

# Module Catalogue

for the Subject

## Biomedicine

as a Master's with 1 major with the degree "Master of Science" (120 ECTS credits)

> Examination regulations version: 2013 Responsible: Faculty of Medicine Responsible: Faculty of Biology

JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record 88|300|-|-|H|2013



## Contents

The subject is divided into	3
Content and Objectives of the Programme	4
Abbreviations used, Conventions, Notes, In accordance with	5
Compulsory Courses	6
Lab Course Model Organisms	7
Model Organisms	8
Advanced Lab Courses	9
Advanced Laboratory Course in Biology	10
Advanced Laboratory Course in Medicine	11
Research Lab Course	12
Internship in a research lab	13
Compulsory Electives	14
Compulsory Flectives I	15
Bioinformatics B	ر <del>ـ</del> 16
Systems Biology B	17
Microbiology 1 B	18
Microbiology 2 B	19
Cell- and Development-Biology Master 1 B	20
Cell- and Development-Biology Master 2 B	21
Immunology 1 B	22
Immunology 2 B	23
Immunology 1 BS	24
Immunology 2 BS	25
Virology 1 B	26
Virology 2 B	27
Clinical Neuropiology	28
Cardiovascular Biology Malasular Orașilaru	29
Molecular Uncology	30
Stelli Cell Biology Tissue Engineering / Eunctional Materials	31
Nucleus Workshop	32
Compulsony Floatives II	33
Compulsory Electives II	34
Knowledge Transfer / Tutoring	35
Knowledge Transfer / Tutoring	36
Clinical Medicine	37
	38
Inesis	39
Final Oral Examination	40



## The subject is divided into

section / sub-section	ECTS credits	starting page
Compulsory Courses	60	6
Lab Course Model Organisms	25	7
Advanced Lab Courses	20	9
Research Lab Course	15	12
Compulsory Electives	30	14
Compulsory Electives I	25	15
Compulsory Electives II	5	34
Thesis	30	39

Master's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 3 / 41
	data record Master (120 ECTS) Biomedizin - 2013	1

## **Content and Objectives of the Programme**

The Faculty of Medicine and the Faculty of Biology of the JMU Würzburg offer the opportunity to acquire a "Master of Science" (M.Sc.) degree in Biomedicine within a consecutive Bachelor's and Master's programme. This degree programme has a strong emphasis on research. This Master of Science degree equips graduates with further professional qualifications as well as extensive research experience. This degree programme aims to impart to students in-depth and interdisciplinary knowledge at the interface between biology and medicine and to enable them to competently apply and implement concepts and methods of molecular medicine. Students in this degree programme gain the skills and specialist knowledge necessary for a career in research, development and practical application and will be able to independently conduct scientific research in the field of biomedicine.

In their thesis, students demonstrate their ability to illustrate and handle a defined biomedical problem from an academic perspective using established or modified methods within a given time frame.

By passing their Master's examination, students demonstrate their grasp of biomedical research and their ability to independently apply scientific methods. In compliance with the effective doctoral regulations of the JMU a successfully completed Master's degree qualifies candidates for admission to a doctoral programme.

Master's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 4 / 41
	data record Master (120 ECTS) Biomedizin - 2013	

## Abbreviations used

Course types:  $\mathbf{E}$  = field trip,  $\mathbf{K}$  = colloquium,  $\mathbf{O}$  = conversatorium,  $\mathbf{P}$  = placement/lab course,  $\mathbf{R}$  = project,  $\mathbf{S}$  = seminar,  $\mathbf{T}$  = tutorial,  $\ddot{\mathbf{U}}$  = exercise,  $\mathbf{V}$  = lecture

Term: **SS** = summer semester, **WS** = winter semester

Methods of grading: **NUM** = numerical grade, **B/NB** = (not) successfully completed

Regulations: **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes), **FSB** = subject-specific provisions, **SFB** = list of modules

Other: **A** = thesis, **LV** = course(s), **PL** = assessment(s), **TN** = participants, **VL** = prerequisite(s)

## Conventions

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

## Notes

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should the module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

### In accordance with

the general regulations governing the degree subject described in this module catalogue:

#### ASP02009

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

#### 23-Sep-2013 (2013-72)

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**

(60 ECTS credits)

Master's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 6 / 41
	data record Master (120 ECTS) Biomedizin - 2013	



## Lab Course Model Organisms

(25 ECTS credits)

Master's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 7 / 4:
	data record Master (120 ECTS) Biomedizin - 2013	

Module title		Abbreviation			
Model Organisms		03-98-MMOD-132-m01			
Module coordinator Module of		Module offered by			
Dean o	fStudie	es Biomedizin (Biomedic	ine)	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
25	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
vith th yeast) a biomec mental siologic biologic regener	e neip and cor licine a biology cal proc cal, his rative tl ek each	of selected eukaryotic monopoles tissue models, stund will apply these. Build y, the module will illustrates and pathophysiol tological and imaging tech herapies and biodiagnos n, students will examine	dents will become fai ding on the students' ite the relevance and ogical changes and w chniques. The module tics as well as as an a model organisms in c	se, fish, Drosophila, miliar with methods knowledge of anato usage of individual vill experimentally ar e will acquaint stude alternative to animal detail, also taking in	and questions of experimental omy, cell biology and develop- models for understanding phy- nalyse these with molecular, cell ents with cell-based strategies for l experiments. Over the course of to account current research.
Intende	ed learr	ning outcomes	0		
to corre sues ar tive ma sophist are able and int and de team w	ectly as nd ques nner, a cicated e to pre erpret t livering orking	sess the importance of m stions. They are able to d lso taking into account e genetic, cell biological a sent the results in a writ the data and put it in the group presentations, the skills.	nodel organisms and iscuss the relevant so thical issues. Under and histological exper ten report in accordan context of current lite ey demonstrate their	3D tissue culture system cientific advantages supervision, they are iments and docume nce with scientific st erature. Working in s knowledge of the co	stems for current biomedical is- and disadvantages in a delibera- e able to independently perform nt the results. In particular, they andards, to critically evaluate mall groups as well as preparing ontents covered as well as their
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
S + P (n	o infor	mation on SWS (weekly o	contact hours) and co	urse language availa	able)
Methoo module is	<b>d of ass</b> creditab	e <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
per blo aminat (30 to 6	ck of oi ion (30 50 mint	ganisms: one log (5 to 10 to 60 minutes; including utes) or c) presentation (2	p pages each) as well multiple choice que to to 45 minutes)	as one of the follow stions) or b) oral exa	ring assessments: a) written ex- amination of one candidate each
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Workload					
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biomedicine (2013)					





