

# Subdivided Module Catalogue for the Subject

# Biology

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

> Examination regulations version: 2011 Responsible: Faculty of Biology

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# **Course of Studies - Contents and Objectives**

The objective of the study program biology is to familiarize the students with basic scientific concepts and content in the various biological topics. The students are made familiar with basic biological ethodologies and learn to apply them. Through practical and theoretical studies to answer fundamental questions in biological science, the study program biology improves the student's analytical thinking and thus enhances understanding of complex biological processes and relationships.

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# Abbreviations used

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

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

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

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

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

# Conventions

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

# Notes

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

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

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

# In accordance with

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

# ASP02009

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

# 09-Nov-2011 (2011-121)

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.

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# The subject is divided into

Abbreviation	Module title	ECTS credits	Method of grading	pag
Compulsory Courses (91 E	CTS credits)			
General Biology I (13 ECT	S credits)			
07-1A1ZO-102-m01	From cells to organisms	13	NUM	54
General Biology II (15 EC	TS credits)			
07-2A2PH-072-m01	Physiology of Organisms	9	NUM	58
07-2A2GNV-072-m01	Genetics, Neurobiology, Behaviour	6	NUM	56
General Biology III (24 EC	TS credits)			
07-3A3EBIO-102-m01	Developmental Biology of Plants and Animals	8	NUM	62
07-3A30E-102-m01	Plant and Animal Ecology	6	NUM	66
07-3A3GMT-102-m01	Genes, Molecules, Technologies	6	NUM	64
07-3A3BC-102-m01	Principles of Biochemistry	4	NUM	61
	ve Biology (9 ECTS credits)	-		
10-M-MCB-101-m01	Mathematics for students in Chemistry and Biology	5	NUM	24
07-2BM-072-m01	Mathematical Biology and Biostatistics	4	NUM	60
Chemistry (20 ECTS cred	its)			
08-AC-Bio-102-m01	Inorganic Chemistry for Biology Majors	5	NUM	24
08-0C-Bio-102-m01	Organic Chemistry for students of Biology	10	NUM	24
08-PC-Bio-102-m01	Physical Chemistry for Biology Majors	5	NUM	24
Physics (10 ECTS credits)		-		
	Introduction to Physics for Students of Non-physics-related Mi-			
11-EFNF-072-m01	nor Subjects	7	NUM	25
	Practical Course Physics for Students of Non-physics-related		- /	
11-PFNF-072-m01	Minor Subjects	3	B/NB	25
Compulsory Electives (57	ECTS credits)			
General Biology IV (7 EC1	S credits)			
07-4A4FL-102-m01	The Flora of Germany	7	NUM	70
07-4A4FA-102-m01	The Fauna of Germany	7	NUM	68
Advanced Biology (10 EC	TS credits)			
07-4BFNV01-102-m01	Neurobiology for advanced students	5	NUM	80
07-4BFNVO2-102-m01	Behavioral Physiology	5	NUM	8:
07-4BFNV03-102-m01	Basics in Ecology of Animals	5	NUM	8/
07-4BFMZ1-102-m01	Cell- and Developmental Biology for advanced students	5	NUM	72
07-4BFMZ3-102-m01	Microbiology for advanced students	5	NUM	74
07-4BFMZ4-102-m01	Bioinformatics for advanced students	5	NUM	76
07-4BFMZ5-112-m01	Biotechnology 1	5	NUM	78
07-4BFPS1-102-m01	Molecular Physiology for Advanced Students	5	NUM	8
07-4BFPS2-112-m01	Membranebiology of Plants for Advanced Students	5	NUM	88
07-4BFPS3-112-m01	Protein Biochemistry and Photobiology for Advanced Students	5	NUM	90
07-4BFPS4-102-m01	Basic plant Ecophysiology	5	NUM	9
07-4BFPS5-112-m01	Pharmaceutical Bioanalytics	5	NUM	94
07-4BFPS6-112-m01	Pharmaceutical Biotechnology		NUM	92
Special Biosciences I (5 I		5		1 90

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	. <u> </u>				
07-4S1NVO1-112-m01	Neurobiolo	ogy 1	5	NUM	114
07-4S1NVO2-102-m01	Integrative	Behavioral Biology	5	NUM	116
07-4S1NVO3-092-m01	Functional	Morphology of arthropods	5	NUM	118
07-4S1NV05-102-m01	Basic Popu	Ilation Ecology	5	NUM	120
07-4S1MZ1-102-m01	Basics in L	ight- and Electron-Microscopy	5	NUM	98
07-4S1MZ2-102-m01	Analysis of	Chromosomes	5	NUM	100
07-4S1MZ3-112-m01	Ecology an	d Developmental Biology of Marine Organisms	5	NUM	102
07-4S1MZ4-102-m01	Methods ir	n Biotechnology	5	NUM	104
07-4S1MZ5-102-m01	Aspects of	molecular Biotechnology	5	NUM	106
07-4S1MZ6-102-m01	Special Bio	pinformatics 1	5	NUM	108
07-4S1MZ7-102-m01	Specific Ce	ell- and Developmental Biology 1	5	NUM	110
07-4S1MZ8-102-m01	Specific M	ethods in Proteinbiochemistry and Cell Biology	5	NUM	112
07-4S1PS1-102-m01	Molecular	modelling - From DNA to protein	5	NUM	122
07-4S1PS2-112-m01	Methods ir	n Plant Ecophysiology	5	NUM	124
07-4S1PS3-102-m01	Pharmaceu	utical Drugs in Plants	5	NUM	126
07-4S1PS4-102-m01	Basic Meth	ods in Pharmaceutical Biology	5	NUM	128
03-4S1IM-112-m01	Immunolog		5	NUM	10
03-4S1VL-112-m01	Virology 1		5	NUM	14
03-4S1PC-102-m01		cal Chemistry 1	5	NUM	12
03-4S1HG-102-m01	Human Ge		5	NUM	8
08-BCB-072-m01	Biochemis	try for students of biological sciences	6	NUM	244
		try for students of biological sciences (practical			
08-BCPB-072-m01	course)		5	B/NB	245
07-S1-LP1-102-m01	Laboratory	aboratory practical course I		NUM	187
07-S1-Ex1-102-m01	Excursion I	-	5	NUM	185
07-S1-IP1-102-m01	Interdiscip	linary Project I	5	NUM	186
Special Biosciences II (2			-		<u> </u>
07-5S2NV01-102-m01	Neurobiolo	bgy 2	10	NUM	140
07-5S2NVO2-102-m01		Behavioural Biology 2	10	NUM	142
07-5S2NVO3-102-m01	Animal Ecc		10	NUM	144
07-5S2MZ1-102-m01	+	ell- and Developmental Biology 2	10	NUM	132
07-5S2MZ2-102-m01	· ·	icrobiology 2	10	NUM	134
07-5S2MZ3-102-m01		oinformatics 2	10	NUM	136
07-5S2MZ4-102-m01	· ·	otechnology 2	10	NUM	138
07-5S2PS1-112-m01		embranebiology of Plants 2	10	NUM	146
07-5S2PS2-112-m01		olecular Physiology of Plants 2	10	NUM	148
07-5S2PS3-112-m01	· ·	Biosensors	10	NUM	150
07-5S2PS4-102-m01	· ·	Plant Ecophysiology	10	NUM	150
07-5S2PS5-102-m01		Biological Methods in Pharmaceutical Biology		NUM	
			10		154
03-5S2IM-102-m01	Immunolog	Sy 2	10	NUM	16
03-5S2VL-112-m01	Virology 2	cal Chamistry a	10	NUM	28
03-5S2PC-102-m01	· ·	cal Chemistry 2	10	NUM	22
03-5S2KB-102-m01		ochemistry 1 / Laboratory Medicine	10	NUM	18
03-5S2ST-102-m01	Structural		10	NUM	24
03-5\$2ZT-102-m01		morbiology 2	10	NUM	32
03-5S2ZM-102-m01		Biology of Cells 2	10	NUM	30
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	Tissue engineering 2	10	NUM	26
03-5S2KN-102-m01	Clinical Neurobiology 2	10	NUM	20
	External Practical Course	10	NUM	131
	Excursion II	10	NUM	188
	Interdisciplinary Project II	10	NUM	189
07-S2-LP2-102-m01	Laboratory Practical Course II	10	NUM	190
	Practical Course as Exchange Student	10	NUM	130
Special Biosciences III (19			r	
, ,	Neurobiology 3	15	NUM	165
	Integrative Behavioural Biology 3	15	NUM	167
07-6S3NVO3-102-m01	Animal Ecology 3	15	NUM	169
07-6S3MZ1-102-m01	Specific Cell- and Developmental Biology 3	15	NUM	157
07-6S3MZ3-102-m01	Specific Microbiology 3	15	NUM	159
07-6S3MZ4-102-m01	Specific Biotechnology 3	15	NUM	161
07-6S3MZ5-102-m01	Specific Bioinformatics 3	15	NUM	163
07-6S3PS1-112-m01	Specific molecular Physiology of Plants 3	15	NUM	173
07-6S3PS2-112-m01	Structural and functional Analysis of Biosensors 3	15	NUM	175
07-6S3PS3-112-m01	Specific Membrane Biology of Plants 3	15	NUM	177
07-6S3PS4-112-m01	Scientific Work in Plant Ecophysiology	15	NUM	179
	Research Project in Pharmaceutical Biology with Focus on Mo-			
07-6S3PS5-102-m01	lecular Biology	15	NUM	181
	Research Project in Pharmaceutical Biology with Focus on Mo-	45		490
07-6S3PS6-102-m01	lecular Biochemistry	15	NUM	183
03-6S3IM-102-m01	Immunology 3		NUM	34
03-6S3VL-102-m01	Virology 3		NUM	48
03-6S3KB-102-m01	Clinical Biochemistry 3 / Laboratory Medicine		NUM	36
03-6S3PC-102-m01	Physiological Chemistry 3		NUM	40
03-6S3ST-102-m01	Structural Biology 3		NUM	44
03-6S3ZT-102-m01	Cellular Tumorbiology 3		NUM	52
03-6S3ZM-102-m01	Cellular Molecular Biology 3		NUM	50
03-6S3PH-102-m01	Physiology		NUM	42
03-6S3KN-102-m01	Clinical Neurobiology 3	15	NUM	38
03-6S3TE-102-m01	Tissue engineering 3	10	NUM	
		15		46
	Excursion III	15	NUM	40 191
07-S3-Ex3-102-m01		-		
07-S3-Ex3-102-m01 07-S3-IP3-102-m01	Excursion III	15	NUM	191
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01	Excursion III Interdisciplinary Project III Laboratory Practical Course III	15 15 15	NUM NUM	191 192
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01	Excursion III Interdisciplinary Project III	15 15	NUM NUM NUM	191 192 193
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 Thesis (12 ECTS credits)	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4	15 15 15	NUM NUM NUM	191 192 193 171
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 <b>Thesis (12 ECTS credits)</b> 07-6BT-102-m01	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4 Thesis Biology	15 15 15 15	NUM NUM NUM NUM	191 192 193
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 <b>Thesis (12 ECTS credits)</b> 07-6BT-102-m01 <b>Subject-specific Key Skills</b>	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4 Thesis Biology	15 15 15 15	NUM NUM NUM NUM	191 192 193 171
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 <b>Thesis (12 ECTS credits)</b> 07-6BT-102-m01 <b>Subject-specific Key Skills</b> 07-SQF-PBD-102-m01	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4 Thesis Biology (15 ECTS credits) Principles of Image Data Processing	15 15 15 15 12	NUM NUM NUM NUM B/NB	191 192 193 171 156 216
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 <b>Thesis (12 ECTS credits)</b> 07-6BT-102-m01 <b>Subject-specific Key Skills</b> 07-SQF-PBD-102-m01 07-SQF-GSA-102-m01	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4 Thesis Biology (15 ECTS credits) Principles of Image Data Processing Basics in System Administration	15 15 15 15 12 2 2	NUM NUM NUM NUM B/NB B/NB	191 192 193 171 156 216 203
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 <b>Thesis (12 ECTS credits)</b> 07-6BT-102-m01 <b>Subject-specific Key Skills</b> 07-SQF-PBD-102-m01 07-SQF-GSA-102-m01 07-SQF-CTA-102-m01	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4 Thesis Biology (15 ECTS credits) Principles of Image Data Processing Basics in System Administration Computertools for Molecular Biology	15 15 15 15 12 2 2 2 2	NUM NUM NUM NUM B/NB B/NB B/NB	191 192 193 171 156 216 203 196
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 <b>Thesis (12 ECTS credits)</b> 07-6BT-102-m01 <b>Subject-specific Key Skills</b> 07-SQF-PBD-102-m01 07-SQF-GSA-102-m01 07-SQF-CTA-102-m01 07-SQF-EDV-102-m01	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4 Thesis Biology (15 ECTS credits) Principles of Image Data Processing Basics in System Administration Computertools for Molecular Biology Basic Data Processing	15 15 15 15 12 2 2 2 2 3	NUM NUM NUM NUM B/NB B/NB B/NB NUM	191 192 193 171 156 216 203 196 198
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 <b>Thesis (12 ECTS credits)</b> 07-6BT-102-m01 <b>Subject-specific Key Skills</b> 07-SQF-PBD-102-m01 07-SQF-GSA-102-m01 07-SQF-CTA-102-m01 07-SQF-EDV-102-m01 07-SQF-OSB-102-m01	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4 Thesis Biology (15 ECTS credits) Principles of Image Data Processing Basics in System Administration Computertools for Molecular Biology Basic Data Processing Organisation and Safety in Biosciences	15 15 15 12 2 2 2 2 3 5	NUM NUM NUM NUM B/NB B/NB B/NB B/NB NUM NUM	191 192 193 171 156 216 203 196 198 214
07-S3-Ex3-102-m01 07-S3-IP3-102-m01 07-S3-LP3-102-m01 07-6S3NV07-121-m01 <b>Thesis (12 ECTS credits)</b> 07-6BT-102-m01 <b>Subject-specific Key Skills</b> 07-SQF-PBD-102-m01 07-SQF-GSA-102-m01 07-SQF-CTA-102-m01 07-SQF-EDV-102-m01 07-SQF-OSB-102-m01	Excursion III Interdisciplinary Project III Laboratory Practical Course III Animal Ecology 4 Thesis Biology (15 ECTS credits) Principles of Image Data Processing Basics in System Administration Computertools for Molecular Biology Basic Data Processing Organisation and Safety in Biosciences Basic Principles for Laboratory Work	15 15 15 12 2 2 2 3 5 3	NUM NUM NUM NUM B/NB B/NB B/NB B/NB NUM NUM	191 192 193 171 156 216 203 196 198

