conter	nts					
Basics	in opti	mization.				
Intend	ed lear	ning outcomes				
		able to work independe se standard literature.	ntly on a given scient	tific topic. He or she	can tackle a simple mathematical	
Course	es (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
A (no i	nformat	ion on SWS (weekly con	tact hours) and cours	e language availabl	e)	
		sessment (type, scope, langua le for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
a) talk	(approx	k. 30 minutes) or b) writt	en elaboration (appro	ox. 5 to 10 pages)		
Allocat	tion of p	olaces				
Additio	onal inf	ormation				
Worklo	oad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Bachelor' degree (1 major) Mathematics (2007)						





Mathematics 4 (5 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 42 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	Module title Abbreviation					
Semina	Seminar in Analysis 10-M-BSA-072-m01					
Module	e coord	inator		Module offered by		
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	Its					
A selec	ted top	oic in analysis.				
Intend	ed lear	ning outcomes				
of a giv ly in a s	ven topi scientif	ic using selected literatur ic discussion.	e, and prepares a tal	k on the subject. He	sters elaboration and structuring /She is able to participate active-	
	-	number of weekly contact hours, l			、	
		tion on SWS (weekly cont				
		Sessment (type, scope, langua ile for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
Assess	ment o	60 minutes) ffered: in the semester in ssessment: German, Eng				
Allocat						
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPO I (examination regulations	s for teaching-degree progra	mmes)		
§ 73 (1) 1. Mathematik Analysis						
Module appears in						
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008) First state examination for the teaching degree Gymnasium Mathematics (2009)						

Module title Abbreviation						
Semina	Seminar in Linear Algebra 10-M-BSL-072-m01					
Module	e coord	inator		Module offered by		
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts		L			
A selec	ted top	oic in linear algebra.				
		ning outcomes				
of a giv	en top				sters elaboration and structuring /She is able to participate active-	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)		
S (no ir	nformat	tion on SWS (weekly cont	act hours) and cours	e language available	2)	
		sessment (type, scope, langua ole for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
Assess	ment o	60 minutes) iffered: in the semester in issessment: German, Eng				
Allocat	ion of p	places	·			
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPO I (examination regulations	s for teaching-degree progra	mmes)		
§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie						
Module appears in						
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)						
Bachel	or's de	gree (1 major, 1 minor) Ma	athematics (Minor, 20	008)		
First sta	First state examination for the teaching degree Gymnasium Mathematics (2009)					

Seminar in Algebra 10-M-BSE-072-m01 Module coordinator Module offered by Dean of Studies Mathematik (Mathematics) Institute of Mathematics ECTS Method of grading Only after succ. compl. of module(s) 5 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents A selected topic in algebra. Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ty in a scientific discussion. Courses (type, number of weekly contact hours, language if other than German) S (no information on SWS (weekly contact hours) and course language available) Method of assessment (type, scope, language if other than German) S assessment (type, scope, language if other than German) S (no information on SWS (weekly contact hours) and course language available) Method of assessment (type, scope, language if other than German) S (no information on SWS (weekly contact hours) and course is offered Language of assessment offered in the semester in which the course is offered Language of assessment	Module	Module title Abbreviation					
Dean of Studies Mathematik (Mathematics) Institute of Mathematics ECTS Method of grading Only after succ. compl. of module(s) 5 num=rical grade - Duration Module level Other prerequisites 1 semester undergraduate - Contents - - A selected topic in algebra. Institute of Mathematics (work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Courses (type, number of weekly contact hours) and course language available) Courses (type, number of weekly contact hours) and course language available) Method of assessment (type, scope, language – if other than German) S S (no information on SWS (weekly contact hours) and course language available) Method of assessment: German, English if agreed upon with the examiner Allocation of places Additional information Method agree (a major) Mathematics (2008) S 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Economathematics (2007) Bachelor'	Seminar in Algebra 10-M-BSE-072-m01					10-M-BSE-072-m01	
ECTS Method of grading Only after succ. compl. of module(s) 5 numerical grade - Duration Module level Other prerequisites 1 semester undergraduate Contents A selected topic in algebra. Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Correst (type, number of weekly contact hours, language – if other than German) S (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 who module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places	Module	e coord	inator		Module offered by	<u> </u>	
5 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents A selected topic in algebra. Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Courses (type, number of weekly contact hours, language – if other than German) S (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 whe module is creditable for bonus) talk (approx. 6o minutes) Assessment offered: In the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Alditional information Module appears in Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor' degree (1 major) Ma	Dean o	of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
Duration Module level Other prerequisites 1 semester undergraduate Contents A selected topic in algebra. Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ty in a scientific discussion. Courses (type, number of weekly contact hours, language – if other than German) S S (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 whe module is creditable for bonus) talk (approx. 6o minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Additional information Module appears in Bachelor degree (major) Mathematics (2003) Bachelor degree (major) Economathematics (2003) Bachelor degree (major) Economathematics (2003) Bachelo	ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
1 semester undergraduate Contents A selected topic in algebra. Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Courses (type, number of weekly contact hours, language – if other than German) S S (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 who module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Additional information Mokled appears in Mokled appears in Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2003) Bachelor' degree (1 major) Economathematics (2003) Bachelor' degree (1 major) C	5	nume	rical grade				
Contents A selected topic in algebra. Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Courses (type, number of weekly contact hours, language – if other than German) S (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 whe module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Workload Workload Module appears in Bachelor degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Computational Althematics (2009) Bachelor' degree (1 major) Computational Althematics (2009)	Duratio	on	Module level	Other prerequisites			
Contents A selected topic in algebra. Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Courses (type, number of weekly contact hours, language – if other than German) S (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 whe module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Workload Referred to in LPO1 (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Computational Hysics (2009) Bachelor' degree (1 major) Computational Mathematics (2009) <td>1 seme</td> <td>ester</td> <td>undergraduate</td> <td></td> <td></td> <td></td>	1 seme	ester	undergraduate				
Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Courses (type, number of weekly contact hours, language – if other than German) S (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 whe module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Workload S (no in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)	Conten	nts					
Intended learning outcomes The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Courses (type, number of weekly contact hours, language – if other than German) S (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 whe module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Workload S (no in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)	A selec	ted top	pic in algebra.				
The student gains first experience with independent scientific work. He/She masters elaboration and struct of a given topic using selected literature, and prepares a talk on the subject. He/She is able to participate a ly in a scientific discussion. Courses (type, number of weekly contact hours, language – if other than German) S (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 whe module is creditable for bonus) talk (approx. 6 on minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places 							
S (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 whe module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Additional information Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Mathematics (2009) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)	of a giv ly in a s	ven top scientif	ic using selected literatur ic discussion.	re, and prepares a tal	k on the subject. He		
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on who module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (t) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2009) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Mathematics (2009) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)		_				、	
module is creditable for bonus) talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)			•				
Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2009) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)				ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematics (2009) Bachelor' degree (1 major) Mathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)	Assess	sment o	offered: in the semester in				
Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Computational Mathematics (2009)							
Workload Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Computational Mathematics (2009)							
Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Computational Mathematics (2009)	Additio	onal inf	ormation	-			
Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Computational Mathematics (2009)		_					
Referred to in LPO I (examination regulations for teaching-degree programmes) § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Computational Mathematics (2009)	Worklo	bad					
 § 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009) 							
Module appears in Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)	Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	immes)		
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)							
Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)	Module	e appea	ars in				
Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)	Bachel						
Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)							
Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)							
Bachelor' degree (1 major) Computational Mathematics (2009)							
Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008)		-			•		
First state examination for the teaching degree Gymnasium Mathematics (2009)			-				

Module title Abbreviation						
Seminar in Geometry					10-M-BSG-072-m01	
Module	coord	inator		Module offered by		
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
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		·			
A selec	ted top	ic in geometry or differer	ntial geometry.			
Intende	ed learn	ning outcomes				
of a giv	en topi				sters elaboration and structuring /She is able to participate active-	
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
S (no in	format	ion on SWS (weekly cont	act hours) and cours	e language available	2)	
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
Assess	ment o	50 minutes) ffered: in the semester in ssessment: German, Eng				
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad		·			
Referre	d to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
§ 73 (1)	4. Mat	hematik Geometrie				
Module appears in						
Bachelor' degree (1 major) Mathematics (2008)						
Bachelor' degree (1 major) Mathematics (2007)						
	Bachelor' degree (1 major) Economathematics (2009)					
	•	ree (1 major) Economathe				
		ree (1 major) Mathematic		`		
	-	ree (1 major) Computatio	-			
		gree (1 major, 1 minor) Ma				
FIRST Sta	First state examination for the teaching degree Gymnasium Mathematics (2009)					

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Modul	Module title Abbreviation					
Semina	Seminar in Number Theory 10-M-BSZ-072-m01					
Modul	e coord	inator		Module offered by		
Dean o	of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Meth	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				
Conter	nts					
A selec	ted top	oic in number theory.				
Intend	ed lear	ning outcomes				
of a giv	/en top				sters elaboration and structuring /She is able to participate active-	
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Gei	man)		
S (no i	nforma	tion on SWS (weekly cont	act hours) and cours	e language available	e)	
		sessment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
Assess	sment o	60 minutes) Iffered: in the semester in Issessment: German, Eng				
Allocat	tion of	places				
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
§ 73 (1)) 2. Mat	thematik Lineare Algebra	, Algebra und Elemer	te der Zahlentheorie	2	
Modul	e appea	ars in				
Bachel Bachel Bachel Bachel	Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)					
Bachel	lor's de	ree (1 major) Computatio gree (1 major, 1 minor) Ma mination for the teaching	athematics (Minor, 2	008))	

Module title Abbreviation						
Semina	ar in Or	dinary Differential Equat	ions		10-M-BSW-072-m01	
Module	e coord	inator		Module offered by	I	
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	Its		·			
A selec	ted top	oic in the theory of ordina	ry differential equation	ons.		
Intend	ed lear	ning outcomes				
of a giv	en top				sters elaboration and structuring /She is able to participate active-	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
S (no ir	nformat	tion on SWS (weekly cont	act hours) and cours	e language available	e)	
module is	s creditab	le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
Assess	ment o	50 minutes) ffered: in the semester ir ssessment: German, Eng				
Allocat	ion of j	olaces				
Additio	onal inf	ormation				
Worklo	ad		·			
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
§ 73 (1) 1. Mathematik Analysis						
Module	e appea	ars in				
Bachelor' degree (1 major) Mathematics (2008)						
Bachelor' degree (1 major) Mathematics (2007)						
Bachelor' degree (1 major) Economathematics (2009)						
Bachelor' degree (1 major) Economathematics (2008)						
Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2000)						
	Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008)					
		mination for the teaching)	

Modul	Module title Abbreviation					
Semin	Seminar in Complex Analysis 10-M-BSC-072-m01					
Modul	e coord	inator		Module offered by		
Dean c	of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts	·				
A seled	cted top	pic in complex analysis.				
Intend	ed lear	ning outcomes				
of a giv	ven top				sters elaboration and structuring /She is able to participate active-	
Course	es (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
S (no i	nforma	tion on SWS (weekly cont	act hours) and cours	e language available	e)	
		sessment (type, scope, langua ole for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
Assess	sment o	60 minutes) iffered: in the semester in issessment: German, Eng				
Alloca	tion of _l	places				
Additio	onal inf	ormation				
Worklo	oad					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
§ 73 (1) 1. Mat	hematik Analysis				
Modul	Module appears in					
	Bachelor' degree (1 major) Mathematics (2008)					
Bachelor' degree (1 major) Mathematics (2007)						
	Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008)					
	Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009)					
		ree (1 major) Mathematic		00)		
	-	gree (1 major, 1 minor) Ma		•		
)	
First state examination for the teaching degree Gymnasium Mathematics (2009)						

Module	Module title Abbreviation					
Semina	ar in Nu	merical Mathematics			10-M-BSN-072-m01	
Module	e coord	inator		Module offered by		
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	Its	а.				
A selec	ted top	bic in numerical mathema	itics.			
Intend	ed lear	ning outcomes				
of a giv ly in a s	ven top scientif	ic using selected literatur ic discussion.	e, and prepares a tal	k on the subject. He	sters elaboration and structuring /She is able to participate active-	
		number of weekly contact hours, l tion on SWS (weekly cont			-)	
talk (ap Assess	oprox. 6 ment o	ole for bonus) 60 minutes) Iffered: in the semester in Issessment: German, Eng				
Allocat			<u> </u>			
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	immes)		
§ 73 (1)) 5. Mat	thematik Angewandte Ma	thematik			
Module	e appea	ars in				
	-	ree (1 major) Mathematic				
Bachelor' degree (1 major) Mathematics (2007)						
Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008)						
Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009)						
	Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)					
	-	gree (1 major, 1 minor) Ma		•		
		mination for the teaching)	

Modul	Module title Abbreviation					
Semina	Seminar in Stochastics 10-M-BSS-072-m01					
Modul	e coord	inator		Module offered by	<u> </u>	
Dean o	of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ester	undergraduate				
Conter	nts	·	·			
A selec	ted top	pic in stochastics.				
Intend	ed lear	ning outcomes				
of a giv	/en top	•	•	-	sters elaboration and structuring /She is able to participate active-	
	_	number of weekly contact hours, l				
S (no i	nforma	tion on SWS (weekly cont	act hours) and cours	e language available	e)	
		sessment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
Assess	sment o	60 minutes) Iffered: in the semester ir Issessment: German, Eng				
Allocat	tion of	places				
Additio	onal inf	ormation				
			-			
Worklo	bad					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)		
§ 73 (1)) 3. Mat	thematik Stochastik				
Module appears in						
	Bachelor' degree (1 major) Mathematics (2008)					
Bachelor' degree (1 major) Mathematics (2007)						
Bachelor' degree (1 major) Economathematics (2009)						
Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2000)						
	Bachelor' degree (1 major) Mathematical Physics (2009) Bachelor' degree (1 major) Computational Mathematics (2009)					
	-	gree (1 major, 1 minor) M		•		
First state examination for the teaching degree Gymnasium Mathematics (2009)						

Module title					Abbreviation		
Semina	Seminar in Functional Analysis				10-M-BSF-072-m01		
Module	e coord	inator		Module offered by			
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	atics		
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						
A selec	ted top	ic in functional analysis.					
Intende	ed lear	ning outcomes					
of a giv	en topi				sters elaboration and structuring /She is able to participate active-		
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)			
S (no ir	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	a)		
Metho	d of ass	Sessment (type, scope, langua	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
module is	s creditab	le for bonus)					
		50 minutes)					
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
Referre	ed to in	LPOI (examination regulations	s for teaching-degree progra	mmes)			
Module appears in							
Bachelor' degree (1 major) Mathematics (2008)							
	Bachelor' degree (1 major) Mathematics (2007)						
Bachelor' degree (1 major) Economathematics (2009)							
Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009)							
				`			
	-	ree (1 major) Computation		•			
васпеі	Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008)						

Module title					Abbreviation		
Semina	Seminar in Operation Research				10-M-BSO-072-m01		
Module	e coord	inator		Module offered by			
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics		
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						
A selec	ted top	ic in operations research	l.				
Intende	ed lear	ning outcomes					
of a giv	en top				sters elaboration and structuring /She is able to participate active-		
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)			
S (no ir	nformat	tion on SWS (weekly cont	act hours) and cours	e language available	2)		
			ge — if other than German, e	examination offered — if no	t every semester, information on whether		
		le for bonus)					
		50 minutes)					
Allocat	ion of _l	olaces					
Additio	onal inf	ormation					
Worklo	ad						
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)			
Module appears in							
Bachelor' degree (1 major) Mathematics (2008)							
Bachelor' degree (1 major) Mathematics (2007)							
Bachelor' degree (1 major) Economathematics (2009)							
Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009)							
	-		• •	`			
		ree (1 major) Computatio					
Bachel	Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008)						

Module title					Abbreviation	
Semina	Seminar in Discrete Mathematics				10-M-BSD-072-m01	
Module	e coord	inator		Module offered by		
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
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					
A selec	ted top	ic in discrete mathemati	cs.			
Intende	ed lear	ning outcomes				
of a giv	en topi				sters elaboration and structuring /She is able to participate active-	
Course	S (type, r	umber of weekly contact hours, l	anguage — if other than Ger	man)		
S (no ir	format	ion on SWS (weekly cont	act hours) and cours	e language available	2)	
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
talk (ap	prox. 6	50 minutes)				
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)		
Module appears in						
Bachelor' degree (1 major) Mathematics (2008)						
	Bachelor' degree (1 major) Mathematics (2007)					
	Bachelor' degree (1 major) Economathematics (2009)					
Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Mathematical Physics (2009)						
				`		
		ree (1 major) Computation				
Bachel	Bachelor's degree (1 major, 1 minor) Mathematics (Minor, 2008)					



Application-oriented Subject

(35 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 55 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	1



Application-oriented Subject Biology

(35 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 56 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	



Application-oriented Subject Biology Compulsory Courses

(10 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 57 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	Module title Abbreviation				
Genetic	cs, Neu	robiology, Behaviour			07-2A2GNV-072-m01
Module	e coord	inator		Module offered by	
Dean of	f Studi	es Biologie (Biology)		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate	By way of exception assessments.	, additional prerequ	isites are listed in the section on
Conten	Contents				
Fundan	nental	principles of genetics, ne	urobiology and beha	vioural biology.	
Intende	ed lear	ning outcomes			
cal med molecu	chanisr Ilar anc		ed in animal behaviou nce.]	ur and will be able to	ular, cellular and system biologi- o relate animal behaviour to the
• 0 • 0	7-2A2(7-2A2(6NV-2N-072: V + Ü (no inf 6NV-3V-072: V + Ü (no info	ormation on SWS (we ormation on SWS (we	ekly contact hours) a ekly contact hours) a	and course language available) and course language available) and course language available)
		s essment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
	less st	ated otherwise, successf			e components as specified be- successful completion of all indi-
• 2 • W • 0	ECTS, /ritten e)ther p	-	erical grade minutes) prerequisite to asses	ssment: regular atte	endance of exercises and suc-
 cessful completion of the respective exercises as specified at the beginning of the course. Assessment in module component o7-2A2GNV-2N-072: Basic Neurobiology Basic Neurobiology 2 ECTS, Method of grading: numerical grade written examination (approx. 30 minutes) 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 o7-2A2GNV-3V-072: Behavioural Biology Behavioural Biology 2 ECTS, Method of grading: numerical grade written examination (approx. 30 minutes, word problems and/or multiple choice questions) 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 					
Only as	part o	f "spezielles Studienange	ebot": 10 places.		
Additio	nal inf	ormation			

Bachelor's with 1 major Mathematics (2007)

Workload

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

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Module appears in	1
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Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Biology (2010) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2012) Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009) Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major) Computational Mathematics (2013) Bachelor' degree (1 major, 1 minor) Biology (Minor, 2008) Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010) No final examination (2010)

Module	Module title Abbreviation				
Structu	Structure and Function of Cells 07-1A1Z-072-m01				
Module	e coord	inator		Module offered by	
holder	of the (Chair of Plant Physiology	and Biophysics	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
4	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate		pletion of the respec	regular attendance of exercises tive exercises as specified at the
Conten	ts				
acquain knowle before cells (b	nt stud dge, th moving acteria	ents with the elementary le course will then discus g on to its microscopic str l, archaebacteria) and eu	building blocks of lif s the cell, the smalle ructure. It will point o	e as well as biologic st unit of life, startin ut differences and si	e first part of the module will al categories. Building on this g with its macroscopic structure milarities between prokaryotic
Intende	ed lear	ning outcomes			
ge of th	ie spec		intracellular and extr	racellular structures	gical) macromolecules. Knowled- of prokaryotes as well as animal 5.
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)	
V + Ü (r	no infoi	rmation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	t every semester, information on whether
written	exami	nation (60 minutes)	,		
Allocat	ion of _l	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachel	Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009)				



Application-oriented Subject Biology Compulsory Electives

(25 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 61 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	Module title Abbreviation				
Bioinfo	rmatics	5			07-3A3BI-072-m01
Module	coord	inator		Module offered by	
holder	of the C	Chair of Bioinformatics		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	numei	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
Fundam	nental p	orinciples of bioinformati	cs.		
Intende	d learr	ning outcomes			
Students are proficient in methods for the analysis of DNA and protein databases.					
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. o7-3A3BI-1B-072: V (no information on SWS (weekly contact hours) and course language available) o7-3A3BI-2B-072: S (no information on SWS (weekly contact hours) and course language available) 					
Method	l of ass	-	· · · ·		t every semester, information on whether
Assessment in this module comprises the assessments in the individual module components as specified be- low. Unless stated otherwise, successful completion of the module will require successful completion of all indi- vidual assessments. Assessment in module component o7-3A3BI-1B-072: Bioinformatics (Lecture) • 1 ECTS, Method of grading: numerical grade • written examination (approx. 20 minutes) Assessment in module component o7-3A3BI-2B-072: Bioinformatics (Seminar) • 1 ECTS, Method of grading: (not) successfully completed • term paper (approx. 5 to 10 pages) Allocation of places Only as part of Biochemistry Master's: 5 places. Places will be allocated by lot. Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelo Bachelo Bachelo Bachelo Bachelo Master	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) Bachelor' degree (1 major) Computational Mathematics (2009) Master's degree (1 major) Biochemistry (2012) Bachelor's degree (1 major, 1 minor) Biology (Minor, 2008)				

Module title					Abbreviation		
Ecology	y of pla	nts and animals			07-3A30E-072-m01		
Module	e coord	inator		Module offered by			
Dean o	fStudi	es Biologie (Biology)		Faculty of Biology			
ECTS	ECTS Method of grading Only after succ. of			npl. of module(s)			
6	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
and bio as on th model o	This module will provide students with an overview of the interactions of plants and animals with their abiotic and biotic environments. The module will focus on the functional adaptation to environmental conditions as well as on the structure and dynamics of populations and ecosystems. Students will be introduced to fundamental model concepts of ecology, will become familiar with examples of research findings and will acquire the funda- mental knowledge necessary to develop an understanding of current ecological problems.						
Intende	ed leari	ning outcomes					
Students are familiar with the fundamental principles of research in the field of ecology and with the most important abiotic and biotic factors that influence the distribution and frequency of occurrence of organisms in their environment. In addition, they understand the scientific relevance ecology has to the assessment of environmental issues.							
Course	S (type, n	umber of weekly contact hours	, language — if other than Ger	rman)			
 This module comprises 2 module components. Information on courses will be listed separately for each module component. o7-3A3OE-1T-072: V + Ü (no information on SWS (weekly contact hours) and course language available) o7-3A3OE-2P-072: V + 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							
		le for bonus)			,		
	less st	n this module comprise ated otherwise, succes ments.					
 Assessment in module component o7-3A3OE-1T-072: Ecology of Animals (Lecture and Practice) Ecology of Animals (Lecture and Practice) 3 ECTS, Method of grading: numerical grade written examination (45 minutes) Assessment in module component o7-3A3OE-2P-072: Ecology of Plant (Lecture and Practice) Ecology of Plant (Lecture and Practice) 3 ECTS, Method of grading: numerical grade written examination (60 minutes) 							
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
Referre	d to in	LPO I (examination regulation	ons for teaching-degree progra	mmes)			
Module	e appea	rs in					
		ree (1 major) Biology (2	007)				
Bachelor's	with 1 maj	or Mathematics (2007)		g • generated 11-Jan-2023 • e. achelor (180 ECTS) Mathemat	-	page 63 / 249	



Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 64 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Modul	Module title Abbreviation						
Develo	Developmental Biology for advanced students 07-4BFMZ1-092-m01						
Module coordinator Module offered by							
holder logy	of the (Chair of Cell Biology and	Developmental Bio-	Faculty of Biology			
ECTS Method of grading Only after succ.			Only after succ. con	npl. of module(s)			
5 numerical grade							
Durati	on	Module level	Other prerequisites				
1 seme	ester	undergraduate					
Conte	nts						
anima	ls. Parti		iaced on providing st	udents with an oppo	ecular developmental biology of ortunity to become proficient in		
Intend	ed lear	ning outcomes					
Stude	nts are a	able to use fundamental	methods to approach	n simple problems ir	n animal developmental biology.		
Course	es (type, r	number of weekly contact hours,	language — if other than Ge	rman)			
V + Ü (no info	rmation on SWS (weekly	contact hours) and co	ourse language avai	lable)		
		sessment (type, scope, langua ile for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether		
didate	each (a		oral examination in		or c) oral examination of one can- o to 3 candidates, approx. 60 mi-		
	tion of p						
Additi	onal inf	ormation					
Workle	oad						
Referr	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)			
Modul	e appea	ars in					
		ree (1 major) Biology (20 ree (1 major) Mathematic					

Modul	Module title Abbreviation					
Cell Bi	Cell Biology for advanced students 07-4BFMZ2-092-mo1					
Modul	Module coordinator			Module offered b	y	
holder logy	ofthe	Chair of Cell Biology a	and Developmental Bio-	Faculty of Biology	,	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites	;		
1 seme	ester	undergraduate				
Conter	nts		·			
placed	l on pro	viding students with		e proficient in fund	logy. Particular emphasis will be damental methods and applicati-	
Intend	ed lear	ning outcomes				
Studer	nts are	able to use fundame	ntal methods to approach	n simple problems	in cell biology.	
Course	es (type, i	number of weekly contact he	ours, language — if other than Ge	rman)		
V + Ü (no info	rmation on SWS (wee	ekly contact hours) and co	ourse language ava	ailable)	
		sessment (type, scope, la ble for bonus)	anguage — if other than German,	examination offered — if	not every semester, information on whether	
writter	n exami	nation (60 minutes)				
Alloca	tion of	places				
Additio	onal inf	ormation				
Worklo	oad					
Referre	ed to in	LPOI (examination regu	ations for teaching-degree progra	ammes)		
Modul	e appea	ars in				
	-	ree (1 major) Biology				
Bache	lor' deg	ree (1 major) Mathen	natics (2007)			

Module	Module title Abbreviation					
Microb	iology	for advanced students			07-4BFMZ3-092-m01	
Module	e coord	inator		Module offered by	,	
holder	ofthe	Chair of Microbiology		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ster	undergraduate				
Conten	ts					
This m microo		-	ith the fundamental p	rinciples of the phys	siology and molecular biology of	
Intend	ed lear	ning outcomes				
		able to use fundamental microbiology.	l methods to approach	n simple problems i	n microbiology. They are familiar	
Course	S (type, 1	number of weekly contact hours,	, language — if other than Ge	rman)		
V + P (r	no infoi	mation on SWS (weekly	contact hours) and co	ourse language avai	lable)	
		sessment (type, scope, langu vle for bonus)	age — if other than German,	examination offered — if r	ot every semester, information on whether	
written	exami	nation (60 minutes)				
Allocat	ion of	places				
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPO I (examination regulatio	ns for teaching-degree progra	ammes)		
Modul	e appea	ars in				
		ree (1 major) Biology (20				
Duchet			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			

Module title Abbreviation						
Bioinfo	rmatic	s for advanced students			07-4BFMZ4-092-m01	
Module	e coord	inator		Module offered by	<u> </u>	
holder	of the (Chair of Bioinformatics		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duration Module level Other prerequisites						
1 semester undergraduate						
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 algorith	ns to address simpl	e problems as well as to interpret	
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Gei	rman)		
1) Ü + V	no infoi	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)	
		sessment (type, scope, langua ile for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
log (ap	prox. 1	o to 20 pages)				
Allocat	ion of j	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
Module	e appea	ars in				
Bachel	or' deg	ree (1 major) Biology (20	07)			
	-	ree (1 major) Mathematic				
	-	ree (1 major) Mathematic)		
Bachel	or deg	ree (1 major) Computatio	nai Mathematics (20	09)		

Biotechnology with the sequence of the sequence o					
holder of the Chair of Biotechnology and Biophysics Faculty of Biology ECTS Method of grading Only after succ. compl. of module(s) 5 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents Ouring this practical course, students will acquire an insight into a variety of topics in biotechnology. Intended learning outcomes Students are able to apply advanced methods in biotechnology. 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. • 07-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available)					
ECTS Method of grading Only after succ. compl. of module(s) 5 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents During this practical course, students will acquire an insight into a variety of topics in biotechnology. Intended learning outcomes Students are able to apply advanced methods in biotechnology. 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. • 07-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available)					
5 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents During this practical course, students will acquire an insight into a variety of topics in biotechnology. Intended learning outcomes Students are able to apply advanced methods in biotechnology. 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. • o7-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available)					
Duration Module level Other prerequisites 1 semester undergraduate Contents During this practical course, students will acquire an insight into a variety of topics in biotechnology. Intended learning outcomes Students are able to apply advanced methods in biotechnology. 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. • 07-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available)					
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Intended learning outcomes Students are able to apply advanced methods in biotechnology. 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. • 07-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available)					
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 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. • 07-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available) 					
 This module comprises 2 module components. Information on courses will be listed separately for each module component. • 07-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available) 					
 component. o7-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available) 					
 o7-4BFMZ5-1BT-092: P (no information on SWS (weekly contact hours) and course language available) 					
 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 o7-4BFMZ5-1BT-o92: Biotechnology 1 (Lecture and Laboratory Practice) 4 ECTS, Method of grading: numerical grade log (approx. 10 to 20 pages) Assessment in module component o7-4BFMZ5-2BT-o92: Seminar to Advanced Biotechnology 1 1 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) 					
Assessment offered: once a year, summer semester Allocation of places					
Additional information					
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Biology (2007)					
Bachelor' degree (1 major) Mathematics (2007)					

Modul	Module title Abbreviation						
Neurob	Neurobiology for advanced students 07-4BFNV01-092-m01						
Modul	e coord	inator	Module offered by	,			
			d Genetics	Faculty of Biology			
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
5	nume	rical grade					
Duratio	on	Module level	Other prerequisites	;			
1 seme	ster	undergraduate					
Conter	ts	<u>.</u>					
					control behaviour? Cellular and ications of neurobiology.		
Intend	ed lear	ning outcomes					
		e acquired an advanced l in neurobiology have to r	•	a of neurobiology ar	nd recognise the relevance rese-		
Course	S (type, 1	number of weekly contact hours,	anguage — if other than Ge	rman)			
V + Ü (no info	rmation on SWS (weekly	contact hours) and co	ourse language ava	ilable)		
		S essment (type, scope, langua vle for bonus)	ge — if other than German,	examination offered — if r	not every semester, information on whether		
written	exami	nation (60 minutes)					
Allocat	ion of	places					
Additio	onal inf	ormation					
Worklo	ad						
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)			
-		•					
Modul	e appea	ars in					
		ars in ree (1 major) Biology (20	07)				