## **Advanced Lab Courses**

(20 ECTS credits)

Master's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 9 / 41
	data record Master (120 ECTS) Biomedizin - 2013	

Module title			Abbreviation		
Advanced Laboratory Course in Biology		03-98-MFPB-132-m01			
Module coordinator Module offered by		Module offered by			
Dean o	f Studi	es Biomedizin (Biomedic	ine)	Faculty of Medicine	
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	ts				
Particip proach	oation i es. Cor	n a research project in th ntents and methods will v	e life sciences. Stude ary according to the	ents will become fam research laboratory (	niliar with new methods and ap- chosen.
Intende	ed lear	ning outcomes			
Applica as well	ation of as inte	current methods to dive pretation of new finding	rse and complex scie s. Presentation of da	ntific questions. Crit ta.	ical data collection and analysis
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)	
P (no ir	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	e)
Metho module is	<b>d of ass</b> s creditab	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
method (approz in grou informe Langua	ds of as x. 10 to ps of u ed abou ige of a	sessment: a) written exa 30 pages) or c) oral exan p to 3 candidates (approx ut the method, length and ssessment: German or En	mination (30 to 60 m nination of one candi x. 30 to 60 minutes) o d scope of the assess nglish	inutes, including mu date each (30 to 60 or e) presentation (20 sment prior to the co	ultiple choice questions) or b) log minutes) or d) oral examination o to 45 minutes); students will be urse
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Workload					
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master	Master's degree (1 major) Biomedicine (2013)				

Module title			Abbreviation		
Advanced Laboratory Course in Medicine		03-98-MFPM-132-m01			
Module coordinator Module offered b		Module offered by			
Dean o	fStudi	es Biomedizin (Biomedic	ine)	Faculty of Medicine	
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	Prior approval by De	an of Studies requir	ed.
Conten	ts				
Partici; proach	oation i es. Cor	n a research project in th ntents and methods will v	e life sciences. Stude ary according to the	ents will become fam research laboratory (	niliar with new methods and ap- chosen.
Intend	ed learı	ning outcomes			
Applica as well	ation of as inte	current methods to dive rpretation of new finding	rse and complex scie s. Presentation of da	ntific questions. Crit ta.	ical data collection and analysis
Course	<b>S</b> (type, n	number of weekly contact hours, l	anguage — if other than Ger	man)	
P (no ir	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	e)
Metho module is	<b>d of ass</b> s creditab	<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether
method (approz in grou informe Langua	ds of as x. 10 to ps of u ed abou age of a	sessment: a) written exa 30 pages) or c) oral exan p to 3 candidates (appro ut the method, length and ssessment: German or El	mination (30 to 60 m nination of one candi x. 30 to 60 minutes) c d scope of the assess nglish	inutes, including mu date each (30 to 60 or e) presentation (20 sment prior to the co	ultiple choice questions) or b) log minutes) or d) oral examination o to 45 minutes); students will be urse
Allocat	ion of p	olaces			
Additio	onal inf	ormation			
Workload					
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Master	Master's degree (1 major) Biomedicine (2013)				





## **Research Lab Course**

(15 ECTS credits)

Master's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.
	data record Master (120 ECTS) Biomedizin - 2013

Module title		Abbreviation			
Internship in a research lab		03-98-MPPF-122-m01			
Module coordinator		Module offered by			
Dean o	f Studi	es Biomedizin (Biomedic	ine)	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
15	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate	Prior approval by De	an of Studies require	ed.
Conten	ts				
Project plex sci	work iı ientific	n a research laboratory, fo problem. This project ma	ocusing on training ir ay lay the foundation	n new methods and t for a subsequent Ma	he in-depth analysis of a com- aster's thesis.
Intende	ed leari	ning outcomes			
Executi the bas	on of c is of cu	omplex sequential exper urrent literature and know	imental methods. Stu vledge transfer.	udents gain an insigi	nt into new areas of research on
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
P (no in	Iformat	ion on SWS (weekly cont	act hours) and course	e language available	.)
<b>Methoo</b> module is	<b>d of ass</b> creditab	<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
log (ap Langua	prox. 2 ge of a	o to 30 pages) or researc ssessment: English	h proposal for thesis	based on project (ap	oprox. 20 pages)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biomedicine (2013) Master's degree (1 major) Biomedicine (2012)					





## **Compulsory Electives**

(30 ECTS credits)

Master's with 1 major Biomedicine (2013)	JMU Würzburg
	data record



## **Compulsory Electives I**

(25 ECTS credits)

Completion of modules 03-98-MVKN, 03-98-MVKB and 03-98-MVMO is mandatory. Module 07-MBI-B may only be taken by students that did not take 07-MBI-B in the Bachelor's degree programme.