07-SQF-GXP-102-m01	Good Practices in Laboratory, Clinics and Production	3	NUM	206
07-SQF-IKK-102-m01	Tutorial Intercultural Competence	4	B/NB	210
07-SQF-KEB-102-m01	Career, Personality and Communication	5	NUM	212
07-SQF-RPI-102-m01	Research, Presentation, Information	4	NUM	220
07-SQF-BGA-102-m01	Biotechnology and Social Acceptance	3	NUM	194
07-SQF-GHE-102-m01	Global Acting in Globally and Locally linked Decision Proces- ses	3	NUM	201
07-SQF-HVB-102-m01	Outstanding Publications in Biology	3	NUM	208
07-SQF-PRB-102-m01	Patents in Biology	2	NUM	218
07-SQF-SAL-102-m01	Operational Safety in Ecophysiological Laboratories	1	NUM	222
07-SQF-TFB3-102-m01	Supervising Tutorial for Basic Courses 3	3	B/NB	224
07-SQF-TFB4-102-m01	Supervising Tutorial for Basic Courses 4	4	B/NB	225
07-SQF-TFB5-102-m01	Supervising Tutorial for Basic Courses 5	5	B/NB	226
07-SQF-TSB3-102-m01	Supervising Tutorial for Biology 3	3	B/NB	228
07-SQF-TSB2-102-m01	Supervising Tutorial for Biology 2	2	B/NB	227
07-SQF-UBG-102-m01	Environmental Education in the Botanical Garden of the Uni- versity	2	B/NB	229
07-SQF-WIP-102-m01	Publishing Scientific Data	3	NUM	232
07-SQF-GTA-102-m01	Teamwork in Natural Science	2	B/NB	205
07-SQF-UDB-102-m01	Entrepreneurial Thinking in Biosciences	3	B/NB	231
07-SQF-ZQN2-102-m01	Additional Qualification in Natural Sciences 2	2	B/NB	238
07-SQF-ZQN3-102-m01	Additional Qualification in Natural Sciences 3	3	B/NB	239
07-SQF-ZQN4-102-m01	Additional Qualification in Natural Sciences 4	4	B/NB	240
07-SQF-ZQN5-102-m01	Additional Qualification in Natural Sciences 5	5	B/NB	241
07-SQF-ZQA2-102-m01	Additional Qualification outside Natural Sciences 2	2	B/NB	234
07-SQF-ZQA3-102-m01	Additional Qualification outside Natural Sciences 3	3	B/NB	235
07-SQF-ZQA4-102-m01	Additional Qualification outside Natural Sciences 4	4	B/NB	236
07-SQF-ZQA5-102-m01	Additional Qualification outside Natural Sciences 5	5	B/NB	237

Module	e title				Abbreviation	
	Human Genetics     03-4S1HG-102-m01					
Module coordinator Module offered by						
holder	holder of the Chair of of Human Genetics Faculty of Medicine					
ECTS		od of grading	Only after succ. con	er succ. compl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in th	e section on
Conten	ts					
		of and analytical meth ype and chromosome a				the normal
Intend	ed lear	ning outcomes				
		complete this module will learn how to prepa				
Course	<b>s</b> (type	, number of weekly con	tact hours, language –	- if other than Germa	in)	
compo • c	nent. )3-4S1⊦	omprises 2 module con IG-1-102: V + Ü (no infor IG-2-102: S (no informa	mation on SWS (week	ly contact hours) and	d course language av	vailable)
		<b>sessment</b> (type, scope, ion on whether module			ition offered — If not	every seme-
low. Ur vidual Assess • 3 • v • 0 • 0	ment in ment in ECTS, vritten o Other pros	n this module comprise ated otherwise, succes ments. <b>n module component o</b> Method of grading: nun examination (approx. 20 rerequisites: Admission as successful completion <b>n module component o</b>	sful completion of the <b>3-4S1HG-1-102:</b> Humar nerical grade o minutes) prerequisite to assess on of the respective exp	module will require s n Cytogenetics Huma sment: regular attend ercises as specified a	successful completion on Cytogenetics lance of exercises an at the beginning of th	on of all indi- d seminar
		Method of grading: (no ation (approx. 20 to 30		ted		
Allocat	ion of <sub>l</sub>	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	ed as for ith 180 l be allo blaces ( blogie ( ics and blogy (a blogy (a blo	teces: 15. Should the nur ollows: Places will prime ECTS credits. Should the ocated to students of the (a minimum of one parti Biology) with 60 ECTS of Mathematik (Mathema is well as potentially to ota exceed the number of ta. Should there be, wit will be a uniform regula nodule component that its who already have su ill be given preferential available. Selection pro	arily be allocated to st be module be used in o e Bachelor's degree si cipant in total) will be redits and to students atics), each with 180 Er students of other 'imp of applications, the ren hin one module compo- tion for the courses of are concerned will be accessfully completed consideration. A waiti cess group 1 (95%): Pl	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). She maining places will b onent, several course one module compor allocated in a standa at least one other mo	or's degree subject l will be two quotas: ogy) with 180 ECTS c s of the Bachelor's c gree subjects Comp of the application-ori ould the number of p re allocated to applic es with a restricted n nent. In this case, pla ardised procedure. In odule component of ained and places re-ai e allocated according	Biologie (Bio- 95% of pla- redits and legree sub- utational Ma- ented sub- olaces availa- cants from umber of aces on all n this proce- the respec- allocated as
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plicants' 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.

# Additional information

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Workload

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Teaching cycle

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

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# Module appears in

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Modul	e title				Abbreviation
Immunology 1 03-4S1IM-112-m01					03-4S1IM-112-m01
Modul	Module coordinator			Module offered by	
holder of the Professorship of Immunogenetics			genetics	Faculty of Medicine	
ECTS Method of grading Only after succ. compl. of module(s)					
5 numerical grade					
Duration Module level Other prerequisites					
1 seme	ester	undergraduate	By way of exception assessments.	, additional prerequi	sites are listed in the section on
Conte			assessments.		
dy reco ergies, on ger	ognise a , autoim ietic an	and eliminate pathogens nmunity)? Organs, cells a	and tumour cells? Ho nd molecules of the i of recognition and e	ow can the immune s mmune system will b limination of foreign	be addressed: How does the bo- system damage its own body (all- be presented with an emphasis substances by the immune sy- blied.
Intend	ed lear	ning outcomes			
systen mune	n. The a system:	re familiar with the mech	anisms of self and no	on-self discrimination	s for the analysis of the immune n by the adaptive and innate im- nent as well as major immune ef-
Course	<b>es</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)
• 0 Metho ster, ir Assess low. U	o3-4S1l o3-4S1l <b>d of ass</b> nformat	M-2-112: P (no informatio sessment (type, scope, la ion on whether module ca n this module comprises ated otherwise, successf	n on SWS (weekly co nguage — if other th an be chosen to earn the assessments in t	ntact hours) and cou an German, examina a bonus) he individual module	course language available) urse language available) tion offered — if not every seme- e components as specified be- successful completion of all indi-
• ( • ( • ( • ( • ( • (	2 ECTS, written Languag Other p cessful <b>sment i</b> 3 ECTS, log (app Assessr Languag Other p	completion of the respec <b>n module component 03-</b> Method of grading: (not) prox. 10 to 20 pages) nent offered: once a year ge of assessment: Germa	erical grade minutes) n or English prerequisite to asse tive exercises as spe <b>4S1IM-2-112:</b> Immun successfully comple , summer semester n or English	ssment: regular atte cified at the beginnin ology Practical Cours ted	ndance of exercises and suc- ng of the course.
	tion of				
Biolog ces, pl subjec quotas ECTS c	ie (Biolo aces wi t Biolog 5: 95% ( redits a	ogy) Bachelor's: 16 place Il be allocated as follows gie (Biology) with 180 ECT of places will be allocated and 5% of places (a minin	: Places will primarily 'S credits. Should the I to students of the B num of one participa	y be allocated to stud e module be used in Gachelor's degree sub nt in total) will be allo	eed the number of available pla- dents of the Bachelor's degree other subjects, there will be two bject Biologie (Biology) with 180 ocated to students of the Bache- ne Bachelor's degree subjects

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 10 / 254
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Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biologie (Biology) (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25 % of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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Workload

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**Teaching cycle** 

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

# Module appears in

Bachelor' degree (1 major) Biology (2011)

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	03-4S1PC-102-m01
nolder of the Chair of Physiological ChemistryFacuECTSMethod of gradingOnly after succ. compl. of	•
nolder of the Chair of Physiological ChemistryFacuECTSMethod of gradingOnly after succ. compl. of	•
ECTS Method of grading Only after succ. compl. of	
	•
Duration Module level Other prerequisites	
	o assessment: regular attendance of exercises on of the respective exercises as specified at the
Contents	
General anatomy, physiology and developmental biology of fishe model systems (zebrafish, medaka, Xiphophorus) for biomedical tion of DNA and RNA in single-cell embryos. Fluorescent microsco on of selected tissues and organs (neural tissues, cartilage). In-si detection of proteins in-situ. Demonstration of basic techniques of of locomotor activity.	research. Phenotyping of mutants. Microinjec- ppy-based bioimaging techniques. Visualisati- itu hybridisation of mRNA. Immunhistochemical
ntended learning outcomes	
Students are able to independently produce transient transgenic temporal and spatial RNA and protein expression in situ, apprais types of developmental mutants. They are able to evaluate fish m answer specific questions.	e expression patterns and recognise pheno-
<b>Courses</b> (type, number of weekly contact hours, language — if oth	her than German)
/ + Ü (no information on SWS (weekly contact hours) and course	language available)
<b>Method of assessment</b> (type, scope, language — if other than Ge ster, information on whether module can be chosen to earn a bor	
written examination (approx. 60 minutes) Language of assessment: German, English where required	
Allocation of places	
Number of places: 16. Should the number of applications exceed allocated as follows: Places will primarily be allocated to student ogy) with 180 ECTS credits. Should the module be used in other s ces will be allocated to students of the Bachelor's degree subject 5% of places (a minimum of one participant in total) will be allocated to students (Mathematics), each with 180 ECTS credits and to students of the chematics and Mathematik (Mathematics), each with 180 ECTS cre ect Biology (as well as potentially to students of other 'importing be in one quota exceed the number of applications, the remaining the other quota. Should there be, within one module component, places, there will be a uniform regulation for the courses of one n courses of a module component that are concerned will be allocated dure, applicants who already have successfully completed at lease they become available. Selection process group 1 (95%): Places w policants' previous academic achievements. For this purpose, app of ECTS credits they have achieved and their average grade of all all module components in the subject of Biologie (Biology) (exclu	is of the Bachelor's degree subject Biologie (Bio subjects, there will be two quotas: 95% of pla- t Biologie (Biology) with 180 ECTS credits and ated to students of the Bachelor's degree sub- e Bachelor's degree subjects Computational Ma redits, as part of the application-oriented sub- g' subjects). Should the number of places availa ng places will be allocated to applicants from , several courses with a restricted number of nodule component. In this case, places on all ated in a standardised procedure. In this proce- st one other module component of the respec- t will be maintained and places re-allocated as will primarily be allocated according to the ap- plicants will be ranked according to the number assessments taken during their studies or of uding Chemie (Chemistry), Physik (Physics), Ma- one as follows: First, applicants will be ranked,
inematik (Mathematics)) at the time of application. This will be d firstly, according to their average grade weighted according to the and, secondly, according to their total number of ECTS credits acl position in a third ranking will be calculated as the sum of these	hieved (quantitative ranking). The applicants'

cording 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.

#### Additional information

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Workload

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Teaching cycle

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

#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 13 / 254
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Module title		Abbreviation			
Virology 1 03-4S1VL-112-m01					
Module coordinator				Module offered by	
holder of the Chair of Virology		Faculty of Medicine			
ECTS		od of grading	Only after succ. con	npl. of module(s)	
5		rical grade			
Durati		Module level	Other prerequisites		
1 seme	ester	undergraduate	assessments.	, additional prerequi	isites are listed in the section on
Conte	nts				
What i How d	s the di o antivi	fference between viruses	and bacteria? Which	n viruses exist? What	e addressed: What is a virus? are their replication strategies? ition, the module will discuss
Intend	ed lear	ning outcomes			
tion of	<sup>;</sup> viruses		ons and mechanisms	of action of antivira	erning the structure and replica- l compounds. They have develo- cal basic science
Course	<b>es</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)
compo • (	onent. 03-4S1V	'L-1-112: V + S (no informa	ation on SWS (weekly	/ contact hours) and	sted separately for each module course language available)
		'L-3-112: P (no informatio			
		s <b>essment</b> (type, scope, la ion on whether module ca			tion offered — if not every seme-
low. U		ated otherwise, successf			e components as specified be- successful completion of all indi-
• : •   •   •   Asses	2 ECTS, method pages) o of up to student Languas <b>sment i</b>	or c) oral examination of o 3 candidates (approx. 20 s will be informed about ge of assessment: Germa n module component o3-	erical grade en examination (app ne candidate each (a o minutes per candid the method and leng n or English <b>4S1VL-3-112:</b> Virolog	prox. 45 to 60 minute pprox. 30 minutes) o ate) or e) presentatio th of the assessmen y (Laboratory Course	es) or b) log (approx. 10 to 20 r d) oral examination in groups on (approx. 20 to 30 minutes); t prior to the course
<ul> <li>3 ECTS, Method of grading: (not) successfully completed</li> <li>methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course</li> <li>Language of assessment: German or English</li> <li>Only after successful completion of module components: Successful completion of module component o3-4S1VL-1 is a prerequisite for participation in module component o3-4S1VL-3.</li> <li>Other prerequisites: Admission prerequisite to assessment: regular attendance of lab course as specified at the beginning of the course.</li> </ul>					
Alloca	tion of <sub>l</sub>	olaces			
chemi	e (Biocł	nemistry) Bachelor's: Sho	uld the number of ap	plications exceed th	8 places. Selection process Bio- e number of available places, f places): current average gra-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 14 / 254
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de of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places) number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become available. Selection process Biologie (Biology) Bachelor's: Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biologie (Biology) (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25 % of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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Workload

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**Teaching cycle** 

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 15 / 254
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Module	e title				Abbreviation
Immun	ology	2			03-5S2IM-102-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Professorship of Immuno	genetics	Faculty of Medicine	
ECTS	Meth	od of grading	Only after succ. compl. of module(s)		
10	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i i i i i i i i i i i i i i i i i i i	
1 semester undergraduate		Admission prerequisite to assessment: regular attendance of lab course			
			as specified at the b	beginning of the cour	rse.
Conton		^	<i>.</i>		

### Contents

Specific problems in immunology such as immune modulation, immunogenetics, infection immunology, signal transduction in immune cells.

#### Intended learning outcomes

The students acquire specific competence about the functional mechanisms of the immune system. They are qualified to plan and perform experiments under supervision and present the data, taking into account current literature.

**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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

# **Allocation of places**

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

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#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

ces 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.