Module coor holder of the ECTS Met 5 num Duration 1 semester Contents Specific and physiology. Intended lea	e Chair of Neurobiology and hod of grading erical grade Module level undergraduate comparative animal physic arning outcomes	Genetics Only after succ. con Other prerequisites 	Module offered by Faculty of Biology npl. of module(s)	07-4BFNVO2-092-m01
holder of the ECTS Met 5 num Duration 1 semester Contents Specific and physiology. Intended lea Students ha	e Chair of Neurobiology and hod of grading erical grade Module level undergraduate comparative animal physic arning outcomes	Only after succ. con Other prerequisites 	Faculty of Biology npl. of module(s)	
ECTSMet5numDuration1 semesterContentsSpecific and physiology.Intended leadStudents ha	hod of grading erical grade Module level undergraduate comparative animal physic arning outcomes	Only after succ. con Other prerequisites 	npl. of module(s)	s well as sensory and behavioural
5 num Duration 1 semester Contents Specific and physiology. Intended lea Students ha	Module level Module level undergraduate comparative animal physic arning outcomes	 Other prerequisites 		s well as sensory and behavioural
Duration 1 semester Contents Specific and physiology. Intended lea Students ha	Module level undergraduate comparative animal physic			s well as sensory and behavioural
1 semester Contents Specific and physiology. Intended lea Students ha	undergraduate comparative animal physic			s well as sensory and behavioural
Contents Specific and physiology. Intended lea Students ha	comparative animal physic	 ology with a focus or	n neurophysiology a	s well as sensory and behavioural
Specific and physiology. Intended lea Students ha	arning outcomes	ology with a focus or	n neurophysiology a	s well as sensory and behavioural
physiology. Intended lea Students ha	arning outcomes	ology with a focus or	n neurophysiology a	s well as sensory and behavioural
Students ha				-
	ve acquired knowledge and			
potheses an	d are proficient in methods			vsiology. They are familiar with hy-
Courses (type	, number of weekly contact hours, la	anguage — if other than Gei	rman)	
V + Ü (no inf	ormation on SWS (weekly o	contact hours) and co	ourse language avai	lable)
Method of a module is credit		ge — if other than German,	examination offered — if n	ot every semester, information on whether
written exan	nination (60 minutes)			
Allocation o	f places			
Additional i	nformation			
Workload				
Referred to i	n LPO I (examination regulations	s for teaching-degree progra	ummes)	
Module app	ears in			
Bachelor' de	egree (1 major) Biology (200 egree (1 major) Mathematic			

Modul	Module title Abbreviation						
Ecolog	Ecology of Animals for advanced students 07-4BFNV03-092-m01						
Modul	e coord	linator		Module offered by	V		
holder	ofthe	Chair of Zoology III		Faculty of Biology			
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)			
5	5 numerical grade						
Duratio	on	Module level	Other prerequisites	i			
1 seme	ster	undergraduate					
Conter	its		•				
Selecte logy.	ed topi	cs in autecology and sy	necology; experimenta	l design, data colle	ection and analysis in animal eco		
Intend	ed lear	ning outcomes					
			d knowledge in the area as well as to interpret		. They are able to design simple ndings.		
Course	S (type, I	number of weekly contact hou	rs, language — if other than Ge	rman)			
V + Ü (i	no info	rmation on SWS (week	ly contact hours) and co	ourse language ava	ilable)		
Metho	d of as	sessment (type, scope, lan	guage — if other than German,	examination offered — if	not every semester, information on whether		
		ole for bonus)					
written	exami	nation (60 minutes)					
Allocat	ion of	places					
Additio	onal inf	ormation					
Worklo	ad						
Referre	ed to in	LPOI (examination regulat	ions for teaching-degree progra	ammes)			
Modul	e appea	ars in					
		ree (1 major) Biology (2	2007)				
	-	ree (1 major) Mathema					
	-	ree (1 major) Mathema					
Bachel	or' deg	ree (1 major) Computa	tional Mathematics (20	09)			

Specific Plant Physiology 07-4BFPS1-092-m01					
Madula secondinator					
Module coordinator Module offered by					
holder of the Chair of Plant Physiology and Biophysics Faculty of Biology					
ECTS Method of grading Only after succ. compl. of module(s)					
5 numerical grade					
Duration Module level Other prerequisites					
1 semester undergraduate					
Contents					
This module will equip students with the theoretical foundations of fundamental processes in plants, such trogen and carbon metabolism. The methodological approaches in experimental plant physiology will be di sed and the molecular techniques for functional gene analysis (reverse genetics and other techniques) will applied.					
Intended learning outcomes					
Students have acquired fundamental knowledge on plant nutrient cycles and are proficient in molecular an physiological methods in experimental plant physiology.					
Courses (type, number of weekly contact hours, language — if other than German)					
V + 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 whe module is creditable for bonus)					
written examination (60 minutes)					
Allocation of places					
Additional information					
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)					

Module title Abbreviation						
Biophy	vsics - E	Basic course			07-4BFPS2-092-m01	
Module	e coord	inator		Module offered by	<u>I</u>	
holder	holder of the Chair of Plant Physiology and Biophysics			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	ster	undergraduate				
Conten	Its	·	·			
methoo molecu	ds with Ilar bio	which it can be characte logy and imaging as well	rised. For this purpos	e, students will be i	ane transport and the biophysical ntroduced to modern methods of	
Intend	ed lear	ning outcomes				
		erstand basic membrane tact plants, isolated plan			experimental methods in experi- ms.	
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Gei	rman)		
V + Ü (ı	no infoi	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)	
		sessment (type, scope, langua ile for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
written	exami	nation (60 minutes)				
Allocat	ion of _l	places				
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
Module	e appea	ars in				
		ree (1 major) Biology (20				
	-	ree (1 major) Mathematic				
	-	ree (1 major) Mathematic ree (1 major) Computatio		00)		
Dachel	or deg	ree (1 major) Computatio	nat mathematics (20	09)		

Module title Abbreviation						
Bioche	mistry	- Basic course			07-4BFPS3-092-m01	
Module	e coord	inator		Module offered by		
holder	of the (Chair of Plant Physiology	and Biophysics	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	i		
1 seme	ster	undergraduate				
Conten	ts					
recepto	ors and		al principles of the b	iochemical and mole	, biological and microbial photo- ecular biological methods for the n of receptors.	
Intend	ed lear	ning outcomes				
		amiliar with the biochem e these using appropriat		ogy and function of b	iological photoreceptors and are	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
ı) Ü + V	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,	examination offered — if no	ot every semester, information on whether	
written	exami	nation (60 minutes)				
Allocat	ion of j	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulation	s for teaching-degree progra	immes)		
	_					
Module	e appea	urs in				
	-	ree (1 major) Biology (200				
Bachel	or' deg	ree (1 major) Mathematic	s (2007)			

Module title Abbreviation					
Basics	plant E	cophysiology			07-4BFPS4-092-m01
Modul	e coord	inator		Module offered by	
holder of the Chair of Ecophysiology and Vegetation gy			and Vegetation Ecolo-	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)	
5	nume	rical grade			
Durati	on	Module level	Other prerequisites	i	
1 seme	ester	undergraduate			
Conter	nts				
the int	eractio		neir environment and v	vill make students fa	the theoretical fundamentals of amiliar with the molecular biologistigate this interaction.
Intend	ed lear	ning outcomes			
		be able to recognise, de ble to perform basic exp			plants and their environment.
Course	es (type, r	number of weekly contact hours	, language — if other than Ge	rman)	
V + Ü (no info	rmation on SWS (weekly	/ contact hours) and co	ourse language avai	lable)
		sessment (type, scope, lang ole for bonus)	uage — if other than German,	examination offered — if no	ot every semester, information on whether
writter	ı exami	nation (60 minutes)			
Alloca	tion of _l	places			
Additi	onal inf	ormation			
Worklo	oad				
Referr	ed to in	LPO I (examination regulation	ons for teaching-degree progra	ammes)	
Modul	e appea	ars in			
	-	ree (1 major) Biology (2 ree (1 major) Mathemat			
васпе	ior aeg	ree (1 major) Mathemat	its (2007)		

Module title Abbreviation						
Pharma	ceutic	al bio analytics			07-4BFPS5-092-m01	
Module	coord	inator		Module offered by		
holder	of the C	hair of Pharmaceutical B	Biology	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Contents						
analysi: comput	s. It wil ationa	l include an introduction	to chromatographic nd quantitative analy	methods of analysis ses of active agents	nentals of drug and metabolite as well as modern methods in and metabolites will be perfor-	
Intende	d learr	ning outcomes				
		e developed fundamental nromatographic methods		s in the area of drug	and metabolite analysis and are	
Courses	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
compor • o	nent. 7-4BFP	S5-1BA-092: P (no inform	ation on SWS (weekl	y contact hours) and	sted separately for each module d course language available) d course language available)	
		e ssment (type, scope, langua le for bonus)	ge — if other than German, e	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-	
 Assessment in module component o7-4BFPS5-1BA-092: Pharmaceutical Bioanalytics (practical course) 4 ECTS, Method of grading: numerical grade written examination (45 minutes) Assessment in module component o7-4BFPS5-2BA-092: Seminar Pharmaceutical Bio Analytics 1 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Assessment offered: once a year, summer semester 						
Allocati	ion of p	olaces				
Additio	nal info	ormation				
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
	-	ree (1 major) Biology (200 ree (1 major) Mathematic				

Module title					Abbreviation	
Human	Genet	cs			03-4S1HG-092-m01	
Module	coord	inator		Module offered by		
holder	of the (Chair of of Human Gene	tics	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 semes	ster	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in th	e section on
Conten	ts					
Fundamentals of and analytical methods in human and vertebrate cytogenetics. Characterisation of the normal human karyotype and chromosome aberrations. Introduction to chromosome evolution.						
Intende	ed lear	ning outcomes				
		complete this module v will learn how to prepa				
Courses	5 (type, r	umber of weekly contact hours	, language — if other than Ger	man)		
compor • o	nent. 3-4S1⊦	omprises 2 module con IG-1HZ-092: V + Ü (no in IG-2HZ-092: S (no inforı	formation on SWS (wee	ekly contact hours) a	nd course language	available)
Method	l of ass	sessment (type, scope, langule for bonus)				
	less st	n this module comprises ated otherwise, success ments.				
 Assessment in module component 03-4S1HG-1HZ-092: Human Genetics (Lecture and Laboratory Practice) Human Genetics (Lecture and Laboratory Practice) 3 ECTS, Method of grading: numerical grade 2 written examinations (multiple choice): mid-semester examination (15 minutes), end-of-semester examination (20 minutes) Other prerequisites: A basic knowledge of genetics is recommended. Assessment in module component 03-4S1HG-2HZ-092: Human Genetics (Seminar) 2 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Other prerequisites: A basic knowledge of genetics is recommended. 						
Allocati	ion of p	olaces				
Additio	nal inf	ormation				
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	appea	in in				
	-	ree (1 major) Biology (20				
		ree (1 major) Mathemat	JMU Würzburg	; • generated 11-Jan-2023 • e: achelor (180 ECTS) Mathemat	_	page 78 / 249



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

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 79 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title					Abbreviation	
Immuno	logy I				03-4S1lM-092-m01	
Module	coord	inator		Module offered by		
holder o	f the F	Professorship of Immur	ogenetics	Faculty of Medicine		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	numei	rical grade				
Duratior	1 I	Module level	Other prerequisites			
1 semes	ter	undergraduate				
Content	s					
This module gives an introduction to immunology. The following questions will be addressed: How does the bo- dy recognise and eliminate pathogens and tumour cells? How can the immune system damage its own body (all- ergies, autoimmunity)? Organs, cells and molecules of the immune system will be presented with an emphasis on genetic and molecular mechanisms of recognition and elimination of foreign substances by the immune sy- stem. The most important immunological techniques will be introduced and applied.						
		ning outcomes	-			
system. mune sy	The ai stems	acquire a practical know re familiar with the med . They acquire a funda ctions and molecules.	hanisms of self and no	on-self discriminatio	n by the adaptive an	d innate im-
Courses	(type, n	umber of weekly contact hours	s, language — if other than Ger	man)		
compon • 03 • 03	ent. 3-4S1 3-4S1	omprises 2 module cor A-1IM-092: V + Ü (no in A-2IM-092: P (no inforr essment (type, scope, lang	formation on SWS (wee nation on SWS (weekly	ekly contact hours) a contact hours) and	nd course language course language ava	available) iilable)
		le for bonus)				
	ess st	this module comprise ated otherwise, succes nents.				
 Assessment in module component o3-4S1IM-1IM-092: Introduction into Immunology (Lecture and Practice) Introduction into Immunology (Lecture and Practice) 2 ECTS, Method of grading: numerical grade written examination (30 minutes) Language of assessment: German, English where required Assessment in module component o3-4S1IM-2IM-092: Immunology (Laboratory Course) 3 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Language of assessment: German, English where required 						
Allocatio	on of p	laces				
Additional information						
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	appea	rs in				
Bachelor's w	ith 1 maj	or Mathematics (2007)		g • generated 11-Jan-2023 • e achelor (180 ECTS) Mathema	-	page 80 / 249

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 81 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title					Abbreviation		
Physio	logical	Chemistry I			03-4S1PC-092-m01		
Module	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						
General anatomy, physiology and developmental biology of fishes. Special usefulness of the mainstream fish model systems (zebrafish, medaka, Xiphophorus) for biomedical research. Phenotyping of mutants. Microinjection of DNA and RNA in single-cell embryos. Fluorescent microscopy-based bioimaging techniques. Visualisation of selected tissues and organs (neural tissues, cartilage). In-situ hybridisation of mRNA. Immunhistochemical detection of proteins in-situ. Demonstration of basic techniques for electron microscopy. Behavioural analyses of locomotor activity.							
Intende	ed leari	ning outcomes					
tempor types o	al and devel	spatial RNA and protein e	expression in situ, ap	praise expression p	able to delineate and describe atterns and recognise pheno- edicine for their usefulness to		
		umber of weekly contact hours, l					
		mation on SWS (weekly o					
		eessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether		
written	exami	nation (60 minutes)					
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Workload							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module							
	-	ree (1 major) Biology (200					
васпе	Bachelor' degree (1 major) Mathematics (2007)						

Module title					Abbreviation	
Virolog	уI				03-4S1VL-092-m01	
Module	coord	inator		Module offered by		
holder	of the (Chair of Virology		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 semes	ster	undergraduate				
Conten	ts					
Working safely in a BSL-2 laboratory; cell culture; virus production; virus titration; virus sequencing; phylogene- tic analysis of a viral quasispecies.						
Intende	ed lear	ning outcomes				
on of vi	ruses,	e developed a fundame virus-host cell interacti olecular techniques of	ons and mechanisms o	of action of antiviral of		
Courses	S (type, r	umber of weekly contact hour	s, language — if other than Ger	man)		
compor • 0 • 0	nent. 3-4S1V 3-4S1V	omprises 3 module cor 'L-1VL-092: V (no inforn 'L-3VL-092: P (no inforr 'L-2VL-092: S (no inforr	nation on SWS (weekly nation on SWS (weekly	contact hours) and c contact hours) and c	course language ava course language ava	ilable) ilable)
Method	l of ass	sessment (type, scope, lang le for bonus)				
low. Un vidual a	less st assess		sful completion of the	module will require s	successful completion	
 Assessment in module component o3-4S1VL-1VL-092: Basic Virology (Lecture and Practice) 1 ECTS, Method of grading: numerical grade written examination (20 minutes) Language of assessment: German, English where required Assessment in module component o3-4S1VL-3VL-092: Virology (Laboratory Course) 3 ECTS, Method of grading: numerical grade written examination (20 minutes) or oral examination (20 minutes) 						
 Language of assessment: German, English Assessment in module component 03-4S1VL-2VL-092: Seminar on General Virology 1 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Language of assessment: German, English where required 						
Allocati	ion of p	olaces				
Additional information						
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
 Module	30000	urs in				
		or Mathematics (2007)		g • generated 11-Jan-2023 • ex achelor (180 ECTS) Mathemat	-	page 83 / 249

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 84 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Modul	Module title Abbreviation				
Advan	ced Lig	ht- and Electron-Microsc	ору		07-4S1MZ1-092-m01
Modul	e coord	inator		Module offered by	
head o	of the D	epartment of Electronmic	croscopy	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
3	nume	rical grade			
Durati	on	Module level	Other prerequisites	i	
1 seme	ester	undergraduate			
Conte	nts	<u>.</u>			
Funda	mental	principles of confocal las	ser scanning microsco	opy and electron mid	croscopy.
Intend	led lear	ning outcomes			
			owledge and practica	Il skills in the area o	f light and electron microscopy
		number of weekly contact hours,			- 17
V + Ü (no info	rmation on SWS (weekly	contact hours) and co	ourse language avai	lable)
		S essment (type, scope, langua	age — if other than German,	examination offered — if n	ot every semester, information on whethe
writter	n exami	nation (45 minutes)			
A11	tion of	places			
Alloca					
Alloca					
	onal inf	ormation			
	onal inf	ormation			
		ormation			
 Additio		ormation			
 Additio Worklo	oad		is for teaching-degree progra	ammes)	
 Additio Worklo	oad	ormation LPOI (examination regulation	s for teaching-degree progra	ammes)	
 Additio Worklo Referro 	oad ed to in	LPOI (examination regulation	is for teaching-degree progra	ammes)	
 Additio Worklo Referro Modul	oad ed to in le appea	LPOI (examination regulation		ammes)	
 Additio Worklo Referro Bache	oad ed to in e appea lor' deg	LPOI (examination regulation	07)	ammes)	

Module	Module title Abbreviation					
Analys	is of Ch	iromosomes			07-4S1MZ2-092-m01	
Module	e coord	inator		Module offered by	1	
head o	f the De	epartment of Electronmic	roscopy	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
3	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	its		·			
Overvie	ew of th	e structure of chromosor	nes of somatic and n	neiotic cells.		
Intend	ed learı	ning outcomes				
Studer	its are a	able to analyse chromoso	omal structures.			
Course	S (type, n	number of weekly contact hours, l	anguage — if other than Ge	rman)		
V + Ü (I	no infor	mation on SWS (weekly	contact hours) and co	ourse language avail	able)	
		eessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
written	exami	nation (45 minutes)				
Allocat	ion of p	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)		
Module appears in						
		ree (1 major) Biology (200	07)			
	-	ree (1 major) Mathematic				
Bachel	or's de	gree (1 major, 1 minor) Bi	ology (Minor, 2008)			

Module title Abbreviation					Abbreviation
Ecology and Developmental Biology of marine organisms					07-4S1MZ3-092-m01
Module coordinator Module offered by					
head of the Department of Electronmicroscopy			roscopy	Faculty of Biology	
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duration Module level Other prerequisites					
1 semesterundergraduateBy way of exception, additional prerequisites are list assessments.		isites are listed in the section on			
Canton	Contonto				

Contents

A combination of lab work and field trips, this module will provide students with an insight both into the organismal diversity of a marine ecosystem and into the biocenosis of the littoral of the island of Helgoland in the North Sea.

Intended learning outcomes

Students are familiar with the morphology, developmental biology, physiology and ecology of organisms in a marine ecosystem.

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.

- 07-4S1MZ3-1MO-092: Ü (no information on SWS (weekly contact hours) and course language available)
- 07-4S1MZ3-2MO-092: S (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 o7-4S1MZ3-1MO-092: Ecology and Developmental Biology of Marine Organisms

- 4 ECTS, Method of grading: numerical grade
- log (approx. 10 to 20 pages)
- Assessment offered: once a year, summer semester
- 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 o7-4S1MZ3-2MO-092: Seminar on Marine Biology

- 1 ECTS, Method of grading: (not) successfully completed
- presentation (approx. 20 to 30 minutes)
- Assessment offered: once a year, summer semester

Allocation of places

Information on the allocation of places will be listed separately for each module component.

07-4S1MZ3-1MO-092: Number of places: 18. 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 180 ECTS credits and 5% of places (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 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

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 87 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

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 of the respective applicant; 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.

• 07-4S1MZ3-2MO-092: --Additional information

UNIVERSITÄT

WÜRZBURG

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Workload

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

Module appears in

Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Biology (2010) Bachelor' degree (1 major) Mathematics (2007) Bachelor's degree (1 major, 1 minor) Biology (Minor, 2008) First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)

Bachelor's with 1 major Mathematics (2007)
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Module title Abbreviation					Abbreviation	
Methoo	ls in Bi	iotechnology			07-4S1MZ4-092-m01	
Module	e coord	inator		Module offered by		
holder	of the (Chair of Biotechnology an	d Biophysics	Faculty of Biology		
ECTS Method of grading Only after su			Only after succ. com	pl. of module(s)		
2		rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme		undergraduate				
This mo dicine.	Contents This module will provide students with an overview of instrument-based methods in biotechnology and biome- dicine. In particular, imaging methods as well as single-cell technologies will be discussed. Publications on the methodology of biotechnology will be analysed.					
		ning outcomes				
		able to select the instrum problem.	ent-based method in	biotechnology and	biomedicine that is appropriate	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
 This module comprises 2 module components. Information on courses will be listed separately for each module component. 07-4S1MZ4-1AB-092: V (no information on SWS (weekly contact hours) and course language available) 07-4S1MZ4-2AB-092: S (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 o7-4S1MZ4-1AB-092: Methods in Biotechnology (Lecture) 1 ECTS, Method of grading: numerical grade written examination (20 minutes) Assessment in module component o7-4S1MZ4-2AB-092: Seminar on Methods in Biotechnology 1 ECTS, Method of grading: (not) successfully completed 						
		ation (approx. 20 to 30 m nent offered: once a year,				
Allocat	ion of _l	places				
		_				
Additio	nal inf	ormation				
Worklo	ad					
 Poforro	d to in	IPOL (overningtion regulation	for tooching dogroop not	mmoc)		
	Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	e appea	ars in				
		ree (1 major) Biology (200	07)			
Bachelor' degree (1 major) Mathematics (2007)						

Module title					Abbreviation	
Aspects of modern Biotechnology					07-4S1MZ5-092-m01	
Module coordinator				Module offered by		
holder	holder of the Chair of Biotechnology and Biophysics			Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
2	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Contents						
Theoret	ical as	pects of modern molecul	ar biotechnology.			
Intende	ed learr	ning outcomes				
Studen	ts have	acquired knowledge and	d skills in the area of	molecular biotechno	ology.	
Course	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
		omprises 2 module comp	oonents. Information	on courses will be li	sted separately for each module	
compoi • 0		175-1MB-002. V (no infor	mation on SWS (weel	dy contact hours) an	d course language available)	
					nd course language available)	
Method	l of ass	s essment (type, scope, langua	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
		le for bonus)				
					e components as specified be-	
			ut completion of the	module will require s	successful completion of all indi-	
• 1 • w Assess • 1 • p	 vidual assessments. Assessment in module component o7-4S1MZ5-1MB-092: Aspects of Modern Biotechnology (Lecture) 1 ECTS, Method of grading: numerical grade written examination (20 minutes) Assessment in module component o7-4S1MZ5-2MB-092: Seminar on Molecular Biotechnology 1 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Assessment offered: once a year, summer semester 					
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Workload						
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)		
Module	appea	in and the second se				
	-	ree (1 major) Biology (200				
Bachelor' degree (1 major) Mathematics (2007)						

Module	Module title Abbreviation					
Specia	l Bioinf	ormatics I			07-4S1MZ6-092-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. com	npl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
	tal prin	ciples of evolutionary bio			ics (methods and markers), fun- structure prediction, phylogene-	
Intende	ed leari	ning outcomes				
Studen netic re			databases for sequer	nce analysis, RNA str	ructure prediction and phyloge-	
Course	S (type, n	number of weekly contact hours, l	anguage — if other than Ger	rman)		
V + Ü (r	no infor	mation on SWS (weekly o	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	t every semester, information on whether	
log (ap	prox. 10	o to 20 pages)				
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)		
Module appears in						
	Bachelor' degree (1 major) Biology (2007)					
	Bachelor' degree (1 major) Mathematics (2008)					
	-	ree (1 major) Mathematic		、 、		
	-	ree (1 major) Computatio gree (1 major, 1 minor) Bi		09)		
Dachel		giee (1 major, 1 mmor) Br	ology (Milliol, 2008)			

Module	Module title Abbreviation					
Neurob	iology	I			07-4S1NVO1-092-m01	
Module	e coordi	inator		Module offered by		
holder	of the C	Chair of Neurobiology and	d Genetics	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	numei	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Neurob	iology	and methods in neurobic	ology, using Drosophi	la as a neurogenetic	: model system.	
Intende	ed learr	ning outcomes				
		acquired an advanced k ethods in neurobiology.	nowledge of the neu	robiology of a model	l organism and are able to apply	
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
P (no in	format	ion on SWS (weekly cont	act hours) and course	e language available	2)	
Method	d of ass	essment (type, scope, langua	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
module is	creditab	le for bonus)				
log (ap	prox. 10	o to 20 pages)				
Allocat	ion of p	olaces				
Additio	nal info	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)		
Module appears in						
Bachel	Bachelor' degree (1 major) Biology (2007)					
	Bachelor' degree (1 major) Mathematics (2008)					
	-	ree (1 major) Mathematic)		
	-	ree (1 major) Computation gree (1 major, 1 minor) Bi		99)		
Bachelor's degree (1 major, 1 minor) Biology (Minor, 2008)						

Aspects of Integrative Behavioural Biology 07-4S1NV02-092-m Module coordinator Module offered by holder of the Chair of Zoology II Faculty of Biology	01				
holder of the Chair of Zoology II Faculty of Biology					
ECTS Method of grading Only after succ. compl. of module(s)					
5 numerical grade					
Duration Module level Other prerequisites					
1 semester undergraduate By way of exception, additional prerequisites are listed in the assessments.	e section on				
Contents					
Communication in the animal kingdom, neuroethology and behavioural development, perception and proces- sing of olfactory signals, temporal organisation of behaviour, adaptive feeding behaviour, reproductive beha- viour, social behaviour, orientation mechanisms.					
Intended learning outcomes					
Students have acquired an advanced knowledge in the area of behavioural biology and are able to d sentations on current studies on relevant topics.	eliver pre-				
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 eacomponent. 07-4S1NVO2-1IV-092: V (no information on SWS (weekly contact hours) and course language a 07-4S1NVO2-2IV-092: S (no information on SWS (weekly contact hours) and course language a 	vailable)				
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information					
module is creditable for bonus)					
Assessment in this module comprises the assessments in the individual module components as spe low. Unless stated otherwise, successful completion of the module will require successful completio vidual assessments.					
 Assessment in module component o7-4S1NVO2-1IV-092: Aspects of Integrative Behavioural Biology 1 (Lecture and Practice) 2 ECTS, Method of grading: numerical grade written examination (30 minutes) Language of assessment: German or English Other prerequisites: A good command of the English language is recommended. Assessment in module component o7-4S1NVO2-2IV-092: Current Topics in Behavioural Biology 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: A good command of the English language is recommended. Allocation of places					
Additional information					
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor's with 1 major Mathematics (2007) JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record Bachelor (180 ECTS) Mathematik - 2007	page 93 / 249				

Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007) Bachelor's degree (1 major, 1 minor) Biology (Minor, 2008)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 94 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title					Abbreviation
Functio	onal Mo	orphology of arthropods			07-4S1NVO3-092-m01
Module	e coord	inator		Module offered by	l
holder of the Chair of Zoology III				Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate		pletion of the respec	regular attendance of exercises ctive exercises as specified at the
Conten	ts				
Morph	ology, a	anatomy, phylogeny and	ecology of arthropod	5.	
Intend	ed lear	ning outcomes			
		able to explain arthropod ecosystems.	radiations in a funct	ional context as well	l as to explain the importance of
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)	
V + Ü (I	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
term pa	aper (a	oprox. 5 to 10 pages)			
Allocat	ion of j	olaces			
allocat logy) w ces wil 5% of p ject Bio themat ject Bio ble in o the oth places course dure, a tive mo they be plicant of ECTS all moo themat firstly, and, se positio cording qualita followi compo ces wil	ed as for ith 180 l be allo blaces (blogie (cics and blogy (a blogy (a bl	bllows: Places will primar ECTS credits. Should the pocated to students of the a minimum of one partic Biology) with 60 ECTS cred Mathematik (Mathemat is well as potentially to st ota exceed the number of ta. Should there be, within will be a uniform regulatin nodule component that a ats who already have suc ill be given preferential c available. Selection proce ous academic achievem is they have achieved and mponents in the subject thematics)) at the time of ing to their average grade a cacording to their total hird ranking will be calcu tas: Quota 1 (50% of plac of the Faculty of Biology; a pocated by lot. Quota 2 (29)	ily be allocated to stue module be used in of Bachelor's degree su ipant in total) will be edits and to students ics), each with 180 E0 tudents of other 'impe- applications, the ren in one module compo- on for the courses of re concerned will be cessfully completed a onsideration. A waiti ess group 1 (95%): Pla ents. For this purpose d their average grade of Biologie (Biology) of application. This will e weighted according number of ECTS credi- tated as the sum of the plicants with the sam Selection process gra- ses): total number of E among applicants with 5% of places): number	udents of the Bachel other subjects, there ubject Biologie (Biolo allocated to student of the Bachelor's de CTS credits, as part of orting' subjects). Sh naining places will b onent, several course one module compor allocated in a standa at least one other mo ng list will be mainta aces will primarily be of all assessments t (excluding Chemie (G l be done as follows: to the number of EC its achieved (quantif hese two rankings, a ne ranking, places w CTS credits already the same number er of subject semeste	f available places, places will be lor's degree subject Biologie (Bio ogy) with 180 ECTS credits and ts of the Bachelor's degree sub- egree subjects Computational Ma of the application-oriented sub- ould the number of places availa- be allocated to applicants from es with a restricted number of nent. In this case, places on all ardised procedure. In this proce- odule component of the respec- ained and places re-allocated as e allocated according to the ap- ranked according to the number taken during their studies or of Chemistry), Physik (Physics), Ma : First, applicants will be ranked, TS credits (qualitative ranking) tative ranking). The applicants' and places will be allocated ac- vill be allocated according to the achieved in modules/module of ECTS credits achieved, pla- ers of the respective applicant; located 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

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

Module appears in

Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Biology (2010) Bachelor' degree (1 major) Mathematics (2012) Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major) Computational Mathematics (2013) Bachelor's degree (1 major, 1 minor) Biology (Minor, 2008) Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 96 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	e title				Abbreviation
Ecolog	y of ins	iects			07-4S1NVO4-092-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Chair of Zoology III		Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	6	
1 seme	ster	undergraduate			
Conten	ts	·			
Taxono and lat		ology (synecology in p	articular) and behaviou	iral biology of insect	s, including experimental field
Intende	ed lear	ning outcomes			
		proficient in insect dia and behavioural biolog		o apply appropriate	methods for experiments on in-
Course	S (type, 1	number of weekly contact hou	rs, language — if other than Ge	rman)	
V + Ü (r	no info	rmation on SWS (week	ly contact hours) and c	ourse language avai	lable)
		Sessment (type, scope, lan ble for bonus)	guage — if other than German,	examination offered — if n	ot every semester, information on whether
written	exami	nation (60 minutes)			
Allocat	ion of	places			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPOI (examination regulat	ions for teaching-degree progra	ammes)	
Module	e appea	ars in			
		ree (1 major) Biology (1	2007)		
	-	ree (1 major) Mathema			
Bachel	or's de	gree (1 major, 1 minor)	Biology (Minor, 2008)		