Aaster's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.		
	data record Master (120 ECTS) Biomedizin - 2013		

Module title			Abbreviation		
Bioinformatics B				07-MBI-B-121-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)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Advanc and sec quence	es and quence s, prot	current results of bioinfo analysis, protein domain eomics data), analysis of	ormatics are explaine ns and protein familie different functional I	d and discussed, thi es, large-scale data a RNAs (e. g. miRNAs, l	is includes results from genome analysis (e. g. net generation se- IncRNAs).
Intende	ed leari	ning outcomes			
Unders ledge o	tand re f typica	ecent results in bioinform al technologies and resea	atics. Discuss their ir arch questions in bioi	nplications. Have an nformatics.	advanced (Master) level know-
Course	<b>S</b> (type, n	number of weekly contact hours, l	anguage — if other than Ger	man)	
V (no in	format	ion on SWS (weekly cont	act hours) and cours	e language available	e)
Methoo module is	<b>d of ass</b> creditab	<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
Studen examin each (3	ts will I ation ( o to 60	be informed about the ma 30 to 60 minutes, includi 9 minutes) or c) oral exam	ethod, length and sco ng multiple choice qu nination in groups of	ope of the assessme uestions) or b) oral e up to 3 candidates (3	nt prior to the course. a) written examination of one candidate 30 to 60 minutes)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	e			
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master's degree (1 major) Biology (2014)					
Master's degree (1 major) Mathematics (2012)					
Master	s aegri	ee (1 major) Biomedicine	(2013)		
Master	's degr	ee (1 major) Computation	al Mathematics (2012)	2)	

Module title			Abbreviation		
Systems Biology B				07-MS-B-121-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)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Advanc sults fro as regu	es and om fun latory i	current results of compu ctional genomics, dynam networks.	tational systems bio ics of the transcripto	logy are explained a me, of metabolism a	nd discussed, this includes re- ind metabolic networks as well
Intende	ed leari	ning outcomes			
Unders <sup>.</sup> ledge o	tand re f typica	cent results in systems b al technologies and resea	iology. Discuss their arch questions of syst	implications. Have a tems biology.	an advanced (Master) level know-
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V (no in	format	ion on SWS (weekly cont	act hours) and cours	e language available	2)
Method module is Studen	<b>d of ass</b> creditab	<b>sessment</b> (type, scope, langua le for bonus) be informed about the mo	ge — if other than German, e 	examination offered — if no	t every semester, information on whether nt prior to the course. a) written
examin each (3	ation ( o to 60	30 to 60 minutes, includi minutes) or c) oral exam	ng multiple choice qui ination in groups of	uestions) or b) oral e up to 3 candidates (a	examination of one candidate 30 to 60 minutes)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	e			
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master's degree (1 major) Biology (2014)					
Master's degree (1 major) Mathematics (2012)					
Master Master	s uegri 's degri	ee (1 major) Biomedicine	(2013)		
Master'	's degr	ee (1 major) Computation	al Mathematics (201:	2)	
	-	· · ·			

Module title			Abbreviation		
Microbiology 1 B				07-MM1-B-121-m01	
Module	e coord	inator		Module offered by	
holder	of the (	Chair of Microbiology		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Fundan al path method	nentals ogenic Is in in	s of molecular microbiolo ity factors, regulation of v fection biology.	gy and infection biolo irulence, mechanism	ogy, mechanisms of as of host defence ar	adherence and invasion, bacteri- nd pathogen interference, current
Intende	ed lear	ning outcomes			
The stu emerge	dents a	are able to understand fu infectious diseases.	ndamental theories o	of molecular microbi	ology and infection biology,
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
V (no in	format	tion on SWS (weekly cont	act hours) and cours	e language available	a)
Methoo module is	<b>l of ass</b> creditab	<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) writte didate minute	en exa each (a s)	mination (30 to 60 minut approx. 30 to 60 minutes)	es, including multiple or c) oral examinatio	e choice questions) o on in groups of up to	or b) oral examination of one can- 3 candidates (approx. 30 to 60
Allocat	ion of <sub>l</sub>	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master	Master's degree (1 major) Biology (2014)				
Master	's degr	ee (1 major) Biomedicine	(2013)		
Master	Master's degree (1 major) Biomedicine (2012)				

Module title			Abbreviation		
Microbiology 2 B				07-MM2-B-121-m01	
Module	coord	inator		Module offered by	
holder	of the (	Chair of Microbiology	_	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Fundan ted pro on biolo	nental   karyoti ogy wil	principles of the mode of c and eukaryotic pathoge l be presented.	action of microbial p ens as model organis	athogenicity factors ms. In addition, curr	will be presented using selec- ent research methods in infecti-
Intende	ed learı	ning outcomes			
Studen nisms b	ts have behind	e gained fundamental kno infectious diseases.	owledge in infection l	piology and pathoge	nicity research and the mecha-
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V (no in	Iformat	ion on SWS (weekly cont	act hours) and cours	e language available	2)
Methoo module is	<b>l of ass</b> creditab	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
a) writte didate minutes	en exaı each (a s)	mination (30 to 60 minut approx. 30 to 60 minutes)	es, including multiple or c) oral examinatio	e choice questions) o on in groups of up to	or b) oral examination of one can- 3 candidates (approx. 30 to 60
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011) Master's degree (1 major) Biology (2014) Master's degree (1 major) Biomedicine (2013) Master's degree (1 major) Biomedicine (2012)					

Module title			Abbreviation		
Cell- and Development-Biology Master 1 B				07-MZE1-B-121-m01	
Module	e coord	inator		Module offered by	
holder logy	of the (	Chair of Cell Biology and I	Developmental Bio-	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
The lec causes	ture <i>Ze</i> and co	<i>llpathologie</i> ( <i>Cytopatholo</i> onsequences, such as inf	<i>ogy</i> ) describes pathol ection, apoptosis, se	logical states of the one second states of the one second states of the one second states of the second states tat	cell and unravels their biological disorders and cancer.
Intende	ed leari	ning outcomes			
Particip context	ants p of cell	ossess scientific backgro biology research.	ound knowledge on cy	ytopathology and are	e able to put this into the broader
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V (no ir	nformat	ion on language and nun	nber of weekly conta	ct hours available)	
Methoo module is	<b>d of ass</b> creditab	<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
#REF!		,			
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	e			
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master's degree (1 major) Biology (2014)					
Master	's degre	ee (1 major) Biomedicine	(2013)		
Master's degree (1 major) Biomedicine (2012)					