#### Additional information

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Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 17 / 254
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Module	e title				Abbreviation
Clinical Biochemistry 1 / Laboratory Medicine			03-5S2KB-102-m01		
Module coordinator Module offered by					
holder of the Chair of Clinical Biochemistry and Pathobio- chemistry					
ECTS		od of grading	Only after succ. con	pl. of module(s)	
10		rical grade		•	
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate	and seminar as well	as successful comp	regular attendance of exercises eletion of the respective exercises
			as specified at the b	beginning of the cour	rse.
Conten					
present physiol	ted by ogical	means of selected examp	oles. Pathological me cyte function, cardio	chanisms are compa	y and clinical biochemistry are ared to the respective regular tion) and the underlying bioche-
		ning outcomes			
moderr proach design,	n molec , analy: , bench	ular biology and biocher se and interpret problem work, data analysis and	nistry and have deve s in clinical biochemi the presentation of s	loped a fundamenta stry. They also have scientific results both	·
Course	<b>s</b> (type	, number of weekly conta	ct hours, language —	- if other than Germa	in)
Ü + S (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		essment (type, scope, la on on whether module ca			tion offered — if not every seme-
c) oral ( didates	examin 6 (appro	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- minutes); students will be infor-
Allocat	ion of p	olaces			
allocate logy) w ces will 5% of p ject Bio themat ject Bio ble in o the oth places, courses dure, a tive mo they be plicant: of ECTS all mod themat firstly, a	ed as fo ith 180 be allo blaces ( blogie ( ics anc blogy (a one quo there v s of a m pplicar dule w come a s' previs c credit lule con ik (Mat accordi	ollows: Places will primar ECTS credits. Should the poated to students of the a minimum of one partic Biology) with 60 ECTS cre Mathematik (Mathemat s well as potentially to st the acceed the number of the acceed the number of the acceed the number of the acceed the number of the acceed the numb	ily be allocated to stra module be used in or Bachelor's degree su ipant in total) will be edits and to students ics), each with 180 E0 tudents of other 'imp applications, the rem n one module composed on for the courses of re concerned will be cessfully completed a onsideration. A waiti ess group 1 (95%): Pla ents. For this purposed their average grade of Biologie (Biology) application. This will weighted according	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). Sho naining places will b onent, several course one module compor allocated in a standa at least one other mo ng list will be mainta acces will primarily be of all assessments t (excluding Chemie (G l be done as follows: to the number of EC	available places, places will be lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and its 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 aken during their studies or of Chemistry), Physik (Physics), Ma- e First, applicants will be ranked, TS credits (qualitative ranking) tative ranking). The applicants'

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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.

Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 19 / 254
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Modul	e title				Abbreviation	
Clinica	al Neur	obiology 2			03-5S2KN-102-m01	
Modul	e coor	dinator		Module offered by	<u> </u>	
holder	r of the	Chair of Clinical Neur	obiology	Faculty of Medicine	2	
ECTS	Meth	od of grading	Only after succ. co	ompl. of module(s)		
10	num	erical grade				
Duration Module level		Other prerequisite	Other prerequisites			
1 semester undergraduate		and seminar as we	Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.			
Conte	nts					
neurol the ce	biology ll death	y. In this module, the on of neurons and glial	cellular and molecular n cells of vertebrates will	nechanisms which are be compared during	nto the foundations of clinical e important for survival as well as development as well as under pa- d glial cells, synaptic activity, pla-	

sticity as well as disturbances in these functions and diseases of the nervous system, comparison of physiological processes in pathological conditions of neurodegenerative disorders such as motoneuron disorders. Using distinct examples in neurobiology, molecular genetic and functional biochemical connections will be analysed.

#### Intended learning outcomes

Students who successfully complete this module will have a fair knowledge of the basic functions of the nervous system. Students will be able to independently work on a distinct project using techniques of modern neurobiology, to solve general problems and to understand the mechanisms of neurodegenerative disorders. They will be able to analyse data and to interpret it in the context of literature. They will also have developed skills in experimental design, bench work, data analysis and the presentation of scientific results both orally and in writing.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

#### Allocation of places

Number of places: 3. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Ma-

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thematik (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 of the respective applicant; among applicants with the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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#### Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 21 / 254
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Module title			Abbreviation		
-	Physiological Chemistry 2   03-5S2PC-102-m01				
Module	e coord	inator		Module offered by	
holders of the Chairs of Physiological Chemistry, Develop- mental Biochemistry, Biochemistry and Molecular 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 seme	ster	undergraduate	and seminar as well		regular attendance of exercises letion of the respective exercises se.
Conten	ts				
from hu lecular mistry, Intende Studen mistry l	uman b genetic pathol ed lean ts have pased o	iochemistry. Physiologica c and functional biochem biochemistry and cellular <b>ning outcomes</b> e developed the ability to on individually assigned	al processes are com ical networks are pre biochemistry. approach, analyse a tasks, using techniqu	pared with examples esented using examp nd interpret general ues of modern molec	based on selected questions s of pathological aberrations. Mo- oles from developmental bioche- problems in physiological che- ular biology and biochemistry.
scientif	ic resu				·
		mation on SWS (weekly o			
Method	d of ass		nguage — if other tha	an German, examina	tion offered — if not every seme-
c) oral e didates	examin 6 (appro	ation of one candidate ea	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-
Allocat	ion of <b>j</b>	olaces			
Numbe allocate logy) w ces will 5% of p ject Bio themat ject Bio ble in o the oth places, courses dure, a tive mo they be plicants of ECTS all mod themat firstly, a	r of pla ed as fo ith 180 be allo blaces ( blogie ( ics anc blogy (a one quo there s of a n pplicar dule w come a s previs c credit lule col ik (Mat accordi	ices: 3. Should the numb bollows: Places will primar ECTS credits. Should the bocated to students of the ca minimum of one particl Biology) with 60 ECTS cre Mathematik (Mathematic is well as potentially to sto ba exceed the number of ta. Should there be, withi will be a uniform regulation nodule component that a nets who already have suc- cill be given preferential c available. Selection proce is they have achieved and mponents in the subject of thematics)) at the time of ing to their average grade	ily be allocated to stu module be used in of Bachelor's degree su ipant in total) will be dits and to students ics), each with 180 E0 udents of other 'imp applications, the ren n one module compo- ton for the courses of re concerned will be cessfully completed a onsideration. A waiti ess group 1 (95%): Pla- ents. For this purpose I their average grade of Biologie (Biology) application. This will weighted according	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). Sho naining places will b onent, several course one module compor allocated in a standa at least one other mod ng list will be mainta aces will primarily be e, applicants will be of all assessments t (excluding Chemie (C l be done as follows: to the number of EC	available places, places will be or's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and is of the Bachelor's degree sub- gree subjects Computational Ma- of the application-oriented sub- ould the number of places availa- e 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- nined and places re-allocated as e allocated according to the ap- ranked according to the number aken during their studies or of Chemistry), Physik (Physics), Ma- First, applicants will be ranked, TS credits (qualitative ranking) rative ranking). The applicants'

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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.

Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 23 / 254
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Modu	Module title Abbreviation						
Struct	Structural Biology 2				03-5S2ST-102-m01		
Module coordinator			Module offered by	<u> </u>			
		Chair of Structural Biolo		Faculty of Medicine			
ECTS	1	od of grading	Only after succ. con		:		
10		rical grade					
Durati		Module level	Other prerequisites				
1 sem	_	undergraduate			regular attendance o	of exercises	
1 50111	ester				oletion of the respect		
				beginning of the cou			
Conte	nts			0 0			
		vill use examples from	current recearch reflect	ing different tenics (	to provido fundamon	talbiologica	
			current research reflect damental concepts of s				
			biquitin-dependent pro				
			ructure-based design of				
Intend	led lear	ning outcomes					
			problems in structural	biology on the basi	s of individually assi	gned tasks	
			the fields of molecular				
			operiments, their perfor				
ten pr	esentati	on of scientific results.					
Cours	<b>es</b> (type	, number of weekly cor	itact hours, language –	- if other than Germa	an)		
Ü + S (	(no infoi	rmation on SWS (week	y contact hours) and co	ourse language avail	able)		
Metho	od of ass	sessment (type, scope,	language — if other the	an German, examina	tion offered — if not	every seme-	
			can be chosen to earn				
metho	ds of as	ssessment: a) written e	xamination (approx. 45	to 60 minutes) or b	) log (approx. 10 to 2	o pages) or	
			each (approx. 30 minu				
		-	didate) or e) presentati		minutes); students	will be infor-	
			f the assessment prior i	to the course			
	tion of <sub>l</sub>						
			nber of applications exe				
			arily be allocated to st			-	
			he module be used in o he Bachelor's degree si				
			ticipant in total) will be				
			credits and to students				
			atics), each with 180 E				
ject Bi	iology (a	is well as potentially to	students of other 'imp	orting' subjects). Sh	ould the number of p	olaces availa	
			of applications, the rer				
	•		thin one module compo				
			ation for the courses of				
courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec-							
tive 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 ap-							
	plicants' previous academic achievements. For this purpose, applicants will be ranked according to the number						
			nd their average grade				
			ct of Biologie (Biology) of application. This wil				
			de weighted according				
			al number of ECTS cred				
		-	culated as the sum of t		_	• •	
Bachelor'	s with 1 ma	jor Biology (2011)	JMU Würzbu	rg • generated 26-Aug-2024	• exam.	page 24 / 254	
				ord Bachelor (180 ECTS) Biolo			

cording 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.

#### Additional information

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Workload

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Teaching cycle

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

#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 25 / 254
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Module t	itle			Abbreviation	
Tissue engineering 2   03-5S2TE-102-m01					
Module o	coordinator		Module offered by		
holder of tal)	f the Chair of Tissue Engi	neering (University Hospi-	Faculty of Medicine		
ECTS N	Method of grading	Only after succ. con	npl. of module(s)		
	numerical grade		• • • •		
Duration	Module level	Other prerequisites			
1 semest			site to assessment:	regular attendance o	fexercises
			l as successful comp	-	
			beginning of the cour		
Contents					
		di		in a hick time and	
		dical applications, develog s for culturing functional ti		in which tissue grow	vs, simulati-
Intended	l learning outcomes				
Students	have developed a funda	amental knowledge of cell	biology, cell culture,	tissue engineering a	and regene-
rative me	edicine. In addition, they	have acquired hands-on e	expertise in histologi	cal, molecular and b	
methods	for the quantitative and	qualitative characterisation	on of cells and tissue	•	
Courses	(type, number of weekly	contact hours, language –	- if other than Germa	n)	
Ü + S (no	information on SWS (we	ekly contact hours) and co	ourse language avail	able)	
		pe, language — if other th lule can be chosen to earn		tion offered — if not	every seme-
med abo Allocatio	ut the method and lengt n of places	candidate) or e) presentati h of the assessment prior	to the course		
Number of places: 3. 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 40 ECTS credits and to students of the Bachelor's degree subject Somputational Mathematics and 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 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 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), Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, 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 p					
Bachelor's wi	th 1 major Biology (2011)	JMU Würzbu	Irg • generated 26-Aug-2024	• exam.	page 26 / 254
			rd Bachelor (180 ECTS) Biolo		

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.

# Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 27 / 254
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Module title			Abbreviation	
Virology 2 03-5S2VL-112-m01				
Module coordinator			Module offered by	
holder of th	e Chair of Virology		Faculty of Medicine	
	thod of grading	Only after succ. con	pl. of module(s)	
	merical grade			
Duration	Module level	Other prerequisites		
1 semester	undergraduate	and lab course.	site to assessment: i	regular attendance of seminar
Contents				
action of vi treatment o	ruses with host cells or the of viral infections and the pa	complete host, new c	levelopments in mol	ich as viral pathogenesis, inter- ecular virology, prevention and
	arning outcomes	-		
	ts have acquired a specific er guidance as well as to pre			e able to plan and perform experi- rerature.
Courses (ty	pe, number of weekly conta	ict hours, language –	- if other than Germa	n)
V + S + P (r	o information on SWS (wee	kly contact hours) an	d course language av	vailable)
	<b>assessment</b> (type, scope, la nation on whether module c			tion offered — if not every seme-
med about	the method and length of the			minutes); students will be infor-
<b>Allocation of places</b> Number of places: 3. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, 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 applicants will be ranked, firstly, according to their average grade of all assessments taken during their studies or of all module components in the subject of Biology (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 total number of ECTS credits achieve ranking, and places will be allocated according to the quoting and,				

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 28 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

ces 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.

#### Additional information

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Workload

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Teaching cycle

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

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Module appears in

Bachelor' degree (1 major) Biology (2011)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 29 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation
Molecular Biology of Cells 2					03-5S2ZM-102-m01
Modul	e coord	inator		Module offered by	
Institu	te of M	edical Radiology and Cell	l Research (MSZ)	Faculty of Medicine	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
10	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 semester       undergraduate       Admission prerequisite to assessment: regular attendance of exe and seminar as well as successful completion of the respective e as specified at the beginning of the course.			letion of the respective exercises		
Contents					
In this module, current problems in the research areas of stem cell biology and cellular differentiation will be dis- cussed and specific solutions will be taught. With the help of selected examples, participants will acquire practi- cal molecular biological techniques.					

#### Intended learning outcomes

Students have developed the ability to approach, analyse and critically interpret current problems in cellular molecular biology based on individually assigned tasks, using techniques of modern molecular and cell biology. They also have developed skills in experimental design, bench work, data analysis and the presentation of scientific results both orally and in writing.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

#### **Allocation of places**

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

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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.

Additional information

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Workload

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Teaching cycle

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

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#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 31 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title			Abbreviation			
Cellular Tumorbiology 2 03-5S2ZT-102-m01						
Module coordinator Module offered by						
Chair of Rudo ne	Chair of Rudolf Virchow Center for Experimental Biomedici- ne					
ECTS Meth	od of grading	Only after succ. com	pl. of module(s)			
	rical grade					
Duration	Module level	Other prerequisites				
1 semester	undergraduate			regular attendance of exercises		
			as successful comp	letion of the respective exercises		
Contents						
dule will prov approaches o	ide students with fundam	iental insights into ce	ellular tumour biolog	nd imaging techniques, this mo- y and will acquaint them with the module will explain fundamental		
Intended lear	ning outcomes					
logy based or	n individually assigned ta y also have developed sk	sks, using technique	s of modern cell biol	t general problems in tumour bio- ogy and, in particular, imaging data analysis and the presentati-		
Courses (type	, number of weekly conta	ict hours, language —	- if other than Germa	n)		
Ü + S (no info	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)		
	<b>sessment</b> (type, scope, la ion on whether module ca			tion offered — if not every seme-		
methods of assessment: a) written examination (approx. 45 to 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 of up to 3 can- didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course						
Allocation of	places					
allocated as f logy) with 180 ces will be all 5% of places ject Biologie ( thematics and ject Biology (a ble in one que the other quo places, there courses of a r dure, applicat tive module w they become plicants' prev of ECTS credit all module co thematik (Ma firstly, accord	ollows: Places will primar o ECTS credits. Should the ocated to students of the (a minimum of one partic (Biology) with 60 ECTS cred d Mathematik (Mathemat as well as potentially to sto ota exceed the number of ta. Should there be, within will be a uniform regulation nodule component that a nts who already have suc vill be given preferential c available. Selection proce- ious academic achievements is they have achieved and mponents in the subject thematics)) at the time of ing to their average grade	ily be allocated to stu 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 'imper- applications, the rem 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 I their average grade of Biologie (Biology) ( application. This will e weighted according	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). Sho naining places will b onent, several course one module compor allocated in a standa at least one other mo ng list will be mainta acces will primarily be of all assessments t (excluding Chemie (G l be done as follows: to the number of EC	available places, places will be or's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and is of the Bachelor's degree sub- gree subjects Computational Ma- of the application-oriented sub- ould the number of places availa- e 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 aken during their studies or of Chemistry), Physik (Physics), Ma- e First, applicants will be ranked, TS credits (qualitative ranking) rative ranking). The applicants'		

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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.

Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 33 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation
Immun	ology	3			03-6S3IM-102-m01
Modul	e coord	linator		Module offered by	
holder of the Professorship of Immunog		unogenetics	Faculty of Medicine	e	
ECTS Method of grading On		Only after succ.	Dnly after succ. compl. of module(s)		
15	numerical grade				
Duration Module level		Other prerequisi	Other prerequisites		
1 semester undergraduate		and seminar as v	Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.		
Conter	Its				
In 6-we	ok lah	courses that will be	accompanied by semi	hars the module will a	ddress specific problems in im-

In 6-week lab courses that will be accompanied by seminars, the module will address specific problems in immunology such as immunomodulation, immunogenetics, infection immunology, signal transduction in immune cells.

#### Intended learning outcomes

The students acquire extended knowledge and skills in the area of immune functions. They are qualified to plan and perform experiments under supervision and present the data, taking into account current literature.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

#### Allocation of places

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 34 / 254
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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.

#### Additional information

Workload

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### **Teaching cycle**

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

# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 35 / 254
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Module					Abbreviation		
Clinical Biochemistry 3 / Laboratory Medicine				03-6S3KB-102-m01			
Module coordinator			Module offered by	<u> </u>			
		Chair of Clinical Biochem	istry and Pathobio-	Faculty of Medicine			
chemis							
ECTS		od of grading	Only after succ. con	npl. of module(s)			
15	nume	rical grade					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate	Admission prerequi	site to assessment:	regular attendance o	of exercises	
			and seminar as well	and seminar as well as successful completion of the respective ex			
			as specified at the b	beginning of the cour	rse.		
Conten	ts						
Basic re	esearch	practice and analytical	approaches that are	used in clinical biocl	nemistry II are prese	nted by	
means	of sele	cted examples. Patholog	gical mechanisms are	compared to the res	pective regular phy	siological	
		g. thrombocyte function,				onal bioche-	
		s are presented using ex	amples from pathobi	ochemistry and celli	ular blochemistry.		
		ning outcomes					
		e developed a fundamen					
		ular biology and bioche					
		se and interpret problem work, data analysis and					
		, number of weekly conta			•	<del>.</del>	
		•					
		mation on SWS (weekly	_				
		essment (type, scope, la on on whether module c			tion offered — if not	every seme-	
		sessment: a) written exa					
		ation of one candidate e					
		ox. 20 minutes per candi e method and length of t			minutes); students	will be infor-	
Allocat							
	· · · · ·		or of applications ov	cood the number of	wailable places, pla	coc will bo	
		ces: 3. Should the numb blows: Places will prima					
		ECTS credits. Should the	-			-	
		ocated to students of the					
		a minimum of one partic					
		Biology) with 60 ECTS cr					
		Mathematik (Mathemat					
		s well as potentially to s ta exceed the number o					
		a. Should there be, with					
	•	will be a uniform regulati	,				
courses of a module component that are concerned will be allocated in a standardised procedure. In this proce-							
dure, applicants who already have successfully completed at least one other module component of the respec-							
tive module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group $f(\sigma r^{(0)})$ . Places will primarily be allocated associated as							
they become available. Selection process group 1 (95%): Places will primarily be allocated according to the ap- plicants' 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), Ma-							
thematik (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'							
Bachelor's	with 1 mai	or Biology (2011)	JMU Würzbu	Irg • generated 26-Aug-2024	• exam.	page 36 / 254	
	,			ord Bachelor (180 ECTS) Biolo			

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.

Additional information

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Workload

Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 37 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title Abbreviation					Abbreviation	
Clinica	al Neuro	biology 3		-	03-6S3KN-102-m01	
Modul	e coord	inator		Module offered by		
			ology	Faculty of Medicine		
holder of the Chair of Clinical NeurolECTSMethod of grading			Ology Only after succ. con	,	:	
15		rical grade				
Duratio		Module level	Other prerequisites			
1 seme		undergraduate			regular attendance of exercises	
1 Senie		understudute	Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercise			
			as specified at the b	•	-	
Conter	nts			0 0		
the fun cesses ted exa	ndamen s will be amples	tal principles of as well compared with patholo	as analytical techniqu gical conditions (e.g.	es used in clinical n Parkinson's and Alz	dule will acquaint students with eurobiology. Physiological pro- heimer's disease). Using selec- unctional biochemical correlati-	
Intend	ed lear	ning outcomes				
dividua dents v	al tasks will also	, using techniques of m	odern neurobiology to that will enable them t	solve, analyse and to plan and perform	t will enable them to work on in- interpret general problems. Stu- experiments as well as to inter-	
Course	<b>es</b> (type	, number of weekly cont	act hours, language –	- if other than Germa	in)	
Ü + S (	no infoi	mation on SWS (weekly	Ü + S (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 seme- ster, information on whether module can be chosen to earn a bonus)					able)	
Metho		sessment (type, scope, l	anguage — if other tha	an German, examina		
Metho ster, in metho c) oral didates	nformati ds of as examin s (appro	essment (type, scope, l on on whether module o ssessment: a) written ex ation of one candidate o	anguage — if other tha can be chosen to earn amination (approx. 45 each (approx. 30 minu idate) or e) presentati	an German, examina a bonus) to 60 minutes) or b ites) or d) oral exam on (approx. 20 to 30		
Metho ster, in metho c) oral didate med al	nformati ds of as examin s (appro	sessment (type, scope, l on on whether module of sessment: a) written ex ation of one candidate of ox. 20 minutes per cand e method and length of t	anguage — if other tha can be chosen to earn amination (approx. 45 each (approx. 30 minu idate) or e) presentati	an German, examina a bonus) to 60 minutes) or b ites) or d) oral exam on (approx. 20 to 30	ition offered — if not every seme- ) log (approx. 10 to 20 pages) or ination in groups of up to 3 can-	
Metho ster, in metho c) oral didate: med al Allocat Numbe 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,	Iformati ds of as examin s (appro- bout the bout the tion of pla ted as for vith 180 ll be alle places ( ologie ( tics and ologie ( tics and tics and ologie ( tics ( Mat accordi tics accordi	<b>Seessment</b> (type, scope, l on on whether module of seessment: a) written ex- ation of one candidate of ox. 20 minutes per cand e method and length of to <b>blaces</b> uces: 3. Should the numb ollows: Places will prima ECTS credits. Should the blows: Places will prima ECTS credits. Should the should the subject the subject the matics)) at the time of and the subject the matics) at the time of and the subject the matics. Should the subject the matics will be subject the matics will be subject the matics. Should the subject the matics will be subject the matics. Should the subject the matics will be subject the matics. Should the subject the	anguage — if other the can be chosen to earn amination (approx. 45 each (approx. 30 minu idate) or e) presentati the assessment prior to ber of applications exe arily be allocated to stu- the module be used in or e Bachelor's degree su cipant in total) will be redits and to students tics), each with 180 EG students of other 'imp of applications, the rem- nin one module compo- cion for the courses of are concerned will be ccessfully completed a consideration. A waiti cress group 1 (95%): Pla- nents. For this purpose of Biologie (Biology) of application. This will be weighted according	an German, examina a bonus) to 60 minutes) or b ites) or d) oral examion on (approx. 20 to 30 to the course ceed the number of a udents of the Bache other subjects, there ubject Biologie (Biola 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 b e, applicants will be of all assessments to (excluding Chemie (C	ition offered — if not every seme- ) log (approx. 10 to 20 pages) or ination in groups of up to 3 can-	

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.

Additional information

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Workload

Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 39 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

					Abbreviation	
Physio	logical	Chemistry 3			03-6S3PC-102-m01	
Module	e coord	inator		Module offered by		
		Chair of Physiological Ch	nemistry	Faculty of Medicine	. <u></u>	
ECTS Method of grading		Only after succ. com	· · ·			
15		rical grade				
Duratio	·	Module level	Other prerequisites			
1 seme		undergraduate	Admission prerequi	site to assessment: as successful comp	letion of the respect	
Conten	Contents					
questic erratio	ons fron ns. Mol	wledge and research-or n human biochemistry. ecular genetic and func mistry, pathobiochemis	Physiological process tional biochemical net	es are compared wit works are presented	h examples of patho	logical ab-
Intend	ed learr	ing outcomes				
mistry They al	based o so have	developed the ability t on individually assigned e developed in-depth sk c results.	l tasks, using techniqu	ies of modern moleo	ular biology and bio	chemistry.
Course	<b>s</b> (type,	number of weekly cont	act hours, language —	· if other than Germa	ın)	
Ü + S (I	no infor	mation on SWS (weekly	contact hours) and co	ourse language avail	able)	
		<b>essment</b> (type, scope, l on on whether module (			ition offered — if not	every seme-
c) oral didates	examin s (appro	sessment: a) written ex ation of one candidate ox. 20 minutes per cand e method and length of	each (approx. 30 minu idate) or e) presentati	tes) or d) oral exami on (approx. 20 to 30	ination in groups of (	up to 3 can-
Allocation of places Number of places: 3. 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 (Bio- logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Ma- thematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa- ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec- tive 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 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 Chemis (Chemistry), Physik (Physics), Ma- thematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstl						
		or Biology (2011)	JMU Würzbu			

cording 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.

#### Additional information

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Workload

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Teaching cycle

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

#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 41 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title Abbreviation					
Physiology				03-6S3PH-102-m01	
Module coord	inator		Module offered by	l	
	Chair of Physiology I		Faculty of Medicine		
	od of grading	Only after succ. con	· · · · ·		
15 numerical grade					
Duration	Module level	Other prerequisites			
1 semester	undergraduate	and seminar as well	site to assessment: l as successful comp peginning of the cour	letion of the respect	
Contents					
res in physiolo diovascular di will explain th	e, students will become ogy. Physiological proce sorders). Using selected e underlying physiologic	sses will be compared l examples of physiol	d with pathological construction of the set	onditions (e.g. horn	nonal or car-
Intended learn	ning outcomes				
on individually	e developed the ability to y assigned tasks, using xperimental design, ber	techniques of modern	physiology and bio	chemistry. They also	have develo-
Courses (type,	, number of weekly cont	act hours, language –	- if other than Germa	ın)	
Ü + S (no infor	mation on SWS (weekly	contact hours) and co	ourse language avail	able)	
	<b>essment</b> (type, scope, l on on whether module o			tion offered — if not	every seme-
c) oral examin didates (appro	sessment: a) written ex ation of one candidate e ox. 20 minutes per cand e method and length of t	each (approx. 30 minu idate) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	nation in groups of	up to 3 can-
		i			
med about the method and length of the assessment prior to the course <b>Allocation of places</b> Number of places: 3. 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 pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec- tive 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 be allocated according to the au- plicants' 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				Biologie (Bio- 95% of pla- redits and degree sub- utational Ma- ented sub- olaces availa- cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma- ll be ranked, ve ranking) applicants' located ac-	
Bachelor's with 1 maj	or Biology (2011)		irg • generated 26-Aug-2024		page 42 / 254
		reg. data reco	ord Bachelor (180 ECTS) Biolog	gie - 2011	

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.

Additional information

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Workload

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Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 43 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Struct	Module title				Abbreviation	
Structural Biology 3					03-6S3ST-102-m01	
Modu	le coord	inator		Module offered by	<u> </u>	
		Chair of Structural Biolog	γV	Faculty of Medicine		
ECTS		od of grading	Only after succ. con	· · ·		
15 numerical grade						
Durati	ion	Module level	Other prerequisites			
1 seme	ester	undergraduate	Admission prerequi and seminar as well	site to assessment: l as successful comp	letion of the respec	
			as specified at the t	peginning of the cou	rse.	
Conte						
insigh from t	ts and t he follo <sup>,</sup>	vill use examples from c o also illustrate the func wing list: DNA repair, pro l structure-based design	lamental concepts of a otein folding in the en	structural biology. S doplasmic reticulum	cientific projects ma	y be selected
Intend	led lear	ning outcomes				
emplo also a ten pro	oying dif cquire s esentat	gain the ability to solve ferent techniques from t kills in the design of exp ion of scientific results.	he fields of molecular periments, their perfor	biology, biochemist mance and evaluati	ry and crystallograp on as well as in the o	hy. They will
Course	<b>es</b> (type	, number of weekly cont	act hours, language –	- if other than Germa	in)	
Ü + S (	(no info	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)	
metho c) oral didate	ods of as l examir es (appr	ion on whether module ssessment: a) written ex ation of one candidate ox. 20 minutes per cand e method and length of	amination (approx. 45 each (approx. 30 minu idate) or e) presentati	; to 60 minutes) or b utes) or d) oral exam on (approx. 20 to 30	ination in groups of	up to 3 can-
med about the method and length of the assessment prior to the course <b>Allocation of places</b> Number of places: 3. 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 (Bio- logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa- ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec- tive 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 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), Ma- thematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weig						
logy) v ces wi 5% of ject Bi thema ject Bi ble in the oth places course dure, a tive m they b plican of ECT all mo thema firstly, and, s	with 180 ill be all places iologie ( atics and iology (a one quo her quo s, there es of a n applicat odule w ecome ts' prev S credit dule co atik (Mat accord secondly	ECTS credits. Should the ocated to students of the (a minimum of one parti Biology) with 60 ECTS of d Mathematik (Mathematik as well as potentially to store the a spotentially to store the a uniform regulate module component that and there be, with will be a uniform regulate nodule component that the swho already have su vill be given preferential available. Selection prote- ious academic achieven s they have achieved an mponents in the subject thematics)) at the time of ing to their average grad v, according to their tota	e Bachelor's degree su cipant in total) will be redits and to students tics), each with 180 Eu- students of other 'imp of applications, the rem in one module compo- ion for the courses of are concerned will be ccessfully completed consideration. A waiti cess group 1 (95%): Pl nents. For this purpose d their average grade of Biologie (Biology) f application. This will e weighted according number of ECTS cred	other subjects, there ubject Biologie (Biol 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 e, applicants will be of all assessments to (excluding Chemie (C l be done as follows to the number of EC its achieved (quantit	will be two quotas: ogy) with 180 ECTS of the Bachelor's of gree subjects Comp of the application-or ould the number of be allocated to appli- es with a restricted r nent. In this case, pl ardised procedure. I odule component of ained and places re- e allocated according ranked according to aken during their st Chemistry), Physik (i : First, applicants wi TS credits (qualitative tative ranking). The a	Biologie (Bio 95% of pla- credits and degree sub- outational Ma iented sub- places availa cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma- ll be ranked, ve ranking) applicants'
logy) v ces wi 5% of ject Bi thema ject Bi ble in the oth places course dure, a tive m they b plican of ECT all mo thema firstly, and, s positio	with 180 ill be all places iologie ( atics and iology (a one quo her quo s, there es of a n applicat odule w ecome ts' prev 'S credit dule co atik (Mat accord secondly on in a t	ECTS credits. Should the ocated to students of the (a minimum of one parti Biology) with 60 ECTS of d Mathematik (Mathematik as well as potentially to store the a spotentially to store the a uniform regulate module component that and there be, with will be a uniform regulate nodule component that the swho already have su vill be given preferential available. Selection prote- ious academic achieven s they have achieved an mponents in the subject thematics)) at the time of ing to their average grad v, according to their tota	e Bachelor's degree su cipant in total) will be redits and to students tics), each with 180 Eu- students of other 'imp of applications, the rem in one module compo- ion for the courses of are concerned will be ccessfully completed consideration. A waiti cess group 1 (95%): Pl nents. For this purpose d their average grade of Biologie (Biology) of application. This will e weighted according number of ECTS cred ulated as the sum of t	other subjects, there ubject Biologie (Biol 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 e, applicants will be of all assessments to (excluding Chemie (C l be done as follows to the number of EC its achieved (quantit	will be two quotas: ogy) with 180 ECTS of the Bachelor's of gree subjects Comp of the application-or ould the number of be allocated to appli- es with a restricted r nent. In this case, pl ardised procedure. I odule component of ained and places re- e allocated according to aken during their str Chemistry), Physik (I E First, applicants wi TS credits (qualitative tative ranking). The a	Biologie (Bio 95% of pla- credits and degree sub- outational Ma iented sub- places availa cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma ll be ranked, ve ranking) applicants'

cording 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.