Module	e title				Abbreviation	
Ecology	y of po	oulations			07-4S1NV05-092-m	101
Module	e coord	inator		Module offered by		
holder	of the (Chair of Zoology III		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts	_	•			
		discussion of the struc nanagement.	ture and dynamics of l	numan and animal p	opulations; regulation	on of popula-
Intende	ed lear	ning outcomes				
		able to interpret the stru ts in population ecolog				
Course	S (type, r	umber of weekly contact hours	, language — if other than Ger	man)		
compo	nent.	omprises 2 module con				
b	le)	1V05-1P0-092: V + Ü (no		·		-
		1V05-2P0-092: S (no inf		•		
		sessment (type, scope, langule for bonus)	age — if other than German, o	examination offered — if no	t every semester, informati	on on whether
	less st	n this module comprises ated otherwise, success ments.				
Ecology • 4 • w Assess • 1	y of Pop ECTS, vritten o ment i ECTS,	n module component of pulations (Lecture, Prac Method of grading: nun examination (45 minute n module component of Method of grading: (not ation (approx. 20 to 30	tice) nerical grade s) 4S1NVO5-2PO-092: E) successfully complet	cology of Population		actice) Basic
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regulation	ns for teaching-degree progra	mmes)		
Module	e appea	urs in				
Bachel Bachel Bachel	or' deg or' deg or' deg	ree (1 major) Biology (20 ree (1 major) Mathemat ree (1 major) Mathemat ree (1 major) Computati gree (1 major, 1 minor) B	ics (2008) ics (2007) onal Mathematics (20	09)		
Bachelor's	with 1 ma	or Mathematics (2007)	IMII Würzburg	g•generated 11-Jan-2023 • e	xam, reg.	page 98 / 249
				achelor (180 ECTS) Mathemat	-	P~3~ 70 / 247

Module	e title				Abbreviation
Molecu	ılar mo	delling - From DNA to p	orotein		07-4S1PS1-092-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Chair of Plant Physiolog	gy and Biophysics	Faculty of Biology	
ECTS		od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ster	undergraduate			
Conten	its				
protein specifi	is as wo c softw	ell as on the search for are.			l function of nucleic acids and molecules using databases and
Intend	ed lear	ning outcomes			
		e acquired a specialist ork with relevant databa		ture-function relatio	nships of macromolecules and
Course	S (type, r	number of weekly contact hour	s, language — if other than Ge	rman)	
V + Ü (I	no info	rmation on SWS (weekl	y contact hours) and co	ourse language avai	lable)
		S essment (type, scope, lang ole for bonus)	guage — if other than German,	examination offered — if n	ot every semester, information on whether
compu	terised	practical examination	(4 hours)		
Allocat	ion of	places			
Additio	onal inf	ormation			
Worklo	ad				
Referre	ed to in	LPO I (examination regulati	ons for teaching-degree progra	ammes)	
Module	e appea	ars in			
Bachel	or' deg	ree (1 major) Biology (2	2007)		
	-	ree (1 major) Mathema			
	-	ree (1 major) Mathema		aa)	
	-	ree (1 major) Computat gree (1 major, 1 minor)		09)	
Duchel	01 3 UE	Sice (1 major, 1 minor)	biology (million, 2000)		

Module	e title				Abbreviation
Introdu	iction I	Methods in Plant Ecoph	ysiology		07-4S1PS2-092-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Chair of Plant Physiolog	y and Biophysics	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites	;	
1 seme	ster	undergraduate			
Conten	ts				
		eriments to introduce str perimental findings in a			lant ecophysiology as well as dis
Intend	ed lear	ning outcomes			
		able to use current meth in a scientific context.	nods in plant ecophysi	ology as well as to c	locument experimental findings
Course	S (type, 1	number of weekly contact hours	, language — if other than Ge	rman)	
1) Ü + V	no info	rmation on SWS (weekly	y contact hours) and co	ourse language avai	lable)
		sessment (type, scope, lang ole for bonus)	uage — if other than German,	examination offered — if n	ot every semester, information on whether
log (ap	prox. 1	o to 20 pages)			
Allocat	ion of	places			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regulation	ons for teaching-degree progra	ammes)	
Module	e appea	ars in			
Bachel	or' deg	ree (1 major) Biology (2	007)		
	-	ree (1 major) Mathemat			
Bachel	or's de	gree (1 major, 1 minor) E	Biology (Minor, 2008)		

Pharmaceutical Drugs 07;451PS3-092-m01 Module corrective Chair of Pharmaceutical Biology Faculty of Biology FCTS Method of grading Only after succ. com J. of module(S) 5 numerical grade 1 semester Undergraduate 1 semester undergraduate Contemts Contemts an analytical methods of the major active agent groups in medicinal plants and phytopharmaceuticals as well as to their application in pharmacy. Microscopic and phytochemical analyses will be performed and the requirements and analytical methods of the pharmacopoeia. Contemts Students have acquired a specialist knowledge on active agents from medicinal plants and phytopharmaceuticals as well as on the requirements and analytical methods of the pharmacopoeia. Courses (ypp. number of weekly contact hours, language – if other than Germa) This module comprises 2 mononents. Information on courses will be listed separately for each module component. Or 451PS - 1PD- 092: 0 (no information on SWS (weekly contact hours) and course language available) Or 451PS - 1PD- 092: 0 (no information on SWS (weekly contact hours) and course language available) Or 451PS - 1PD- 092: 0 (no information on SWS (weekly contact hours) and course language available) Or 451P	Module	title				Abbreviation
holder of the Chair of Pharmaceutical Biology Faculty of Biology ECTS Method of grading Only after succ. compl. of module(s) 5 numerical grade - Duration Module level Other prerequisites 1 semester undergraduate - Contents - - This module will introduce students to the major active agent groups in medicinal plants and phytopharmaceuticals as well as to their application in pharmacy. Microscopic and phytochemical analyses will be performed and the requirements and analytical methods of the pharmacopoeia will be explained. Intended learning outcomes Students have acquired a specialist knowledge on active agents from medicinal plants and phytopharmaceuticats as well as on the requirements and analytical methods of the pharmacopoeia. CourseS (type, number of weekly contact hours, language – if other than German, examination of course language available) o7-451P53-1PD-092: 0 (no information on SWS (weekly contact hours) and course language available) o7-451P53-1PD-092: 0 (no information on SWS (weekly contact hours) and course language available) o7-451P53-1PD-092: 0 (no information on SWS (weekly contact hours) and course language available) o7-451P53-1PD-092: 0 (no information on SWS (weekly contact hours) and course language available) o7-451P53-1PD-092: 0 (no information on SWS (weekly contact hours) and course language available) Module isoredinable for bonus) Assessment in modu	Pharma	ceutic	al Drugs			07-4S1PS3-092-m01
ECTS Method of grading Only after succ. compl. of module(s) 5 numerical grade Duration Module level Other prerequisites 1 semester undergraduate This module will introduce students to the major active agent groups in medicinal plants and phytopharmaccuticals as well as to their application in pharmacy. Microscopic and phytochemical analyses will be performed and the requirements and analytical methods of the pharmacopoeia will be explained. Intended learning outcomes Students have acquired a specialist knowledge on active agents from medicinal plants and phytopharmaceuticals as well as on the requirements and analytical methods of the pharmacopoeia. Courses tyme, number of weekly contact hours, language – if other than Geman) This module comprises 2 module components. Information on courses will be listed separately for each module component. 07-451PS3-1PD-092: 0 no information on SWS (weekly contact hours) and course language available) 07-451PS3-2PD-092: 0 no information on SWS (weekly contact hours) and course language available) 07-451PS3-1PD-092: 0 no information on SWS (weekly contact hours) and course language available) Method of assessment in this module component or 451PS3-1PD-092: Pharmaceutical Drugs (Laboratory Course) 3 ECTS, Method of grading: numerical grade written examination (45 minutes) Assessment in module component or 451PS3-2PD-092: Seminar on Pharmaceutical Drugs<	Module	coord	inator		Module offered by	
5 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents This module will introduce students to the major active agent groups in medicinal plants and phytopharmaceuticals as well as to their application in pharmacy. Microscopic and phytochemical analyses will be performed and the requirements and analytical methods of the pharmacopoeia will be explained. Intended learning outcomes Students have acquired a specialist knowledge on active agents from medicinal plants and phytopharmaceuticals as well as on the requirements and analytical methods of the pharmacopoeia. 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 components. • 07-451P53-PD-092: Ü (no information on SWS (weekly contact hours) and course language available) • 07-451P53-2PD-092: Ü (no information on SWS (weekly contact hours) and course language available) • 07-451P53-2PD-092: Ü (no information on SWS (weekly contact hours) and course language available) • 07-451P53-2PD-092: Ü (no information on SWS (weekly contact hours) and course language available) • 07-451P53-4D0-092: Ü (no information on SWS (weekly contact hours) and course language available) • 07-451P53-4D0-092: Sustand otherwise, successful completion of the module will re	holder	of the O	Chair of Pharmaceutical B	Biology	Faculty of Biology	
Duration Module level Other prerequisites 1 semester undergraduate Contents Contents This module will introduce students to the major active agent groups in medicinal plants and phytopharmaceuticals as well as to their application in pharmacy. Microscopic and phytochemical analyses will be performed and the requirements and analytical methods of the pharmacopoeia will be explained. Intended learning outcomes Students have acquired a specialist knowledge on active agents from medicinal plants and phytopharmaceuticals as well as on the requirements and analytical methods of the pharmacopoeia. 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. • 07-451P53-1PD-092: Ü (no information on SWS (weekly contact hours) and course language available) • 07-451P3-2PD-092: S (no information on SWS (weekly contact hours) and course language available) • 07-451P3-2PD-092: C (no information on SWS (weekly contact hours) and course language available) • 07-451P3-2PD-092: S (no information on SWS (weekly contact hours) and course language available) • 07-451P3-2PD-092: S (no information on SWS (weekly contact hours) and course language available) Mactend for bonus) Assessment in this	ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
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cals as well as on the requirements and analytical methods of the pharmacopoeia. 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. or, 451P53-1PD-092: Ü (no information on SWS (weekly contact hours) and course language available) or, 451P53-2PD-092: S (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 be- low. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 07-451P53-1PD-092: Pharmaceutical Drugs (Laboratory Course) 3 ECTS, Method of grading: numerical grade written examination (45 minutes) Allocation of places z ECTS, Method of grading: numerical grade writken examination (approx. 20 to 30 minutes) Allocation of places Courses (upper course) Courses (upper cour	Intende	ed learr	ning outcomes			
This module comprises 2 module components. Information on courses will be listed separately for each module component. • 07-451PS3-1PD-092: Ü (no information on SWS (weekly contact hours) and course language available) • 07-451PS3-2PD-092: S (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 07-451PS3-1PD-092: Pharmaceutical Drugs (Laboratory Course) • 3 ECTS, Method of grading: numerical grade • written examination (45 minutes) Assessment in module component 07-451PS3-2PD-092: Seminar on Pharmaceutical Drugs • 2 ECTS, Method of grading: (not) successfully completed • presentation (approx. 20 to 30 minutes) Allocation of places						
component. • 07-451PS3-1PD-092: Ü (no information on SWS (weekly contact hours) and course language available) • 07-451PS3-2PD-092: S (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 component o7-451PS3-1PD-092: Pharmaceutical Drugs (Laboratory Course) • 3 ECTS, Method of grading: numerical grade • written examination (45 minutes) Assessment in module component o7-451PS3-2PD-092: Seminar on Pharmaceutical Drugs • 2 ECTS, Method of grading: (not) successfully completed • presentation (approx. 20 to 30 minutes) Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Biology (2007)	Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
module is creditable for bonus) Assessment in this module comprises the assessments in the individual module components as specified be- low. Unless stated otherwise, successful completion of the module will require successful completion of all indi- vidual assessments. Assessment in module component o7-4S1PS3-1PD-o92: Pharmaceutical Drugs (Laboratory Course) 3 ECTS, Method of grading: numerical grade written examination (45 minutes) Assessment in module component o7-4S1PS3-2PD-o92: Seminar on Pharmaceutical Drugs 2 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)	compoi • o	nent. 7-4S1P	S3-1PD-092: Ü (no inform	nation on SWS (week	ly contact hours) and	d course language available)
low. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component o7-4S1PS3-1PD-o92: Pharmaceutical Drugs (Laboratory Course) 3 ECTS, Method of grading: numerical grade written examination (45 minutes) Assessment in module component o7-4S1PS3-2PD-o92: Seminar on Pharmaceutical Drugs 2 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)				ge — if other than German, e	examination offered — if no	t every semester, information on whether
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 Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)	• 3 • W Assess • 2	ECTS, vritten e ment ir ECTS,	Method of grading: nume examination (45 minutes) n module component 07- Method of grading: (not)	erical grade 4 S1PS3-2PD-092: Se successfully complet	minar on Pharmaceu	
 Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)	Allocat	ion of p	olaces			
 Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)						
Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)	Additio	nal info	ormation			
Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)						
 Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)	Worklo	ad				
Module appears in Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)						
Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)	Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)						
Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)	Module	appea	rs in			
Bachelor' degree (1 major) Mathematics (2007)				7)		
Bachelor's degree (1 major, 1 minor) Biology (Minor, 2008)		-	•			
	Bachel	or's deg	gree (1 major, 1 minor) Bi	ology (Minor, 2008)		

Module	title				Abbreviation
Method	ls Phai	rmaceutical Biology - pra	ctical course		07-4S1PS4-092-m01
Module	coord	inator		Module offered by	
holder	of the (Chair of Pharmaceutical B	liology	Faculty of Biology	
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				
		vill provide students with viology and drug analysis		thodological introdu	uction to fundamental techniques
Intende	ed lear	ning outcomes			
Studen	ts are a	able to analyse groups of	drugs, using a variety	y of methods.	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
compoi • 0	nent. 7-4S1P	PS4-1PB-092: P (no inform	ation on SWS (weekl	y contact hours) and	sted separately for each module l course language available) d course language available)
		sessment (type, scope, langua le for bonus)	ge — if other than German, e	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-
Drugs (Labora ECTS, vritten o ment in l Drugs ECTS, resenta	tory Course) Method of grading: nume examination (45 minutes) n module component o7-	erical grade 4 S1PS4-2PB-092: Set successfully complet inutes)	minar on Analytics a	r Biology of Pharmaceutical nd Molecular Biology of Pharma-
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
Module	appea	ars in			
Bachelo	or' deg	ree (1 major) Biology (200 ree (1 major) Mathematic gree (1 major, 1 minor) Bi	s (2007)		

Module	title				Abbreviation
Neurob	iology	II			07-5S2NVO1-092-m01
Module	coord	inator		Module offered by	
holder	of the (hair of Neurobiology and	Genetics	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
		ill provide students with ns, learning and memory		the following topics:	the neuronal bases of cognition,
Intende	ed learr	ning outcomes			
		ble to acquaint themselv unt current literature.	ves with and deliver p	presentations on adv	anced topics in neurobiology, ta-
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
compoi • o b	nent. 7-5S2N le)	1VO1-1NB-092: V + Ü (no i	nformation on SWS (weekly contact hours	sted separately for each module s) and course language availa- nd course language available)
Method	l of ass	÷			t every semester, information on whether
	less st	ated otherwise, successf			e components as specified be- successful completion of all indi-
biology • 7 • a o a • L Assess • 3	2 (lect ECTS, 1) writte ne can pprox. anguag ment ir ECTS,	ure and practical course) Method of grading: nume n examination (approx. 6 didate each (approx. 30 60 minutes) or e) presen te of assessment: Germa n module component 07 - Method of grading: (not)	erical grade 50 minutes) or b) log minutes) or d) oral ex tation (approx. 20 to n or English 5 52NVO1-2NB-092: N successfully complet	(approx. 10 to 20 pa amination in groups 30 minutes) Ieurobiology 2 (semi	re and practical course) Neuro- ages) or c) oral examination of 5 (groups of 2 or 3 candidates, inar)
		ation (approx. 20 to 30 m	inutes)		
Allocat	ion of p	olaces			
Additio	nat info	ormation			
Worklo	aū				
	al #c !			`	
Kererre		LPOI (examination regulations	s for teaching-degree progra	mmes)	
 Madul-		re in			
Module		r es in ree (1 major) Biology (200			
	-	ree (1 major) Biology (200 ree (1 major) Mathematic			

Integrative Behavioural Biology II Module offered by Module cordinator Module offered by Faculty of Biology Faculty of Biology ECTS Method of grading Only after succ. compl. of module(s) 10 numerical grade Durative Module level Other prerequisites 1 semester undergraduate Contents In this wordule, students will acquire an in-depth insight into behavioural physiology and sociobiology with a particular focus on the biology of social insects. Inthis wordule, students will acquired knowledge and skills in the areas of behavioural physiology and sociobiology. They are familiar with hypotheses and are proficient in methods used in research on social insects. Courses (where, number of weeky contact hours) language – if other than German) V + (no information on SWS (weeky contact hours) and course language available) Method of assesment (type, scope, language – if other than German, examination offered – in revery semester, information on on SWS (weeky contact hours) and course language available) Method of assesment (type, scope, on unutes) or b) log (ap row, so to 20 opages) or c) an examination of one candidate exact (approx, 30 minutes) or d) and examination in groups. (groups of cal examination of one candidate exa (approx	Module	e title				Abbreviation
holder of the Chair of Zoology II Faculty of Biology ECTS Method of grading Only after succ. compl. of module(s) 10 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents In this module, students will acquire an in-depth insight into behavioural physiology and sociobiology with a particular focus on the biology of social insects. Intended learning outcomes Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiology. They are familiar with hypotheses and are proficient in methods used in research on social insects. Courses (type, number of weekly contact hours, language if other than German) V + 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) a) written examination (approx. 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups (groups of up to 3 candidates, approx. 60 minutes) or e) presentation (approx. 20 to 30 minutes) Allocation of places Workload	Integra	tive Be	havioural Biology II			07-5S2NVO2-092-m01
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Bachelor' degree (1 major) Biology (2007)						
	Module	e appea	rs in			
		-				

Module	title				Abbreviation	
Ecology	y of ani	mals II			07-5S2NVO3-092-m	101
Module	coord	inator		Module offered by		
holder	of the C	Chair of Zoology III		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
10	numei	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
		, students will acquire ecology.	an in-depth insight int	o experiment design	and the statistical a	nalysis of
Intende	ed learr	ning outcomes				
		ble to design appropri he results.	ate experiments to ado	ress a scientific issu	e as well as to analy	/se, present
Course	S (type, n	umber of weekly contact hours	s, language — if other than Gei	man)		
compor • o b	nent. 7-5S2N le)	omprises 2 module cor IVO3-10E-092: V + Ü (no IVO3-20E-092: S (no in	o information on SWS (weekly contact hours	s) and course langua	ige availa-
		essment (type, scope, lang		-		
		le for bonus)	uage — II other than German,		t every semester, mormati	on on whether
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		nent offered: once a yea	ar, winter semester			
Allocat		nales				
Additio	nal info	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulation	ons for teaching-degree progra	mmes)		
Module	appea	rs in				
Bachelor's	with 1 maj	or Mathematics (2007)		s • generated 11-Jan-2023 • ex achelor (180 ECTS) Mathemat	-	page 105 / 249

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 106 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Modul	e title				Abbreviation
Metho	ds in m	olecular cell - and develo	opmental Biology		07-5S2MZ1-092-m01
Modul	e coord	inator		Module offered by	
holder	of the (Chair of Zoology I		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. co	mpl. of module(s)	
10	nume	rical grade			
Duratio	on	Module level	Other prerequisites	s	
1 seme	ster	undergraduate			
Conten	Its				
In this logy.	module	e, students will acquire a	n in-depth insight in	to approaches and m	nethods in molecular and cell bio-
Intend	ed lear	ning outcomes			
		e acquired knowledge ab endently perform scientif		es and methods of m	olecular and cell biology. They are
Course	S (type, r	number of weekly contact hours,	language — if other than Ge	erman)	
compo • c • c	nent. 07-5S2N 07-5S2N	AZ1-1ZE-092: V + Ü (no inf AZ1-2ZE-092: Ü (no infor	formation on SWS (w mation on SWS (wee	eekly contact hours) kly contact hours) ar	isted separately for each module and course language available) ad course language available) d course language available)
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Assess low. Ur vidual Assess Data p	s creditab ment ir nless st assess sment ir rocessi	le for bonus) n this module comprises ated otherwise, success ments. n module component o7-	the assessments in ful completion of the 5S2MZ1-1ZE-092: M ecture and practice)	the individual modul e module will require ethods in molecular Methods in molecula	e components as specified be- successful completion of all indi- cell - and developmental Biology
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Workload

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

Module appears in

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 108 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Specific Microbiology II Module offered by o7-\$52M2-092-m01 Module coordinator Module offered by Faculty of Biology ECTS Method of grading Only after succ. compil. of module(3) In numerical grade Duration Module tevel Other prerequisites I semester undergraduate Contents Inthis module, students will acquire an in-depth insight into approaches and methods in microbiology. Intended learning outcomes Students have acquired knowledge about general strategies and methods of microbiology. They are able to independently perform scientific laboratory work. COURSES (type, numer of weakly contact hours, language – if other than Geman) This module comprises 2 module components. Information on courses will be listed separately for each module components. 0 o7-\$52M2-1MP-021: V = 0 (no information on SWS (weekly contact hours) and course language available) or.\$52M2-2MP-021: S (no information on SWS (weekly contact hours) and course language available) 0 or.\$52M2-2MP-021: S (no information on SWS (weekly contact hours) and course language available) or.\$52M2-2MP-021: S (no information on SWS (weekly contact hours) and course language available) Nuthod of grasessment (module component o7-\$52M2-1MP-022: S pecific microbiology 2 - molecular microbiology 2 - molecular microbiology (ecture and laboratory course) Specific microbiology 2 - molecular microbiology 1 - in covery sensets, informa	Module	title				Abbreviation
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Bachelor' degree (1 major) Biology (2007)						
Bachelor' degree (1 major) Biology (2007)	Module appears in					
Bachelor' degree (1 major) Mathematics (2007)	Bachelo	or' deg	ree (1 major) Biology (200			
	Bachelo	or' deg	ree (1 major) Mathematic	s (2007)		

Module title				Abbreviation	
Specifi	c Bioin	formatics II			07-5S2MZ3-092-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. com	pl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
quence	analys		olution - gene expres		from the following list: - se- in structure analysis - program-
Intende	ed leari	ning outcomes			
		e acquired knowledge abo perform scientific laborate		s and methods of bio	pinformatics. They are able to in-
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		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				
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)	
Module					
Bachel	Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007)				
	-	ree (1 major) Computatio		09)	

Module	title				Abbreviation
Specific	: Biote	chnology II			07-5S2MZ4-092-m01
Module	coord	inator		Module offered by	
holder	of the O	Chair of Biotechnology an	d Biophysics	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
In this r	nodule	e, students will acquire ar	n in-depth insight int	o approaches and m	ethods in biotechnology.
Intende	d learr	ning outcomes			
		e acquired knowledge abo perform scientific laborate	-	s and methods of bio	otechnology. They are able to in-
Courses	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)	
compor • o	nent. 7-5S2N	NZ4-1BT-092: P (no inforn	nation on SWS (week	ly contact hours) and	sted separately for each module d course language available) d course language available)
Method	of ass	· ·		•	ot every semester, information on whether
	less st	ated otherwise, successf			e components as specified be- successful completion of all indi-
borator • 8 • a) oi a • La Assessi • 2	y cours ECTS,) writte ne can pprox. anguag ment ir ECTS,	e) Method of grading: nume n examination (approx. 6 didate each (approx. 30 60 minutes) or e) presen ge of assessment: Germa	erical grade 50 minutes) or b) log minutes) or d) oral ex tation (approx. 20 to n or English 5 52MZ4-2BT-092: Sp successfully comple	(approx. 10 to 20 pa kamination in groups 30 minutes) pecific Biotechnology	y 2 - Practical Biotechnology 2 (la- ages) or c) oral examination of s (groups of 2 or 3 candidates, y 2 - Seminar Biotechnology 2
Allocati					
Additio	nal inf	ormation			
Workload					
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)	
Module	appea	in and the second se			
		ree (1 major) Biology (200			
Bachelo	or' degi	ree (1 maior) Mathematic	s (2007)		

Bachelor's with 1 major Mathematics (2007)

Module	title				Abbreviation	
Physiol	logy of	membrane transport r	nechanisms	-	07-5S2PS1-092-m0	1
Module	coord	inator		Module offered by		
holder	of the (Chair of Plant Physiolog	gy and Biophysics	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. cor	mpl. of module(s)		
10	nume	rical grade				
Duratio	n	Module level	Other prerequisites	5		
1 seme	ster	undergraduate				
Conten	ts					
biologie	cal and		ntemporary research o On the basis of curren cussed in English.			
Intende	ed lear	ning outcomes				
			search in the field of pl deliver presentations o			he methods
Course	S (type, r	number of weekly contact hour	s, language — if other than Ge	erman)		
compoi • 0	nent. 7-5S2F	2 S1-1MT-092: Ü (no info	mponents. Information ormation on SWS (weel ormation on SWS (weel	kly contact hours) an	d course language a	vailable)
Method	l of ass		guage — if other than German,	•		
low. Un vidual a Assess tory cou 9 a a La Assess gress ir 1 p	less st assess ment iu urse) ECTS,) writte ne can pprox. anguag ment in plant ECTS, resent	ated otherwise, success ments. n module component o Method of grading: nu en examination (approxi- didate each (approx. 3 60 minutes) or e) press ge of assessment: Gerri n module component o physiology (seminar) Method of grading: (no ation (approx. 20 to 30	k. 60 minutes) or b) log o minutes) or d) oral e entation (approx. 20 to nan or English 7-5S2PS1-2MT-092: Pl t) successfully comple	module will require nysiology of membran g (approx. 10 to 20 pa xamination in groups o 30 minutes) hysiology of membra	successful completion ne transport mechan ages) or c) oral exam s (groups of 2 or 3 ca	on of all indi- isms (labora- iination of andidates,
Allocat	ion of p	olaces				
 Additio 	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	appea	ars in				
	-	ree (1 major) Biology (2 ree (1 major) Mathema				
Bachelor's	with 1 ma	or Mathematics (2007)		rg • generated 11-Jan-2023 • e Bachelor (180 ECTS) Mathema		page 112 / 249

Module title				Abbreviation		
Molecu	ılar bio	logy of plants			07-5S2PS2-092-m0	1
Module	e coord	inator		Module offered by		
holder	of the (Chair of Plant Physiolog	y and Biophysics	Faculty of Biology		
ECTS	Metho	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					
stions of method	of plan ds the s	e, students will acquire t physiology. Every stud students have learned. ssed in English.	ent will perform a phy	siological experimen	t that will be analyse	ed using the
Intende	ed lear	ning outcomes				
		able to perform advance scientific publications.	d experiments in plar	t physiology as well	as to interpret and d	eliver pre-
Course	S (type, r	umber of weekly contact hours	, language — if other than Ge	rman)		
compo • 0	nent. 17-5S2F	omprises 2 module con PS2-1MP-092: Ü (no info PS2-2MP-092: S (no info	rmation on SWS (wee	kly contact hours) an	d course language a	vailable)
Metho	d of ass	sessment (type, scope, langule for bonus)		-		
	iless st	n this module comprises ated otherwise, success ments.				
• 9 • a • L Assess logy (se • 1) ECTS,) writte ine can pprox. anguag ment in eminar) ECTS,	module component of Method of grading: num en examination (approx. 30 didate each (approx. 30 60 minutes) or e) prese ge of assessment: Germ module component of Method of grading: (not ation (approx. 20 to 30	nerical grade 60 minutes) or b) log o minutes) or d) oral e ntation (approx. 20 to an or English 7-5S2PS2-2MP-092: N) successfully comple	g (approx. 10 to 20 pa xamination in groups 30 minutes) Nolecular Biology of p	ages) or c) oral exam s (groups of 2 or 3 ca	nination of andidates,
Allocat	ion of p	olaces				
 Additio	onal inf	ormation				
 \\\\~~l+l-						
Worklo	ad					
Referre	d to in	LPO I (examination regulation	ns for teaching-degree progra	ammes)		
 Modula		arc in				
Module			207)			
	-	ree (1 major) Biology (20 ree (1 major) Mathemat				
	-	or Mathematics (2007)		g • generated 11-Jan-2023 • e	xam. reg.	page 113 / 249
				achelor (180 ECTS) Mathemat	-	

Module title Abbreviation				Abbreviation		
Protein	bioche	emistry and expression o	of recombinant protei	ns	07-5S2PS3-092-mo	1
Module	e coordi	inator		Module offered by		
holder	of the C	Chair of Plant Physiology	and Biophysics	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
10	numei	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
tion an	d prote	, students will acquire a in purification as well as n these topics will be pro	the biophysical and	biochemical analysis		
Intende	ed learr	ning outcomes				
		acquired knowledge an well as protein analysis				
Course	S (type, n	umber of weekly contact hours, I	anguage — if other than Ger	man)		
compo • 0	nent. 7-5S2P	omprises 2 module comp S3-1PP-092: Ü (no inforn S3-2PP-092: S (no inforn	nation on SWS (week	ly contact hours) and	l course language av	vailable)
		essment (type, scope, langua		•		
		le for bonus)				
	less st	this module comprises ated otherwise, success nents.				
protein 9 • a o a • L Assess protein • 1	s (labo ECTS,) writte ne can pprox. anguag ment ir s - Prog ECTS, I	n module component o7- ratory course) Method of grading: nume n examination (approx. 30 didate each (approx. 30 60 minutes) or e) presen ge of assessment: Germa n module component 07- gress in plant physiology Method of grading: (not) ation (approx. 20 to 30 m	erical grade 60 minutes) or b) log minutes) or d) oral ex tation (approx. 20 to n or English 5S2PS3-2PP-092: Pro (seminar) successfully complet	(approx. 10 to 20 pa amination in groups 30 minutes) otein biochemistry a	ages) or c) oral exam 5 (groups of 2 or 3 ca	ination of Indidates,
Allocat	ion of p	olaces				
Additio	nal info	ormation				
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	Module appears in					
	Bachelor' degree (1 major) Biology (2007)					
Bachelor's	with 1 maj	or Mathematics (2007)		• generated 11-Jan-2023 • ex	-	page 114 / 249
			uata record Ba	achelor (180 ECTS) Mathemat	IN - 200/	



Bachelor' degree (1 major) Mathematics (2007)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 115 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	title				Abbreviation
Specifi	c ecopł	nysiology of plants			07-5S2PS4-092-m01
Module	coord	inator		Module offered by	
holder	of the C	hair of Plant Physiology	and Biophysics	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10		rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes		undergraduate			
Conten					
ecologi	cal met				piological, chemical analytical or ocumented in the context of the
Intende	ed learr	ning outcomes			
		ble to independently per in the context of the curre			plant ecophysiology, to interpret ent these.
Courses	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
compor • o	1ent. 7-5S2P	S4-10P-092: Ü (no inforn	nation on SWS (week	ly contact hours) and	sted separately for each module d course language available) d course language available)
		essment (type, scope, langua) le for bonus)	ge — if other than German, e	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-
• 9 • a) o a • La Assess • 1	ECTS,) writte ne can pprox. anguag ment ir ECTS, I	Method of grading: nume n examination (approx. 6	erical grade 50 minutes) or b) log minutes) or d) oral ex tation (approx. 20 to n or English 5 S2PS4-20P-092: Sp successfully complet	(approx. 10 to 20 pa amination in groups 30 minutes) ecific ecophysiology	gy of plants (laboratory course) ages) or c) oral examination of 5 (groups of 2 or 3 candidates, y of plants (seminar)
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Workload					
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
 Module appears in					
		ree (1 major) Biology (200	ק		
	-	ree (1 major) Mathematic			