Module title			Abbreviation		
Cell- and Development-Biology Master 2 B			07-MZE2-B-121-m01		
Modul	e coord	inator		Module offered by	
holder logy	ofthe	Chair of Cell Biology and	Developmental Bio-	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. com	pl. of module(s)	
3	(not)	successfully completed			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	graduate			
Conter	nts				
knowle lopmer quence ders?: genera genetio nism for age	edge to ntal bio es of m Opport te Dis cs Me Develo es.	students. It will rather int logy. Topics covered in th ulticellularity Sex: More unities and limitations of sasters: What do we actu- taorganisms: We are nev opmental biology of beha	troduce students to p ne lecture (subject to e than just ? + ? = O stem cell research ally know about meta er alone Developm viour: Everything is le	articularly interestin change): - Cooperati n the move: Morpho Growing new hearts morphoses? - Alway ent in changing envi earned. Or isn't it? - E	ng and current topics in deve- ion: Development and conse- genetic migration All-roun- ?: Animals and their ability to re- vs the same?: Plasticity and epi- ronments: Ecology and polyphe- Evo-devo: A fad? No, been around
Intend	ed lear	ning outcomes			
Partici tal bio	pants p logy an	ossess a knowledge of th d are able to put this into	ne theoretical and mo the broader context	lecular biological pr of cell and developm	inciples underlying developmen- nental biology research.
Course	S (type, 1	number of weekly contact hours, l	anguage — if other than Ger	man)	
V (no i	nforma	tion on language and nur	nber of weekly conta	ct hours available)	
<b>Metho</b> module i	<b>d of as</b> s creditat	<b>sessment</b> (type, scope, langua ole for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
#REF!					
Allocat	tion of	places			
Additio	onal inf	ormation			
Workload					
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master	''s degr	ee (1 major) Biology (201)	(2012)		
Master	's degr	ee (1 major) Biomedicine	(2012)		

Module title			Abbreviation		
Immunology 1 B			03-MIM1-B-121-m01		
Module	e coord	inator		Module offered by	
holder	of the I	Professorship of Immuno	genetics	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
7	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Familia mune-r selecte	rity wit nediate d immu	h the fundamentals of me ed defence mechanisms. unology book chapters ar	olecular and cellular This incorporates co nd recent original lite	immunology that all mmon literature read rature in English lan	ow a deeper understanding of im- lings, presentations and tests on guage.
Intende	ed lear	ning outcomes			
Studen and wil	ts will : l be ab	gain a knowledge of fund le to present and discuss	amental concepts an these.	d methods in molec	ular and cellular immunology
Course	<b>S</b> (type, r	number 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	ourse language avail	able)
Methoo module is	<b>d of ass</b> creditab	<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) writt or c) or 3 candi	en exa al exan dates (	mination (approx. 30 to 6 nination of one candidate (approx. 30 to 60 minutes	o minutes, including e each (approx. 30 to 5) or e) presentation (	multiple choice que 60 minutes) or d) or (approx. 20 to 45 min	estions) or b) log (10 to 30 pages) al examination in groups of up to nutes)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master	Master's degree (1 major) Biology (2014)				
Master	's degr	ee (1 major) Biomedicine	(2013)		
Master's degree (1 major) Biomedicine (2012)					

Module title			Abbreviation		
Immunology 2 B				03-MIM2-B-121-m01	
Module	e coord	inator		Module offered by	
holder	of the I	Professorship of Immuno	genetics	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
7	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Recent such as on, infe selecte	progre autoir ection i d immu	ss in molecular and cellu nmunity and immune mo mmunology, and more. T unology book chapters ar	lar immunology. Dee dulation, developme his incorporates com nd recent original lite	per insights into sele ent of the immune sy mon literature readi rature.	ected immunology chapters , stem, immunogenetics, evoluti- ngs, presentations and tests on
Intende	ed lear	ning outcomes			
Studen	ts are a	able to understand currer	it problems in immur	nology and to discus	s these in detail.
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	rman)	
S + V (r	o infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
Methoo module is	<b>d of ass</b> creditab	sessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether
a) writt or c) or 3 candi	en exai al exan dates (	mination (approx. 30 to 6 nination of one candidate (approx. 30 to 60 minutes	o minutes, including e each (approx. 30 to 5) or e) presentation (	multiple choice que 60 minutes) or d) or (approx. 20 to 45 min	estions) or b) log (10 to 30 pages) ral examination in groups of up to nutes)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master	Master's degree (1 major) Biology (2014)				
Master	's degr	ee (1 major) Biomedicine	(2013)		
Master's degree (1 major) Biomedicine (2012)					

Module title			Abbreviation		
Immunology 1 BS				03-MIM1-BS-121-m01	
Module	e coord	inator		Module offered by	
holder	of the l	Professorship of Immuno	genetics	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
Familia mune-r selecte	rity wit nediate d imm	h the fundamentals of m ed defence mechanisms. unology book chapters ar	olecular and cellular This incorporates co nd recent original lite	immunology that all mmon literature reac rature in English lan	ow a deeper understanding of im- lings, presentations and tests on guage.
Intende	ed lear	ning outcomes			
Studen and wil	ts will I be ab	gain a knowledge of fund le to present and discuss	amental concepts an these.	d methods in molec	ular and cellular immunology
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
S (no ir	format	tion on SWS (weekly cont	act hours) and cours	e language available	e)
Methoo module is	<b>d of ass</b> creditab	<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) writt or c) or 3 candi	en exa al exan dates (	mination (approx. 30 to 6 nination of one candidate (approx. 30 to 60 minute:	o minutes, including e each (approx. 30 to s) or e) presentation (	multiple choice que 60 minutes) or d) or (approx. 20 to 45 min	estions) or b) log (10 to 30 pages) al examination in groups of up to nutes)
Allocat	ion of <sub>l</sub>	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master	's degr	ee (1 major) Biology (201	4)		
Master	's degr	ee (1 major) Biomedicine	(2013)		
Master's degree (1 major) Biomedicine (2012)					