#### Additional information

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Workload

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Teaching cycle

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

#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 45 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title		Abbreviation		
Tissue engine	ering 3			03-6S3TE-102-m01
Module coord	inator		Module offered by	
	Chair of Tissue Engineerir	a (University Hespi-	Faculty of Medicine	
tal)			raculty of medicine	
	od of grading	Only after succ. con	pl. of module(s)	
15 nume	rical grade			
Duration	Module level	Other prerequisites		
1 semester	undergraduate			regular attendance of exercises
				letion of the respective exercises
		as specified at the b	beginning of the cour	se.
Contents				
	ssue culture for medical ogical circumstances for c			in which tissue grows, simulati-
Intended lear	ning outcomes			
			esearch in the field o	f tissue engineering and the me-
	hey are able to work on s	•		、
	, number of weekly conta			
	mation on SWS (weekly			
	<b>sessment</b> (type, scope, la ion on whether module ca			tion offered — if not every seme-
c) oral examin didates (appre	ation of one candidate e ox. 20 minutes per candi	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-
Allocation of J	olaces			
med about the method and length of the assessment prior to the course <b>Allocation of places</b> Number of places: 3. 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 (Bio logy) with 480 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec- tive module will be given preferential consideration. A waiting list will be ranked according to the au- plicants' previous academic achievements. For this purpose, applicants will be ranked according to the au- plicants' 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), Ma thematik (Mathematics)) at the time of application. This will be done as				

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.

#### Additional information

Workload

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### **Teaching cycle**

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

### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 47 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation
Virolo					03-6S3VL-102-m01
Modul	e coord	inator		Module offered by	
		Chair of Virology		Faculty of Medicine	
ECTS	1	od of grading	Only after succ. com	· · · ·	
15	nume	rical grade		<b>2</b>	
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate		Admission prerequisite to assessment: regular attendance of exercise	
				•	letion of the respective exercises
			as specified at the b	eginning of the cour	rse.
Conte			-		
					dress specific and current pro-
py.		ogy and, in particular, qu	estions of the viral pa	almogenesis of selec	ted viruses and viral gene thera-
	led lear	ning outcomes			
The st	udents	acquire an advanced kno			including the application of viral
					or acquired diseases. They also iments as well as in the oral and
		itation of scientific result			intents as well as in the oral and
		, number of weekly conta			ın)
		mation on SWS (weekly			
		·			tion offered — if not every seme-
		on on whether module c			·····,···,
					) log (approx. 10 to 20 pages) or
					ination in groups of up to 3 can-
		e method and length of th	-		minutes); students will be infor-
	tion of J		<u></u>		
			er of applications exc	eed the number of a	available places, places will be
					lor's degree subject Biologie (Bio-
logy) v	vith 180	ECTS credits. Should the	e module be used in o	other subjects, there	will be two quotas: 95% of pla-
			-		ogy) with 180 ECTS credits and
-	•		-		ts of the Bachelor's degree sub-
-	-				gree subjects Computational Ma- of the application-oriented sub-
					ould the number of places availa-
-					e 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
		<b>u</b>		-	e allocated according to the ap-
					ranked according to the number
		-			aken 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-
cordin	g to this	s third ranking. Among ap	oplicants with the san	ne ranking, places w	vill be allocated according to the

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 48 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

Additional information

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Workload

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Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 49 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation		
Cellular Molecular Biology 3					03-6S3ZM-102-m01		
Modul	e coord	linator		Module offered by			
Institu	te of M	edical Radiology and	Cell Research (MSZ)	Faculty of Medicine	2		
ECTS	Meth	od of grading	Only after succ. co	ompl. of module(s)			
15	nume	erical grade					
Durati	on	Module level	Other prerequisite	2S			
1 semesterundergraduateAdmission prerequisite to assessment: regular attendance of and seminar as well as successful completion of the respectiv as specified at the beginning of the course.			oletion of the respective exercises				
Conter	nts						
				•,	cellular differentiation will be dis- s, participants will acquire practi-		

cal molecular biological techniques.

### Intended learning outcomes

Students have developed the ability to approach, analyse and critically interpret current problems in cellular molecular biology based on individually assigned tasks, using techniques of modern molecular and cell biology. They also have developed skills in experimental design, bench work, data analysis and the presentation of scientific results both orally and in writing.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

### Allocation of places

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

Bachelor's with 1 major Biology (2011) JMU Würzburg • generated 26-Aug-2024 • exam. page 50 / 254 reg. data record Bachelor (180 ECTS) Biologie - 2011

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.

Additional information

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Workload

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Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 51 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation	
Cellula	r Tumo	rbiology 3			03-6S3ZT-102-m01	
Module coordinator				Module offered by		
Chair of Rudolf Virchow Center for Experimental Biomedici- Reduction Faculty of Medicine						
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)		
15	1	rical grade		• • • •		
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate	Admission prerequi	site to assessment:	regular attendance o	of exercises
			and seminar as well	as successful comp	letion of the respect	ive exercises
			as specified at the b	beginning of the cour	rse.	
Conten	Its					
		ecific problems, this mo aint them with approache		ıdents a more in-dep	th knowledge of tun	nour biology
Intend	ed lear	ning outcomes				
biology They al on of s	/ based so have cientifie	e developed the ability to on individually assigned e developed advanced sl c results.	d tasks, using moderr kills in experimental o	n techniques and, in design, bench work,	particular, imaging data analysis and th	methods.
		, number of weekly conta				
		mation on SWS (weekly				
		sessment (type, scope, la on on whether module c			tion offered — if not	every seme-
c) oral didates	examin s (appro	sessment: a) written exa ation of one candidate e ox. 20 minutes per candi e method and length of t	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	nation in groups of (	up to 3 can-
Allocat	ion of p	olaces				
allocat logy) w ces wil 5% of p ject Bic ble in c the ath places, course: dure, a tive mc they be plicant of ECTS all moc themat firstly, and, se positio	ed as for ith 1800 l be allo blaces ( blogie ( cics anco blogy (a blogy (a	ces: 3. Should the numb ollows: Places will prima ECTS credits. Should the potential of the cated to students of the a minimum of one partic Biology) with 60 ECTS cred Mathematik (Mathemat s well as potentially to s that exceed the number of ca. Should there be, with will be a uniform regulatin odule component that a sts who already have suc ill be given preferential of available. Selection proc ous academic achievem s they have achieved and mponents in the subject hematics)) at the time of ng to their average grade , according to their total hird ranking will be calcu- s third ranking. Among ap	rily be allocated to stree e module be used in or Bachelor's degree su- ipant in total) will be edits and to students ics), each with 180 E0 tudents of other 'imp f applications, the rer in one module compo- on for the courses of the concerned will be consideration. A waiti ess group 1 (95%): PL ents. For this purposed their average grade of Biologie (Biology) f application. This will e weighted according number of ECTS cred allated as the sum of t	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 e, applicants will be of all assessments t (excluding Chemie (C l be done as follows) to the number of EC its achieved (quantit hese two rankings, a	or's degree subject will be two quotas: ogy) with 180 ECTS c s of the Bachelor's c gree subjects Comp of the application-ori ould the number of p e allocated to applic es with a restricted n hent. In this case, pla ardised procedure. In odule component of ained and places re- a allocated according ranked according to aken during their stu Chemistry), Physik (F First, applicants wil TS credits (qualitative ranking). The a and places will be all	Biologie (Bio 95% of pla- redits and degree sub- utational Ma ented sub- olaces availa cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma- ll be ranked, ve ranking) applicants' located ac-
Bachelor's	with 1 ma	ior Biology (2011)	JMU Würzbu	rg • generated 26-Aug-2024	• exam.	page 52 / 254
				rd Bachelor (180 ECTS) Biolo		

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.

Additional information

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Workload

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Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 53 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul					Abbreviation
From c	ells to	organisms			07-1A1ZO-102-m01
Modul	Module coordinator			Module offered by	
		es Biologie (Biology)		Faculty of Biology	
ECTS		od of grading	Only after succ. com		
13		rical grade			
Duratio	1	Module level	Other prerequisites		
1 seme		undergraduate			isites are listed in the section on
2 0 0 0			assessments.	, aaaa. p. e. equ	
Conter	nte	L			
cal cat ting wi ference plants) and hy thods. to the will acc organis tents o so acq Intend - Know ledge o mal an liarity w hing ch se plan	egories th its m es and ). The s ypothes Using t phyloge quire th sms, wi of the m uire an ed lear vledge c of the s ad plant with the haracte nt and a	. Building on this knowl acroscopic structure be similarities between pro- econd part will address es will be discussed and he examples of plants a enetic diversity of eukan e fundamental knowled th morphology and cyto odule are relevant for bid d practise some of the fining outcomes if the structures of proka pecific characteristics of cells Ability to recogn e concepts of phylogene ristics and major repres- mimal organisms that a	edge, the course will t fore moving on to its n karyotic cells (bacteria one of the central issu d students will be intro- ind animals, the subse- yotes. At the level of gr log necessary to under logy being discussed i iological disciplines at undamental preparation aryotic and eukaryotic f the intracellular and o ise evolution as the du- tic relationships betwo entatives of groups in re most suitable for pa	hen discuss the cell nicroscopic structur a, archaebacteria) and es of biology: evolu- oduced to major phy equent module comp roups in the plant ar rstand the forms and in an evolutionary and all levels of biologic on skills bioscientist cells and their (biologic extracellular structur riving force behind t een plants/animals. the plant and anima irticular scientific iss	blocks of life as well as biologi- , the smallest unit of life, star- e. The course will point out dif- nd eukaryotic cells (animals, tion. Fundamental mechanisms logenetic reconstruction me- ponents will introduce students and animal kingdoms, students d functions of animal and plant nd ecological context. The con- cal organisation. Students will al- ts are often required to possess. ogical) macromolecules Know- res of prokaryotes as well as ani- he phylogeny of species Fami- - Familiarity with the distinguis- al kingdoms Ability to select the sues Familiarity with the compo- n of macroscopic and histologic
		oy light microscopy Fu			
Course	<b>es</b> (type	, number of weekly cont	act hours, language —	if other than Germa	an)
• (	07-1A1Z	as 4 components; infor O-1Z-072, 07-1A1ZO-3P- e and number of weekly	072, 07-1A1ZO-4T-072	, and 07-1A1ZO-2E-:	ch component. 102: V + Ü (no information on
		sessment (type, scope, lion on whether module			ation offered — if not every seme-
		as the following 4 asses nent components to pas			<i>v</i> ise, students must pass all of
<b>07-1A1</b> reich ( <sup>*</sup> • 2	. <b>ZO-3P-</b> The Ani 4 ECTS (	n module component o7 072: Das Pflanzenreich mal Kingdom) : credits, numerical gradin examination (approx. 60	(The Plant Kingdom), a ng	nd <b>in module comp</b>	dule component onent o7-1A1ZO-4T-072: Das Tiel

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 54 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

## Allocation of places

### Additional information

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### Workload

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# Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 55 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation	
Genetics, Neurobiology, Behaviour					07-2A2GNV-072-m01	
Module	coord	inator		Module offered by		
Dean of Studies Biologie (Biology)				Faculty of Biology		
ECTS		od of grading	Only after succ. con	,		
6		rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in the section or	
Conten	ts					
Fundan	nental j	principles of genetics, no	eurobiology and beha	vioural biology.		
Intende	ed learr	ning outcomes				
process bases o cal meo	ses invo of inher chanisr	olved in animal behavio itance.] [Version 2: Stud	ur and will be able to ents will understand ed in animal behaviou	relate animal behavi that there are molec	m biological mechanisms and iour to the molecular and formal ular, cellular and system biologi prelate animal behaviour to the	
Course	<b>s</b> (type,	number of weekly conta	act hours, language —	if other than Germa	in)	
• 0 • 0 Method	7-2A2 7-2A2 7-2A2 7-2A2	NV-2N-072: V + Ü (no inf NV-3V-072: V + Ü (no inf	ormation on SWS (we ormation on SWS (we anguage — if other the	ekly contact hours) a ekly contact hours) a an German, examina	and course language available) and course language available) and course language available) tion offered — if not every seme	
<ul> <li>2</li> <li>W</li> <li>Q</li> <li>c</li> </ul> Assess <ul> <li>2</li> <li>W</li> <li>Q</li> <li>c</li> </ul> Assess <ul> <li>2</li> <li>W</li> <li>Q</li> <li>C</li> </ul>	ment ir ECTS, vritten e Other po essful e ment ir ECTS, vritten e Other po essful e ment ir ECTS, vritten e	module component of Method of grading: num examination (approx. 30 rerequisites: Admission completion of the respect module component of Method of grading: num examination (approx. 30 rerequisites: Admission completion of the respect module component of Method of grading: num examination (approx. 30	erical grade minutes) prerequisite to asses tive exercises as spe- •2A2GNV-2N-072: Bas erical grade minutes) prerequisite to asses •2A2GNV-3V-072: Beh erical grade minutes, word proble	asment: regular atte cified at the beginnin sic Neurobiology Bas assment: regular atte cified at the beginnin aavioural Biology Bel ems and/or multiple	ndance of exercises and suc- ng of the course. Sic Neurobiology Indance of exercises and suc- ng of the course. havioural Biology choice questions)	
• 0	)ther pr essful (	rerequisites: Admission completion of the respec	prerequisite to asses	ssment: regular atte	ndance of exercises and suc-	
Only as	part o	f "spezielles Studienang	ebot": 10 places.			
Additio	nal info	ormation				
Worklo	ad					
Bachelor's	with 1 maj	or Biology (2011)	JMU Würzbu	rg • generated 26-Aug-2024	• exam. page 56 / 254	
			reg. data reco	rd Bachelor (180 ECTS) Biolo	gie - 2011	

### Teaching cycle

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

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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 (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 Special study offering (2010)

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reg. data record Bachelor (180 ECTS) Biologie - 2011	
	JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record Bachelor (180 ECTS) Biologie - 2011