Module	e title				Abbreviation
Molecu	lar bio	logical methods in pharm	naceutical biology		07-5S2PS5-092-m01
Module	coord	inator		Module offered by	
holder	of the (Chair of Pharmaceutical B	liology	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
		l in a current research pro gy, molecular biology, bi			advanced methods in molecular
Intende	ed learr	ning outcomes			
		proficient in advanced me kills necessary for condu			ocus on molecular biology and projects.
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
compo • 0	nent. 7-5S2P	S5-1MB-092: P (no inforr	nation on SWS (week	ly contact hours) an	sted separately for each module d course language available) nd course language available)
		essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether
low. Un vidual a Assess gy (Lab • 9	nless st assessi ment ir oratory ECTS,	ated otherwise, successf nents. n module component o7- course) Method of grading: nume	ul completion of the 5 S2PS5-1MB-092: M erical grade	module will require : olecular biological n	e components as specified be- successful completion of all indi- nethods in pharmaceutical biolo- ages) or c) oral examination of
a	pprox.	didate each (approx. 30 60 minutes) or e) presen 9 of assessment: Germa	tation (approx. 20 to	- ,	s (groups of 2 or 3 candidates,
gy (sem • 1	ninar) ECTS, I	n module component o7- Method of grading: (not) ation (approx. 20 to 30 m	successfully complet	-	nethods in pharmaceutical biolo-
Allocat			·		
Additio	nal info	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	e appea	rs in			
	-	ree (1 major) Biology (200 ree (1 major) Mathematic			
	5				

Module	title				Abbreviation
Biochemical methods in pharmaceutical Biology07-5S2PS6-092-m01			07-5S2PS6-092-m01		
Module	coord	inator		Module offered by	
holder	of the C	hair of Pharmaceutical B	iology	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten					
		l in a current research pro protein chemistry or met		ecome proficient in a	advanced methods in molecular
Intende	ed learr	ning outcomes			
		proficient in advanced me he skills necessary for co			ocus on molecular biochemistry Irch projects.
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
compoi • o	nent. 7-5S2P	S6-1BC-092: P (no inform	nation on SWS (week	y contact hours) and	sted separately for each module d course language available) d course language available)
Method	l of ass	-		•	every semester, information on whether
			the assessments in th	ne individual modul	e components as specified be-
	less st	ated otherwise, successf			successful completion of all indi-
gy (Lab • 9 • a o a	oratory ECTS,) writte ne can pprox.	course) Method of grading: nume n examination (approx. 6	erical grade 50 minutes) or b) log minutes) or d) oral ex tation (approx. 20 to	(approx. 10 to 20 pa amination in groups	ethods in pharmaceutical biolo- ages) or c) oral examination of s (groups of 2 or 3 candidates,
Assess				ochemical methods	in pharmaceutical Biology (semi-
		Method of grading: (not) ation (approx. 20 to 30 m		ed	
Allocat					
Additional information					
Workload					
Referre	d to in	LPOI (examination regulations	for teaching-degree progra	mmes)	
Module	appea	rs in			
	-	ree (1 major) Biology (200			
Bachel	Bachelor' degree (1 major) Mathematics (2007)				

Module	e title				Abbreviation
Immun	ology I	I			03-5S2IM-092-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	npl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
	•	ems in immunology such n immune cells.	as immune modulat	ion, immunogenetic	s, infection immunology, signal
Intende	ed learı	ning outcomes			
	ed to pl				the immune system. They are ata, taking into account current li-
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + P (n	io infor	mation on SWS (weekly o	contact hours) and co	ourse language availa	able)
		e 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				
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module	e appea	ins in			
	Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)				

Module	title				Abbreviation	
Virolog	y II				03-5S2VL-092-m01	
Module	coord	inator		Module offered by		
holder o	of the O	Chair of Virology		Faculty of Medicine		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
10	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Content	ts					
action c	of virus	es with host cells or th	gical problems using s e complete host, new d pathogenesis of prion c	levelopments in mol		
Intende	d learr	ning outcomes				
			c knowledge of molecu present them, taking int			erform experi-
Courses	5 (type, n	umber of weekly contact hour	s, language — if other than Ger	man)		
compor • 01 • 01	nent. 3-5S2V 3-5S2V	′L-1VL-092: V (no inforr ′L-2VL-092: S (no inforr	nponents. Information nation on SWS (weekly nation on SWS (weekly nation on SWS (weekly	contact hours) and c contact hours) and c	course language ava course language ava	ilable) ilable)
Method	l of ass		uage — if other than German, e			
vidual a Assessi 1 w Assessi 1 p La Assessi 8 w La Assessi 1 p La Assessi 2 Assessi 4 Assessi 2 Assessi 4 Assessi 4 Assessi 4 Assessi 4 Assessi 5 Assessi 4 Assessi 5 Assessi 4 Assessi 5 Addition 5 	ment ir ECTS, I ritten e anguag ment ir ECTS, I resenta anguag ment ir ECTS, ritten e anguag ion of p nal info	ments. module component o Method of grading: nur examination (30 minute ge of assessment: Gern module component o Method of grading: (no ation (approx. 20 to 30 ge of assessment: Gern module component o Method of grading: nur examination (20 minute ge of assessment: Gern blaces ormation	es) nan, English where requ 3-5S2VL-2VL-092: Viro t) successfully complet minutes) nan, English 3-5S2VL-3VL-092: Viro	ogy 2 (lecture) uired logy 2 (seminar) ed logy 2 (laboratory co (20 minutes) uired		on of all indi-
 Module			ono for teaching-degree progra			
		or Mathematics (2007)	-	• generated 11-Jan-2023 • ex	-	page 120 / 249
			data record Ba	achelor (180 ECTS) Mathemat	ik - 2007	

Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 121 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	e title				Abbreviation
Physiological Chemistry II				03-5S2PC-092-m01	
Module coordinator				Module offered by	
		Chairs of Physiological C mistry, Biochemistry and		Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. con	ıpl. of module(s)	
10	numer	ical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
from hı lecular	uman b genetic	iochemistry. Physiologica	al processes are com ical networks are pre	pared with examples	based on selected questions s of pathological aberrations. Mo- les from developmental bioche-
Intende	ed learr	ing outcomes			
mistry l They al	based c	on individually assigned t e developed skills in expe	tasks, using techniqu	ies of modern molec	problems in physiological che- ular biology and biochemistry. sis and the presentation of
Course	S (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
compo • 0 • 0	nent. 03-5S2P 03-5S2P	C-1HB1-092: Ü (no inform C-2HB-092: S (no inform	nation on SWS (week ation on SWS (week!	ly contact hours) and y contact hours) and	sted separately for each module d course language available) course language available)
		essment (type, scope, languag le for bonus)	ge — if other than German, o	examination offered — if no	t every semester, information on whether
low. Ur		ated otherwise, successf			e components as specified be- successful completion of all indi-
 Assessment in module component o3-5S2PC-1HB1-092: Physiological chemistry 2 - Human biochemistry (laboratory course) 9 ECTS, Method of grading: numerical grade a) written examination (approx. 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups (groups of 2 or 3 candidates, approx. 60 minutes) or e) presentation (approx. 20 to 30 minutes) Language of assessment: German, English Assessment in module component o3-5S2PC-2HB-092: Physiological chemistry 2 - Seminar on human biochemistry 1 					
 1 ECTS, Method of grading: (not) successfully completed presentation (approx. 20 to 30 minutes) 					
Allocat	ion of p	laces			
Additio	Additional information				
Worklo	ad				

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

Module appears in

Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Mathematics (2007)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 123 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title					Abbreviation	
Externa	External Practical Course				07-5EP-072-m01	
Module	Module coordinator			Module offered by		
Coordir	nator Bi	oCareers		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
10	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
		complete a placement at ned by the respective inst		niversity research in	stitution or a business. Contents	
Intende	ed learr	ning outcomes				
		amiliar with the structure o work in their professior		ons and businesses	and have developed skills which	
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
P (no in	ıformat	ion on SWS (weekly cont	act hours) and cours	e language available)	
		e ssment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
			uites) or b) log (appro	10 to 20 pages) 0	r c) oral examination of one can-	
didate	each (a		oral examination in g		to 3 candidates, approx. 60 mi-	
Allocat	ion of p	olaces				
Additio	nal info	ormation				
Worklo	Workload					
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)		
Module	Module appears in					
	-	ree (1 major) Biology (200				
Bachel	Bachelor' degree (1 major) Mathematics (2007)					

Module	Module title Abbreviation				
Practic	al Cou	rse as exchange student			07-5AP-072-m01
Module	e coord	inator		Module offered by	
Coordi	nator B	ioCareers		Faculty of Biology	
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	Its	·	·		
change	e progra	ammes such as Erasmus	etc. Contents of the c	ourse should corres	e this course in the context of ex- pond to the contents of <i>Spezielle</i> ent coordinator in advance.
Intend	ed lear	ning outcomes			
		familiar with working met nal competencies as wel			an Germany. They have develo-
Course	S (type, 1	number of weekly contact hours, I	anguage — if other than Ger	rman)	
P (no ir	nforma	tion on SWS (weekly cont	act hours) and cours	e language available	e)
		S essment (type, scope, langua ble for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
didate	each (a		oral examination in §		or c) oral examination of one can- to 3 candidates, approx. 60 mi-
Allocat	ion of	places			
Additio	onal inf	ormation			
Worklo	ad				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
Module	e appea	ars in			
	-	ree (1 major) Biology (20	• •		
Bachel	or' deg	ree (1 major) Mathematic	s (2007)		

Module	Module title Abbreviation					
Evoluti	Evolution - Basics and Principles (Lecture and Practice)07-1A1E-072-m01					
Module	e coord	inator		Module offered by		
holder	ofthe	Chair of Zoology II		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
1	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts	~				
		vill address one of the ce scussed and students wi			mental mechanisms and hypothe- construction methods.	
Intend	ed lear	ning outcomes				
		gnise evolution as the d ic relationships betweer		e phylogeny of spec	ies. Familiarity with the concepts	
Course	S (type, 1	number of weekly contact hours,	 language — if other than Ge	rman)		
Ü (no ir	nforma	tion on SWS (weekly con	tact hours) and cours	e language availabl	e)	
		Sessment (type, scope, langu ole for bonus)	age — if other than German,	examination offered — if n	ot every semester, information on whether	
written	exami	nation (30 minutes)				
Allocat	ion of _l	places				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regulation	ns for teaching-degree progra	ammes)		
Module	e appea	ars in				
		ree (1 major) Mathemati	cs (2008)			
	-	ree (1 major) Mathemati				
Bachel	or' deg	ree (1 major) Computatio	onal Mathematics (20	09)		

Module title Abbreviation					Abbreviation
The An	imal Ki	ngdom			07-1A1T-072-m01
Module	Module coordinator			Module offered by	
holder Electro		Professorship of Zoology scopy	at the Department of	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
4	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate		s as well as successf	regular attendance of and parti- ful completion of the respective of the course.
Conten	ts				
vel of g the for	roups i ms and	in the animal kingdom, s	tudents will acquire t	he fundamental kno	liversity of eukaryotes. At the le- wledge necessary to understand ing discussed in an evolutionary
Intende	ed lear	ning outcomes			
nisms t micros	that are copes.	e most suitable for partic	ular scientific issues. e interpretation of ma	Familiarity with the	ity to select those animal orga- components and functioning of logic preparations by light mi-
		number of weekly contact hours,			
1) Ü + V	no infoi	mation on SWS (weekly	contact hours) and co	ourse language avail	able)
		sessment (type, scope, langua Ile for bonus)	age — if other than German, e	examination offered — if no	ot every semester, information on whether
		nation (approx. 60 minut			
Allocat					
Additio	nal inf	ormation			
Worklo	ad				
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	mmes)	
Module	e appea	ars in			
Bachel	or' deg	ree (1 major) Mathematio ree (1 major) Mathematio ree (1 major) Computatio	cs (2007)	22)	
Duchel	or ueg			· 7/	

Module title			Abbreviation			
The Pla	nt King	gdom			07-1A1P-072-m01	
Module	Module coordinator			Module offered by		
holder	of the (Chair of Plant Physiology	and Biophysics	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
4	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate			regular attendance of exercises respective exercises.	
Conten	ts					
of grou	ps in th Ind fun	ne plant kingdom, studen ctions of plant organisms	ts will acquire the fu	ndamental knowledg	versity of eukaryotes. At the level ge necessary to understand the scussed in an evolutionary and	
Intende	ed learı	ning outcomes				
that are copes. Fundan Course	e most Fundar nental s (type, n	suitable for particular sci	entific issues. Familia retation of macrosco anguage — if other than Ger	arity with the compo pic and histologic pr ^{man)}	y to select those plant organisms nents and functioning of micros- reparations by light microscopy. able)	
Method	l of ass	· · · ·			t every semester, information on whether	
written	examiı	nation (approx. 60 minut	es)			
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Bachel	Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009)					

Module title Abbreviation					Abbreviation
Genetics					07-3A3GE-072-m01
Module coordinator				Module offered by	
holder	of the (Chair of Neurobiology and	d Genetics	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
Molecu	ılar and	classical genetics.			
Intende	ed learı	ning outcomes			
Studen biology			sms of inheritance th	at are essential for o	developing an understanding of
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + S (r	no infor	mation on SWS (weekly o	contact hours) and co	urse language avail	able)
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written	examiı	nation (30 minutes)			
Allocat	ion of p	olaces			
Additio	onal info	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Biology (2007)					
Bachelor' degree (1 major) Mathematics (2008)					
	-	ree (1 major) Mathematic		,	
Bachel	or' deg	ree (1 major) Computatio	nal Mathematics (200	09)	

Module	Module title Abbreviation					
Bioche	mistry				08-BC-072-m01	
Module	e coord	linator		Module offered by	J	
holder	ofthe	Chair of Biochemistry		Chair of Biochemis	try	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
6	nume	rical grade				
Duratio	n	Module level	Other prerequisites	;		
1 seme	ster	undergraduate	Registration for ass	essment: Yes, as sp	ecified.	
Conten	ts					
Compri mistry.	sing le	ctures and exercises, this	s module acquaints s	students with the fur	ndamental principles of bioche-	
Intende	ed lear	ning outcomes				
		e become familiar with th cal processes in cellular s		ples of biochemistry	y. They are able to describe the	
Course	S (type, 1	number of weekly contact hours, I	anguage — if other than Ge	rman)		
V + Ü +	V + Ü ((no information on SWS (weekly contact hours) and course langua	ge available)	
		sessment (type, scope, langua ole for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
written	exami	nation (90 minutes)				
Allocat	ion of	places				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulation	s for teaching-degree progra	ammes)		
Module	e appea	ars in				
	-	ree (1 major) Chemistry (:	• •			
	-	ree (1 major) Chemistry (
Bachel	or' deg	ree (1 major) Mathematic	s (2007)			



Application-oriented Subject Chemistry

(35 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 131 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	



Application-oriented Subject Chemistry Compulsory Courses

(26 ECTS credits)

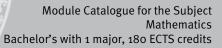
Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 132 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title					Abbreviation
Organio	c Chem	istry 1			08-0C1-072-m01
Module	coord	inator		Module offered by	
holder	of the F	Professorship of Organic	Chemistry	Institute of Organic	Chemistry
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate	Registration for asse	essment: Yes, as spe	ecified.
Conten	ts				
the bon organic	iding si compo	ituation of carbon and int	troduces students to discusses the fundam	the nomenclature of nental principles of s	of organic chemistry. It examines f simple and moderately complex stereochemistry, substitution, ad-
Intende	ed learr	ning outcomes			
of nom	enclatu . They a rpose,	ire to determine simple s are able to describe and f	ubstance names. Stu formulate some of the	idents are able to an e most important rea	re able to use different systems alyse the stereochemistry of mo- actions in organic chemistry. For ions and can use them for simple
		umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether
written	examir	nation (90 minutes)			
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelo Bachelo	Bachelor' degree (1 major) Chemistry (2007) Bachelor' degree (1 major) Chemistry (2008) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007)				

Module	e title				Abbreviation
Princip	les of o	quantum mechanics and	spectroscopy		08-PC1-072-m01
Module	e coord	inator		Module offered by	
lecturer of lecture "Grundlagen der Qua Spektroskopie" (Principles of Quantum Spectroscopy)				Institute of Physica	l and Theoretical Chemistry
ECTS	Methe	od of grading	Only after succ. con	pl. of module(s)	
8	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
the mo UV-VIS tation, sted ab	dule fo spectr differe ove.	cuses on vibrational spe oscopy. In addition, the r ntial equations, Fourier tr	ctroscopy, angular m nodule discusses line	omentum quantisati ear operators, eigenv	d rotor. As regards spectroscopy, ion, microwave spectroscopy and value problems, matrix represen- thematical bases of the topics li-
		ning outcomes			
	ribe di	fferent spectroscopic me			em to molecules. They are able apply the mathematical bases of
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü +	V + Ü (no information on SWS (weekly contact hours) and course langua	ge available)
		Sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether
					minations: 60 or 90 minutes s (groups of 2, approx. 30 minu-
Allocat	ion of	places			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
			· · · · · · · · · · · · · · · · · · ·		
Module	e appea	ars in			
		ree (1 major) Chemistry (2	2007)		
	-	ree (1 major) Chemistry (2			
	-	ree (1 major) Mathematic			
Bachel	or' deg	ree (1 major) Mathematic	s (2007)		

Module	e title				Abbreviation		
Introdu	iction t	o Physics for Students	ted Minor Subjects	11-EFNF-072-m01			
Module	e coord	inator		Module offered by	Module offered by		
Manag	ing Dire	ector of the Institute of A	Applied Physics	Faculty of Physics a	and Astronomy		
ECTS	<u> </u>	od of grading	F .	ompl. of module(s)			
7		rical grade					
			Other prerequisit	es			
2 semester undergraduate							
Conten		undergraduate					
				innen of electricity. Ato	mia and Nuclear Dh		
		bration theory, thermod	ynamics, optics, sci	ience of electricity, Ato	mic and Nuclear Phy	'SICS.	
Intende	ed lear	ning outcomes					
The stu	dents	nave knowledge of the p	principles of Physics	5.			
Course	S (type, r	umber of weekly contact hours	, language — if other than	German)			
V + V (r	no infor	mation on SWS (weekly	contact hours) and	course language avail	able)		
Method	d of ass	sessment (type, scope, langu	lage — if other than Germa	an, examination offered — if no	ot every semester, informat	ion on whether	
		le for bonus)	-		· ·		
written	exami	nation (approx. 120 min	utes)				
Allocat	ion of p	olaces					
		f pool of general key ski	lls (ASO): 10 places	Places will be allocat	ed by lot		
		ormation	(15 (15 Q). 10 places	. r laces will be allocat			
Auunto	inat init						
Worklo	ad						
	-						
Referre	d to in	LPO I (examination regulatio	ns for teaching-degree pro	ogrammes)			
Module	e appea	ars in					
Bachel	or' deg	ree (1 major) Biochemis	try (2011)				
Bachel	or' deg	ree (1 major) Biochemis	try (2013)				
Bachel	or' deg	ree (1 major) Biochemis	try (2009)				
	-	ree (1 major) Biology (20					
	-	ree (1 major) Biology (20					
	-	ree (1 major) Biology (20					
	-	ree (1 major) Chemistry					
	-	ree (1 major) Chemistry					
	-	ree (1 major) Chemistry					
	-	ree (1 major) Chemistry ree (1 major) Geography					
	-	ree (1 major) Geography					
	-	ree (1 major) Geography					
Bachelor' degree (1 major) Computer Science (2007)							
Bachelor' degree (1 major) Computer Science (2014)							
Bachelor' degree (1 major) Computer Science (2010)							
Bachelor' degree (1 major) Food Chemistry (2009)							
Bachelor' degree (1 major) Mathematics (2008)							
	-	ree (1 major) Mathemati					
Bachel	or' deg	ree (1 major) Mathemati	cs (2012)				
Bachelor's	with 1 ma	or Mathematics (2007)	JMU Würzt	burg • generated 11-Jan-2023 • 6	exam. reg.	page 135 / 249	
				d Bachelor (180 ECTS) Mathema	-		

Julius-Maximilians-UNIVERSITÄT WÜRZBURG



Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Biomedicine (2009) Bachelor' degree (1 major) Biomedicine (2013) 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)

Module	e title				Abbreviation
Genera	General Chemistry for Mathematics Majors				08-CM1-072-m01
Module	Module coordinator			Module offered by	
lecturer of lecture "Experimentalchemie" (Experimental Chemistry)		e" (Experimental	Institute of Inorgan	ic Chemistry	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
6	1	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
les, me	tals, a		eriodic table, chemic	al equilibrium and co	of chemistry. It focuses on partic- omplexometry. In addition, the c chemistry.
Intende	ed lear	ning outcomes			
Course	S (type,	scribe the main quantitat number of weekly contact hours, I tion on SWS (weekly cont	anguage — if other than Gei	rman)	nd their application areas.
module is	s credital	ble for bonus)		examination offered — if no	ot every semester, information on whether
		nation (approx. 60 minut	es)		
Allocat	ion of	places			
Additio	nal inf	ormation			
Worklo	ad				
	-				
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)	
Module					
	-	ree (1 major) Mathematic			
		ree (1 major) Mathematic			
Bachel	ur aeg	ree (1 major) Computatio	nat mathematics (20	09)	



Application-oriented Subject Chemisty Compulsory Electives

(9 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 138 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title Abbreviation					Abbreviation	
Organio	c Chem	istry 2			08-0C2-072-m01	
Module	coord	inator		Module offered by		
holder	of the (hair 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 semes	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 ntroduces students to	s' knowledge of sub Ilso focuses on oxida	fic reactions of aromatics. Using stitution, elimination and additi- ation and reduction reactions as nethods of infrared spectrosco-	
Intende	ed learn	ning outcomes				
bonyl c they ca unknow	ompou n plan vn reac	nds. They are able to des and formulate multi-stag	scribe specific reactic e syntheses with con to describe importan	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	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
V + Ü +	V (no i	nformation on SWS (wee	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 5 (groups of 2, approx. 30 minu-	
Allocati	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Bachelo Bachelo	Bachelor' degree (1 major) Chemistry (2007) Bachelor' degree (1 major) Chemistry (2008) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007)					

Modul	e title			Abbreviation	
Physic	al and [·]	Theoretical Chemistry 3:	Symmetry and Quant	um Chemistry	08-PC3-072-m01
Module	e coord	inator		Module offered b	y
lecturer of lecture "Quantenchemie"				Institute of Physi	cal and Theoretical Chemistry
ECTS	Methe	od of grading	Only after succ. com	pl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate	Registration for asse	ssment: Yes, as s	specified.
Conten	Its				
This m	odule c	liscusses the fundament	al principles of quantu	m chemistry and	symmetry in chemistry.
Intend	ed lear	ning outcomes			
		e become familiar with th e able to apply the knowle			hemistry and symmetry in che-
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Gern	nan)	
V + Ü +	V + Ü ((no information on SWS (weekly contact hours)	and course lang	uage available)
		sessment (type, scope, langua ole for bonus)	ge — if other than German, ex	kamination offered — i	f not every semester, information on whether
written	exami	nation (90 minutes)			
Allocat	ion of _l	places			
Additic	onal inf	ormation			
Worklo	ad				
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progran	nmes)	
Module	e appea	ars in			
		ree (1 major) Chemistry (:	2007)		
Bachel	or' deg	ree (1 major) Mathematic	s (2007)		

Module	Module title Abbreviation					
Theore	Theoretical Models in Chemistry 08-TC-072-m01					
Module	e coord	inator		Module offered by		
lecture	lecturer of lecture "Quantenchemie"			Institute of Physica	l and Theoretical Chemistry	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
3	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
spin, tł	ne Paul		inants, the Hartree-Fo	ock method, correlat	antum chemistry. It focuses on ion energy, configuration interac- dels of H2+.	
Intend	ed lear	ning outcomes				
Studen	ts are a	able to describe excited s	tates of molecules w	ith the help of key c	oncepts and models.	
Course	S (type, 1	number of weekly contact hours, I	anguage — if other than Ger	man)		
1) Ü + V	no info	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)	
		S essment (type, scope, langua ole for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
					minations: 60 or 90 minutes s (groups of 2, approx. 30 minu-	
Allocat	ion of	places				
Additio	onal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	e appea	ars in				
	-	ree (1 major) Chemistry (: ree (1 major) Mathematic	-			



Application-oriented Subject Geography

(35 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	pa
	data record Bachelor (180 ECTS) Mathematik - 2007	



Application-oriented Subject Geography Compulsory Electives 1

(15 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 143 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title					Abbreviation	
Genera	l Huma	n Geography			09-HG1-072-m01	
Module coordinator				Module offered by		
holder	of the C	Chair of Economic Geog	graphy	Institute of Geograp	hy and Geology	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
15	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Introdu	ction to	basic ideas and parti	cular sub-areas of "Hur	nan Geography".		
Intende	ed learr	ning outcomes				
technic	al conc	eption to Human Geog	s: basics and definition raphy. This includes U phy, Population Geogra	rban Geography, Geo	graphy of Rural Sett	lements,
Course	S (type, n	umber of weekly contact hour	s, language — if other than Ger	man)		
compoi • 0 • 0	nent. 9-HG1- 9-HG1-	1-072: V + T (no inform 2-072: V + T (no inform	nponents. Information ation on SWS (weekly c ation on SWS (weekly c ation on SWS (weekly c	contact hours) and co contact hours) and co	ourse language avail ourse language avail	able) lable)
		essment (type, scope, lang le for bonus)	uage — if other than German, o	examination offered — if no	t every semester, informati	on on whether
low. Un vidual a Assess troduct • 5 • w Assess Geogra • 5 • w Assess to Socia	 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-HG1-1-072: Introduction to the Geography of cities, towns and villages Introduction to the Geography of cities, towns and villages 5 ECTS, Method of grading: numerical grade written examination (45 minutes) Assessment in module component og-HG1-2-072: Introduction to Economic Geography Introduction to Economic Geography 5 ECTS, Method of grading: numerical grade written examination (45 minutes) Assessment in module component og-HG1-3-072: Introduction to Social and Population Geography Introduction to Social and Population Geography 5 ECTS, Method of grading: numerical grade 					on of all indi- l villages In- to Economic
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
		ree (1 major) Geograph	y (2007)			
		or Mathematics (2007)		g • generated 11-Jan-2023 • ex	xam. reg.	page 144 / 249
			data record B	achelor (180 ECTS) Mathemat	ik - 2007	



Bachelor' degree (1 major) Mathematics (2007)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 145 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title			Abbreviation			
General Physical Geography			09-PG1-072-m01			
Module coordinator Module offered b			Module offered by			
holder	of the (Chair of Physical Geogra	iphy	Institute of Geograp	ohy and Geology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
15 numerical grade						
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate	By way of exception assessments.	, additional prerequi	sites are listed in th	e section on
Conten	ts					
Introdu	ction to	o "Physical Geography"	: basics of exogenous	dynamics, endogend	ous dynamics and cli	imatology.
Intende	ed lear	ning outcomes				
domina mate, s mics of	ting th oil, wa the na	sess the following skills e landscape on the Ear ter, flora and fauna. The tural space and its anth by land using, settleme	th's surface and which ey are important for the propogenic transformation	are driven by the ge understanding of th tion (i.e. the environ	ological factors rock ne structure, function	s, relief, cli- n and dyna-
Courses	5 (type, r	umber of weekly contact hours	, language — if other than Ger	man)		
compor • 0 • 0	1ent. 9-PG1- 9-PG1-	omprises 3 module cor 1-072: V + T (no informa 2-072: V + T (no informa 3-072: V + T (no informa	tion on SWS (weekly c ation on SWS (weekly c	ontact hours) and co ontact hours) and co	ourse language avail ourse language avail	able) lable)
		essment (type, scope, lang le for bonus)	uage — if other than German, e	examination offered — if no	t every semester, informati	ion on whether
	less st	n this module comprise ated otherwise, succes ments.				
 Assessment in module component og-PG1-1-072: General Physical Geography 1 (Earth System: Endogenic Dynamics) General Physical Geography 1 (Earth System: Endogenic Dynamics) 5 ECTS, Method of grading: numerical grade written examination (45 minutes) Assessment in module component og-PG1-2-072: General Physical Geography 2 (Earth System: Climate System) General Physical Geography 2 (Earth System: Climate System) 5 ECTS, Method of grading: numerical grade written examination (45 minutes) 5 ECTS, Method of grading: numerical grade written examination (45 minutes) Other prerequisites: Registration for assessment: Yes, as specified. Assessment in module component og-PG1-3-072: General Physical Geography 3 (Earth System: Endogenic Dynamics) 5 ECTS, Method of grading: numerical grade written examination (45 minutes) Other prerequisites: Registration for assessment: Yes, as specified. Assessment in module component og-PG1-3-072: General Physical Geography 3 (Earth System: Endogenic Dynamics) 5 ECTS, Method of grading: numerical grade written examination (45 minutes) 0 Cher prerequisites: Registration for assessment: Yes, as specified. Written examination (45 minutes) 0 Cher prerequisites: Registration for assessment: Yes, as specified. 						
Allocation of places						
 Additional information						
WUTKIO	au					
Bachelor's v	with 1 ma	or Mathematics (2007)		; • generated 11-Jan-2023 • e achelor (180 ECTS) Mathemat	-	page 146 / 249

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

Module appears in

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 147 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	



Application-oriented Subject Geography Compulsory Electives 2

(10 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 148 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title			Abbreviation	
Cartography and Geoinformation			09-KART-072-m01	
Module coordinator		Module offered by		
holder of the Professorship of Cultura	l Geography	Institute of Geograp	bhy and Geology	
ECTS Method of grading	Only after succ. con	pl. of module(s)		
10 numerical grade				
Duration Module level	Other prerequisites			
1 semester undergraduate				
Contents Introduction to "Cartography and to the mation Systems" (GIS).	e Collection and Proc	essing of Geodata", i	introduction to "Geographic Infor-	
Intended learning outcomes				
Students possess the following skills: cerning the dealing with geodata and			data, acquisition of abilities con-	
Courses (type, number of weekly contact hours,	language — if other than Ger	man)		
 This module comprises 2 module components. Information on courses will be listed separately for each module component. o9-KART-1-072: V + T (no information on SWS (weekly contact hours) and course language available) o9-KART-2-072: 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 o9-KART-1-072: Cartography and Geodata Cartography and Geodata 5 ECTS, Method of grading: numerical grade written examination (approx. 75 minutes) or practice work (creating approx. 3 maps or diagrams, approx. 				
30 hours total), weighted 1:1 Assessment in module component og • 5 ECTS, Method of grading: num	, ,	phical Information Sy	ystems (GIS)	
 practice work (approx. 5 pieces 		completed in approx	x. 30 hours)	
Allocation of places				
 Additional information	_			
Workload				
Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module appears in				
Bachelor' degree (1 major) Geography (2007) Bachelor' degree (1 major) Mathematics (2007)				