Module title			Abbreviation		
Immunology 2 BS					03-MIM2-BS-121-m01
Module	e coord	inator		Module offered by	
holder	of the I	Professorship of Immuno	genetics	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	graduate			
Conten	ts				
such as on, infe	progre autoir ction i d imm	munity and immune mo mmunology, and more. T unology book chapters ar	dar immunology. Dee dulation, developme his incorporates com nd recent original lite	per insignts into sele nt of the immune sy mon literature readin rature.	stem, immunology chapters , stem, immunogenetics, evoluti- ngs, presentations and tests on
Ctudor		hing outcomes	t nyahlama in immuu	alogy and to discus	a thaga in datail
Studen	ts are a	able to understand currer		lology and to discus	s these in detail.
Course:	<b>S</b> (type, r	tion on SWS (wookly contact nours, is	anguage — If other than Ger	man) a languaga ayailahla	<u>م</u>
S (IIO II				e language available	
module is	creditab	le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) writte or c) or 3 candi	en exai al exan dates (	mination (approx. 30 to 6 nination of one candidate (approx. 30 to 60 minutes	o minutes, including e each (approx. 30 to 5) or e) presentation (	multiple choice que 60 minutes) or d) or (approx. 20 to 45 mir	stions) or b) log (10 to 30 pages) al examination in groups of up to nutes)
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ıg cycl	e			
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Biology (2011)					
Master	's degr	ee (1 major) Biology (2014	4)		
Master	's degr	ee (1 major) Biomedicine	(2013)		
Master's degree (1 major) Biomedicine (2012)					

Module title					Abbreviation	
Virology 1 B					03-MV1-B-121-m01	
Module	e coord	inator		Module offered by		
holder	of the (	Chair of Virology		Faculty of Medicine		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
7	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
This mo	odule w	vill discuss contemporary	topics in virology.			
Intende	ed learı	ning outcomes	·			
Studen	ts are a	able to understand currer	nt problems in virolog	y and to discuss the	ese in detail.	
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)	
Method	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	creditab	le for bonus)				
#REF!						
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Teachir	ng cycl	e				
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
Module appears in						
Master	Master's degree (1 major) Biology (2011)					
Master	Master's degree (1 major) Biology (2014)					
Master	's degr	ee (1 major) Biomedicine	(2013)			
Master's degree (1 major) Biomedicine (2012)						

Module title					Abbreviation	
Virology 2 B					03-MV2-B-121-m01	
Module	e coord	inator		Module offered by		
holder	of the (	Chair of Virology		Faculty of Medicine		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
7	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts		·			
This mo	odule w	vill discuss contemporary	topics in virology.			
Intende	ed learr	ning outcomes	·			
Studen	ts are a	ble to understand currer	nt problems in virolog	y and to discuss the	ese in detail.	
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	2)	
Method	d of ass	<b>essment</b> (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)				
#REF!						
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Teachir	ng cycl	e				
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
Module appears in						
Master	Master's degree (1 major) Biology (2011)					
Master	's degre	ee (1 major) Biology (201	4)			
Master	's degre	ee (1 major) Biomedicine	(2013)			
Master's degree (1 major) Biomedicine (2012)						

Module title				Abbreviation		
Clinical Neurobiology				03-98-MVKN-122-m	101	
Module coordinator			Module offered by			
holder	of the (	Chair of Clinical Neurobi	ology	Faculty of Medicine		
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	graduate				
Conten	Its					
Students will get a theoretical introduction to neurobiology and clinical neurobiology. The following topics will be discussed: introduction to neurons and glia, ion channels and membrane potential, ion channelopathies, syn- apses, transmitter release, NMJ, myasthenia gravis, cerebellum, basal ganglia, ataxia and Morbus Parkinson, so- matosensory system, touch, pain, schizophrenia and autism spectrum disorders, disorders of cognition, muscle and muscle diseases, anatomy and function of the motor system, spinal reflexes, motoneuron diseases, hippo- campus, learning and memory, anterograde amnesia, visual agnosia, cortex and the limbic system, emotions, disorders of conscious and unconscious mental processes, attention, smell and taste and hearing , sleep, EEG, epilepsy, vision and diseases of the visual system. The literature seminars are based on fundamental literature on lecture-relevant topics to document the experiments underlying our present knowledge in neurobiology. <b>Intended learning outcomes</b> Students who successfully completed this module will have acquired insights into current theoretical concepts in neurobiology. They will have examined clinical aspects of neurobiology with a focus on the molecular, cellu- lar and physiological mechanisms. Additionally, they will have learned how to evaluate and present data in oral form. The students will have learned to critically read scientific publications in the field of neurobiology and will have been trained in the ability to extract relevant information from the original literature. <b>Courses</b> (type, number of weekly contact hours) and course language available) <b>Method of assessment</b> (type, scope, language – if other than German) V (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) Students will be informed about the method, length and scope of the assessment prior						
Allocat	ion of p	olaces				
Additio	onal inf	ormation				
··· Warld -			-			
workto	au					
Teachir	na cuci	9				
reaching cycle						
Poferred to in LPO L (evening tion conclusions for the chine descent on the concerns of the chine descent of the c						
Reference to III LPO I (examination regulations for teaching-degree programmes)						
 Module appears in						
Master	's degr	ee (1 major) Biochemist	ry (2012)			
Master	's degr	ee (1 major) Biomedicin	e (2013)			
Master	's degr	ee (1 major) Biomedicin	e (2012)			
Master's w	ith 1 majo	r Biomedicine (2013)	JMU Würzburg data record	• generated 26-Aug-2024 • 6 Master (120 ECTS) Biomedizi	exam. reg. 1 - 2013	page 28 / 41