Module title			Abbreviation			
Physiology of Organisms 07-2A2PH-072-m01						
Module coordinator			Module offered by			
	1	es Biologie (Biology)		Faculty of Biology		
ECTS	1	od of grading	Only after succ. con	npl. of module(s)		
9		rical grade				
Duration		Module level undergraduate	Other prerequisites	, additional prerequ	icitor are listed in th	o coction on
1 Seine	ster	undergraduate	assessments.	, additional prefequ	isites are listed in th	e section on
Conten	its		ussessments.			
and wil ratory. metabo enviror	ll provid The mo olic dive nment o	vill acquaint students w de them with an opport odule will first address t ersity. Subsequently, th of multicellular organism	unity to develop the fu he biochemistry of the re module will discuss	ndamental skills for cell and will then m the physiological pr	working in a physiol ove on to discuss pr	logical labo- okaryotic
	_	ning outcomes				
		e developed an underst ndamental knowledge				
Course	<b>s</b> (type	, number of weekly con	tact hours, language –	- if other than Germa	n)	
compo • c • c	nent. 07-2A2F 07-2A2F	omprises 3 module cor PH-1PR-072: V + Ü (no in PH-2PF-072: V + Ü (no in PH-3TI-072: V + Ü (no in	formation on SWS (we formation on SWS (we	ekly contact hours) a ekly contact hours) a	nd course language nd course language	available) available)
		essment (type, scope, on on whether module			tion offered — if not	every seme-
Assess low. Ur	ment ir	n this module comprise ated otherwise, succes	s the assessments in t	he individual modul		
<ul> <li>Assessment in module component o7-2A2PH-1PR-o72: Basic Physiology of Prokaryotes Basic Physiology of Prokaryotes</li> <li>3 ECTS, Method of grading: numerical grade</li> <li>written examination (approx. 60 minutes) including multiple choice questions</li> <li>Assessment in module component o7-2A2PH-2PF-o72: Plant Physiology Plant Physiology</li> <li>3 ECTS, Method of grading: numerical grade</li> <li>written examination (approx. 45 minutes)</li> <li>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.</li> <li>Assessment in module component o7-2A2PH-3TI-o72: Animal Physiology Animal Physiology</li> <li>3 ECTS, Method of grading: numerical grade</li> <li>written examination (approx. 60 minutes, word problems and/or multiple choice questions)</li> <li>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.</li> </ul>						
Allocat	ion of p	olaces				
Additional information						
Workload						
Bachelor's	with 1 maj	or Biology (2011)		ırg • generated 26-Aug-2024 ırd Bachelor (180 ECTS) Biolo		page 58 / 254

# Teaching cycle

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

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# Module appears in

Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2007) Bachelor' degree (1 major) Biology (2010)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 59 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Mather	natical	<b>Biology and Biostatistic</b>	s		07-2BM-072-m01
Module coordinator				Module offered by	
holder of the Chair of Bioinformatics		Faculty of Biology			
ECTS		od of grading	Only after succ. com		
4	î	rical grade			
- Duratio	L	Module level	Other prerequisites		
1 semester undergraduate		Admission prerequi	pletion of the respec	regular attendance of exercises ctive exercises as specified at the	
Conten	ts				
Fundan	nental	principles of the most im	portant mathematica	l and statistical met	hods in biology.
Intende	ed leari	ning outcomes			
		have acquired fundamen as well as the mathemati		•	, the interpretation of readings
Course	<b>s</b> (type	, number of weekly conta	ct hours, language —	· if other than Germa	in)
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
ster, in	formati	on on whether module ca	an be chosen to earn	a bonus)	tion offered — if not every seme-
		nation (approx. 45 minute	es) including multiple	e choice questions	
Allocat	ion of p	olaces			
Only as	part o	f "spezielles Studienange	ebot": 30 places.		
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	d to in	LPOI (examination regu	lations for teaching-o	legree programmes)	
Module	appea	irs in			
		ree (1 major) Biochemistr	V (2011)		
	-	ree (1 major) Biochemistr			
	-	ree (1 major) Biology (201			
Bachel	or' deg	ree (1 major) Biology (200	77)		
Bachel	or' deg	ree (1 major) Biology (201	10)		
	-	ree (1 major) Mathematic			
	-	ree (1 major) Mathematic	-	、 、	
	-	ree (1 major) Computatio			
	-	ree (1 major) Computatio		13)	
		gree (1 major, 1 minor) Bi			
		gree (1 major, 1 minor) Bi ination Special study offe			
noma		mation Special Sludy Olie			

Biochemistry dinator Chair of Plant Physiology od of grading erical grade Module level undergraduate	Only after succ. com	Module offered by Faculty of Biology pl. of module(s)	07-3A3BC-102-m01	
Chair of Plant Physiology od of grading erical grade Module level	Only after succ. com	Faculty of Biology		
Chair of Plant Physiology od of grading erical grade Module level	Only after succ. com	Faculty of Biology		
od of grading erical grade Module level	Only after succ. com	· · · · · ·		
erical grade Module level				
Module level				
	Other prerequisites			
	Admission prerequis	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.		
eper insights into the mo amiliar with fundamental nd the biochemistry of ca	plecular biology and b l principles of molecul arbohydrates, lipids, p iscussed in the lecture	iochemistry of proka lar biology (replicatio proteins and nucleic e. The exercise will c	nt, the lecture will provide stu- aryotes and eukaryotes. Students on, transcription, splicing and acids. Experiments will be per- over practical aspects of lab work protein isolation).	
ning outcomes				
familiar with the fundame	ental principles of bio	chemistry.		
e, number of weekly conta	act hours, language —	if other than Germa	n)	
rmation on SWS (weekly	contact hours) and cc	ourse language avail	able)	
ion on whether module c ination (approx. 30 to 60	an be chosen to earn	a bonus)	tion offered — if not every seme-	
places				
formation				
ormation				
-				
le				
	dette no forste subt			
LPOI (examination regu	liations for teaching-c	legree programmes)		
•				
ars in				
Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2010) Bachelor' degree (1 major) Mathematics (2012) Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major) Computational Mathematics (2013) Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)				
			ree (1 major) Mathematics (2012)	

Module	title				Abbreviation	
Developmental Biology of Plants and Animals 07-3A3EBIO-10				07-3A3EBIO-102-m01		
Module coordinator				Module offered by		
Dean of	fStudie	es Biologie (Biology)		Faculty of Biology		
ECTS		od of grading	Only after succ. con			
8	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate	By way of exception assessments.	, additional prerequ	uisites are listed in the section on	
Conten	ts					
		e, students will acquire a mental biology.	n overview of the the	oretical and practic	al fundamentals of animal and	
Intende	ed learr	ning outcomes				
Selecte embryo ontoge	d mole nic axe ny and	cular mechanisms that r es. 5. Examples of mecha evolution. 7. Physiologic	egulate determinatio nisms of morphogen al aspects of the dev	n and differentiatio esis and organoger elopmental process		
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germ	an)	
• o Method	7-3A3E 7-3A3E <b>I of ass</b>	BIO-2-102: V + Ü (no info ressment (type, scope, la	rmation on SWS (we inguage — if other th	ekly contact hours) an German, examin	and course language available) and course language available) ation offered — if not every seme-	
		on on whether module ca this module comprises			le components as specified be-	
	less st	ated otherwise, successf			successful completion of all indi-	
<b>Assess</b> of Anim		n module component 07-	3 <b>A3EBIO-1-102:</b> Deve	lopmental Biology	of Animals Developmental Biology	
• w • O c	vritten e other pr essful e <b>ment ir</b>	completion of the respec	to 60 minutes) inclue prerequisite to asse tive exercises as spe	ssment: regular att cified at the beginn	endance of exercises and suc-	
• 4 • w • O						
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Teachir	ng cycl	9				

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

### Module appears in

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Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 63 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation		
Genes, Molecules, Technologies 07-3A3GMT-102-m01			07-3A3GMT-102-m01			
Module coordinator Module offered by						
Dean o	of Studies Bio	ologie (Biology)		Faculty of Biology		
ECTS	Method of	grading	Only after succ. com	pl. of module(s)		
6	numerical g	grade				
Duratio	on Mod	lule level	Other prerequisites			
1 seme	ester und	ergraduate				
Conten	nts					
section functio <i>Bioinfo</i> and pro structu <i>rung in</i> pics: hi nobiote microfl provide nent wi small n of a dru <b>Intende</b>	n will also for on and gene s ormatics), stu otein domain ures, cellular n die Biotech istory of biot echnology, b luidics. The r e students w ill discuss an nolecules ar ug or xenobi	cus on methods of g sequence analysis. I udents will acquire a n analysis, phylogen networks (regulation nologie (Introduction technology, DNA and biomaterials, bioproc module component <i>E</i> vith an overview of th n important aspect for d proteins. Pharmac otic in an organism.	ene expression profil n the module compo n overview of major a y and evolution of se n, metabolism) and s n to Biotechnology), s I RNA technologies, r cess engineering, mic Einführung in die Pha te rational developme or biologists in more cokinetics describes	ling, reverse genetics nent <i>Einführung in c</i> areas in the field of k quences, protein str ystems biology. In the students will acquire ecombinant antibod crobial biotechnolog trmakokinetik (Introc ent of drugs and acti detail: the optimisati the uptake, distribut	ificant genetic mechanisms. The s and modern methods of gene <i>die Bioinformatik (Introduction to</i> pioinformatics: protein sequence ructure, RNA/DNA sequences and he module component <i>Einfüh</i> - e an overview of the following to- lies, molecular diagnostics, na- y, transgenic animals and plants, <i>duction to Pharmacokinetics</i> ) will live agents. The module compo- tion of the pharmacokinetics of tion, metabolism and elimination	
gulatio	Module component <i>Spezielle Genetik</i> ( <i>Special Genetics</i> ): Advanced knowledge on genome evolution and the re- gulation of gene expression. Essential knowledge on current methods in genetics. Module component <i>Einfüh</i> -					

gulation of gene expression. Essential knowledge on current methods in genetics. Module component *Einführung in die Biotechnologie (Introduction to Biotechnology*): Students will acquire an overview of both traditional and modern methods in biotechnology and will become familiar with fundamental topics in biotechnology. Module component *Einführung in die Biotechnologie (Introduction to Biotechnology*): Students will acquire an overview of both traditional and modern methods in biotechnology and will become familiar with fundamental topics in biotechnology. Module component *Einführung in die Pharmakokinetik (Introduction to Pharmacokinetics*): Students will acquire an overview of the fundamental principles of the development and review of active agents in research, clinical practice and the pharmaceutical industry. Optimisation of active agents with regard to absorption, distribution, metabolism and elimination takes place during the early stages of active agent development. The course will equip students with fundamental knowledge that will enable them to predict, on the basis of the structure and physicochemical properties of a small molecule or protein, whether the molecule or protein is suitable as an active agent as well as to predict the fate of the respective active agent in an organism.

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

This module has 4 components; information on courses listed separately for each component.

• 07-3A3GMT-1-102, 07-3A3GMT-2-102, 07-3A3GMT-3-102, and 07-3A3GMT-4-102: V (no information on language and number of weekly contact hours available)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

This module has the following 4 assessment components. Unless stated otherwise, students must pass all of these assessment components to pass the module as a whole.

Assessment in module component o7-3A3GMT-1-102: Genetik (Genetics), in module component o7-3A3GM-T-2-102: Bioinformatik (Bioinformatics), in module component o7-3A3GMT-3-102: Biotechnologie (Biotechnology), and in module component o7-3A3GMT-4-102: Pharmakokinetik (Pharmacokinetics) :

• 1.5 ECTS credits, numerical grading

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 64 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

• written examination (approx. 30 minutes, including multiple choice questions)

### Allocation of places

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# Additional information

Workload

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# **Teaching cycle**

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

# Module appears in

Bachelor' degree (1 major) Biology (2011)

Bachelor' degree (1 major) Biology (2010)

Bachelor' degree (1 major) Mathematics (2012)

Bachelor' degree (1 major) Mathematics (2013)

Bachelor' degree (1 major) Computational Mathematics (2012)

Bachelor' degree (1 major) Computational Mathematics (2013)

Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 65 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	Module title Abbreviation					
Plant a	Plant and Animal Ecology 07-3A3OE-102-m01					
Module coordinator			Module offered by			
Dean of Studies Biologie (Biology)		Faculty of Biology				
ECTS	Metho	ethod of grading Only after succ. compl. of module(s)				
6 numerical grade						
Duration Module level Other prerequisites						
1 semester undergraduate By way of exception, additional prerequisites are listed in the assessments.			e section on			
Conter	Its					
and bio as on t model menta	otic env he stru concep knowle	vill provide students wit vironments. The module cture and dynamics of p ts of ecology, will beco edge necessary to deve	will focus on the func oopulations and ecosy me familiar with exam	tional adaptation to stems. Students will ples of research find	environmental cond be introduced to fur ings and will acquire	itions as well ndamental
	-	ning outcomes				
portan their e	t abioti	amiliar with the fundan c and biotic factors that nent. In addition, they u ues.	influence the distribu	tion and frequency o	f occurrence of orga	nisms in
Course	<b>s</b> (type	, number of weekly con	tact hours, language –	- if other than Germa	n)	
compo • c	<ul> <li>This module comprises 2 module components. Information on courses will be listed separately for each module component.</li> <li>07-3A3OE-1-102: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>07-3A3OE-2-102: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> </ul>					
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a 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.						
<ul> <li>Assessment in module component o7-3A3OE-1-102: Animal Ecology Animal Ecology</li> <li>3 ECTS, Method of grading: numerical grade</li> <li>written examination (approx. 45 minutes)</li> <li>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.</li> <li>Assessment in module component o7-3A3OE-2-102: Plant Ecology Plant Ecology</li> <li>3 ECTS, Method of grading: numerical grade</li> <li>written examination (approx. 45 minutes)</li> <li>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.</li> </ul>						
Allocat	ion of p	olaces				
Only as part of pool of general key skills (ASQ): 15 places. Places will be allocated by lot.						
Additional information						
Workload						
Teachi	Teaching cycle					
reacin	ing cycl	•				
Bachelor's	with 1 ma	jor Biology (2011)		rrg • generated 26-Aug-2024 ord Bachelor (180 ECTS) Biolog		page 66 / 254

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 (2010) Bachelor' degree (1 major) Mathematics (2012) Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major, 1 minor) Biology (Minor, 2010) No final examination Special study offering (2010)