Module title				Abbreviation
Remote Sensing			09-FERN-072-m01	
Module coordinator	,		Module offered by	
holder of the Chair o	of Remote Sensing		Institute of Geograp	ohy and Geology
ECTS Method of g	grading	Only after succ. com	pl. of module(s)	
10 numerical g	rade			
Duration Modu	ıle level	Other prerequisites		
1 semester unde	rgraduate			
Contents	0			
Introduction to "Geo	graphical Remote S	Sensing", application	s of "Remote Sensin	ng" to Geography.
Intended learning o	utcomes			
	of application of cr			ing System, knowledge of current ng in the light of different sensor
Courses (type, number	of weekly contact hours, l	anguage — if other than Ger	man)	
component. • 09-FERN-1-072	2: V + T (no informa	tion on SWS (weekly	contact hours) and c	sted separately for each module course language available) course language available)
Method of assessm module is creditable for bo		ge — if other than German, e	examination offered — if no	t every semester, information on whether
low. Unless stated of vidual assessments Assessment in mod Geographical Remov • 5 ECTS, Metho • written exami	otherwise, successf ule component og- te Sensing od of grading: nume nation (45 minutes)	ul completion of the r FERN-1-072: Introduc erical grade	module will require s tion to Geographical	e components as specified be- successful completion of all indi- l Remote Sensing Introduction to
Remote Sensing in (• 5 ECTS, Metho		erical grade	ion of Remote Sensi	ing in Geography Application of
Allocation of places				
Additional informat	ion			
Workload				
Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module appears in				
Bachelor' degree (1 major) Geography (2007)				
	Bachelor' degree (1 major) Computer Science (2007)			
Bachelor' degree (1				
Dachelor degree (1	Bachelor' degree (1 major) Mathematics (2007)			



Application-oriented Subject Geography Compulsory Electives 3

(10 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 151 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title			Abbreviation			
Special Problems of Physical Geography				09-PG2-072-m01		
Module	e coord	inator		Module offered by		
holder	of the (Chair of Physical Geogra	aphy	Institute of Geograp	ohy and Geology	
ECTSMethod of gradingOnly after succ. compl. of module(s)			npl. of module(s)			
10	nume	rical grade	two module compor	nents of 09-PG1, 09-I	KART, 09-FERN, 09-S	ТАТ
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Contents						
approa global (ches a change	overs synthesis and ne nd particularly on the b and past global chang ials on Earth's surface.	asis of the human imp	act: geomorphology,	climate, soil, hydro	geography,
Intende	ed lear	ning outcomes				
concerr ven by ture, fu that ha titative the cap ment an cerning cal Geo	ning th the geo nction s been acquis pability nd cha g the m ography	acquainted with the syr e processes on Earth's ological factors rock, re and dynamics of the na shaped from humans l sition of current process and capacity of geolog nge of geographical ter anagement as well as t v in the practical area.	surface, which are don lief, climate, soil, wate atural environment and by land utilisation, sett structures, Physical G ical systems, but also ritories in the past. The he sustainable use and	ninating the landsca r, flora and fauna. Th l its anthropogenic tr lements, transport ro eography is not only to predict changes in ese important planning d development, are g	pe on Earth's surface lese processes deter ransformation (the e butes etc.). Through able to derive predi future by analysing ng decision-making	e and are dri- mine struc- nvironment the quan- cations for the develop- bases con-
						a ala una di da
compoi • 0	nent. 19-PG2-	omprises 2 module cor 1-072: V (no informatio 2-072: S (no informatic	n on SWS (weekly cont	act hours) and cours	se language availabl	e)
		sessment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informat	ion on whether
	iless st	n this module comprise ated otherwise, succes ments.				
 Assessment in module component og-PG2-1-072: Special Problems of Physical Geography 1 (Earth System: Man and environment) 5 ECTS, Method of grading: numerical grade written examination (approx. 45 minutes) Assessment in module component og-PG2-2-072: Special Problems of Physical Geography 2 (Earth System: Man and environment) 5 ECTS, Method of grading: numerical grade presentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1 						
Allocation of places						
Additional information						
Worklo	Workload					
Bachelor's	with 1 ma	jor Mathematics (2007)		g • generated 11-Jan-2023 • e. achelor (180 ECTS) Mathemat	-	page 152 / 249

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

Module appears in

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 153 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title			Abbreviation				
Applied Physical Geography			09-PG3-072-m01				
Module	coord	inator		Module offered by	Nodule offered by		
holder	of the C	Chair of Physical Geogra	aphy	Institute of Geograp	ohy and Geology		
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)			
10	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Contents							
		choose a topic of "Phys ion of explored issues.	ical Geography" and a	ttend a project semir	nar: data collection,	data analysis	
Intende	ed learr	ning outcomes					
der to in ject, pro data co graphic	mplem ocess s Ilectior visual	v how to use their skills ent them practically. Ba teps of geographical re n in the field or the moo isation and presentatio vork independently.	ased on a specific issues search and method wi delling at the computer	e, which is partly inte Il be undergone. Stu , the application of s	egrated in a current i dents are acquainte statistical processes	research pro- d with the , the carto-	
Course	S (type, n	umber of weekly contact hours	s, language — if other than Ger	rman)			
compor • 0	nent. 9-PG3-	omprises 2 module cor 1-072: S (no informatio 2-072: S (no informatic	n on SWS (weekly cont	act hours) and cours	se language availabl	e)	
		s essment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether	
	less st	n this module comprise ated otherwise, succes ments.					
 Assessment in module component og-PG3-1-072: Project Seminar: Establishing Current Status and Data Acquisition 5 ECTS, Method of grading: numerical grade presentation (30 minutes) with written elaboration (20 pages), weighted 1:1 Assessment in module component og-PG3-2-072: Project Seminar: Data Evaluation, Data Visualisation and Presentation 5 ECTS, Method of grading: numerical grade project report (20 pages) 							
Allocat	ion of p	olaces					
Additional information							
Workload							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Modulo appears in							
Module appears in Bachelor' degree (1 major) Geography (2007)							
		ree (1 major) Geograph ree (1 major) Mathemat					
		or Mathematics (2007)	JMU Würzburg	g • generated 11-Jan-2023 • e: achelor (180 ECTS) Mathemat	-	page 154 / 249	

Module	e title				Abbreviation
Data A	cquisiti	on and Processing in Ph	ysical Geography		09-MT1-072-m01
Module coordinator Module c			Module offered by		
holder	of the (Chair of Physical Geograp	ohy	Institute of Geogra	ohy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	ts				
studen delling will be	ts can a , geoph offered	attend alternative semina hysical methods, soil scie l optionally.	ars, in which applicat	ions from the areas	natural environment; Advanced ground climatology, climate mo- eographic information system)
		ning outcomes	-		Cartography, Statistics and EDP
the cor der to t softwa	nputer each th re appli	with different stages of c ne practical dealing with ications.	lata processing in the geophysical measure	e lab or at the compu ement methods as w	n in the field or the modelling at Iter will be linked together in or- ell as the dealing with different
		number of weekly contact hours,			
		tion on SWS (weekly cont			
		sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
presen	tation (15 minutes) with written	elaboration (15 page	s), weighted 1:1	
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module					
Bachelor' degree (1 major) Geography (2007) Bachelor' degree (1 major) Mathematics (2007)					

Module title			Abbreviation		
Working Methods: Solid Earth System				09-MT3-072-m01	
Module	coord	inator		Module offered by	
holder o search	of the C	Chair of Geodynamics and	d Geomaterials Re-	Institute of Geograp	hy and Geology
ECTS	Metho	od of grading	Only after succ. com	ıpl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
Basic observations on geological materials that can already be made in the field and which can lead to a first in- terpretation of geological processes, which took place, as well as the creation of value of geomaterials. Students will be provided with distinctive features and characteristics of the most important rock-forming and economi- cally relevant minerals by means of chosen visuals. Subsequently, the classification of the most important sedi- mentary, igneous and metamorphic rock types will be elucidated and practised on the basis of their in the hand- piece identifiable mineral existence and structure. In the following modular section, the understanding of two- dimensional display of three-dimensional display of geological phenomena like the geographical distribution of different rock types or tectonic structures will be developed in form of geological maps and sections as well as simple structural-geological diagrams. Intended learning outcomes Students are able to identify the most important mineral types and as far as possible, to outline and interpret the rock samples without analytical tools. Moreover, they are able to interpret geological maps correctly and to show geological field observations in map form, profiles and suitable diagrams. 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.					
Method	l of ass		•		se language available) t every semester, information on whether
Assessi low. Un vidual a	ment ir less sta assessr	ated otherwise, successf ments.	ul completion of the	module will require s	e components as specified be- successful completion of all indi-
 Assessment in module component og-MT3-1-072: Mineral an Rock Identification 5 ECTS, Method of grading: numerical grade written or oral examination of one candidate each (30 minutes each) Assessment in module component og-MT3-2-072: Geological Maps and Structures 5 ECTS, Method of grading: numerical grade written or oral examination of one candidate each (30 minutes each) Assessment in module component og-MT3-2-072: Geological Maps and Structures 5 ECTS, Method of grading: numerical grade written or oral examination of one candidate each (30 minutes each) or term paper (approx. 20 pages) Allocation of places 					
Additional information					
Workload					
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	

Bachelor's with 1 major Mathematics (2007)

Module appears in

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.
	data record Bachelor (180 ECTS) Mathematik - 2007

Module title					Abbreviation
Working Methods of Physical Geography					09-MT5-072-m01
Modul	e coord	inator		Module offered by	
holder	ofthe	Chair of Physical Geo	ography	Institute of Geogra	phy and Geology
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
10	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 seme	ester	undergraduate	By way of exception assessments.	, additional prerequ	isites are listed in the section on
Conter	nts	• •			
Intend Studer skills c tion po	ed lear nts pose of the d	ning outcomes sess the fundamenta ifficulties of field, me ies of the acquired fi	easurement and lab work	napping, measurem s and possess an ov ossess the visualisat	ent and lab methods. They have erview of analysis and interpreta ion and presentation of geodata scientifically.
Course	es (type, i	number of weekly contact h	ours, language — if other than Ge	rman)	
compo • c	onent. 09-MT5	-1-072: P (no informa	components. Information ition on SWS (weekly con ation on SWS (weekly con	tact hours) and cour	
		sessment (type, scope, l le for bonus)	anguage — if other than German,	examination offered — if no	ot every semester, information on whether
Assessment in this module comprises the assessments in the individual module components as specified be- low. Unless stated otherwise, successful completion of the module will require successful completion of all indi- vidual assessments.					
					nhing Fieldwerk Chille Field

Assessment in module component og-MT5-1-072: Introduction to physiogeographical Fieldwork Skills, Field Mapping and Measuring

- 5 ECTS, Method of grading: numerical grade
- placement report / fieldwork report / report on practical training / report on practical course / project report / report on technical course (approx. 15 pages)

• Other prerequisites: A basic knowledge of inorganic chemistry and physics is recommended.

- Assessment in module component og-MT5-2-072: Data management, -analysis and -interpretation
 - 5 ECTS, Method of grading: numerical grade
 - presentation of project (approx. 30 minutes) and written elaboration (approx. 20 pages); weighted 1:1
 - Other prerequisites: A basic knowledge of inorganic chemistry and physics is recommended.

Allocation of places

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Additional information

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Workload

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

Bachelor's with 1 major Mathematics (2007)

Module appears in

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.
	data record Bachelor (180 ECTS) Mathematik - 2007

Module	e title				Abbreviation
Special Issues of Human Geography				09-HG2-072-m01	
Module coordinator				Module offered by	<u>I</u>
holder	of the l	Professorship of Social G	eography	Institute of Geograp	ohy and Geology
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
10	nume	rical grade	two module compor	nents of 09-HG1	
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts	~			
		leals with and consolidat areas of "Human Geograp		'Theoretical and App	olied Human Geography" from two
Intende	ed lear	ning outcomes			
their ap	oplicati		ion. They are able to	issue a seminar pap	b-areas of Human Geography and per on the basis of independent li- pe held freely.
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)	
compo • 0 • 0	nent. 9-HG2 9-HG2	-1-072: S (no information -2-072: S (no information	on SWS (weekly con on SWS (weekly con	tact hours) and cours tact hours) and cour	
		ele for bonus)			of every semester, mornation on whether
	iless st	ated otherwise, successf			e components as specified be- successful completion of all indi-
• 5 • p Assess • 5	ECTS, resent ment i ECTS,	n module component og- Method of grading: nume ation (approx. 30 minute: n module component og- Method of grading: nume ation (approx. 30 minute:	erical grade s) with written elabor HG2-2-072: Special i erical grade	ration (approx. 20 pa ssues of Human Geo	ages), weighted 1:1 ography 2
Allocat			b) with written clubor		
Additio	nal inf	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Module appears in Bachelor' degree (1 major) Geography (2007)					
Bachel	or aeg	ree (1 major) Geography ((2007)		

Module	Module title				Abbreviation
Applied Human Geography			09-HG3-072-m01		
Module coordinator				Module offered by	
holder	of the F	Professorship of Social G	eography	Institute of Geograp	ohy and Geology
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
		choose a topic of "Humar ion of explored issues.	n Geography" and att	end a project semina	ar: data collection, data analysis
Intende	ed learr	ning outcomes			
-Applica phical p -Elabora -Presen -Knowle	ation o plannin ation o tation edge co	g and development usin f action-oriented solutior of results;	g empirical research is; irical survey and ana	methods; lysis methodology, p	ctice-oriented issues of geogra- project work, team spirit, re-
		umber of weekly contact hours, l		•	
compor • 0	nent. 9-HG3-	omprises 2 module comp 1-072: S (no information 2-072: S (no information	on SWS (weekly cont	act hours) and cours	
		e essment (type, scope, langua le for bonus)	ge — if other than German, e	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-
 Assessment in module component o9-HG3-1-072: Project oriented Seminar 1 for Applied Human Geography 5 ECTS, Method of grading: numerical grade presentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1 Assessment in module component o9-HG3-2-072: Project oriented Seminar 2 for Applied Human Geography 5 ECTS, Method of grading: numerical grade presentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1 					
Allocation of places					
Additional information					
Workload					
Referre	d to in	LPO I (examination regulations	for teaching-degree progra	mmes)	
Module	appea	in			
	-	ree (1 major) Geography (ree (1 major) Mathematic			

Module	e title				Abbreviation
Theorie	Theories and Methodology in Human Geography 09-MT2-072-m01				
Module	coord	inator		Module offered by	1
holder	of the l	Professorship of Cultural	Geography	Institute of Geogra	phy and Geology
ECTS	Meth	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				
	nt pers				al specific theory, discussion of / in analytical and prescriptive
Intende	ed lear	ning outcomes			
		sess knowledge of theore nods as well as models a			ts are acquainted with empirical
Course	S (type, r	number of weekly contact hours, I	anguage — if other than Gei	rman)	
S (no ir	forma	tion on SWS (weekly cont	act hours) and cours	e language available	e)
		sessment (type, scope, langua vle for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether
written	exami	nation (45 minutes) and _l	presentation (approx	. 20 minutes), weigh	ted 1:1
Allocat	ion of _l	places			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	ummes)	
Module	e appea	ars in			
	-	ree (1 major) Geography ree (1 major) Mathematic			

Module	e title			Abbreviation	
Quanti	tative and Qualitative Regional	Analysis		09-MT4-072-m01	
Module coordinator			Module offered by	<u></u>	
holder	of the Professorship of Social G	eography	Institute of Geogra	ohy and Geology	
ECTS	Method of grading	Only after succ. con	npl. of module(s)		
10	numerical grade	09-MT2 as well as o STAT each	ne module compone	ent of modules 09-KART and 09-	
Duratio	on Module level	Other prerequisites			
1 seme	ster undergraduate				
Conten	ts				
of geog	odule includes processes of qua graphical modelling and simulat scussion of methods, criticism o	tion. Processes of qua	alitative social and re		
Intend	ed learning outcomes				
	thods as well as the skills conce			be applied to regional and analyti- the processes application and ef-	
Course	S (type, number of weekly contact hours,	language — if other than Gei	rman)		
Metho module is Assess low. Ur vidual Assess - 5 - p	s creditable for bonus) ment in this module comprises aless stated otherwise, success assessments. ment in module component og 5 ECTS, Method of grading: num- presentation (30 minutes) with v	n on SWS (weekly con age – if other than German, the assessments in t ful completion of the • MT4-1-072: Quantita erical grade vritten elaboration (a)	tact hours) and cour examination offered — if no he individual modul module will require s tive Regional Analys pprox. 20 pages), we	rse language available) of every semester, information on whether e components as specified be- successful completion of all indi- is eighted 1:1	
	ment in module component og		ve Regional Analysis	5	
	; ECTS, Method of grading: num presentation (30 minutes) with v		pprox. 20 pages), we	eighted 1:1	
	ion of places		· · · · · · · · · · · · · · · · · · ·	<u> </u>	
Additional information					
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	e appears in				
	or' degree (1 major) Geography or' degree (1 major) Mathematic				

Module	title				Abbreviation	
Methods of Planning in Human Geography			09-MT6-072-m01			
Module coordinator Module offered by						
holder	of the F	Professorship of Cultura	al Geography	Institute of Geograp	ohy and Geology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
10	nume	rical grade	09-MT2 as well as o STAT each	ne module compone	ent of modules 09-KA	ART and 09-
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
			thods on practice-orier d problem solving, pre			d develop-
Intende	ed leari	ning outcomes				
gional o sult-ori	develop ented r	oment planning and reg nethods, communicati	•	pment, project work		
· · · · · · · · · · · · · · · · · · ·			s, language — if other than Ger			
compor • o	nent. 9-MT6·	1-072: S (no informatio	nponents. Information on on SWS (weekly cont on on SWS (weekly con	tact hours) and cour	se language availab	e)
Method	l of ass	-	uage — if other than German, o			
	less st	ated otherwise, succes	s the assessments in t sful completion of the			
 Assessment in module component og-MT6-1-072: Methods of Planning in Human Geography 1 5 ECTS, Method of grading: numerical grade a) presentation (approx. 25 minutes) with written elaboration (approx. 12 pages), weighted 1:1 or b) term paper (approx. 20 pages) or c) several small assessments (total length/expenditure of time comparable to a) and/or b)), weighted 1:1 Assessment in module component og-MT6-2-072: Methods of Planning in Human Geography 2 5 ECTS, Method of grading: numerical grade a) presentation (approx. 25 minutes) with written elaboration (approx. 12 pages), weighted 1:1 or b) term paper (approx. 20 pages) or c) several small assessments (total length/expenditure of time comparable to a) and/or b)), weighted 1:1 						
Allocation of places						
 Additional information						
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module						
	-	ree (1 major) Geograph ree (1 major) Mathemat				
		for Mathematics (2007)	JMU Würzburg	g • generated 11-Jan-2023 • e achelor (180 ECTS) Mathema		page 164 / 249



Application-oriented Subject Computer Science

(35 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.
	data record Bachelor (180 ECTS) Mathematik - 2007



Application-oriented Subject Computer Science Compulsory Electives (35 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg
	data waxad D

Module title			Abbreviation		
Information transmission					10-l-lÜ-072-m01
Module	Module coordinator			Module offered by	
holder	of the (Chair of Computer Scienc	e III	Institute of Comput	er Science
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
8	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
theory,	spectr		, modulation technic	jue, structure of digi	d fault correction, information tal transmission systems, intro-
Intende	ed learı	ning outcomes			
		possess a technical, theo a knowledge that is nece			ucture of systems for information
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
		nation (80 minutes) or or o minutes)	al examination (one o	candidate each: 20 r	ninutes, groups of 2: 30 minutes,
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module appears in					
Bachel	Bachelor' degree (1 major) Computer Science (2007)				
	Bachelor' degree (1 major) Mathematics (2008)				
	-	ree (1 major) Mathematic)	
Bachelor' degree (1 major) Computational Mathematics (2009)					

Module title					Abbreviation
Digital computer systems				10-I-RAL-072-m01	
Modul	e coord	inator		Module offered by	
holder	of the (Chair of Computer Scienc	e V	Institute of Comput	er Science
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
8	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
					nchronous and asynchronous cir- e programming, memory hierar-
Intend	ed lear	ning outcomes			
ming o	f easy r				up to the design and program- vare description languages for the
Course	S (type, r	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (no infoi	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
		nation (80 minutes) or or o minutes)	al examination (one o	candidate each: 20 r	ninutes, groups of 2: 30 minutes,
Allocat	tion of p	olaces			
Additio	onal inf	ormation			
Workload					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009)					

Module title					Abbreviation	
Theore	tical in	formatics		10-l-Tl-072-m01		
Module	e coord	inator		Module offered by		
Dean o	f Studio	es Informatik (Computer S	Science)	Institute of Comput	er Science	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
		, decidability, countabilit ılar sets, generative gram			nctions and circuits, finite auto- nsitive languages.	
Intende	ed learı	ning outcomes				
tability	, comp		plean functions and c	ircuits, finite automa	nputability, decidability, coun- ata and regular sets, generative	
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
		s essment (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
		nation (80 minutes) or ora o minutes)	al examination (one o	candidate each: 20 n	ninutes, groups of 2: 30 minutes,	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
	Bachelor' degree (1 major) Computer Science (2007)					
	-	ree (1 major) Mathematic ree (1 major) Mathematic				
	-	ree (1 major) Mathematic		09)		

Module title				Abbreviation			
Algorithm and data structures					10-I-ADS-072-m01		
Module	coord	inator		Module offered by			
Dean of	fStudie	es Informatik (Computer S	Science)	Institute of Comput	er Science		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)			
8	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
-		alysis of algorithms, recu trees, graphs, basic grap			ods, data structures, abstract da-		
Intende	ed leari	ning outcomes					
lyse the three b are able familia	em. The asic pro e to inc r with t	ey are able to apply recur ogramming paradigms ar lependently design algor	sion in algorithms an nd are able to apply t ithms as well as to pr e design of algorithm	d data structures. Them in practical progressing of the structure of the s	to precisely describe and ana- ne students are familiar with the grams.] [Version 2: The students d analyse them. The students are ply them in practical programs. rove their correctness.]		
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)			
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)		
		e ssment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
		nation (80 minutes) or or o minutes)	al examination (one o	candidate each: 20 n	ninutes, groups of 2: 30 minutes,		
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)			
Module appears in							
Bachelo Bachelo Bachelo Bachelo Bachelo Bachelo	Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Business Information Systems (2007) Bachelor' degree (1 major) Business Information Systems (2008) Bachelor' degree (1 major) Computational Mathematics (2009)						

Modul	Module title Abbreviation						
Autom	Automation and control technology 10-I-AR-072-m01						
Modul	e coord	linator		Module offered by			
holder	ofthe	Chair of Computer Sci	ence VII	Institute of Compu	ter Science		
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					
Conter	nts						
putatio system	on mac ns, proc	hines, communicatior	n between process comp	uters and periphery	ated structure of processing com- devices, software for automation g systems, real-time planning.		
	-		tals of automation and c	ontrol			
			urs, language — if other than Ger				
			kly contact hours) and co		lahle)		
	-				ot every semester, information on whether		
		ble for bonus)	ngaage notien than comany				
writter	ı exami	nation (80 minutes)					
Alloca	tion of	places					
Additi	onal inf	ormation					
Worklo	oad						
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module appears in							
Bachelor' degree (1 major) Computer Science (2007)							
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007)							
Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009)							

Module title Abbreviation					
Data ba	ises				10-I-DB-072-m01
Module	coord	inator		Module offered by	
Dean of	fStudi	es Informatik (Computer	Science)	Institute of Comput	er Science
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				
	-	ebra and complex SQL st gement.	atements; database	planning and normal	l forms; xml data modelling; tran-
Intende	ed lear	ning outcomes			
		possess a knowledge abo g in XML.	out database modelli	ng and queries in SC	L, transactions as well as easy
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		Sessment (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	t every semester, information on whether
		nation (50 minutes) or ora 5 minutes)	al examination (one o	candidate each: 15 m	inutes, groups of 2: 20 minutes,
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
Module	appea	urs in			
		ree (1 major) Computer S	cience (2007)		
	Bachelor' degree (1 major) Mathematics (2008)				
Bachelor' degree (1 major) Mathematics (2007)					
Bachelor' degree (1 major) Technology of Functional Materials (2009)					
Bachelor' degree (1 major) Technology of Functional Materials (2010)					
	Bachelor' degree (1 major) Business Information Systems (2007)				
	Bachelor' degree (1 major) Business Information Systems (2009)				
		ree (1 major) Business In			
		ree (1 major) Computatio			
Bachel	or' deg	ree (1 major) Technology	of Functional Materia	als (2006)	

Module title					Abbreviation		
Graphtheoretical concepts and algorithms					10-l-GT-072-m01		
Module	coord	inator		Module offered by			
holder	of the C	Chair of Computer Scienc	e l	Institute of Comput	er Science		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)			
8	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
forests work de graph p with pla miliar w	and ma esign a problem anar gra vith nev	atroids, depth first search nd routing, planar graphs ns: we solve round trip pr aphs and find out how th	n, breadth first search s, graph transformatio oblems, calculate ma e ranking algorithm c amples of graph prob	n, shortest paths, flo ons] [Version 2: On t aximal flows, find ma of Google works. On lems, for example he	all and irreducible kernel, trees, wws and streams, matchings, net- he one hand, we handle typical atchings and colourings, work the other hand, we become fa- ow we model problems as linear		
-		ning outcomes	· ·	· -			
rests, m sign an blems o the lect	natroid d routi of comp ture hel	s, depth first search, brea ng, planar graphs, graph puter science as graph pr	adth first search, sho transformations.] [Ve oblems. In addition, roblem algorithmical	rtest path, flows and ersion 2: The student the participants are	and irreducible kernel, trees, fo- d streams, matching, network de- ts are able to model typical pro- able to decide which tool from idents learn in detail how to esti-		
		umber of weekly contact hours, la		man)			
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)		
		s essment (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
		nation (80 minutes) or ora o minutes)	al examination (one o	andidate each: 20 n	ninutes, groups of 2: 30 minutes,		
Allocat	ion of p	olaces					
Additional information							
Workload							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module appears in							
Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009)							

8 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents Complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems. Intended learning outcomes Iversion 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] Oursion 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism, hierarchical theorems, translation methods, P-NP problem, completienes problems, Turing reduction, interactive proof systems.] Ourses to specific to the areas of complexity measurements and classes, memory consumption versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of probabilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than German, examination offered – if not every semester, information on whether module is credi	Module title					Abbreviation	
holder of the Chair of Computer Science IV Institute of Computer Science ECTS Method of grading Only after succ. compl. of module(s) 8 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents Complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP poblem, completeness problems, Turing reduction, interactive proof systems. Intended learning outcomes Intended learning outcomes [Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, memory consumption versus computation time, determinism, hierarchical theorems, translation methods, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity measurements and classes fundamental and applicable knowledge in the areas of complexity of parallel algorithms and complexity of probabilistic algorithms.] Courses type, number of weekly contact hours, language – if other than German) V + 0 (no information on SWS (weekly contact ho	Theory	of com	plexity			10-I-KT-072-m01	
ECTS Method of grading Only after succ. compl. of module(s) 8 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents Complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems. Intended learning outcomes [Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 2: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, memory consumption versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of probabilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than Geman) V + U (no information on SWS (weekly contact hours) and course language available) Method of assessment (type, scope, language – if other than Geman), examination ofiered – if not every semester, information on whether module is creditable for bonus)	Module	coord	inator		Module offered by		
8 numerical grade Duration Module level Other prerequisites 1 semester undergraduate Contents Complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems. Intended learning outcomes [Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 2: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, memory consumption versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of probabilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than German, examination offered – if not every semester, information on whether module to reduction 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 to reduction of places	holder	of the C	Chair of Computer Scienc	e IV	Institute of Comput	er Science	
Duration Module level Other prerequisites 1 semester undergraduate	ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
1 semester undergraduate Contents Complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems. Intendel learning outcomes Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 2: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, memory consumption versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of probabilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than German) V + Û (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 homus written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Aldocation of places	8	nume	rical grade				
Contents Complexity measurements and classes, general relationships between space and time classes, memory con- sumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation me- thods, P-NP problem, completeness problems, Turing reduction, interactive proof systems. Intended learning outcomes Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measure- ments and classes, general relationships between space and time classes, memory consumption versus com- putation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 2: The students possess a fun- damental and applicable knowledge in the areas of complexity measurements and classes, memory consumpti- on versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of pro- babilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than German) V + 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) written examination (80 minutes) or oral examination (0ne candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Aldottional information	Duratio	n	Module level	Other prerequisites			
Complexity measurements and classes, general relationships between space and time classes, memory con- sumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation me- thods, P-NP problem, completeness problems, Turing reduction, interactive proof systems. Intended learning outcomes (Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measure- ments and classes, general relationships between space and time classes, memory consumption versus com- putation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] (Version 2: The students possess a fun- damental and applicable knowledge in the areas of complexity measurements and classes, memory consumpti- on versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of pro- babilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than German) V + Û (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) written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Allocation of places 	1 seme	ster	undergraduate				
sumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation me- thods, P-NP problem, completeness problems, Turing reduction, interactive proof systems. Intended learning outcomes Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measure- ments and classes, general relationships between space and time classes, memory consumption versus com- putation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 2: The students possess a fun- damental and applicable knowledge in the areas of complexity measurements and classes, memory consumpti- on versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of pro- babilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than German) V + Û (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) written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Allocation of places Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	Conten	ts					
[Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 2: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, memory consumption versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of probabilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than German) V V + 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) written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Allocation of places Additional information Referred to in LPO 1 (examination forteaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	sumption	on vers	us computation time, de	terminism versus ind	eterminism, hierarch	hical theorems, translation me-	
ments and classes, general relationships between space and time classes, memory consumption versus com- putation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 2: The students possess a fun- damental and applicable knowledge in the areas of complexity measurements and classes, memory consumpti- on versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of pro- babilistic algorithms.] Courses (type, number of weekly contact hours, language – if other than German) V + Ü (no information on SWS (weekly contact hours) and course language available) Method of assessment (type, scope, language – if other than German) V + Ü (no information on SWS (weekly contact hours) and course language available) Method of assessment (type, scope, language – if other than German) V + Ü (no information on SWS (weekly contact hours) and course language available) Method of assessment (type, scope, language – if other than German) V + Ü (no information on SWS (weekly contact hours) and course language available) Method of assessment (type, scope, language – if other than German) V + Ü (no information (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Allocation of places 	Intende	ed learn	ning outcomes				
V + 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) written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	ments a putatio comple dament on vers bounds	and cla n time, teness tal and us com s, Boole	sses, general relationshi determinism versus inde problems, Turing reduct applicable knowledge in putation time, determini ean hierarchy, polynomia	ps between space an eterminism, hierarchi ion, interactive proof the areas of comple sm versus indetermin	d time classes, men cal theorems, transl systems.] [Version 2 kity measurements a nism, P-NP problem,	nory consumption versus com- ation methods, P-NP problem, e: The students possess a fun- and classes, memory consumpti- completeness problems, lower	
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus) written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	Course	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
module is creditable for bonus) written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes) Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	V + Ü (r	io infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
groups of 3: 40 minutes) Allocation of places Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)				ge — if other than German, e	examination offered — if no	t every semester, information on whether	
Additional information Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)				al examination (one o	candidate each: 20 n	ninutes, groups of 2: 30 minutes,	
Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	Allocat	ion of p	olaces				
Workload Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)							
Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	Additio	nal inf	ormation				
Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)							
Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	Workload						
Module appears in Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)							
Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)	Referred to in LPO I (examination regulations for teaching-degree programmes)						
Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)							
Bachelor' degree (1 major) Mathematics (2008)							
		-					
Buchetor degree (1 major) mathematics (2007)		-					
Bachelor' degree (1 major) Computational Mathematics (2009)		-			09)		