Module title				Abbreviation		
Cardiovascular Biology				03-98-MVKB-122-m01		
Module	e coord	inator		Module offered by		
holder	of the (	Chair of Experimental Bio	medicine	Faculty of Medicine		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
Fundan field.	nental	and specific knowledge c	f cardiovascular biol	ogy is taught based	on selected questions from this	
Intende	ed learı	ning outcomes				
Studen logy an tes, reg	ts have d, in pa julatior	e developed the ability to articular, in development n of blood pressure, plate	approach, analyse a al biology, erythropo lets and stroke.	nd interpret general iesis, blood coagula	problems in cardiovascular bio- tion, myocardial diseases, diabe-	
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)		
V (no in	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	2)	
Methoo module is	<b>d of ass</b> creditab	<b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, o	examination offered — if no	t every semester, information on whether	
one of t questio d) oral tes)	ts will i the foll ons) or examin	oe informed about the mo owing options will be cho b) log (approx. 10 to 30 p lation in groups of up to <u>3</u>	athod, length and sco osen: a) written exam ages) or c) oral exam 3 candidates (approx	ination (30 to 60 min ination of one candi . 30 to 60 minutes) o	nt prior to the course. Usually, nutes, including multiple choice date each (30 to 60 minutes) or or e) presentation (20 to 45 minu-	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Teaching cycle						
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)						
Module	e appea	ars in				
Master	's degr	ee (1 major) Biochemistry	(2012)			
Master	Master's degree (1 major) Biomedicine (2013)					
Master	's degr	ee (1 major) Biomedicine	(2012)			

Module title				Abbreviation		
Molecular Oncology				03-98-MVMO-122-m01		
Module	coord	inator		Module offered by		
holder	of the O	Chair of Biochemistry and	Molecular 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	graduate				
Conten	ts					
cancer; signalli cells; m gnal tra	visual ng and nolecul	ising in vivo tumourgene colorectal cancer; cell cy ar mechanisms of melanc tion and personalised ca	ress; experimental dis ression and response vcle and tumour supp oma development; tu ncer therapy; molecu	to therapy; targetin ressor genes; protei mour immunology; s lar pathology; infect	metabolic reprogramming in g Myc for tumour therapy; Wnt n turnover in normal and cancer stem cells and epigenetics; si- ions and tumour development.	
Intende	ed learn	ning outcomes				
Studen such ch	ts unde alleng	erstand the current topics	s and challenges in tu	Imour research and I	the methods used to address	
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
V (no in	format	ion on SWS (weekly cont	act hours) and cours	e language available	)	
Method module is	l of ass creditab	e <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	
Student one of t questio d) oral o tes)	ts will I he follo ns) or l examin	be informed about the me owing options will be cho b) log (approx. 10 to 30 p ation in groups of up to 3	ethod, length and sco osen: a) written exam ages) or c) oral exam 3 candidates (approx.	ppe of the assessme ination (30 to 60 min ination of one candi . 30 to 60 minutes) o	nt prior to the course. Usually, nutes, including multiple choice date each (30 to 60 minutes) or or e) presentation (20 to 45 minu-	
Allocati	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Teachir	ng cycl	9				
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	Module appears in					
Master'	s degre	ee (1 major) Biochemistry	(2012)			
Master'	s degre	ee (1 major) Biomedicine	(2013)			
Master's degree (1 major) Biomedicine (2012)						

Module title				Abbreviation	
Stem Co	ell Biol	ogy			03-98-MVSZ-122-m01
Module	coord	inator		Module offered by	
Institute	e of Me	edical Radiology and Cell	Research (MSZ)	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	graduate			
Conten	ts				
In this r tive me	nodule dicine	e, current problems in the are discussed and specif	research areas of storic solutions are taug	em cell biology, cellı ht.	Ilar differentiation and regenera-
Intende	ed leari	ning outcomes			
Student cellular	ts have differe	e developed the ability to entiation and regenerative	approach, analyse a e medicine, taking in	nd critically interpret to account current lit	t problems in stem cell biology, terature.
Courses	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)	
V (no in	Iformat	ion on SWS (weekly cont	act hours) and cours	e language available	.)
Method module is	l of ass	<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
Student one of t questio d) oral e tes)	ts will I the follons) or examin	be informed about the mo owing options will be cho b) log (approx. 10 to 30 p lation in groups of up to <u>a</u>	ethod, length and sco osen: a) written exam ages) or c) oral exam 3 candidates (approx	ope of the assessme ination (30 to 60 min ination of one candi . 30 to 60 minutes) c	nt prior to the course. Usually, nutes, including multiple choice date each (30 to 60 minutes) or or e) presentation (20 to 45 minu-
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Master'	Master's degree (1 major) Biochemistry (2012)				
Master'	Master's degree (1 major) Biomedicine (2013)				