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 67 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation		
The Fa	The Fauna of Germany 07-4A4FA-102-m01					
Modul	e coord	inator		Module offered by		
holder	of the (	Chair of Animal Ecology a	nd Tropical Biology Faculty of Biology			
ECTS	1	ethod of grading Only after succ. compl. of module(s)				
7	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate	By way of exception assessments.	, additional prerequi	sites are listed in the section on	
Conte	nts					
They w cordin will be provid tifying	vill acqu g of bio taxon-s e stude living s	ire a fundamental knowl diversity and will practise specific and will represen	edge of the systemat e identifying species, t specific habitats or o consolidate the kno	ics and taxonomy as using specimens of lifestyles. Field exer owledge and skills th	to be found in Central Europe. well as on the quantitative re- animals. Selection of specimens cises in a variety of habitats will ey acquired in the lab by iden-	
verteb their fa the bio	rates) a aunas a ology ar	nd use identification key nd phenology. On the ba	s. They are familiar w sis of the morphology	ith selected Central y and habitats of spe	ligenous fauna (vertebrates, in- European habitats as well as ecies, students are able to predict t whether they function as indica-	
Course	<b>es</b> (type	, number of weekly conta	ct hours, language —	· if other than Germa	n)	
Compo Metho ster, ir Assess low. U vidual Assess Fauna	<ul> <li>This module comprises 2 module components. Information on courses will be listed separately for each module component.</li> <li>07-4A4FA-1-102: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>07-4A4FA-2-102: E (no information on SWS (weekly contact hours) and course language available)</li> </ul> Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a 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 07-4A4FA-1-102: Introduction to the Fauna of Germany Introduction to the Fauna of Germany <ul> <li>4 ECTS, Method of grading: numerical grade</li> <li>written examination (approx. 45 minutes) and practical identification assignment (approx. 45 minutes), weighted 1:1 <ul> <li>Assessment offered: once a year, summer semester</li> <li>Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises (particular emphasis to be placed on the setting up a her-</li> </ul></li></ul>					
•	<ul> <li>Assessment in module component o7-4A4FA-2-102: Field Excursions on the Fauna of Germany</li> <li>3 ECTS, Method of grading: (not) successfully completed</li> <li>log (approx. 1 to 2 pages per field trip)</li> <li>Assessment offered: once a year, summer semester</li> </ul>					
Alloca	tion of <b>j</b>	olaces				
allocat logy) v	ted as fo vith 180	ollows: Places will primar ECTS credits. Should the	ily be allocated to stu module be used in c	udents of the Bachel other subjects, there	of available places, places will be or's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and	

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 68 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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

### Additional information

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Workload

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## Teaching cycle

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

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### Module appears in

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 69 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
The Flo	ora of G	ermany		·	07-4A4FL-102-m01
Modul	e coord	inator		Module offered by	 V
holder	ofthe	Chair of Ecophysiology a	nd Vegetation Ecolo-		
gy				, ,	
ECTS		od of grading	Only after succ. con	npl. of module(s)	
7		rical grade			
	Ouration Module level Other prerequisites				
1 seme	ster	undergraduate		, additional prereq	uisites are listed in the section on
• •			assessments.		
Conten			_		ology of flowering plants. Students
cies-sp site. Ha cussed door fa	ecific o abitat e I. The m cilities	characteristics of these p ecological, geobotanical, nodule will also include s and greenhouses to hel	lants. Students will p climatic as well as co sessions at the Botan	ractise using field § onservation-relevan ical Garden of the L	I to the family- as well as spe- guides and identification keys on It characteristics will also be dis- Jniversity of Würzburg with its out n skills.
		ning outcomes	_		
floweri	ng plar				ics and taxonomy of indigenous nd know how to use Floras and set
Course	<b>s</b> (type	, number of weekly cont	act hours, language –	- if other than Germ	nan)
compo • c	nent. 07-4A4F	-L-1-102: V + Ü (no inform	nation on SWS (weekl	y contact hours) an	listed separately for each module d course language available) ourse language available)
		s <b>essment</b> (type, scope, l ion on whether module o			nation offered — if not every seme-
low. Ur		ated otherwise, success			ule components as specified be- e successful completion of all indi
of Gern • 4 • v v	nany FECTS, vritten veighte	Method of grading: num examination (approx. 45	erical grade minutes) and practic		f Germany Introduction to the Flora signment (approx. 45 minutes),

• Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises (particular emphasis to be placed on the setting up a herbarium) as specified at the beginning of the course.

**Assessment in module component 07-4A4FL-2-102:** Field Excursions on the Flora of Germany

- 3 ECTS, Method of grading: (not) successfully completed
- log (approx. 1 to 2 pages per field trip)
- Assessment offered: once a year, summer semester

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#### Allocation of places

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

#### Additional information

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Workload

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Teaching cycle

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

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### Module appears in

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

Bachelor's with 1	major Biol	ogy (2011)
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Module title				Abbreviation	
Cell- and Dev	elopmental Biology for a	dvanced students		07-4BFMZ1-102-m01	
Module coordinator			Module offered by		
holder of the Chair of Cell Biology and Dillogy		Developmental Bio-	Faculty of Biology		
ECTS Meth	od of grading	Only after succ. con	pl. of module(s)		
5 nume	rical grade				
Duration	Module level	Other prerequisites			
and su		and successful com	dmission prerequisite to assessment: regular attendance of exercises nd successful completion of the respective exercises as specified at the eginning of the course.		
Contents					
animals. Parti		laced on providing st	udents with an oppo	cular developmental biology of ortunity to become proficient in	
Intended lear	ning outcomes				
Students are	able to use fundamental	methods to approach	simple problems in	animal developmental biology.	
Courses (type	, number of weekly conta	act hours, language –	if other than Germa	an)	
V + Ü (no info	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)	
ster, informat	ion on whether module c	an be chosen to earn	a bonus)	tion offered — if not every seme-	
c) oral examir didates (appr	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	tes) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- minutes); students will be infor-	
Allocation of	places				
allocated as f logy) with 180 ces will be all 5% of places ject Biologie ( thematics and ject Biology (a ble in one quo the other quo places, there courses of a r dure, applicat tive module w they become plicants' prev of ECTS credit all module co thematik (Ma firstly, accord and, secondly position in a t cording to thi	ollows: Places will primar ECTS credits. Should the ocated to students of the (a minimum of one partic Biology) with 60 ECTS cred d Mathematik (Mathemat as well as potentially to st ota exceed the number of ta. Should there be, within will be a uniform regulation nodule component that a nots who already have suc- vill be given preferential co available. Selection proce- ious academic achievements in the subject thematics)) at the time of ing to their average grade of, according to their total hird ranking will be calcu- s third ranking. Among ap	rily be allocated to struct module be used in or Bachelor's degree su- ipant in total) will be edits and to students ics), each with 180 E0 tudents of other 'imp applications, the ren in one module compo- on for the courses of re concerned will be cessfully completed a consideration. A waiti ess group 1 (95%): Pla- ents. For this purposed their average grade of Biologie (Biology) application. This will e weighted according number of ECTS cred allated as the sum of to pplicants with the sar	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). Sho 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 (O be done as follows: to the number of EC its achieved (quantit hese two rankings, a ne ranking, places w	f available places, places will be lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- 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- <i>v</i> ill be allocated according to the will be allocated according to the	

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 72 / 254
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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.

#### Additional information

Workload

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#### **Teaching cycle**

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

#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 73 / 254
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Module	e title				Abbreviation
Microb	iology	for advanced students			07-4BFMZ3-102-m01
Module	e coord	inator		Module offered by	·
holder	of the (	Chair of Microbiology		Faculty of Biology	
ECTS	CTS Method of grading Only after succ. com		npl. of module(s)		
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 semesterundergraduateAdmission prerequisite to assessment: regular attendance of exe and successful completion of the respective exercises as specifie beginning of the course.		-			
Conten	Contents				

This module will acquaint students with the fundamental principles of the physiology and molecular biology of microorganisms.

#### Intended learning outcomes

Students are able to use fundamental methods to approach simple problems in microbiology. They are familiar with topics in microbiology.

**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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

# Allocation of places

Number of places: 40. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, pla-

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

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ces 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.

#### Additional information

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Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 75 / 254
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	Abbreviation
	07-4BFMZ4-102-m01
Module offered by	, <u> </u>
Faculty of Biology	
Only after succ. compl. of module(s)	
-	
Other prerequisites	
1 semester       undergraduate       Admission prerequisite to assessment: regular attendance         and successful completion of the respective exercises as         beginning of the course.	
	and successful completion of the respe

#### Contents

The module will introduce students to the practice of bioinformatics and will cover the following topics: sequence analysis, structure analysis, genome analysis, cellular and metabolic networks as well as gene regulation.

#### Intended learning outcomes

Students are able to use appropriate bioinformatic algorithms to address simple problems as well as to interpret their results.

**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 can be chosen to earn a bonus)

log (approx. 10 to 20 pages)

Language of assessment: German or English

#### **Allocation of places**

Number of places: 40. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant;

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among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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Workload

# Teaching cycle

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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	
Biotechnology 1				07-4BFMZ5-112-m01	
Modul	e coord	inator		Module offered by	
holder	ofthe	Chair of Biotechnology a	nd Biophysics	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		
		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.			
Contents					
In this module (lab course and seminar), students will acquire fundamental specialist knowledge in the areas of biotechnology, biophysics and microscopic imaging. Students will gain an insight into different topics in bio-					

of biotechnology, biophysics and microscopic imaging. Students will gain an insight into different topics in biotechnology and biophysics at the molecular and cellular level. The following topics will be covered: introduction to photon absorption, (UV/VIS) spectroscopy, fluorescence anisotropy, time-resolved fluorescence measurement, fluorescent labelling of proteins, circular dichroism, confocal laser scanning microscopy (CLSM), electrophysiological techniques, osmoregulation in animal cells, dielectric analysis and electromanipulation of cells. During the practical part, students will become familiar with the abovementioned technologies and will perform several experiments under expert guidance.

#### Intended learning outcomes

Students will have acquired a knowledge of fundamental biotechnological and biophysical methods and their applications that will enable them to independently review relevant literature. In addition, they will have become acquainted with - or, where necessary, will be able to independently acquaint themselves with - biophysical mechanisms. Students will have acquired practical experience performing experiments, using a variety of scientific tools. In the seminar, students will have acquired detailed theoretical knowledge on these experiments and will have delivered a short presentation (15 minutes) on one of the experiments they performed.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

#### **Allocation of places**

Number of places: 24. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number

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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 their total number of ECTS credits allocated according to the qualitative 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 of the respective applicant; among applicants with the same number of subject semesters of the respective applicant; among applicants with the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

#### Additional information

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#### Workload

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**Teaching cycle** 

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

# Module appears in

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Module title				Abbreviation	
Neuro	piology	for advanced students			07-4BFNV01-102-m01
Modul	e coord	linator		Module offered by	
holder	of the	Chair of Neurobiology ar	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 semester undergraduate			pletion of the respec	regular attendance of exercises tive exercises as specified at the	
Conter	nts	•	•		
The module Neurobiologie für Fortgeschrittene (Neurobiology for Advanced Students) will comprise lectures,					

The module *Neurobiologie für Fortgeschrittene* (*Neurobiology for Advanced Students*) will comprise lectures, exercises and talks. The lecture will address different aspects of the human brain, and students will acquire a knowledge of the respective fundamental principles. A new aspect will be discussed each day. Wherever possible, parallels will be drawn with the neurobiology of the fruit fly, Drosophila melanogaster, and advantages and limitations of this model organism will be discussed. Students will deliver short talks to complement the lecture. The topics of these talks will have a connection with the topics covered in the lecture and will be assigned to students prior to the lab course. The module will also include small-scale exercises/experiments on the contents of each lecture.

#### Intended learning outcomes

Students have acquired an advanced knowledge in the area of neurobiology and recognise the relevance research findings in neurobiology have to medicine.

**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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

# Allocation of places

Number of places: 40. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking)

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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.

#### Additional information

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Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 81 / 254
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Modul	e title				Abbreviation	
Behavi	ioral Ph	ysiology			07-4BFNVO2-102-m	101
Module coordinator				Module offered by	<u> </u>	
holder of the Chair of Behavioral Physiology			siology and Sociobio-	Faculty of Biology		
logy	ortife		slotogy and sociobio	l dealty of blotogy		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
5		rical grade		• • • •		
Duratio	on	Module level	Other prerequisites	5		
1 seme	ster	undergraduate		site to assessment:	regular attendance o	of exercises
			and successful com	pletion of the respec	ctive exercises as sp	ecified at the
			beginning of the co	urse.		
Conter	nts					
Specifi	ic and c	omparative animal phy	siology with a focus or	n neurophysiology, s	ensory physiology a	nd behaviou-
ral eco				i ilearophysiology, s	ensery physiclegy a	
		ning outcomes				
			and skills in the area of	hehavioural physiol	ogy They are familia	ar with hypo-
			used in research in th		by, mey are failing	a with hypo-
		· ·	ntact hours, language –		n)	
			ly contact hours) and co			
			·			
			language — if other th can be chosen to earn		ition offered — If not	every seme-
			xamination (approx. 45		log (approx 10 to 2	o nages) or
			each (approx. 30 mini			
			didate) or e) presentati			
			f the assessment prior			
Allocat	tion of p	olaces				
allocat logy) w ces wil 5% of p ject Bid ble in of the oth places course dure, a tive mo they be plicant of ECTS all moo themat firstly, and, se positio cording qualita	ed as for ith 1800 l be allo blaces ( blogie ( tics and blogy (a blogy (a b	bllows: Places will prim ECTS credits. Should to cated to students of the a minimum of one part Biology) with 60 ECTS of Mathematik (Mathem as well as potentially to ota exceed the number ta. Should there be, wit will be a uniform regulation nodule component that available. Selection pro- tious academic achieve s they have achieved a mponents in the subjec- thematics)) at the time ing to their average gra a according to their tota hird ranking will be call s third ranking. Among nking or otherwise by lo	imber of applications entries of applicated to stand to students of the Bachelor's degree staticipant in total) will be credits and to students atics), each with 180 E students of other 'imp of applications, the remain one module composition for the courses of the consideration. A waitin consideration. A waitin consideration. A waitin consideration. A waitin consideration. This will de weighted according al number of ECTS cred culated as the sum of the same of the sum of the same of the sum of the same of the sum of the same concerned with the same concerned the sum of the same concerned the sum of the same concerned the same concer	udents of the Bachel other subjects, there ubject Biologie (Biole allocated to student of the Bachelor's de CTS credits, as part of orting' subjects). Sh maining places will b onent, several course one module compor allocated in a standa at least one other mo ing list will be mainta aces will primarily be of all assessments t (excluding Chemie (I l be done as follows to the number of EC its achieved (quantit hese two rankings, a me ranking, places w oup 2 (5%): Places v	or's degree subject i will be two quotas: ogy) with 180 ECTS c is of the Bachelor's of gree subjects Comp of the application-ori ould the number of p e allocated to applic es with a restricted n hent. In this case, pla ardised procedure. In odule component of ained and places re- e allocated according ranked according to aken during their stu Chemistry), Physik (F First, applicants wil TS credits (qualitative ranking). The a and places will be allocated accord will be allocated accord	Biologie (Bio 95% of pla- redits and degree sub- utational Ma- ented sub- olaces availa- cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma- ll be ranked, ve ranking) applicants' located ac- ording to the ording to the
Bachelor's	with 1 ma	jor Biology (2011)		Irg • generated 26-Aug-2024		page 82 / 254
			reg. data reco	ord Bachelor (180 ECTS) Biolo	gie - 2011	

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.

#### Additional information

Workload

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#### **Teaching cycle**

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

# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 83 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title			Abbreviation		
Basics in Ecology of Animals			07-4BFNVO3-102-m01		
Module coordinator		Module offered by	· · · · · · · · · · · · · · · · · · ·		
holder of the Chair of Animal E	cology and Tropical Biology	Faculty of Biology			
ECTS Method of grading	Only after succ. con	Only after succ. compl. of module(s)			
5 numerical grade					
Duration Module level	Other prerequisites	Other prerequisites			
1 semester undergraduate		pletion of the respec	regular attendance of exercises ctive exercises as specified at the		
Contents					

Selected topics in autecology and synecology; experimental design, data collection and analysis in animal ecology.

#### Intended learning outcomes

Students have acquired an advanced knowledge in the area of animal ecology. They are able to design simple ecological lab and field experiments as well as to interpret and present their findings.