Module title					Abbreviation		
Logic fo	or infor	matics			10-l-LOG-072-m01		
Module	e coord	inator		Module offered by			
Dean of	f Studi	es Informatik (Computer	Science)	Institute of Comput	er Science		
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)			
5	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
		mantics of propositional ets, syntax and semantic	•	nd normal forms, Ho	rn formulas, SAT, resolution, infi-		
Intende	ed lear	ning outcomes					
					ositional logic, equivalence and semantics of predicate logic.		
Course	S (type, r	umber of weekly contact hours, l	anguage — if other than Ger	man)			
V + Ü (r	no infoi	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		
		nation (50 minutes) or ora 5 minutes)	al examination (one o	candidate each: 15 m	inutes, groups of 2: 20 minutes,		
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
Referre	d to in	LPOI (examination regulation	s for teaching-degree progra	mmes)			
Module appears in							
	-	ree (1 major) Computer S					
	-	ree (1 major) Mathematic					
	-	ree (1 major) Mathematic					
васпен	Bachelor' degree (1 major) Computational Mathematics (2009)						

Module title Abbreviation					
Object	oriente	ed programming			10-I-00P-072-m01
Modul	e coord	inator		Module offered by	<u>.</u>
Dean c	of Studi	es Informatik (Computer	Science)	Institute of Comput	er Science
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conter	nts	<u>.</u>	<u>.</u>		
Polymo ment.	orphism	n, generic programming, ı	meta programming, w	veb programming, te	mplates, document manage-
Intend	ed lear	ning outcomes			
	udents ractical	•	rent paradigms of obj	iect-oriented prograr	nming and have experience in
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)	
V + Ü (no info	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)
module i written	s creditab exami	le for bonus)			ot every semester, information on whether ninutes, groups of 2: 20 minutes
-	tion of				
Additio	onal inf	ormation			
Worklo	ad				
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)	
Modul	e appea	ars in			
Bachelor' degree (1 major) Computer Science (2007)					
Bachelor' degree (1 major) Mathematics (2008)					
Bachelor' degree (1 major) Mathematics (2007)					
Bachelor' degree (1 major) Business Information Systems (2007)					
Bachelor' degree (1 major) Business Information Systems (2009)					
Bachelor' degree (1 major) Business Information Systems (2008) Bachelor' degree (1 major) Computational Mathematics (2009)					
Dachel	or deg			09)	

Module	Module title Abbreviation					
Practic	Practical course in programming 10-I-PP-072-m01					
Module	e coord	inator		Module offered by		
Dean o	f Studi	es Informatik (Computer	Science)	Institute of Comput	er Science	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
9	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
The pro	gramm	ning language Java. Indep	pendent creation of si	nall to middle-sized	, high-quality Java programs.	
		ning outcomes				
		are able to independently	y develop small to mi	ddle-sized, high-qua	ality Java programs.	
		umber of weekly contact hours, l	· · · ·			
P (no ir	format	ion on SWS (weekly cont	act hours) and cours	e language available	e)	
		sessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
nation	(60 to <u>9</u>				al examination: written exami- utes, groups of 2: 20 minutes,	
Allocat						
Additio	nal inf	ormation	-			
Worklo	ad					
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
Module appears in						
Bachelor' degree (1 major) Computer Science (2007)						
	Bachelor' degree (1 major) Mathematics (2008)					
	Bachelor' degree (1 major) Mathematics (2007)					
	Bachelor' degree (1 major) Economathematics (2009)					
	Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Computational Mathematics (2009)					
васпе	or deg	ree (1 major) Computatio	nai Mathematics (20)	(90		

Module title					Abbreviation	
Compu	ter arcl	hitecture			10-I-RAK-072-m01	
Module	e coord	inator		Module offered by		
holder	of the (Chair of Computer Scienc	e V	Institute of Comput	er Science	
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					
		t architectures, command vector processors, multi-o		pipelining, statical a	and dynamic instruction schedu-	
Intende	ed lear	ning outcomes				
		master the most importa l operating systems.	nt techniques to desi	gn fast computers as	s well as their interaction with	
Courses	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)		
V + Ü (r	no infor	mation on SWS (weekly	contact hours) and co	ourse language avail	able)	
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	t every semester, information on whether	
		nation (80 minutes) or or o minutes)	al examination (one o	candidate each: 20 n	ninutes, groups of 2: 30 minutes,	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
	Bachelor' degree (1 major) Computer Science (2007)					
	-	ree (1 major) Mathematic ree (1 major) Mathematic				
	-	-		09)		
Bachelor' degree (1 major) Computational Mathematics (2009)						

Modul	e title				Abbreviation	
Compu	Computer networks and communication systems				10-I-RK-072-m01	
Modul	e coord	inator		Module offered by		
holder	of the (Chair of Computer Science	e III	Institute of Comput	ter Science	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
8	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
chies, and IS	dataflo O archit	w control and traffic cont tecture models. Internet:	rol, transfer network. structure and basic r	Communication pro nechanism, TCP/IP,	methods, digital transfer hierar- otocols: fundamental principles routing, network management. ommunication systems and net-	
Intend	ed lear	ning outcomes				
		possess an intricate kno damental principles to ra		re of computer netwo	orks and communication systems	
Course	S (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
V + Ü (no info	rmation on SWS (weekly	contact hours) and co	ourse language avail	lable)	
		sessment (type, scope, langua le for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
		nation (80 minutes) or o o minutes)	ral examination (one	candidate each: 20 I	minutes, groups of 2: 30 minutes,	
Allocat	tion of _l	olaces				
Additio	onal inf	ormation				
Workload						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
	-	ree (1 major) Computer S				
	Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007)					
	Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2000)					

Bachelor' degree (1 major) Computational Mathematics (2009)

Module title Abbreviation					Abbreviation	
Softwa	Software technology				10-I-ST-072-m01	
Module	e coord	inator		Module offered by		
Dean of	f Studi	es Informatik (Computer	Science)	Institute of Comput	er Science	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
8	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate				
Conten	ts					
bases a	and obj		oundations of web p	rogramming (HTML, 2	r interfaces, foundations of data- XML), software development pro- lity assurance.	
Intende	ed lear	ning outcomes				
		possess a fundamental the second s		cal knowledge on the	e design and development of	
Course	S (type, r	umber of weekly contact hours, l	anguage — if other than Ger	rman)		
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
module is written	creditab examii	le for bonus)			t every semester, information on whether ninutes, groups of 2: 30 minutes,	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)		
Module appears in						
Bachelo Bachelo Bachelo Bachelo Bachelo Bachelo	Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Economathematics (2009) Bachelor' degree (1 major) Economathematics (2008) Bachelor' degree (1 major) Business Information Systems (2007) Bachelor' degree (1 major) Business Information Systems (2008) Bachelor' degree (1 major) Computational Mathematics (2009)					

Practical course in software 10-I-SWP-072-m01 Module coordinator Module offered by Dean of Studies Informatik (Computer Science) Institute of Computer Science ECTS Method of grading Only after succ. compl. of module(s) 10 (not) successfully completed Duration Module level Other prerequisites 1 semester undergraduate Contents Completion of a project assignment in groups, problem analysis, creation of requirements specifications, spec cation of solution components (e. g. UML) and milestones, user manual, programming documentation, present				
Dean of Studies Informatik (Computer Science) Institute of Computer Science ECTS Method of grading Only after succ. compl. of module(s) 10 (not) successfully completed Duration Module level Other prerequisites 1 semester undergraduate Contents Completion of a project assignment in groups, problem analysis, creation of requirements specifications, spec cation of solution components (e. g. UML) and milestones, user manual, programming documentation, present				
ECTS Method of grading Only after succ. compl. of module(s) 10 (not) successfully completed Duration Module level Other prerequisites 1 semester undergraduate Contents Completion of a project assignment in groups, problem analysis, creation of requirements specifications, spec cation of solution components (e. g. UML) and milestones, user manual, programming documentation, present				
10 (not) successfully completed Duration Module level Other prerequisites 1 semester undergraduate Contents Completion of a project assignment in groups, problem analysis, creation of requirements specifications, spec cation of solution components (e. g. UML) and milestones, user manual, programming documentation, present				
Duration Module level Other prerequisites 1 semester undergraduate Contents Completion of a project assignment in groups, problem analysis, creation of requirements specifications, spec cation of solution components (e. g. UML) and milestones, user manual, programming documentation, present				
1 semester undergraduate Contents Completion of a project assignment in groups, problem analysis, creation of requirements specifications, spec cation of solution components (e. g. UML) and milestones, user manual, programming documentation, present				
Contents Completion of a project assignment in groups, problem analysis, creation of requirements specifications, spec cation of solution components (e. g. UML) and milestones, user manual, programming documentation, present				
Completion of a project assignment in groups, problem analysis, creation of requirements specifications, spec cation of solution components (e. g. UML) and milestones, user manual, programming documentation, present				
cation of solution components (e.g. UML) and milestones, user manual, programming documentation, present				
tion and delivery of the runnable software product in a colloquium.				
Intended learning outcomes				
The students possess the practical skills for the design, development and execution of a software project in small teams.				
Courses (type, number of weekly contact hours, language — if other than German)				
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)				
periodic presentations on project progress with regard to detailing problem specifications, the corresponding s lution components (software) and the documentation of these; if project is completed in groups, proof of con- tributions made by the individual student required; software and project documentation as specified in assign ment, final presentation (10 to 15 minutes per group)				
Allocation of places				
Additional information				
Workload				
Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module appears in				
Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Business Information Systems (2007) Bachelor' degree (1 major) Business Information Systems (2008) Bachelor' degree (1 major) Computational Mathematics (2009)				

Module	Module title				Abbreviation
Knowle	edge m	anagement systems and	l data mining		10-I-WMS-072-m01
Module coordinator				Module offered by	
holder	ofthe	Chair of Computer Scien	ce VI	Institute of Comput	ter Science
ECTS	r –	od of grading	Only after succ. com	· · · · ·	
10		rical grade			
Duratio		Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts		1		
basic k poral c quisitic learnin [Versio basic k	nowled losures on and g algor n 2: Fo nowled losure)	dge representation and in s), problem classes and s process models, data m ithms with data mining (undations in the followir dge representation and in	nference (rules, objec solution methods (dia ining (data warehouse (learning of decidabili ng areas: process and nference (rules, objec	ts, constraints, prob gnostic, constructio e and OLAP, data pre ty trees, rules, subgr product-oriented kr ts, constraints, prob	owledge management systems, abilistic, non-monotonous, tem n, simulation), knowledge ac- eprocessing, data visualisation) roups, clusters), semantic web.] nowledge management systems abilistic, non-monotonous, tem tion and process models, semar
	-	ning outcomes	-		
manag quired	ement experie	systems and data mining ence in a small project.	g systems including k	nowledge formalisat	lerstand and develop knowledge tion. The students also have ac-
		number of weekly contact hours,			
V + Ü +	Ü (no i	information on SWS (wee	ekly contact hours) an	d course language a	available)
		s essment (type, scope, langu ole for bonus)	age — if other than German, e	examination offered — if no	ot every semester, information on whether
		nation (80 minutes) or o o minutes)	ral examination (one o	candidate each: 20 r	ninutes, groups of 2: 30 minute
Allocat					
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regulation	ns for teaching-degree progra	mmes)	
Module	e appea	ars in			
Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Business Information Systems (2007) Bachelor' degree (1 major) Business Information Systems (2009) Bachelor' degree (1 major) Business Information Systems (2008) Bachelor' degree (1 major) Business Information Systems (2008)					
Bachelor' degree (1 major) Computational Mathematics (2009)					



Application-oriented Subject Philosophy

(35 ECTS credits)

В

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.
	data record Bachelor (180 ECTS) Mathematik - 2007



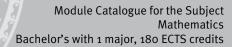
Application-oriented Subject Philosophy Compulsory Courses

(20 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 184 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title					Abbreviation
Principles of Philosophy					06-B-P1-072-m01
Module coordinator				Module offered by	
holder	of the (Chair of Practical Philoso	ohy	Institute of Philoso	phy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
		o the systems and the his duction to formal logic; in			emic writing and research in phi- sophy.
Intende	ed learr	ning outcomes			
phy - kr master (skills t neral pr bility - a	nowled y of the o be te rinciple ability t	ge of, and ability to apply fundamentals of formal sted in assessments): - a so of argumentation such to present philosophical	, methods in philoso logic - insight into a p ibility to apply the pri as transparency, cor issues in a structured	pphy and ability to fo period in the history nciples of logic to an sistency, discursivit and linguistically a	olems and positions in philoso- ollow the rules of scholarly work - of philosophy Formal outcomes rgumentation - ability to apply ge- ty, completeness, and generalisa- nd rhetorically appropriate way
		umber of weekly contact hours, l			
 This module comprises 3 module components. Information on courses will be listed separately for each module component. o6-B-P1-1-072: Ü (no information on SWS (weekly contact hours) and course language available) o6-B-P1-2-072: Ü (no information on SWS (weekly contact hours) and course language available) o6-B-P1-3-072: Ü + 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 indi- 					
 vidual assessments. Assessment in module component o6-B-P1-1-072: Introduction to academic working techniques 2 ECTS, Method of grading: (not) successfully completed 2 to 3 written assessments (approx. 1 page each) and/or oral assessments (approx. 5 minutes each) Assessment in module component o6-B-P1-2-072: Formal Logic 3 ECTS, Method of grading: (not) successfully completed written examination (90 minutes) Assessment in module component o6-B-P1-3-072: Principles of Philosophy: historical epochs, main works, authors Principles of Philosophy: historical epochs, main works, authors oral examination (approx. 25 minutes) 					
Allocation of places					
Additional information					
Workload					
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	

Bachelor's with 1 major Mathematics (2007)



Module appears in

Bachelor' degree (1 major) Geography (2008) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor's degree (1 major, 1 minor) Philosophy (Minor, 2008) Bachelor's degree (1 major, 1 minor) Philosophy (2008) Bachelor's degree (2 majors) Philosophy (2008)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 186 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title					Abbreviation		
Philos	ophy an	d the sciences			06-B-P2-072-m01		
Modul	e coord	inator		Module offered by	Module offered by		
holder	of the C	Chair of Theoretical Philo	sophy	Institute of Philoso	ohy		
ECTS	Metho	od of grading	Only after succ. com	Only after succ. compl. of module(s)			
10	nume	rical grade					
Duratio	on	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
		o the theory of intellectua osophical bases of the n			humanities and the	social	
Intend	ed learr	ning outcomes					
al intel ability limits o though sophic	lectual to organ of variou t, cultu al texts	ning outcomes: Content- disciplines - ability to re- nise topics into overarch us intellectual discipline re, and knowledge Forma and issues - ability to or ility to present philosopl	flect on the historical ing historical, social, s - knowledge of, and al outcomes (skills to ganise concepts and	and intellectual orig and political schema ability to criticise, b be tested in assess philosophical positi	ins of our knowledge ata - insight into the asic assumptions in nents): - ability to ar ons into overarching	e culture - scope and systems of nalyse philo- gintellectual	
Course	S (type, n	umber of weekly contact hours,	anguage — if other than Ger	man)			
compo • c							
		essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information	on on whether	
low. Ur		this module comprises ated otherwise, success nents.					
 Assessment in module component o6-B-P2-1-072: Philosophical principles of arts and humanities 5 ECTS, Method of grading: numerical grade written examination (approx. 120 minutes) Assessment in module component o6-B-P2-2-072: Philosophical principles of natural sciences and technology 5 ECTS, Method of grading: numerical grade written examination (approx. 120 minutes) 							
Allocat	ion of p	olaces					
Additio	onal info	ormation					
Workload							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module appears in							
Bachel	or' degi	ree (1 major) Geography ree (1 major) Mathematic ree (1 major) Mathematic	s (2008)				
Bachelor's	with 1 maj	or Mathematics (2007)		g • generated 11-Jan-2023 • ex achelor (180 ECTS) Mathemat	-	page 187 / 249	

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Bachelor' degree (1 major) Business Management and Economics (2009) Bachelor' degree (1 major) Business Management and Economics (2007) Bachelor' degree (1 major) Business Management and Economics (2008) Bachelor' degree (1 major) Business Management and Economics (2010) Bachelor' degree (1 major) Business Information Systems (2007) Bachelor' degree (1 major) Business Information Systems (2009) Bachelor' degree (1 major) Business Information Systems (2009) Bachelor' degree (1 major) Business Information Systems (2008) Bachelor's degree (1 major, 1 minor) Philosophy (Minor, 2008) Bachelor's degree (2 majors) Philosophy (2008)



Application-oriented Subject Philosophy Compulsory Electives

(15 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 189 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title				Abbreviation	
Theoretical philosophy			06-B-P3-072-m01		
Module	Module coordinator			Module offered by	
holder	of the C	Chair of Theoretical Philos	sophy	Institute of Philosop	phy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
Introdu	ction to	o theoretical philosophy,	using basic problem	s and paradigmatic t	texts.
Intende	ed learr	ning outcomes			
guish b argume cess of philoso	Intended learning outcomes: Content-related outcomes: - an overview of basic problems and positions in theo- retical philosophy - an overview of systems and disciplines in theoretical philosophy - ability to use and distin- guish between different methods in theoretical philosophy - familiarity with, and ability to evaluate, methods of argumentation and justification within theoretical philosophy - ability to reflect on the factors involved in the pro- cess of theoretical opinion formation Formal outcomes (skills to be tested in the assessment): - ability to analyse philosophical texts and issues - ability to organise concepts and philosophical positions into overarching intel- lectual schemata - ability to present philosophical positions in a structured and linguistically appropriate man-				
Courses	S (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
Ü + Ü +	S + S (no information on SWS (w	weekly contact hours) and course languag	ge available)
		s essment (type, scope, languag le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written	examir	nation (approx. 180 minu	tes)		
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor's degree (1 major, 1 minor) Philosophy (Minor, 2008) Bachelor's degree (1 major, 1 minor) Philosophy (2008) Bachelor's degree (2 majors) Philosophy (2008)					

Module title				Abbreviation	
Practica	al Philo	osophy			06-B-P4-072-m01
Module	Module coordinator			Module offered by	
holder	of the O	Chair of Practical Philoso	ohy	Institute of Philoso	ohy
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				
Introdu	ction to	o practical philosophy, us	sing basic problems a	and paradigmatic te>	kts.
Intende	ed learr	ning outcomes			
tical ph betwee tation a ral opin texts ar	ilosopl n differ ind just ion for nd issu	hy - an overview of syster rent methods in practical tification within practical mation Formal outcomes	ns and disciplines in philosophy - knowle philosophy - ability t (skills to be tested in ncepts and philosop	practical philosophy dge of, and ability to o reflect on the factor n the assessment): - hical positions into o	problems and positions in prac- y - ability to use and distinguish o evaluate, methods of argumen- ors involved in the process of mo- ability to analyse philosophical overarching intellectual schema- opropriate manner
		umber of weekly contact hours, l			
· · · · · ·		no information on SWS (N			ge available)
Method	l of ass		· · · ·		t every semester, information on whether
written	examir	nation (approx. 180 minu	tes)		
Allocati			-		
Additio	nal info	ormation			
Workloa	Workload				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor's degree (1 major, 1 minor) Philosophy (Minor, 2008) Bachelor's degree (1 major, 1 minor) Philosophy (2008) Bachelor's degree (2 majors) Philosophy (2008)					

Module title				Abbreviation	
History of philosophy				06-B-P5-072-m01	
Module	Module coordinator			Module offered by	
holder	of the (Chair of the History of Phi	losophy	Institute of Philoso	phy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
10	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
Introdu	ction to	o the history of philosoph	ny, using basic proble	ems and paradigmat	ic texts.
Intende	ed learr	ning outcomes			
story of underst ry of ph and iss	Intended learning outcomes: Content-related outcomes: - an overview of basic problems and positions in the hi- story of philosophy - ability to use and distinguish between different methods of historiography - familiarity with, understanding of, and ability to evaluate methods and questions of scholarly inquiry with respect to the histo- ry of philosophy Formal outcomes (skills to be tested in the assessment): - ability to analyse philosophical texts and issues - ability to organise concepts and philosophical positions into overarching intellectual schemata - ability to present philosophical positions in a structured and linguistically appropriate manner				
	•	umber of weekly contact hours, l		, , , , , , , , , , , , , , , , , , ,	•
		no information on SWS (\			ge available)
Method	l of ass	sessment (type, scope, langua	ge — if other than German, e	examination offered — if no	t every semester, information on whether
module is	creditab	le for bonus)			
written	examir	nation (approx. 180 minu	tes)		
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor's degree (1 major, 1 minor) Philosophy (Minor, 2008) Bachelor's degree (1 major, 1 minor) Philosophy (2008) Bachelor's degree (2 majors) Philosophy (2008)					

Module title				Abbreviation	
Issue of research in philosophy				06-B-P6-072-m01	
Module coordinator				Module offered by	
holder	of the (Chair of the History of Phi	losophy	Institute of Philoso	phy
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
10	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	Its				
Selecte	ed rese	arch issues in philosophy	/.		
Intend	ed lear	ning outcomes			
philoso	ophy Fo	rmal outcomes (skills to	be tested in the asse	ssment): - ability to	standing of scholarly inquiry in analyse philosophical texts and velop and present philosophical
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
V + S +	S (no i	nformation on SWS (weel	kly contact hours) an	d course language a	vailable)
		sessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
term pa	aper (a	oprox. 12 pages)			
Allocat	ion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor' degree (1 major) Mathematics (2008)					
Bachelor' degree (1 major) Mathematics (2007)					
	Bachelor's degree (1 major, 1 minor) Philosophy (Minor, 2008) Bachelor's degree (1 major, 1 minor) Philosophy (2008)				
Bachelor's degree (2 majors) Philosophy (2008)					

Module title Abbreviation					Abbreviation
Text analysis: Ancient Philosophy06-B-W1-072-m01					06-B-W1-072-m01
Module	e coord	inator		Module offered by	<u> </u>
holder	ofthe	Chair of the History of Phi	ilosophy	Institute of Philoso	phy
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	;	
1 seme	ster	undergraduate			
Conten	Its		<u>L</u>		
Ancien	t philo:	sophical texts.			-
		ning outcomes			
the ass (when v	sessme writing	nt): - ability to analyse pl	nilosophical texts and organise historical co	d issues - ability to for a solution of the second se	outcomes (skills to be tested in ollow the rules of scholarly work phical positions into overarching ical issues
Course	S (type, i	number of weekly contact hours, l	anguage — if other than Ge	rman)	
S (no ir	nforma	tion on SWS (weekly cont	act hours) and cours	e language available	э)
Method	d of as	sessment (type, scope, langua	go if other than Corman		
module is	s creditat	ble for bonus)	ge – If other than German,	examination offered — if no	ot every semester, information on whether
			ge — II other than German,	examination offered — if no	ot every semester, information on whether
	aper (a	pprox. 12 pages)	ge — II other than German,	examination offered — if no	ot every semester, information on whether
term pa	aper (a	pprox. 12 pages)	ge — II other than German,	examination offered — if no	ot every semester, information on whether
term pa Allocat	aper (a t ion of	pprox. 12 pages)	ge — II other than German,	examination offered — if no	ot every semester, information on whether
term pa Allocat	aper (a t ion of	ole for bonus) pprox. 12 pages) places	ge — II other than German,	examination offered — if no	ot every semester, information on whether
term pa Allocat	aper (a tion of ponal inf	ole for bonus) pprox. 12 pages) places		examination offered — if no	of every semester, information on whether
term pa Allocat Additio 	aper (a tion of ponal inf	ole for bonus) pprox. 12 pages) places		examination offered — if no	of every semester, information on whether
term pa Allocat Additio Worklo 	aper (a tion of pnal inf	ole for bonus) pprox. 12 pages) places			of every semester, information on whether
term pa Allocat Additio Worklo 	aper (a tion of pnal inf	pprox. 12 pages) places ormation			of every semester, information on whether
term pa Allocat Additio Worklo Referre	aper (a ion of onal inf pad	pprox. 12 pages) places formation LPOI (examination regulation			ot every semester, information on whether
term pa Allocat Additio Worklo Referre Bachelo	aper (a ion of onal inf oad ed to in e appea or' deg	pprox. 12 pages) places formation LPO I (examination regulation ars in ree (1 major) Mathematic	s for teaching-degree progra		of every semester, information on whether
term pa Allocat Additio Worklo Referre Bachel Bachel	aper (a ion of onal inf oad ed to in e appea or' deg or' deg	LPOI (examination regulation ars in ree (1 major) Mathematic ree (1 major) Mathematic	s for teaching-degree progra (2008) (2007)	ammes)	of every semester, information on whether
term pa Allocat Additio Worklo Referre Bachel Bachel Bachel	aper (a ion of onal inf oad ed to in e appea or' deg or' deg or' deg	LPO I (examination regulation ars in ree (1 major) Mathematic ree (1 major) Business M	s for teaching-degree progra s (2008) s (2007) anagement and Econ	ammes)	of every semester, information on whether
term pa Allocat Additio Worklo Referre Bachel Bachel Bachel Bachel Bachel	aper (a ion of onal inf oad ed to in e appea or' deg or' deg or' deg or' deg	te for bonus) pprox. 12 pages) places formation LPO I (examination regulation) ars in ree (1 major) Mathematic ree (1 major) Business M ree (1 major) Business M	s for teaching-degree progra s (2008) s (2007) anagement and Econ anagement and Econ	ammes) nomics (2009) nomics (2007)	of every semester, information on whether
term pa Allocat Additio Worklo Referre Bachel Bachel Bachel Bachel Bachel Bachel	aper (a ion of onal inf oad ed to in e appea or' deg or' deg or' deg or' deg or' deg	LPO I (examination regulation ree (1 major) Mathematic ree (1 major) Mathematic ree (1 major) Business M ree (1 major) Business M ree (1 major) Business M	s for teaching-degree progra (2008) (2007) anagement and Econ anagement and Econ anagement and Econ	ammes) ammes) nomics (2009) nomics (2007) nomics (2008)	of every semester, information on whether
term pa Allocat Additio Worklo Referre Bachel Bachel Bachel Bachel Bachel Bachel Bachel	aper (a ion of onal inf oad ed to in e appea or' deg or' deg or' deg or' deg or' deg or' deg or' deg	te for bonus) pprox. 12 pages) places formation LPO I (examination regulation) ars in ree (1 major) Mathematic ree (1 major) Business M ree (1 major) Business M	s for teaching-degree progra (2008) (2007) anagement and Econ anagement and Econ anagement and Econ anagement and Econ	ammes) ammes) nomics (2009) nomics (2007) nomics (2008) nomics (2010)	of every semester, information on whether

Module title Abbreviation					Abbreviation
Text An	alysis	: Medieval Philosophy			06-B-W2-072-m01
Module	e coord	inator		Module offered by	
holder	of the (Chair of the History of Phi	losophy	Institute of Philoso	phy
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts	<u> </u>			
		osophical texts.			
		ning outcomes	·		
sted in ly work Course	the ass - abilit s (type, r		alyse philosophical to op and present philo anguage — if other than Ger	exts and issues - abi sophical issues ^{man)}	Formal outcomes (skills to be te- lity to follow the rules of scholar-
Methoo module is	d of ass creditab	Sessment (type, scope, langua le for bonus)			ot every semester, information on whether
	· · ·	pprox. 12 pages)			
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
Module					
Bachelor' degree (1 major) Mathematics (2008)					
Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Business Management and Economics (2009)					
Bachelor' degree (1 major) Business Management and Economics (2009) Bachelor' degree (1 major) Business Management and Economics (2007) Bachelor' degree (1 major) Business Management and Economics (2008)					
Bachelor' degree (1 major) Business Management and Economics (2008) Bachelor' degree (1 major) Business Management and Economics (2010) Bachelor' degree (1 major) Political and Social Studies (2008)					
Bachel	or's de	gree (1 major, 1 minor) Ph	ilosophy (2008)		

Module title Abbreviation				
Text analysis	: modern philosophy			06-B-W3-072-m01
Module coor	dinator		Module offered by	
holder of the	Chair of Practical Philoso	phy	Institute of Philoso	phy
	od of grading	Only after succ. con		
	erical grade			
Duration	Module level	Other prerequisites		
1 semester	undergraduate			
Contents	·			
Modern philo	osophical texts.	-		
	rning outcomes			
ty Formal out ability to follo them in a ling	comes (skills to be tested	in the assessment): vork - ability to indep nner	- ability to analyse p endently develop ph	re, and knowledge of moderni- hilosophical texts and issues - ilosophical issues and to present
S (no informa	ation on SWS (weekly cont	tact hours) and cours	e language available	2)
Method of as module is credita		age — if other than German,	examination offered — if no	ot every semester, information on whether
term paper (a	approx. 12 pages)			
Allocation of	places			
Additional in	formation			
Workload				
Referred to in	LPOI (examination regulation	s for teaching-degree progra	ammes)	
Module appe	ars in			
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Business Management and Economics (2009) Bachelor' degree (1 major) Business Management and Economics (2007) Bachelor' degree (1 major) Business Management and Economics (2008) Bachelor' degree (1 major) Business Management and Economics (2010) Bachelor' degree (1 major) Political and Social Studies (2008)				
	egree (1 major, 1 minor) P		~,	

Module title Abbreviation					Abbreviation
Text analysis: contemporary philosophy					06-B-W4-072-m01
Module coordinator				Module offered by	
holder	of the (Chair of Practical Philoso	phy	Institute of Philoso	phy
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5		rical grade		•	
Duratio		Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conter	nts				
Conter	nporary	philosophical texts.			
		ning outcomes			
conten texts a sues a	nporary nd issu nd to pi	world Formal outcomes	(skills to be tested in ules of scholarly worl cally appropriate man	the assessment): - a < - ability to indepen nner	culture, and knowledge of the ability to analyse philosophical Idently develop philosophical is-
	_	tion on SWS (weekly cont			2)
module i	s creditab	le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether
	tion of p	oprox. 12 pages)			
Alloca		Jaces			
Additid		ormation			
Auunin					
Worklo	had				
Referre	ed to in	LPOI (examination regulations	s for teaching-degree progra	mmes)	
Modul	e appea	irs in			
Bachelor' degree (1 major) Mathematics (2008)					
Bachelor' degree (1 major) Mathematics (2007)					
Bachelor' degree (1 major) Business Management and Economics (2009)					
Bachelor' degree (1 major) Business Management and Economics (2007)					
Bachelor' degree (1 major) Business Management and Economics (2008) Bachelor' degree (1 major) Business Management and Economics (2010)					
	-	ree (1 major) Business Ma ree (1 major) Political and	-		
	-	gree (1 major, 1 minor) Ph		0)	
bachel	ior s ae	gree (1 major, 1 minor) Pr	mosopny (2008)		