Module title				Abbreviation			
Tissue Engineering / Functional Materials					03-98-MVTF-122-m01		
Module	e coord	inator		Module offered by			
holder tal)	of the (	Chair of Tissue Engineerir	ng (University Hospi-	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	graduate					
Conten	ts						
ments cell-ba (registr (good r	in skin, sed tra ration, e manufa	intestine, lung, trachea, nsplants, regulatory fund evaluation, restriction an cturing practice), GCP (go	kidney, blood-brain l amentals for approva d approval of drugs), pod clinical practice).	al of medical products l	other diseases, development of ts and drugs. These are REACH aw, GLP (good lab practice), GMP		
Intend	ed lear	ning outcomes					
Studen nobiolo	its have ogy. The	e developed a knowledge ey are familiar with the fu	of cell biology, meta ndamental principles	bolism, differentiations of tissue engineering	on, adhesion to surfaces, mecha- ng and quality management.		
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)			
V (no ir	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	2)		
Metho module is	<b>d of ass</b> s creditab	<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
Studen one of questic d) oral tes)	its will the foll ons) or examir	be informed about the mo owing options will be cho b) log (approx. 10 to 30 p nation in groups of up to 3	ethod, length and sco osen: a) written exam ages) or c) oral exam 3 candidates (approx	ope of the assessme ination (30 to 60 min ination of one candi . 30 to 60 minutes) c	nt prior to the course. Usually, nutes, including multiple choice date each (30 to 60 minutes) or or e) presentation (20 to 45 minu-		
Allocat	ion of p	olaces					
Additio	onal inf	ormation					
Worklo	ad						
Teachi	ng cycl	e					
Referre	ed to in	LPO I (examination regulations	s for teaching-degree progra	mmes)			
Module	Module appears in						
Master	"s degr	ee (1 major) Biochemistry	(2012) (2012)				
Master	's degr	ee (1 major) Biomedicine	(2012)				

Module title					Abbreviation	
Nucleus Workshop o					07-MKE-WO-121-m01	
Module coordinator				Module offered by		
degree	progra	mme coordinator Biologi	e (Biology)	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
7	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	graduate				
Conten	ts					
ture (su pe, nuc somes.	urse wi ibject t ilear lai - struc	Ill use a combination of le o change): - nuclear enve mina and their role in chr ture and function of nucle	ectures (daily) and pr lope, nuclear pores a omatin organisation eoli nuclear-cytosk	actical experiments. and nuclear-cytoplas and genetic disease eletal interactions.	s DNA, chromatin and chromo-	
Intende	ed lear	ning outcomes				
Studen	ts are a	able to perform practical e	experiments, applyin	g their theoretical kr	nowledge.	
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)		
Û + V (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
Methoo module is	<b>d of ass</b> creditab	sessment (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	ot every semester, information on whether	
Studen one of t questic up to 3	ts will the foll ons) or candic	be informed about the me owing options will be cho b) oral examination of on lates (approx. 30 to 60 m	ethod, length and sco osen: a) written exam e candidate each (3c inutes)	ope of the assessme ination (30 to 60 mi o to 60 minutes) or c)	nt prior to the course. Usually, nutes, including multiple choice ) oral examination in groups of	
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Teachi	ng cycl	e				
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)						
Module	Module appears in					
Master	's degr	ee (1 major) Biology (2011	l)			
Master	Master's degree (1 major) Biology (2014)					
Master	's degr	ee (1 major) Biomedicine	(2013)			
master	Master's degree (1 major) Biomedicine (2012)					





## **Compulsory Electives II**

(5 ECTS credits)

Master's with 1 major Biomedicine (2013)	JMU Würzburg ● generated 26-Aug-2024 ● exam. reg.	page 34 / 41
	data record Master (120 ECTS) Biomedizin - 2013	

Module title			Abbreviation		
Knowledge Transfer / Tutoring				03-98-MTUT2-122-m01	
Module	coord	inator		Module offered by	
Dean of	fStudie	es Biomedizin (Biomedic	ine)	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	graduate			
Conten	ts				
Student and the	ts work ey parti	as tutors. They support cipate as assistants in th	other students, in par e organisation and p	rticular in the contex lanning of exercises	t of courses and study planning, and lab courses.
Intende	ed learr	ning outcomes			
Tutors a rience i gies.	are able n the s	e to communicate comple upervision and motivatio	ex technical facts in a on of groups, and they	clear and structured / have practised app	d way. They have gained expe- lying conflict resolution strate-
Courses	<b>S</b> (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	)
Method module is	l of ass creditab	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
Student one of t questio d) oral o tes)	ts will b the follo ons) or l examin	be informed about the mo owing options will be cho b) log (approx. 10 to 30 p ation in groups of up to 3	ethod, length and sco osen: a) written exam ages) or c) oral exam 3 candidates (approx.	ope of the assessme ination (30 to 60 min ination of one candi . 30 to 60 minutes) o	nt prior to the course. Usually, nutes, including multiple choice date each (30 to 60 minutes) or or e) presentation (20 to 45 minu-
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Worklo	ad				
Teaching cycle					
Referre	<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)				
Module	Module appears in				
Master'	Master's degree (1 major) Biomedicine (2013)				
Master's degree (1 major) Biomedicine (2012)					

Module title			Abbreviation		
Knowledge Transfer / Tutoring				03-98-MTUT3-122-m01	
Module	coord	inator		Module offered by	
Dean of	fStudie	es Biomedizin (Biomedic	ine)	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	graduate			
Conten	ts				
Studen and the	ts work ey parti	as tutors. They support cipate as assistants in th	other students, in par e organisation and p	rticular in the contex lanning of exercises	t of courses and study planning, and lab courses.
Intende	ed learr	ning outcomes			
Tutors a rience i gies.	are able n the s	e to communicate comple upervision and motivatio	ex technical facts in a on of groups, and they	t clear and structured A have practised app	d way. They have gained expe- lying conflict resolution strate-
Courses	<b>S</b> (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 module is	l of ass creditab	e <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
Student one of t questio d) oral o tes)	ts will I the follo ons) or I examin	be informed about the mo owing options will be cho b) log (approx. 10 to 30 p ation in groups of up to 3	ethod, length and sco osen: a) written exam ages) or c) oral exam 3 candidates (approx.	ope of the assessme ination (30 to 60 min ination of one candi . 30 to 60 minutes) o	nt prior to the course. Usually, nutes, including multiple choice date each (30 to 60 minutes) or or e) presentation (20 to 45 minu-
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Worklo	ad				
Teachir	ng cycl	9			
Referre	<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)				
Module appears in					
Master'	Master's degree (1 major) Biomedicine (2013)				
Master'	Master's degree (1 major) Biomedicine (2012)				