Module	e title		Abbreviation			
Basic disciplines of theoretical philosophy: metaphysics and epistemologyo6-B-W5-072-m01						
Module	e coord	inator		Module offered by	,	
holder	ofthe	Chair of Theoretical Philo	sophy	Institute of Philos	ophy	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts		• •			
Problei	ns in a	nd theoretical models of	basic disciplines of t	heoretical philosop	bhy.	
Intend	ed lear	ning outcomes				
issues	- ability		holarly work - ability t		o analyse philosophical texts and evelop philosophical issues and to	
Course	S (type, r	number of weekly contact hours,	language — if other than Ger	rman)		
S (no ir	formation	tion on SWS (weekly con	tact hours) and cours	e language availab	le)	
		Sessment (type, scope, langua le for bonus)	age — if other than German, o	examination offered — if i	not every semester, information on whether	
term pa	aper (a	oprox. 12 pages)				
Allocat	ion of _l	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulation	s for teaching-degree progra	immes)		
Module appears in						
	-	ree (1 major) Mathematic				
	Bachelor' degree (1 major) Mathematics (2007)					
		gree (1 major, 1 minor) Pl				
Bachel	or s ae	gree (2 majors) Philosop	iiy (2008)			

Module title Abbreviation						
Specific disciplines of theoretical philosophy o6-B-W6-072-m01					06-B-W6-072-m01	
Module	e coord	inator		Module offered by		
holder	of the (Chair of Theoretical Philo	sophy	Institute of Philoso	phy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts		• •			
Probler	ns in a	nd theoretical models of	special disciplines of	f theoretical philoso	phy.	
Intend	ed lear	ning outcomes				
phy For ability	rmal ou to follo	tcomes (skills to be teste	ed in the assessment vork - ability to indep): - ability to analyse	sciplines of theoretical philoso- philosophical texts and issues - ilosophical issues and to present	
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)		
S (no ir	format	tion on SWS (weekly cont	tact hours) and cours	e language available	e)	
		sessment (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	ot every semester, information on whether	
term pa	aper (aj	pprox. 12 pages)				
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
Module appears in						
	-	ree (1 major) Mathematic				
Bachelor' degree (1 major) Mathematics (2007)						
		gree (1 major, 1 minor) Ph gree (2 majors) Philosoph				
Баспе	or s de	gree (2 majors) Philosopl	iiy (2008)			

Module title Abbreviation						
Basic d	Basic disciplines of practical philosophy: ethics and theory of action 06-B-W7-072-m01					
Module	e coord	inator		Module offere	d by	
holder	of the (Chair of Practical Philoso	phy	Institute of Ph	ilosophy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s	s)	
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts		•			
Probler	ns in a	nd theoretical models of	basic disciplines of p	practical philoso	ophy.	
Intend	ed lear	ning outcomes				
philoso issues	ophy Fo - ability	ormal outcomes (skills to	be tested in the asse holarly work - ability t	ssment): - abili	undamental disciplines of practical ty to analyse philosophical texts and ly develop philosophical issues and to	
Course	S (type, r	number of weekly contact hours,	language — if other than Gei	rman)		
S (no ir	nformat	tion on SWS (weekly cont	tact hours) and cours	e language ava	ilable)	
		sessment (type, scope, langua le for bonus)	age — if other than German,	examination offered	- if not every semester, information on whether	
term pa	aper (a	oprox. 12 pages)				
Allocat	ion of _l	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	immes)		
Module appears in						
	-	ree (1 major) Mathematic				
	-	ree (1 major) Mathematic				
		gree (1 major, 1 minor) Pł gree (2 majors) Philosop				
Dachel		siee (2 majors) rmus0μ	119 (2000)			

Module title Abbreviation						
Specific disciplines of practical philosophy o6-B-W8-072-mo1					06-B-W8-072-m01	
Module coordinator Module				Module offered by		
holder	of the (Chair of Practical Philos	ophy	Institute of Philoso	phy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Probler	ns in a	nd theoretical models o	f special disciplines o	f practical philosoph	ıy.	
Intend	ed lear	ning outcomes		· · ·		
phy For ability	rmal ou to follo	tcomes (skills to be tes	ted in the assessment work - ability to indep): - ability to analyse	isciplines of practical philoso- philosophical texts and issues - ilosophical issues and to present	
Course	S (type, r	number of weekly contact hours	, language — if other than Gei	rman)		
S (no ir	nformat	tion on SWS (weekly co	ntact hours) and cours	e language available	e)	
		Sessment (type, scope, langu Ile for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
term pa	aper (a	oprox. 12 pages)				
Allocat	ion of j	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPO I (examination regulation	ns for teaching-degree progra	ummes)		
-						
Module	e appea	ars in				
		ree (1 major) Mathemat	cs (2008)			
Bachelor' degree (1 major) Mathematics (2007)						
	Bachelor's degree (1 major, 1 minor) Philosophy (2008)					
Bachel	or's de	gree (2 majors) Philosoj	ony (2008)			

Module title Abbreviation					
Problems of Older Philosophy: Ancient/Medieval 06-B-W9-072-m01					06-B-W9-072-m01
Module	e coord	inator		Module offered by	<u>.</u>
holder	of the (Chair of the History of Phi	ilosophy	Institute of Philoso	phy
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	Its				
Problei	ms in a	ncient and medieval phil	osophy.		
Intend	ed lear	ning outcomes			
tation - pletene toricall	· ability ess, and y appro	to apply general princip	les of argumentation / to present philosop	such as transparenc hical issues in a stru	ne principles of logic to argumen- y, consistency, discursivity, com- ctured and linguistically and rhe-
		tion on SWS (weekly contact hours,			
					ot every semester, information on whether
		le for bonus)			
		ion (approx. 25 minutes)			
Allocat	ion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
				```	
Kererre		LPO I (examination regulation	s for teaching-degree progra	ammes)	
Madul					
<b>Module</b> Bachel		<b>ars in</b> ree (1 major) Mathematic	s (2008)		
	-	ree (1 major) Mathematic			
Bachelor's degree (1 major, 1 minor) Philosophy (2008)					
Bachelor's degree (2 majors) Philosophy (2008)					

Module title					Abbreviation
Problems of Modern/Contemporary Philosophy 06-B-W10-072-1					06-B-W10-072-m01
Module coordinator				Module offered by	
holder	of the (	Chair of the History of Phi	losophy	Institute of Philoso	phy
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				
Probler	ns in ea	arly modern and contemp	oorary philosophy.		
Intende	ed leari	ning outcomes			
philoso ments, logic to discurs	ophy (ea and th argum sivity, co	arly modern to contempo eories Formal outcomes ( entation - ability to apply	rary) - in-depth know (skills to be tested in / general principles o Ilisability - ability to p	ledge of the history the assessment): - a f argumentation suc	osophical problems of modern of philosophical concepts, argu- ability to apply the principles of h as transparency, consistency, al issues in a structured and lin-
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
S (no ir	format	ion on SWS (weekly cont	act hours) and cours	e language available	2)
		<b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
oral exa	aminati	ion (approx. 25 minutes)			
Allocat					
Additio	nal inf	ormation			
Worklo	ad				
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Bachel Bachel	Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor's degree (1 major, 1 minor) Philosophy (2008) Bachelor's degree (2 majors) Philosophy (2008)				

Module title Abbreviation						
Problems of Theoretical Philosophy         o6-B-W11-072-m01					06-B-W11-072-m01	
Modul	e coord	inator		Module offered by		
holder	ofthe	Chair of Theoretical Philo	sophy	Institute of Philoso	phy	
ECTS	Meth	od of grading	Only after succ. com	npl. of module(s)		
5	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts	~	• •			
Proble	ms in th	neoretical philosophy.				
Intend	ed lear	ning outcomes				
comple rhetori	eteness cally ap		bility to present philo	sophical issues in a	arency, consistency, discursivity, a structured and linguistically and	
					-)	
		tion on SWS (weekly cont				
		<b>Sessment</b> (type, scope, langua le for bonus)	ige — if other than German, e	examination offered — if n	ot every semester, information on whether	
oral ex	aminat	ion (approx. 25 minutes)				
Allocat	tion of _l	places				
Additio	onal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
Bachelor' degree (1 major) Mathematics (2008)						
	Bachelor' degree (1 major) Mathematics (2007) Bachelor's degree (1 major, 1 minor) Philosophy (2008)					

Module title					Abbreviation		
Problems of Practical Philosophy					06-B-W12-072-m01		
Module	e coord	inator		Module offered by			
holder	of the (	Chair of Practical Philoso	ohy	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	ts						
Probler	ns in p	ractical philosophy.					
Intende	ed leari	ning outcomes					
phy For tation - pletene	mal ou ability ess, and	tcomes (skills to be teste to apply general principl	ed in the assessment) es of argumentation	): - ability to apply th such as transparenc	of problems in practical philoso- ne principles of logic to argumen- y, consistency, discursivity, com- ctured and linguistically and rhe-		
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)			
S (no in	format	ion on SWS (weekly cont	act hours) and cours	e language available	e)		
		s <b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether		
oral exa	aminati	ion (approx. 25 minutes)					
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)							
Module	Module appears in						
	-	ree (1 major) Mathematic					
	-	ree (1 major) Mathematic					
Bachel	Bachelor's degree (1 major, 1 minor) Philosophy (2008)						



# Application-oriented Subject Physics

(35 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 206 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	



#### Application-oriented Subject Physics Compulsory Courses

(16 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 207 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	Module title Abbreviation					
Introdu	<b>ntroduction to Physics Part 1 for students of Physics Related Minor Subjects</b> 11-ENNF1-062-mo1					
Module coordinator Module offered by						
Managi	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
7	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Mechai	nics, vi	bration theory, thermody	namics.			
Intende	ed lear	ning outcomes				
The stu	dents	have basic knowledge of	physics for engineeri	ng students.		
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
V + Ü (r	no infoi	rmation on SWS (weekly o	contact hours) and co	urse 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	
written	exami	nation (approx. 120 minu	tes)			
Allocat						
		f pool of general key skill	s (ASQ): 20 places. P	laces will be allocat	ed by lot.	
		ormation			,	
Worklo	ad					
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)		
Module	e appea	ars in				
	-	ree (1 major) Mathematic				
		ree (1 major) Mathematic				
	-	ree (1 major) Mathematic ree (1 major) Mathematic				
	-	ree (1 major) Mathematic	-			
	-	ree (1 major) Technology		ls (2009)		
	-	ree (1 major) Technology				
	-	ree (1 major) Computation		•		
	Bachelor' degree (1 major) Computational Mathematics (2014)					
	-	ree (1 major) Computation				
		ree (1 major) Computation ree (1 major) Aerospace (				
	-	ree (1 major) Aerospace ( ree (1 major) Aerospace (	•			
	-	ree (1 major) Aerospace C	•	•		
		ree (1 major) Functional N				
Bachel	or' deg	ree (1 major) Technology	of Functional Materia	ls (2006)		

Module	Module title Abbreviation					
Introdu	ntroduction to Physics Part 2 for students of Physics Related Minor Subjects 11-ENNF2-062-mo1					
Module coordinator Module offer						
Managi	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
7	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Science	e of ele	ctricity, magnetism, optic	s, Atomic Physics.			
Intende	ed lear	ning outcomes				
The stu	dents	have basic knowledge of	physics for engineeri	ng students.		
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
V + Ü (r	no infoi	rmation on SWS (weekly o	contact hours) and co	urse language avail	able)	
		S <b>essment</b> (type, scope, langua; ile for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether	
written	exami	nation (approx. 120 minu	tes)			
Allocat	ion of _l	olaces				
Only as	part o	f pool of general key skill	s (ASQ): 20 places. P	laces will be allocat	ed by lot.	
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)		
Module	e appea	ars in				
	-	ree (1 major) Mathematic				
		ree (1 major) Mathematic				
	-	ree (1 major) Mathematic ree (1 major) Mathematic				
	-	ree (1 major) Mathematic	-			
	-	ree (1 major) Technology		ls (2009)		
	-	ree (1 major) Technology				
	-	ree (1 major) Computation		•		
	Bachelor' degree (1 major) Computational Mathematics (2014) Bachelor' degree (1 major) Computational Mathematics (2012)					
	-	ree (1 major) Computation				
		ree (1 major) Aerospace (				
	-	ree (1 major) Aerospace (	•			
		ree (1 major) Aerospace (		011)		
	-	ree (1 major) Functional N				
Bachel	or' deg	ree (1 major) Technology	of Functional Materia	IS (2006)		

Module title Abbreviation					
Measu	Measurements and Data Analysis       11-PFR-072-m01				
Module coordinator				Module offered by	
Manag	ing Dire	ector of the Institute of Ap	plied Physics	Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
2	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate			
Conten	nts				
		, error approximation and oution functions, significa			average values and standard de- lications.
Intend	ed lear	ning outcomes			
		e, the students acquire su error propagation and the			ave knowledge of practical experi-
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
V + Ü (I	no info	rmation on SWS (weekly o	contact hours) and co	ourse language avail	able)
	exami	^{ole for bonus)} nation (approx. 120 minu p <b>laces</b>	tes)		
Additio	onal inf	ormation			
Worklo	ad				
Referre	ed to in	LPO I (examination regulations	s for teaching-degree progra	immes)	
Modul	e appea	ars in			
	-	ree (1 major) Mathematic			
	-	ree (1 major) Mathematic			
	Bachelor' degree (1 major) Physics (2007)				
	Bachelor' degree (1 major) Physics (2009)				
	-	ree (1 major) Physics (200			
	Bachelor' degree (1 major) Nanostructure Technology (2008)				
		ree (1 major) Nanostructu			
	Bachelor' degree (1 major) Computational Mathematics (2009)				
Bachel	or's de	gree (1 major, 1 minor) Ph	ysics (Minor, 2008)		



## Application-oriented Subject Physics Compulsory Electives 1

(3 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 211 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	e title			_	Abbreviation	
Physics	Physics Laboratory Course for students of Physics Related Minor Subjects       11-PNNF-062-m01					
Module	e coord	inator		Module offered by		
Managi	ing Dire	ector of the Institute of Ap	oplied Physics	Faculty of Physics a	and Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
3	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Mechar Physics		bration theory, thermody	namics, optics, X-ray	s, nuclear magnetic	resonance, Atomic and Nuclear	
Intende	ed lear	ning outcomes				
The stu	dents l	know the principles of Ph	ysics.			
		umber of weekly contact hours, I		rman)		
		ion on SWS (weekly cont			e)	
					ot every semester, information on whether	
		le for bonus)	ge in other than oonnan,			
a) oral t	test (ap	prox. 15 minutes) during	experiment and b) u	ngraded written exa	mination (approx. 90 minutes)	
Allocat	ion of p	olaces	,			
Only as	part o	f pool of general key skill	s (ASQ): 15 places. P	laces will be allocate	ed by lot.	
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
				······		
Module	e appea	urs in				
		ree (1 major) Mathematic	s (2008)			
	-	ree (1 major) Mathematic				
		ree (1 major) Mathematic				
		ree (1 major) Mathematic				
Bachel	or' deg	ree (1 major) Mathematic	s (2007)			
Bachel	Bachelor' degree (1 major) Technology of Functional Materials (2009)					
Bachel	Bachelor' degree (1 major) Technology of Functional Materials (2010)					
Bachel	Bachelor' degree (1 major) Computational Mathematics (2009)					
Bachel	Bachelor' degree (1 major) Computational Mathematics (2014)					
Bachel	or' deg	ree (1 major) Computatio	nal Mathematics (20	12)		
Bachel	or' deg	ree (1 major) Computatio	nal Mathematics (20	13)		
Bachel	or' deg	ree (1 major) Functional N	Aaterials (2012)			
Bachel	or' deg	ree (1 major) Technology	of Functional Materia	als (2006)		

Module title Abbreviation						
Practic	Practical Course 11-PG-IAF-072-m01					
Module coordinator			Module offered by			
Manag	ing Dire	ector of the Institute of A	pplied Physics	Faculty of Physics a	nd Astronomy	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
4	(not) s	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate	Module 11-PFR recor	nmended.		
Conten	ts					
		of mechanics, thermody cs and wave optics. Bas				
Intend	ed lear	ning outcomes				
are abl	e to inc	have knowledge and ski lependently plan and co nent protocol.				
Course	<b>S</b> (type, r	number of weekly contact hours	language — if other than Ger	rman)		
BAM): Klassis Elektriz Wellen Atom- (	Beispiele aus Mechanik, Wärmelehre und Elektrik (Examples from Mechanics, Thermodynamics and Electricity, BAM): P (2 weekly contact hours) Klassische Physik (Classical Physics, KLP): P (2 weekly contact hours) Elektrizitätslehre und Schaltungen (Electricity and Circuits, ELS): P (2 weekly contact hours) Wellenoptik (Physical Optics, WOP): P (2 weekly contact hours) Atom- und Kernphysik (Atomic and Nuclear Physics, AKP): P (2 weekly contact hours) Computer und Messtechnik (Computers and Measurement Technology, CMT): P (2 weekly contact hours)					
Metho	d of ass	sessment (type, scope, langu	age — if other than German,	examination offered — if no	t every semester, informati	on on whether
module is creditable for bonus)						
1. Lab ly co phys 2. Lab ly co	<ul> <li>This module has the following assessment components</li> <li>1. Lab course in part 1: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes).</li> <li>2. Lab course in part 2: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes).</li> </ul>					
Students must register for assessment components 1 and 2 online (registration deadline to be announced). Students will be offered one opportunity to retake element a) and/or element b). To pass an assessment compo- nent, they must pass both elements a) and b). To pass this module, students must successfully complete two out of the six courses. Students must attend BAM, KLP or ELS courses prior to attending WOP, AKP or CMT courses. To pass this module, students must pass both assessment component 1 and assessment component 2.						
Allocat	ion of p	olaces				
Additional information						
Workload						
Referre	ed to in	LPO I (examination regulatio	ns for teaching-degree progra	mmes)		
Module	e appea	ars in				
Bachelor's	with 1 maj	ior Mathematics (2007)		g • generated 11-Jan-2023 • e. achelor (180 ECTS) Mathemat	-	page 213 / 249

Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009)



## Application-oriented Subject Physics Compulsory Electives 2

(16 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 215 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Modul	Abbreviation						
Experii	Experimental Physics 3 (Optics, Quantum Phenomena, Introduction Atomic 11-E3-072-mo1						
Physic	s)						
Modul	e coord	inator		Module offered by	/		
Manag	ing Dire	ector of the Institute of A	oplied Physics	Faculty of Physics	and Astronomy		
ECTS	Metho	od of grading	Only after succ. co	mpl. of module(s)			
8	nume	rical grade					
Duratio	on	Module level	Other prerequisites	5			
1 seme	ster	undergraduate					
Conten	Its		•				
Physica	al laws	of optics, quantum phen	omena, introduction	to Atomic Physics.			
		ning outcomes		,			
			asic contexts and pri	nciples of optics, a	uantum phenomena and Atomic		
Physics							
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ge	erman)			
V + Ü (ı	no infoi	rmation on SWS (weekly	contact hours) and c	ourse language ava	ilable)		
Metho	d of ass	<b>Sessment</b> (type, scope, langua	ge — if other than German,	examination offered — if	not every semester, information on whether		
module i	s creditab	le for bonus)	-				
written	exami	nation (approx. 120 minu	ites)				
Allocat	ion of <b>j</b>	olaces					
Additic	onal inf	ormation					
Worklo	ad						
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progr	ammes)			
Module	e appea	ars in					
		ree (1 major) Mathematic	cs (2008)				
	-	ree (1 major) Mathematic					
	-	ree (1 major) Physics (20					
	-	ree (1 major) Physics (20					
	-	ree (1 major) Physics (20					
	-	ree (1 major) Nanostructi	•, .	-			
	-	ree (1 major) Nanostructi					
	-	ree (1 major) Computatio		009)			
Bachel	or's de	gree (1 major, 1 minor) Pł	nysics (Minor, 2008)				

Module title Abbreviation							
Experi	Experimental Physics 4 (Introduction to Solid State Physics)11-E4-072-m01						
Module	e coord	inator		Module offered by	y		
Manag	ing Dire	ector of the Institute	of Applied Physics	Faculty of Physics	and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
8	nume	rical grade					
Duratio	on	Module level	Other prerequisites	i			
1 seme	ster	undergraduate					
Conten	ts		ļ				
		of solids: Bonding al lectron gas).	nd structure, lattice dyna	mics, thermal prop	erties, principles of electronic pro-		
Intend	ed lear	ning outcomes					
			ne basic contexts and prin s of electronic properties		onding and structure, lattice dyna-		
Course	<b>S</b> (type, r	number of weekly contact he	ours, language — if other than Ge	rman)			
V + Ü (I	no info	rmation on SWS (wee	kly contact hours) and co	ourse language ava	iilable)		
		S <b>essment</b> (type, scope, la ole for bonus)	anguage — if other than German,	examination offered — if	not every semester, information on whether		
written	exami	nation (approx. 120 r	ninutes)				
Allocat	ion of	places					
Additio	onal inf	ormation					
Worklo	ad						
Referre	ed to in	LPO I (examination regul	ations for teaching-degree progra	ammes)			
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module	e appea	ars in					
Bachelor' degree (1 major) Mathematics (2008)							
Bachelor' degree (1 major) Mathematics (2007)							
	Bachelor' degree (1 major) Physics (2007)						
	-	ree (1 major) Physics		、			
Bachel	or' deg	ree (1 major) Nanosti	ucture Technology (2007	<i>'</i> )			

Module title					Abbreviation
Theore	tical Physic	cs 1 (Theoretical Mec	hanics)		11-T1-072-m01
Module	e coordinat	or		Module offered by	<u>.</u>
	Managing Director of the Institute of Theoretical Physics and Astrophysics			Faculty of Physics a	and Astronomy
ECTS	Method o	f grading	Only after succ. con	npl. of module(s)	
8	numerical	grade			
Duratio	on Mo	dule level	Other prerequisites		
1 seme	ster und	dergraduate			
Conten	its				
Newtor	nian mecha	inics, Lagrangian med	chanics, Hamiltonian	equation of motion,	, conservation laws.
	ed learning				
	idents have		inciples of classical t	heoretical mechanic	cs and the required calculation
Course	<b>S</b> (type, numb	er of weekly contact hours, l	anguage — if other than Gei	rman)	
V + Ü (I	no informat	tion on SWS (weekly o	contact hours) and co	ourse language avail	able)
module is	s creditable for			examination offered — if no	ot every semester, information on whether
	ion of place				
	•				
Additio	onal inform	ation			
Worklo	ad				
Referre	ed to in LPC	(examination regulation	s for teaching-degree progra	mmes)	
Module	e appears i	n			
		(1 major) Mathematic	s (2008)		
	-	(1 major) Mathematic			
Bachelor' degree (1 major) Physics (2007)					
Bachelor' degree (1 major) Physics (2009)					
Bachelor' degree (1 major) Physics (2008)					
	-	(1 major) Nanostructu			
		(1 major) Nanostructu			
		(1 major) Computatio		09)	
Bachel	or s aegree	e (1 major, 1 minor) Ph	iysics (Minor, 2008)		

Module title					Abbreviation		
Theoretical Physics 2 (Theoretical Electrostatics and Electrostatics				odynamics)	11-T2-072-m01		
Module	e coord	inator		Module offered	by		
	Managing Director of the Institute of Theoretical Physics and Astrophysics			Faculty of Physi	cs and Astronomy		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)			
8	nume	rical grade					
Duratio	on	Module level	Other prerequisites	;			
1 seme	ster	undergraduate					
Conten	ts		,				
		magnetostatics. Maxwe	ll equations, covaria	nt formulation, el	lectrodynamics and matter.		
		ning outcomes					
			rinciples of classical	electrodynamics	and the required calculation me-		
Course	<b>S</b> (type, 1	number of weekly contact hours,	language — if other than Ge	rman)			
V + Ü (I	no info	rmation on SWS (weekly	contact hours) and co	ourse language a	vailable)		
module is	s creditat	sessment (type, scope, langua ele for bonus) nation (approx. 120 minu		examination offered –	- if not every semester, information on whether		
Allocat		DIALES					
Additio	nalinf	ormation					
Additio	mat ini						
Worklo	ad						
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)			
Module							
	-	ree (1 major) Mathematic					
Bachelor' degree (1 major) Mathematics (2007)							
Bachelor' degree (1 major) Physics (2007) Bachelor' degree (1 major) Physics (2009)							
Bachelor' degree (1 major) Physics (2009) Bachelor' degree (1 major) Physics (2008)							
Bachelor' degree (1 major) Nanostructure Technology (2008)							
	Bachelor' degree (1 major) Nanostructure Technology (2008) Bachelor' degree (1 major) Nanostructure Technology (2007)						
		ree (1 major) Computatio					
Bachel	or's de	gree (1 major, 1 minor) Pl	nysics (Minor, 2008)				

Module title					Abbreviation
Theore	tical Pl	hysics 3 (Theoretical Qu	antum Mechanics)		11-T3-072-m01
Module	e coord	inator		Module offered by	
	Managing Director of the Institute of Theoretical Physics and Astrophysics			Faculty of Physics a	and Astronomy
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
8	nume	rical grade			
Duratio	n	Module level	Other prerequisites	;	
1 seme	ster	undergraduate			
Conten	ts	·	-		
oscillat	or, ang	gular momentum and sp	•		quantum mechanics, harmonic S.
Intend	ed lear	ning outcomes			
The stu	dents	have knowledge of the p	principles of quantum	mechanics and the	required calculation methods.
Course	<b>S</b> (type, r	number of weekly contact hours	, language — if other than Ge	rman)	
V + Ü (ı	no info	rmation on SWS (weekly	contact hours) and c	ourse language avai	lable)
module is	s creditab	ble for bonus) nation (approx. 120 min		examination offered — if h	ot every semester, information on whether
Allocat	ion of _l	places			
Additio	nal inf	ormation			
Worklo	ad				
Referre	d to in	LPO I (examination regulatio	ns for teaching-degree progra	ammes)	
Module	e appea	ars in			
Bachel	or' deg	ree (1 major) Mathemati	cs (2008)		
Bachelor' degree (1 major) Mathematics (2007)					
Bachelor' degree (1 major) Physics (2007)					
Bachelor' degree (1 major) Physics (2009)					
Bachelor' degree (1 major) Physics (2008) Bachelor' degree (1 major) Nanostructure Technology (2008)					
	-	•			
	-	ree (1 major) Nanostruct ree (1 major) Computati			
		gree (1 major, 1 minor) F		(Y)	
Duchel	51 5 46	5,00 (1 110)01, 1 111101/1	ingoles (millioi, 2000)		

Modul	e title				Abbreviation
Theore	tical P	hysics 4 (Theoretical The	ermodynamics and St	atistics)	11-T4-072-m01
Modul	e coord	inator		Module offered by	, /
Manag and As		ector of the Institute of T sics	heoretical Physics	Faculty of Physics	and Astronomy
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
8	nume	rical grade		-	
Duratio		Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conter	its		<u>.</u>		
Princip chanic		hermodynamics, fundan	nental theorems, ther	modynamic potent	ials, principles of statistical me-
Intend	ed lear	ning outcomes			
		have knowledge of the p ethods.	rinciples of thermody	namics and statist	ical mechanics and the required
Course	<b>S</b> (type, 1	number of weekly contact hours,	language — if other than Ge	rman)	
V + Ü (	no info	rmation on SWS (weekly	contact hours) and co	ourse language ava	ilable)
		S <b>essment</b> (type, scope, langua ole for bonus)	age — if other than German,	examination offered — if	not every semester, information on whether
written	exami	nation (approx. 120 minu	utes)		
Allocat	ion of	places			
Additio	onal inf	ormation			
Worklo	ad				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	ammes)	
		-	· · · ·		
Modul	e appea	ars in			
		ree (1 major) Mathematio	cs (2008)		
	-	ree (1 major) Mathematio			
Bachelor' degree (1 major) Physics (2007)					
Bachelor' degree (1 major) Physics (2009)					
	-	ree (1 major) Physics (20			
	-	ree (1 major) Nanostruct			
	-	ree (1 major) Nanostruct			
	-	ree (1 major) Computatio		09)	
Bachel	or's de	gree (1 major, 1 minor) P	nysics (Minor, 2008)		



## Application-oriented Subject Business Management and Economics

(35 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 222 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	



## Application-oriented Subject Business Management and Economics Compulsory Courses

(30 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record Bachelor (180 ECTS) Mathematik - 2007	page 223 / 249
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Module title					Abbreviation	
Managerial Accounting 12-IntUR-G-072-m01						
Module	e coordi	inator		Module offered by		
holder ting	of the C	Chair of Business Manage	ement and Accoun-	Faculty of Business	Management and Economics	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	numei	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
This con Outline 1. Mana 2. Mana 3. Diffe 4. Cost 5. Job c 6. Cost 7. Budg 8. Cost 9. Cost Reading	Content: This course offers an introduction to aims and methods of managerial accounting (cost accounting). Outline of syllabus: 1. Managerial accounting and financial accounting 2. Managerial accounting: basic terms 3. Different types of costs 4. Cost centre accounting based on total costs 5. Job costing based on total costs 6. Cost centre accounting and job costing based on direct/variable costs 7. Budgeting and cost-variance analysis 8. Cost-volume-profit analysis 9. Cost information and operating decisions					
Friedl/H (most r	Hofman ecent e	ischer/Günther: Kostenre n/Pedell: Kostenrechnur ditions)			ung.	
-		ning outcomes				
After completing the course "Management Accounting and Control", the students will be able to (i) set out the responsibilities of the company's internal accounting and control; (ii) define the central concepts of internal enterprise computing restriction and control and assign case studies the terms; (iii) apply the basic methods of internal corporate accounting and control on a full and cost base to idealized ca- se studies of medium difficulty that calculate relevant costs and benefits and take on this basis a reasoned deci- sion.						
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus) written examination (approx. 60 minutes)						
Allocat	ion of p	olaces				
Additio	Additional information					
Worklo	ad					

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

#### Module appears in

Bachelor' degree (1 major) Chemistry (2007) Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008)

Bachelor' degree (1 major) Mathematics (2007)

Bachelor' degree (1 major) Business Management and Economics (2007)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 225 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	Module title Abbreviation					
Financi	al Acco	ounting			12-ExtUR-G-072-m01	
Module	e coord	inator		Module offered by		
holder	of the (	Chair of Business Taxatio	n	Faculty of Business	Management and Economics	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
ble-ent	ry book		undamentals of reco		ncluding the technique of dou- d presentation of assets, liabili-	
Intende	ed leari	ning outcomes				
		uire a basic unterstanding upply this knowledge, i.e.			ting. They are able to arrange, re- problems.	
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)		
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
		s <b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether	
written	exami	nation (approx. 60 minut	es)			
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referre	d to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
Module appears in						
	Bachelor' degree (1 major) Computer Science (2007)					
Bachelor' degree (1 major) Mathematics (2008)						
	Bachelor' degree (1 major) Mathematics (2007)					
	-	ree (1 major) Business Ma ree (1 major) Business In	-			
Dachel	oi ueg	iee (1 illajoi) Dusiliess III	ionnation Systems (2			

Module title Abbreviation						
Introdu	uction t	o Business Administratio	on		12-EBWL-G-072-m01	
Modul	e coord	inator		Module offered by		
holder Organi		Chair of Human Resource	Management and	Faculty of Business	Management and Economics	
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	5		
1 seme	ster	undergraduate				
Conter	nts					
enterp ve and on-mal	rise ma in wha king be	y take place. The course	will focus on what co I. For this purpose, a	ompanies or other org	oretical examination of business ganisations are, how they beha- of the economic subject's decisi-	
Intend	ed lear	ning outcomes				
		e lectures is to familiarise ess administration.	the students with th	ie basic problem issu	les and perspectives within the	
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
V + Ü (	no infoi	rmation on SWS (weekly	contact hours) and c	ourse language avail	able)	
		<b>Sessment</b> (type, scope, langua ole for bonus)	age — if other than German,	examination offered — if no	ot every semester, information on whether	
written	exami	nation (approx. 60 minut	es)			
Allocat	tion of p	places				
Additio	onal inf	ormation				
Worklo	bad					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)		
		-				
Modul	e appea	ars in				
	Bachelor' degree (1 major) Chemistry (2007)					
	Bachelor' degree (1 major) Geography (2007)					
	Bachelor' degree (1 major) Computer Science (2007)					
Bachelor' degree (1 major) Mathematics (2008)						
	Bachelor' degree (1 major) Mathematics (2007)					
	-	ree (1 major) Business M	-			
	-	ree (1 major) Business In	•			
bachel	or aeg	ree (1 major) Political and	a Social Studies (200	))) 		

Module title Abbreviation					
		o Economics			12-EVWL-G-072-m01
Module	e coord	inator		Module offered by	<u> </u>
	of the O	Chair of Monetary Policy a	and International		Management and Economics
ECONOR					
		rical grade	Only after succ. con		
5 Duratio	· · · · ·	Module level	Other prerequisites		
1 seme		undergraduate			
<ol> <li>Economics shows how markets function</li> <li>The division of labour is the basis of our wealth</li> <li>The market in action</li> <li>Monopolies and cartels endanger market economies</li> <li>The labour market and the role of unions</li> <li>The government's role in a social market economy</li> <li>Governmental redistribution guarantees the social balance in a market economy</li> <li>Environmental policy and the government's allocation function</li> <li>Objectives and agents in the macro economy</li> <li>How do aggregate supply and demand come into equilibrium?</li> </ol>					
12How	does a	iscal policy central bank stabilise ag	gregate demand by	setting interest rates	?
		ning outcomes			
		this course, students re- onomic as well as macro			onomics. Students are able to n theoretical models.
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ge	rman)	
V + Ü (I	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		s <b>essment</b> (type, scope, langua le for bonus)	ge — if other than German,	examination offered — if no	t every semester, information on whether
written	examir	nation (approx. 60 minut	es)		
Allocat	tion of p	olaces			
Additio	onal info	ormation			
Worklo	ad				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
 Module	e appea	rs in			
Module appears inBachelor' degree (1 major) Geography (2007)Bachelor' degree (1 major) Mathematics (2008)Bachelor' degree (1 major) Mathematics (2007)Bachelor' degree (1 major) Business Management and Economics (2007)Bachelor' degree (1 major) Business Information Systems (2007)Bachelor' degree (1 major) Political and Social Studies (2007)					

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	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	e title				Abbreviation
Macroe	econom	iics 1			12-Mak1-G-072-m01
Module	e coord	inator		Module offered by	
holder	of the (	Chair of International Ma	croeconomics	Faculty of Business	Management and Economics
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
Descrip	otion:				

This module covers basic macroeconomic relationships, the declaration of employment, production, interest, current and capital account, nominal and real exchange rate, prices and inflation - in the long run (with flexible wages and prices) and in the short term (with fixed wages and prices). The course will familiarise students with concepts which are of central importance in a globalised environment (e. g. interest rate arbitrage, foreign exchange risk, purchasing power parity). The explanations will be applied to current issues (e. g. current account balances in the global economy; questions related to the European monetary union and the global financial crisis).

Outline of syllabus:

1. Macroeconomic issues and characteristics

- Issues of macroeconomics

- The measurement of economic activity

2. Long-term relationships

- The classic long-term model of the closed economy

- Money and Inflation

- The classic long-term model of a small open economy

- Unemployment

3. Short and medium-term relationships

- Fluctuations of economic activity: an introduction

- The IS-LM model of a closed economy

- The IS-LM model of an open economy

- Aggregate supply and Phillips curve

- Conclusion and outlook

#### Reading:

The latest editions of the following textbooks:

N. Gregory Mankiw: Macroeconomics [students are recommended to read the original English edition; they may also read the German translation]

Olivier Blanchard and David H. Johnson, Macroeconomics Prentice Hall; [a German-language edition of the book by Oliver Blanchard and Gerhard Illing is available from Pearson Studium].

Michael Burda and Charles Wyplosz: Macroeconomics. A European text.

To illustrate the lecture, case studies in particular will be developed in which more current sources are used.

#### Intended learning outcomes

This expertise enables the students to penetrate economically-intuitively and analytically macroeconomic interactions and problems in the course of advancing globalization and to deal with these arguments. Students learn to interpret on a scientific basis the impact of macroeconomic developments in individual economic actors (businesses, households, the state).

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

 $V + \ddot{U}$  (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)

written examination (approx. 60 minutes)

#### Allocation of places

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#### Additional information

Workload

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

Module appears in

Bachelor' degree (1 major) Mathematics (2008)

Bachelor' degree (1 major) Mathematics (2007)

Bachelor' degree (1 major) Business Management and Economics (2007)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 230 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	



Module	e title				Abbreviation	
Microe	conom	ics 1			12-Mik1-G-072-mo:	1
Module	e coord	inator		Module offered by	<u> </u>	
			ormation and Contract		Management and E	conomics
Econon		·				
ECTS		od of grading	Only after succ. con	pl. of module(s)		
5		rical grade				
Duratio		Module level	Other prerequisites			
1 seme		undergraduate				
Conten	ts					
Theory 1. Utilit 2. Com 3. Incol 4. Labo 5. Inter Theory 6. Prod 7. Profi	of the l y maxin parativ me and pur sup tempor of the f uction t maxin g run ve	al consumption / savir firm: functions (technology) nisation rsus short run cost mir	ints ngs decisions			
Intende	ed lear	ning outcomes				
Studen gly, the useful i analyti me on i	ts are s y will k in many cally ho individ	systematically trained i now how to solve optin y fields of specializatio ow to analyze the impa- ual decision making.	n microeconomic meth nization problems und n in economics and bu ct of changes in the eco	er constraints. These siness administratio pnomic environment	e scientific methods on. In particular, stud	will serve as dends know
			s, language — if other than Ger y contact hours) and co		abla)	
Methoo module is	<b>d of ass</b> creditab	<b>essment</b> (type, scope, lang le for bonus)	uage — if other than German, o		•	ion on whether
		nation (approx. 60 min	utes)			
Allocat	ion of p	olaces	_			
Additio	nal inf	ormation				
 Worklo	ad		_			
••••••••••••••••••••••••••••••••••••••	au					
Referre	d to in	IPOI (ovamination regulati	ons for teaching-degree progra	mmos)		
			ons for teaching-degree progra	iiiiies)		
Bachelor's	with 1 ma	or Mathematics (2007)		g • generated 11-Jan-2023 • e achelor (180 ECTS) Mathema	-	page 231 / 249

#### Module appears in

Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Business Management and Economics (2007) Bachelor' degree (1 major) Business Information Systems (2007)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 232 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	



## Application-oriented Subject Business Management and Economics Compulsory Electives

(5 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record Bachelor (180 ECTS) Mathematik - 2007	page 233 / 249	
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Module	e title				Abbreviation	
Introdu	iction t	o Market-Oriented Ma	nagement		12-Mark-G-072-mo	1
Module	e coord	inator		Module offered by		
holder ting	of the (	Chair of Business Mana	agement and Marke-	Faculty of Business	Management and E	conomics
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites	;		
1 seme	ster	undergraduate				
Conten	ts					
Descrip In this Conten	module	e, students will acquire	the theoretical founda	tions of market-orie	nted management.	
plained ling. Th al purc	d and ex le cours hasing	xemplified in the 5 classes will focus not only o behaviour. A case stud	starting point, the basi ssical steps: situation a n the behavioural appr dy introducing students de students with deepe	analysis, objectives, oaches of consumer to the fundamental	strategies, tools and behaviour but also principles of market	l control- on industri-
2. Expla 3. Fund 4. Strat	eting, e anation lamenta tegic m	entrepreneurship and l is of consumer behavio als of market research arketing; marketing too		lue		
Wiesba Hombu Unterne Kroebe Meffert zepte Meffert 4th ed. Meyer, Wiesba Porter, New Yo	, T. / Sw aden 20 arg, Ch.: ehmen: rr, Riel, N c, H. / B - Instru c, H. / B , Stuttg M.: Ök aden 19 M. E.: N ork 2012 H. / Fa	911. : Grundlagen des Mark sführung, 4th revised a : Grundlagen des Mark sführung, 3rd ed., Wies N. /Weinberg, P.: Kons urman, Ch / Kirchgeorg mente Praxisbeispiel urman, Ch / Becker, Cl gart 2010. onomische Organisatio 95. Nettbewerbsvorteile 4. (Original: Porter, M.:	alten: Grundlagen Pe etingmanagements: Ei and exp. ed., Wiesbade etingmanagements: Ei sbaden, 2012a. umentenverhalten, 9th g, M.: Marketing Grur le, 11th revised and exp n.: Internationales Marl on der Industrie: Netzw Spitzenleistungen erre Competitive Advantag agement, Strategie A	nführung in Strategie n 2012. nführung in Strategie n ed., Munich 2009. ndlagen marktorienti o. ed., Wiesbaden 20 keting-Management erkarrangements zw ichen und behaupte e, New York 1985.)	e, Instrumente, Umse e, Instrumente, Umse erter Unternehmens 12. Ein markenorientie ischen Markt und Ur n, 8th ed., Campus F	etzung und etzung und führung: Kor erter Ansatz, nternehmung Frankfurt /
		ning outcomes				
matica	lly. In a		nding of business mana he acquired knowledge			
Course	<b>S</b> (type, n	number of weekly contact hour	s, language — if other than Ge	rman)		
V + Ü (r	no infor	mation on SWS (week	y contact hours) and co	ourse language avail	able)	
Bachelor's	with 1 maj	or Mathematics (2007)		g • generated 11-Jan-2023 • € Bachelor (180 ECTS) Mathema	-	page 234 / 249

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

written examination (approx. 60 minutes)

#### Allocation of places

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#### Additional information

Workload

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

Module appears in

Bachelor' degree (1 major) Mathematics (2008)

Bachelor' degree (1 major) Mathematics (2007)

Bachelor' degree (1 major) Business Management and Economics (2007)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 235 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module	e title				Abbreviation
Supply	, Produ	iction and Operations M	anagement. An Introc	luction	12-BPL-G-072-m01
Module	e coord	inator		Module offered by	
holder Manage		Chair of Business Manag	gement and Industrial	Faculty of Business	Management and Economics
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio		Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten			1		
res.		e related corporate funct 	ions as well as a mod	el-based introductio	n to related planning procedu-
rate pro	ocurem		istics as well as their i	nterdependencies. F	esses in the domains of corpo- Furthermore, they are capable of
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ger	rman)	
V + Ü (r	no infoi	mation on SWS (weekly	contact hours) and co	ourse language avail	able)
		sessment (type, scope, langu le for bonus)	age — if other than German, o	examination offered — if no	t every semester, information on whether
		nation (approx. 60 minu	tes)		
Allocat					
Additio	nal inf	ormation	_		
Auuitio	inat init				
Worklo	ad				
			_		
Referre	d to in	LPOI (examination regulation	ns for teaching-degree progra	mmes)	
Module	e appea	urs in			
		ree (1 major) Chemistry (	(2007)		
	-	ree (1 major) Computer S			
	-	ree (1 major) Mathemati			
	-	ree (1 major) Mathemati			
	-	ree (1 major) Business N	-		
Bachel	or' deg	ree (1 major) Business Ir	nformation Systems (2	2007)	

Modul	e title				Abbreviation	
Investi	ment a	nd Finance. An Introdu	ction		12-I&F-G-072-m01	
Modul	e coord	linator		Module offered by	l	
	ofthe	Chair of Business Man	agement, Banking and	-	Management and I	Economics
ECTS	1	od of grading	Only after succ. con	pl. of module(s)		
5		erical grade				
Duratio		Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
Outline 1. Prine 2. Fune 3. Prob 4. Prob 5. Prob 6. Cap	e of syll ciples o dament olems o olems o olems o ital ma	of financial mathematic tal concepts of investment and finan of investment and finan	s ice in one commodity w ice in one commodity w ce in many commoditie	orld under uncertain		
After co (i) to u proach (ii) to a (iii) to consid	omplet ndersta ; address budget leration	and the fundamentals i s the central problems i t and calculate the opti	les of Investments and in financial mathematic in intertemporal allocat mal useful life given sta tment opportunities and	s and solve several p ion given different ca tic and dynamic inve	problems, e.g. via th apital market scena estment approache	rios; s under the
After co (i) to u proach (ii) to a (iii) to consid of taxe	omplet ndersta address budget leration es.	ing the course "Princip and the fundamentals i s the central problems i t and calculate the opti n of several other invest	in financial mathematic in intertemporal allocat mal useful life given sta tment opportunities and	s and solve several p ion given different ca tic and dynamic invo d the capital market	problems, e.g. via th apital market scena estment approache	rios; s under the
After co (i) to u proach (ii) to a (iii) to consid of taxe <b>Course</b>	omplet inderstan; address budget leration es. <b>es</b> (type, 1	ing the course "Princip and the fundamentals i s the central problems i t and calculate the opti n of several other invest	in financial mathematic in intertemporal allocat mal useful life given sta	s and solve several p ion given different ca itic and dynamic invo d the capital market rman)	problems, e.g. via tł apital market scena estment approache scenario, especially	rios; s under the
After co (i) to u proach (ii) to a (iii) to consid of taxe <b>Course</b> V + Ü ( <b>Metho</b>	omplet ndersta address budget leration es. es (type, (no info d of as:	ing the course "Princip and the fundamentals i s the central problems i t and calculate the opti n of several other invest number of weekly contact hour ormation on SWS (week	in financial mathematic in intertemporal allocat mal useful life given sta tment opportunities and rs, language – if other than Gen	s and solve several p ion given different ca itic and dynamic invo d the capital market man) purse language avail	problems, e.g. via tł apital market scena estment approache scenario, especially able)	rios; s under the / the influenc
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After co (i) to u proach (ii) to a consid of taxe <b>Course</b> V + Ü ( <b>Metho</b> module i written <b>Allocat</b>  <b>Additio</b>	omplet ndersta address budget leration es. es (type, fno info is credital n exami tion of onal inf	ing the course "Princip and the fundamentals i s the central problems i t and calculate the option of several other invest number of weekly contact hour ormation on SWS (week sessment (type, scope, lange ble for bonus) ination (approx. 60 min places formation	in financial mathematic in intertemporal allocat mal useful life given sta tment opportunities and rs, language — if other than Ger ly contact hours) and co guage — if other than German,	s and solve several p ion given different ca itic and dynamic invo d the capital market man) ourse language avail examination offered — if no	problems, e.g. via tł apital market scena estment approache scenario, especially able)	rios; s under the / the influenc
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After of (i) to u proach (ii) to a (iii) to (iii) to (iii) to a (iii) to a (i	omplet ndersta address budget leration es. es (type, íno info id of as: is creditat n exami tion of onal inf oad ed to in e appea	ing the course "Princip and the fundamentals i s the central problems i t and calculate the option of several other invest number of weekly contact hour mation on SWS (week sessment (type, scope, lang ble for bonus) ination (approx. 60 min places formation	in financial mathematic in intertemporal allocat mal useful life given sta tment opportunities and rs, language — if other than Ger ly contact hours) and co guage — if other than German, nutes)	s and solve several p ion given different ca itic and dynamic invo d the capital market man) ourse language avail examination offered — if no	problems, e.g. via tł apital market scena estment approache scenario, especially able)	rios; s under the / the influen
After co (i) to u proach (ii) to a (iii) to a (iii) to a (iii) to a consid of taxe Course V + Ü ( Metho module i written Allocat  Additio  Referro Bachel Bachel Bachel Bachel	omplet ndersta address budget leration es. es (type, d of as: is credital n exami tion of onal inf onal inf oad ed to in e appea lor' deg lor' deg	ing the course "Princip and the fundamentals i s the central problems i t and calculate the option of several other invest number of weekly contact hour mation on SWS (week sessment (type, scope, langulat ble for bonus) ination (approx. 60 min places formation formation ars in gree (1 major) Compute gree (1 major) Mathema gree (1 major) Mathema	in financial mathematic in intertemporal allocat mal useful life given sta tment opportunities and rs, language — if other than Ger ly contact hours) and co guage — if other than German, nutes) ions for teaching-degree progra	s and solve several p ion given different ca itic and dynamic invo d the capital market man) ourse language avail examination offered — if no	problems, e.g. via tł apital market scena estment approache scenario, especially able)	rios; s under the / the influenc



Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 238 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Macroeconomics 212-Mak2-G-072-m01Module offered byModule offered byFaculty of Business Management and EconomicsECTSMethod f gradingOnly after succ. compl. of module(s)5Numerical gradeDuration I graduateContents1 semesterundergraduateContentsDescription: The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy.Contents1. Phillips curve and dynamic model2. Growth theory and policyMacroeconomics of foundations of macroeconomics4. Macroeconomics to be provided by Chair.
holder of the Chair of Public Finance       Faculty of Business Management and Economics         ECTS       Method of grading       Only after succ. compl. of module(s)         5       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents       Ecure provides an introduction to long run or dynamic issues of macroeconomic theory and policy.         Contents:       1. Phillips curve and dynamic model         2. Growth theory and policy       3. Microeconomic foundations of macroeconomics         4. Macroeconomic policy
ECTS       Method of grading       Only after succ. compl. of module(s)         5       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents       Description:       The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy.         Contents:       1. Phillips curve and dynamic model       2. Growth theory and policy         3. Microeconomic foundations of macroeconomics       4. Macroeconomic policy
5       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents       Description:       The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy.         Contents:       1. Phillips curve and dynamic model       2. Growth theory and policy         3. Microeconomic foundations of macroeconomics       4. Macroeconomic policy
Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents          Description:       The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy.         Contents:       1. Phillips curve and dynamic model         2. Growth theory and policy       3. Microeconomic foundations of macroeconomics         4. Macroeconomic policy
1 semester       undergraduate          Contents          Description:          The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy.         Contents:          1. Phillips curve and dynamic model         2. Growth theory and policy         3. Microeconomic foundations of macroeconomics         4. Macroeconomic policy
Contents         Description:         The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy.         Contents:         1. Phillips curve and dynamic model         2. Growth theory and policy         3. Microeconomic foundations of macroeconomics         4. Macroeconomic policy
Description: The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy. Contents: 1. Phillips curve and dynamic model 2. Growth theory and policy 3. Microeconomic foundations of macroeconomics 4. Macroeconomic policy
The lecture provides an introduction to long run or dynamic issues of macroeconomic theory and policy. Contents: 1. Phillips curve and dynamic model 2. Growth theory and policy 3. Microeconomic foundations of macroeconomics 4. Macroeconomic policy
<ul><li>3. Microeconomic foundations of macroeconomics</li><li>4. Macroeconomic policy</li></ul>
Lecture notes to be provided by Chair
Intended learning outcomes
After completing the course "Makroökonomie 2" students are familiar with the most important concepts of gro th theory, they know the microeconomic foundations of modern macroeconomic theory and understand the in- tertemporal budget constraint of the government. Therefore they are able to discuss the growth and distributio nal consequences of policy reforms by applying simple economic models.
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)
V + Ü (no information on SWS (weekly contact hours) and course language available)
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 60 minutes)
Allocation of places
Additional information
Workload
Referred to in LPO I (examination regulations for teaching-degree programmes)
Module appears in
Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Business Management and Economics (2007) Bachelor' degree (1 major) Business Information Systems (2007)

Module title					Abbreviation	
Microeconomics 2					12-Mik2-G-072-m01	
Module	coord	inator		Module offered by		
holder	of the C	hair of Industrial Econon	nics	Faculty of Business	Management and Economics	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
5	numei	rical grade		-		
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	Contents					
1. Cost 2. Profit 3. Short 4. Long 5. Gove 6. Mone 7. Pricir 8. Intro 9. Strat Intende The aim ferent n the so-c of view terventi to them nomic a This kn	Contents         Outline of syllabus:         1. Cost minimisation         2. Profit maximisation and the supply function         3. Short-run market equilibrium         4. Long-run market equilibrium         5. Government interventions         6. Monopoly         7. Pricing strategies with market power         8. Introduction to game theory         9. Strategic interaction and oligopoly         Intended learning outcomes         The aim of the course is to understand how markets work. We will investigate the behavior of a company in different market structures; namely perfectly competitive markets, monopoly markets and all forms in between, the so-called oligopoly markets. Ultimately, we are interested in whether the market results from a social point of view is desirable. Using our models, we will also try to analyze the consequences of different government interventions. The knowledge that students gain in this course will be in their future course of studies of benefits to them. In almost all business and economics lectures markets play a role. It also discussed in detail how economic actors make their decisions. Students will thus learn the important building blocks of economic thought. This knowledge will also be useful in the workplace and even in their private lives.         Courses (type, number of weekly contact hours, language – if other than German)					
			ge — if other than German, e	examination offered — if no	t every semester, information on whether	
		le for bonus)				
		nation (approx. 60 minute	25)			
Allocat	ion of p	naces				
 Add:+:-	nalint	ormation				
Adultio	iial info	Jiiidului				
Workle	ad					
Workload						
Poforro						
Referred to in LPO I (examination regulations for teaching-degree programmes)						
 Module appears in						
	Bachelor' degree (1 major) Mathematics (2008)					
	-	ree (1 major) Mathematic				
Bachelo	or' degi	ree (1 major) Business Ma	anagement and Econ			
Bachelo	Bachelor' degree (1 major) Business Information Systems (2007)					

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Module title					Abbreviation	
Introdu	iction t	o Economic Policy			12-WiPo-G-072-m01	
Module coordinator				Module offered by		
holder	of the (	Chair of Economic Order a	and Social Policy	Faculty of Business	Management and Economics	
ECTS	Metho	od of grading	Only after succ. cor	npl. of module(s)		
5		rical grade		• • • •		
Duratio		Module level	Other prerequisites			
1 seme		undergraduate		-		
Conten		undergraduate	<u> </u>			
Descrip The cou		nsists of six chapters. Th	e first chapter illustra	ates what economist	s have in mind when referring	
with th Wirtsch croecoi	e objec naft" ("I nomic o	tives that are set out in t aw for Promoting Stabili	he German "Gesetz z ty and Growth of the ee to which the parti	ur Förderung der Sta Economy") of 1967. I cular objective is ach	ons. The following chapters deal bilität und des Wachstums der Each chapter uses current ma- nieved, discusses the reasons of the problems.	
- Objec - Instru - Institu 2. Full e - Empir - Reaso - Cure f 3. Price - Empir - Reaso - Cure f 5. Bala - Empir - Reaso - Cure f 6. Incol - Empir - Reaso	duction s "Ecor tives o ments utions o employ ics: The or labo e level s ics: inf or price ontradi ness cy ics: cui on for ics: cui or mac ness for or mac nes for ics: ba or insta me dist ics: the ons for	nomic Policy"? f economic policy of economic policy of economic policy ment e status quo of the labou unemployment our market problems stability lation, deflation or price inflation and deflation e instability cting relationship betwee ycles and economic grow rrent situation of the worl cyclical fluctuations and roeconomic instabilities foreign trade lances of payments of Ge macroeconomic imbalant abilities in foreign trade tribution e distribution of incomes an increase in income ine	stability? en full employment a th Id economy and long determinants of econ and means to facilita ermany, Europe and t ces and its historical dev	-term ecnomoic grow nomic growth ate economic growth he World	rth	
		uality and redistribution ning outcomes				
The stu on a nu veridge learn to vernme	idents ; imber c e curve, o asses ental in	gain a basic understandi of macroeconomic model etc.), students study the s in which situations suc terventions may be harm	s (AS/AD, IS/LM, phi e abilitiy of the state h influence can be w ful. After successful	illips curve, labor ma to influence national relfare-enhancing and completion of the co	international economies. Based rket equilibria, Solow model, Be- and global economies. Students d under which circumstances go- urse, students are able to analy- ddition, students have learned to	

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assess the situation of a country on the basis of empirical macroeconomic data and to explain the particular problems based on different models.

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

V + 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)

written examination (approx. 60 minutes)

**Allocation of places** 

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Additional information

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Workload

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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) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Business Management and Economics (2007) Bachelor' degree (1 major) Business Information Systems (2007)

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# **Thesis** (10 ECTS credits)

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Module	Module title Abbreviation						
Thesis	Thesis Mathematics (Bachelor Thesis)       10-M-BAM-072-m01						
Module	e coord	linator		Module offered by	/		
Dean o	f Studi	es Mathematik (Math	ematics)	Institute of Mathe	matics		
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)			
10	nume	rical grade					
Duratio	on	Module level	Other prerequisites	;			
1 seme	ster	undergraduate	Registration for ass	essment: as specifi	ed.		
Conten	its	•					
Indepe	ndentl	y researching and wri	ting on a topic in mather	matics selected in c	onsultation with the supervisor.		
Intend	ed lear	ning outcomes			· · · · · · · · · · · · · · · · · · ·		
suitabl	e form	•			wn the result of his/her work in a		
Course	<b>S</b> (type,	number of weekly contact ho	urs, language — if other than Ge	rman)			
no cou	rses as	signed					
		<b>sessment</b> (type, scope, la ble for bonus)	nguage — if other than German,	examination offered — if r	not every semester, information on whether		
written Langua			English if agreed upon w	vith the examiner			
Allocat	ion of	places					
Additio	onal inf	ormation					
Worklo	ad						
Referre	ed to in	LPOI (examination regula	ations for teaching-degree progra	ammes)			
Module	e appe	ars in					
Bachel	or' deg	ree (1 major) Mathem ree (1 major) Mathem					
Buchel		nee (1 major) matricin					



## Subject-specific Key Skills

(15 ECTS credits)

Bachelor's with 1 major Mathematics (2007)	JMU Würzburg • generated 11-Jan-2023 • exam. reg.	page 245 / 249
	data record Bachelor (180 ECTS) Mathematik - 2007	

Module title Abbreviation						
Prepar	Preparatory Course Mathematics 10-M-VKM-072-m01					
Module coordinator Module offered by						
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathen	natics	
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)		
2	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conter	Its					
Introdu	uction t	o the basic techniques in	mathematics; appro	ach to sets, proposi	tions, propositional logic.	
Intend	ed lear	ning outcomes				
		ets acquainted with the b s degree study programm		ues which are prere	quisites for the further courses in	
Course	<b>S</b> (type, r	number of weekly contact hours, I	anguage — if other than Gei	rman)		
V + T (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
		<b>sessment</b> (type, scope, langua vle for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
comple	etion of	project assignments (to	be specified at the b	eginning of the cour	se)	
Allocat	ion of _l	places				
Additio	onal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Modul	e appea	ars in				
Bachel	or' deg	ree (1 major) Mathematic	s (2007)			

Module	Module title Abbreviation					
Progra	Programming Course for Mathematics and other students 10-M-PRG-072-m01					
Module	Module coordinator Module offered by					
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mather	natics	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
3	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites	;		
1 seme	ster	undergraduate				
Conten	Its					
Basics matics		odern programming lang	uage (e. g. C or Fortra	n) taking into accou	nt the particular needs in mathe-	
Intend	ed lear	ning outcomes				
The stu in math			ntly on small progran	nming exercises and	standard programming problems	
Course	<b>S</b> (type, r	number of weekly contact hours,	language — if other than Ge	rman)		
P (no ir	nformat	tion on SWS (weekly cont	act hours) and cours	e language availabl	e)	
		<b>Sessment</b> (type, scope, langua ile for bonus)	ge — if other than German,	examination offered — if n	ot every semester, information on whether	
project	in the	form of programming exe	ercises (expenditure o	of time as specified	at the beginning of the course)	
Allocat	ion of _l	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Referre	ed to in	LPOI (examination regulation	s for teaching-degree progra	ammes)		
		•				
Module	e appea	ars in				

Modu	Abbreviation					
Comp	omputeroriented Mathematics 10-M-COM-072-mo1					
Modul	e coord	inator		Module offered by	1	
Dean	of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
3	(not)	successfully completed				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conte	nts		•			
10-M-l	NA). Co		of problems in linear a		nd linear algebra (10-M-ANA and nalysis, in particular differential	
Intend	led lear	ning outcomes				
		earns the use of advance cation to solve mathema		cal software packag	es, and is able to assess their	
Course	<b>es</b> (type, 1	number of weekly contact hours, I	language — if other than Gei	rman)		
V + Ü (	(no info	rmation on SWS (weekly	contact hours) and co	ourse language avail	lable)	
		<b>Sessment</b> (type, scope, langua vle for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
projec	t in the	form of programming exe	ercises (expenditure o	of time as specified a	at the beginning of the course)	
Alloca	tion of	places				
Additi	onal inf	ormation	-			
Workl	oad					
	_					
Referr	ed to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
			0.0.1.1.0			
Modul	e appea	ars in				
		ree (1 major) Computer S	cience (2007)			
		ree (1 major) Mathematic				
	-	ree (1 major) Physics (20				
Bache	lor' deg	ree (1 major) Technology	of Functional Materia	als (2006)		

Module title Abbreviation					Abbreviation	
Defens	Defense of Bachelor Thesis in Mathematics 10-M-BAK-072-m01					
Module	e coord	inator		Module offered by	I	
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	natics	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
2	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
The stu ons on	•	•	n the topic and resul	ts of his/her Bachel	or's thesis and answers questi-	
Intende	ed lear	ning outcomes				
	e talk o				/She is able to give a short and d question the scientific activities	
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)		
A (no ir	format	tion on SWS (weekly cont	act hours) and cours	e language available	e)	
		<b>sessment</b> (type, scope, langua ıle for bonus)	ge — if other than German,	examination offered — if no	ot every semester, information on whether	
talk (ap	prox. 1	15 minutes) with subsequ	ent discussion (appr	ox. 15 minutes)		
Allocat	ion of <b>j</b>	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module	appea	ars in				
Bachel	or' deg	ree (1 major) Mathematic	s (2007)			