Module title					Abbreviation
Clinical	Medic	ine			03-98-MKM2-122-m01
Module	coord	inator		Module offered by	
Dean of	fStudie	es Biomedizin (Biomedic	ine)	Faculty of Medicine	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	graduate			
Conten	ts				
Attendi the sub	ng a le ject ch	cture on the foundations osen.	of clinical medicine f	for medical students	. Contents will vary according to
Intende	ed leari	ning outcomes			
Studen knowle	ts will g dge wi	gain an insight into clinic th corresponding clinical	al practice and will in applications.	nprove their ability to	o link basic and experimental
Courses	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V (no in	Iformat	ion on SWS (weekly cont	act hours) and cours	e language available	2)
Method module is	l of ass creditab	essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
Student one of t questio d) oral ( tes)	ts will I the foll ons) or examin	be informed about the mo owing options will be cho b) log (approx. 10 to 30 p ation in groups of up to 3	ethod, length and sco osen: a) written exam ages) or c) oral exam 3 candidates (approx	ope of the assessme ination (30 to 60 min ination of one candi . 30 to 60 minutes) c	nt prior to the course. Usually, nutes, including multiple choice date each (30 to 60 minutes) or or e) presentation (20 to 45 minu-
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	e			
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	Module appears in				
Master'	Master's degree (1 major) Biomedicine (2013)				
Master'	Master's degree (1 major) Biomedicine (2012)				

Module title				Abbreviation			
Clinical Medicine				03-98-MKM3-122-m01			
Module coordinator				Module offered by			
Dean of	fStudie	es Biomedizin (Biomedic	ine)	Faculty of Medicine			
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)			
3	(not) s	successfully completed					
Duratio	n	Module level	Other prerequisites				
1 semes	ster	graduate					
Conten	ts						
Attendi the sub	ng a le ject ch	cture on the foundations osen.	of clinical medicine f	for medical students	. Contents will vary according to		
Intende	ed leari	ning outcomes					
Students will gain an insight into clinical practice and will improve their ability to link basic and experimental knowledge with corresponding clinical applications.							
Courses	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)			
V (no in	Iformat	ion on SWS (weekly cont	act hours) and cours	e language available	2)		
Method module is	l of ass creditab	essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
Students will be informed about the method, length and scope of the assessment prior to the course. Usually, one of the following options will be chosen: a) written examination (30 to 60 minutes, including multiple choice questions) or b) log (approx. 10 to 30 pages) or c) oral examination of one candidate each (30 to 60 minutes) or d) oral examination in groups of up to 3 candidates (approx. 30 to 60 minutes) or e) presentation (20 to 45 minutes)							
Allocati	ion of p	olaces					
Additio	nal inf	ormation					
Workload							
Teaching cycle							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module appears in							
Master's degree (1 major) Biomedicine (2013)							
Master's degree (1 major) Biomedicine (2012)							



## **Thesis** (30 ECTS credits)

Thesis and colloquium.

Master's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 39 / 41
	data record Master (120 ECTS) Biomedizin - 2013	

Module title				Abbreviation			
Final Oral Examination				03-98-MTH-122-mo	1		
Module	coord	inator		Module offered by			
chairperson of examination committee dicine)			e Biomedizin (Biome-	Faculty of Medicine			
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)			
30	nume	rical grade					
Duratio	n	Module level	Other prerequisites	Other prerequisites			
1 semes	ster	graduate					
Content	ts						
Student scientif	ts cond ic prac	luct a scientific research tice. They document and	project, using approp discuss their work in	oriate methods and a a thesis and defend	adhering to the princ it in a final colloqui	iples of good um.	
Intende	d learr	ning outcomes					
Student They are larger c	ts are a e able 1 ontext.	ble to independently ca to document and, where Students are able to de	rry out scientific work necessary, adjust the fend their work in fror	according to the rule eir research as well a ht of a professional a	es of good scientific s to interpret their fi udience.	practice. ndings in a	
Courses	<b>5</b> (type, n	umber of weekly contact hours,	language — if other than Ger	man)			
This mo • 0	odule h 3-98-M 3-98-M	as 2 components; inforr ITH-2-122: K (no informa ITH-1-122: A (no informa	nation on courses list tion on language and tion on language and	ed separately for eac number of weekly co number of weekly co	h component. Intact hours availab Intact hours availabl	le) e)	
<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)							
<ul> <li>This module has the following 2 assessment components. Unless stated otherwise, students must pass all of these assessment components to pass the module as a whole</li> <li>Assessment component to module component o3-98-MTH-2-122: Abschlusskolloquium <ul> <li>5 ECTS credits, method of grading: numerical grade</li> <li>Abschlusskolloquium (approx. 45 minutes)</li> <li>Language of assessment: English</li> </ul> </li> <li>Assessment component to module component o3-98-MTH-1-122: Masterthesis <ul> <li>25 ECTS credits, method of grading: numerical grade</li> <li>written thesis</li> <li>Language of assessment: English</li> </ul> </li> </ul>							
Allocati	ion of p	olaces					
Additional information         Additional information listed separately for each module component.         • 03-98-MTH-1-122: Additional information on module duration: 6 months.         • 03-98-MTH-2-122:							
Workload							
Teachin	ig cycl	9					
Reterred to in LPO I (examination regulations for teaching-degree programmes)							
Master's degree (1 major) Biomedicine (2013)							
musici			( <u>(</u> • • - )				
Master's wit	th 1 major	Biomedicine (2013)	JMU Würzburg data record I	• generated 26-Aug-2024 • e Master (120 ECTS) Biomedizir	xam. reg. 1 - 2013	page 40 / 41	





Master's degree (1 major) Biomedicine (2012)

Master's with 1 major Biomedicine (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg.	page 41 / 41
	data record Master (120 ECTS) Biomedizin - 2013	