**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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

# Allocation of places

Number of places: 40. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, pla-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 84 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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ces 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.

#### Additional information

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Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 85 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation
Molecu	lar Phy	siology for Advanced St	udents		07-4BFPS1-102-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Chair of Plant Physiology	and Biophysics	Faculty of Biology	
ECTS	Methe	od of grading	Only after succ. compl. of module(s)		
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semesterundergraduateAdmission prerequisite to assessment: regular attendance of e and successful completion of the respective exercises as speci beginning of the course.			-		
Conten	ts				

This module will equip students with the theoretical foundations of fundamental processes in plants, such as nitrogen and carbon metabolism. The methodological approaches in experimental plant physiology will be discussed and the molecular techniques for functional gene analysis (reverse genetics and other techniques) will be applied.

#### Intended learning outcomes

Students have acquired fundamental knowledge on plant nutrient cycles and are proficient in molecular and 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 whether module can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

# **Allocation of places**

Number of places: 16. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the

 Bachelor's with 1 major Biology (2011)
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 reg. data record Bachelor (180 ECTS) Biologie - 2011
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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.

# Additional information

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Workload

Teaching cycle

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

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## Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 87 / 254
Duchetor 5 with I major Diology (2011)	Jino Walzbarg - generated zo hag zozz - exam.	page 0/ / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

Bachelor's with 1 major Biology (2011)

Module tit	le			Abbreviation
Membranebiology of Plants for Advanced Students				07-4BFPS2-112-m01
Module co	ordinator		Module offered by	
holder of t	ne Chair of Plant Physiolog	y and Biophysics	Faculty of Biology	
ECTS M	ethod of grading	Only after succ. cor	npl. of module(s)	
5 nu	merical grade			
Duration	Module level	Other prerequisites		
1 semeste	undergraduate		pletion of the respe	regular attendance of exercises ctive exercises as specified at the
Contents				
methods v		terised. For this purpo	se, students will be i	ane transport and the biophysical introduced to modern methods of
Intended l	earning outcomes			
	nderstand basic membrar i intact plants, isolated pla			experimental methods in experi- ems.
Courses (t	/pe, number of weekly con	tact hours, language -	– if other than Germa	an)
V + Ü (no i	nformation on SWS (weekl	y contact hours) and c	ourse language avai	lable)
	<b>assessment</b> (type, scope, nation on whether module			ation offered — if not every seme-
didates (a	pprox. 20 minutes per can the method and length of	didate) or e) presentat	ion (approx. 20 to 30	ination in groups of up to 3 can- o minutes); students will be infor-
allocated a logy) with ces will be 5% of place ject Biolog thematics ject Biolog ble in one the other of places, the courses of dure, appl tive modul they becom plicants' p of ECTS created all module thematik ( firstly, accomposition in cording to qualitative	is follows: Places will prim 180 ECTS credits. Should the allocated to students of the es (a minimum of one part ie (Biology) with 60 ECTS of and Mathematik (Mathematik (Mathematik (Mathematik)) (as well as potentially to quota exceed the number uota. Should there be, with re will be a uniform regular a module component that cants who already have su e will be given preferential ne available. Selection pro- revious academic achieved atter they have achieved an components in the subject Mathematics)) at the time ording to their average grad- adly, according to their tota a third ranking will be callo- this third ranking. Among ranking or otherwise by low	arily be allocated to st he module be used in he Bachelor's degree s icipant in total) will be credits and to students atics), each with 180 E students of other 'imp of applications, the re thin one module comp ation for the courses of are concerned will be accessfully completed consideration. A wait becess group 1 (95%): Pl ments. For this purpos nd their average grade of Biologie (Biology) of application. This wi de weighted according al number of ECTS cred culated as the sum of applicants with the sa bt. Selection process g	udents of the Bache other subjects, there ubject Biologie (Biol allocated to studen of the Bachelor's de CTS credits, as part of orting' subjects). Sh maining places will be onent, several cours one module compo allocated in a stand at least one other m ing list will be maint laces will primarily b e, applicants will be of all assessments (excluding Chemie ( Il be done as follows to the number of EC lits achieved (quanti these two rankings, a me ranking, places v roup 2 (5%): Places v	f available places, places will be clor's degree subject Biologie (Bio e will be two quotas: 95% of pla- logy) with 180 ECTS credits and ts of the Bachelor's degree sub- egree subjects Computational Ma of the application-oriented sub- nould the number of places available 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 re allocated according to the ap- ranked according to the number taken during their studies or of (Chemistry), Physik (Physics), Ma- s: First, applicants will be ranked, CTS credits (qualitative ranking) tative ranking). The applicants' and places will be allocated ac- will be allocated according to the will be allocated according to the

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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.

#### Additional information

Workload

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**Teaching cycle** 

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

Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 89 / 254
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Module title					Abbreviation	
Protein Biochemistry and Photobiology for Advanced St			ology for Advanced Stud	ents	07-4BFPS3-112-m01	
Modu	le coord	linator		Module offered by	/	
holde	r of the	Chair of Plant Physiol	ogy and Biophysics	Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)		
5	nume	erical grade				
Durati	on	Module level	Other prerequisites	5		
1 sem	ester	undergraduate	Admission prerequi	isite to assessment	regular attendance of exercises	
			and successful com	and successful completion of the respective exercises as specified at the		
			beginning of the co	urse.		
Conte	nts	• •				
recept	ors and	I will learn the fundan		piochemical and mo	t, biological and microbial photo- lecular biological methods for the on of receptors.	
Intend	led lear	ning outcomes				
		familiar with the bioc se these using approp		ogy and function of	biological photoreceptors and are	
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)						
V + Ü (	(no info	rmation on SWS (wee	ekly contact hours) and c	ourse language ava	ilable)	
			e, language — if other th Ile can be chosen to earr		ation offered — if not every seme-	
metho	ds of a	ssessment: a) written	examination (approx. 4	5 to 60 minutes) or l	o) log (approx. 10 to 20 pages) or	

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

#### Allocation of places

Number of places: 16. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 90 / 254
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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.

#### Additional information

Workload

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**Teaching cycle** 

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

Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 91 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title Abbreviation					Abbreviation
Basic plant Ecophysiology					07-4BFPS4-102-m01
Module	e coord	inator		Module offered by	
holder of the Chair of Ecophysiology and			nd Vegetation Ecolo-	Faculty of Biology	
gy					
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		pletion of the respec	regular attendance of exercises ctive exercises as specified at the
Conten	ts				
the inte	eractior		ir environment and w	/ill make students fa	the theoretical fundamentals of miliar with the molecular biologi- tigate this interaction.
Intende	ed lear	ning outcomes			
		pe able to recognise, des ple to perform basic expe			plants and their environment.
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	ın)
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		essment (type, scope, la on on whether module ca			tion offered — if not every seme-
written	exami	nation (approx. 60 minut	es)		
Allocat	ion of p	olaces			
allocate logy) w ces will 5% of p ject Bio themat ject Bio ble in o the oth places, courses dure, a tive mo they be plicants of ECTS all mod themat firstly, a and, se positio cording qualita followin compol	ed as fo ith 180 l be allo places ( plogie (l ics and plogy (a one quo er quot there v s of a m pplicar odule w ecome a s' previ 5 credit: lule cor ik (Mat accordi condly n in a t g to this tive rar ng quot nents o	billows: Places will primar ECTS credits. Should the poated to students of the a minimum of one partic Biology) with 60 ECTS cre Mathematik (Mathemat s well as potentially to st ta exceed the number of a. Should there be, within will be a uniform regulation odule component that a ts who already have suc ill be given preferential c available. Selection proce ous academic achievement s they have achieved and ponents in the subject hematics)) at the time of ng to their average grade a cacording to their total hird ranking will be calcu third ranking. Among ap king or otherwise by lot. as: Quota 1 (50% of plac f the Faculty of Biology; a	ily be allocated to struct module be used in or Bachelor's degree su ipant in total) will be edits and to students ics), each with 180 E0 tudents of other 'imp applications, the rem 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 I their average grade of Biologie (Biology) application. This will weighted according number of ECTS credi- lated as the sum of to plicants with the sam Selection process gr es): total number of I among applicants with	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). Sho naining places will b onent, several course one module compor allocated in a standa at least one other mod ng list will be mainta aces will primarily be e, applicants will be of all assessments t (excluding Chemie (C l be done as follows: to the number of EC its achieved (quantit hese two rankings, a ne ranking, places w oup 2 (5%): Places w ECTS credits already th the same number	available places, places will be lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and is of the Bachelor's degree sub- gree subjects Computational Ma- of the application-oriented sub- ould the number of places availa- te 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 aken during their studies or of Chemistry), Physik (Physics), Ma- e First, applicants will be ranked, TS credits (qualitative ranking) cative ranking). The applicants' and places will be allocated ac- rill be allocated according to the achieved in modules/module of ECTS credits achieved, pla- ers of the respective applicant;

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 92 / 254
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among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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Workload

# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 93 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title Pharmaceutical Bioanalytics					Abbreviation	
					07-4BFPS5-112-m01	
Module	e coord	inator		Module offered by		
holder	of the	Chair of Pharmaceutical	l Biology	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	ester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises			
			and successful completion of the respective exercises as specified at the			
			beginning of the course.			
Contents						
analys	is. It wi	ll include an introductio	on to chromatographic	methods of analysis	nentals of drug and metabolite as well as modern methods in	

computational chemistry. Qualitative and quantitative analyses of active agents and metabolites will be performed on, for example, complex drug, plant and urine samples.

#### Intended learning outcomes

Students have developed fundamental knowledge and skills in the area of drug and metabolite analysis and are proficient in chromatographic methods.

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

 $\ddot{U}$  + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

# **Allocation of places**

Number of places: 16. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 94 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

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.

## Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 95 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Bachelor's with 1 major Biology (2011)

Modul	e title				Abbreviation
Pharm	Pharmaceutical Biotechnology				07-4BFPS6-112-m01
Module coordinator				Module offered by	
holder	of the (	Chair of Pharmaceutical E	Biology	Faculty of Biology	
ECTS		od of grading	Only after succ. con	npl. of module(s)	
5		rical grade			
Duratio		Module level	Other prerequisites		
1 seme	ester	undergraduate		pletion of the respe	regular attendance of exercises ctive exercises as specified at the
Conter	nts		-		
logy. T duction toplast nes), u maceu	he follo n of ger ts), dete isage of tical pro	wing methods/topics wi etically modified plants ection of heterologous ge	ll be addressed: Meth (Agrobacterium-medi ene expression (real-t	nods: construction o iated transformation ime PCR, Western bl	ds of pharmaceutical biotechno- f vector plasmids (cloning), pro- n, transient transformation of pro- lot, GFP, GUS and LUC reporter ge- on of transcription factors, phar-
solve a	a scient	fic problem.			se the appropriate technology to
Course	<b>es</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	an)
Ü + S (	no infoi	mation on SWS (weekly	contact hours) and co	ourse language avail	lable)
		<b>essment</b> (type, scope, la on on whether module c			ation offered — if not every seme-
c) oral didate	examin s (appro	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exam on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- o minutes); students will be infor-
Allocat	tion of p	olaces			
allocat logy) w ces wil 5% of J ject Bid thema ject Bid ble in of the oth places course dure, a tive mo they be plicant of ECTS all moo thema firstly, and, se	ted as for vith 180 ll be allo places ( blogie ( tics and blogy (a blogy (a	ollows: Places will prima ECTS credits. Should the ocated to students of the a minimum of one partic Biology) with 60 ECTS cred Mathematik (Mathemat s well as potentially to s ta exceed the number of a. Should there be, with will be a uniform regulati todule component that a ts who already have suc available. Selection proc ous academic achievem s they have achieved and nponents in the subject hematics)) at the time of ng to their average grade , according to their total	rily be allocated to stree module be used in or Bachelor's degree su- ipant in total) will be edits and to students ics), each with 180 E0 tudents of other 'imp applications, the rer in one module compo- on for the courses of the concerned will be cessfully completed a consideration. A waiti ess group 1 (95%): Pl ents. For this purpose d their average grade of Biologie (Biology) application. This will e weighted according number of ECTS cred	udents of the Bache other subjects, there ubject Biologie (Biole 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 me ng list will be mainta aces will primarily be of all assessments t (excluding Chemie ( l be done as follows to the number of EC its achieved (quantit	f available places, places will be lor's degree subject Biologie (Bio- e will be two quotas: 95% of pla- 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, CTS credits (qualitative ranking) tative ranking). The applicants' and places will be allocated ac-

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cording 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.

#### Additional information

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Workload

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Teaching cycle

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

Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 97 / 254
, , , ,	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation	
Basics	Basics in Light- and Electron-Microscopy				07-4S1MZ1-102-m01	
Modul	e coord	linator		Module offered by		
head o	of the D	epartment of Electroi	nmicroscopy	Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)		
5	nume	rical grade				
Duratio	on	Module level	Other prerequisite	Other prerequisites		
1 semester undergraduate		and successful con	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.			
Conter	nts					
Fundar	mental	principles of confoca	al laser scanning microsc	opy and electron mic	roscopy.	
Intond	od loar	ning outcomes				

#### Intended learning outcomes

Students have acquired theoretical knowledge and practical skills in the area of light and electron microscopy.

**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 can be chosen to earn a bonus)

written examination (approx. 30 to 60 minutes)

### Allocation of places

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 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 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.

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 98 / 254
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Additional information	
Workload	
Teaching cycle	
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)	
Module appears in	
Bachelor' degree (1 major) Biology (2011)	
Bachelor' degree (1 major) Biology (2010)	
Bachelor' degree (1 major) Mathematics (2012)	
Bachelor' degree (1 major) Mathematics (2013)	
Bachelor' degree (1 major) Physics (2010)	
Bachelor' degree (1 major) Nanostructure Technology (2010)	
Bachelor' degree (1 major) Nanostructure Technology (2012)	
Bachelor' degree (1 major) Computational Mathematics (2012)	
Bachelor' degree (1 major) Computational Mathematics (2013)	
Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)	

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 99 / 254	
	reg. data record Bachelor (180 ECTS) Biologie - 2011		

Module title					Abbreviation
Analysis of Chromosomes					07-4S1MZ2-102-m01
Module	e coord	inator		Module offered by	
head o	f the D	epartment of Electronmic	roscopy	Faculty of Biology	
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 semester undergraduate		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.			
Contents					
Overvie	Overview of the structure of chromosomes of somatic and meiotic cells.				

#### Intended learning outcomes

Students are able to analyse chromosomal structures.

**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 can be chosen to earn a bonus)

written examination (approx. 30 to 60 minutes)

#### Allocation of places

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 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 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.

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

# Additional information

Workload

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Teaching cycle

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

# Module appears in

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 101 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Ecology	title				Abbreviation
	and Devel	opmental Biolog	y of Marine Organisms	;	07-4S1MZ3-112-m01
Module coordinator			Module offered by		
		ment of Electron	microscopy	Faculty of Biology	
	Method of		Only after succ. co		
	numerical			•	
Duration	n Mo	dule level	Other prerequisite	25	
1 semester undergraduate		By way of exception assessments.	n, additional prerec	quisites are listed in the section on	
Contents	S				
					ith an insight both into the organis he island of Helgoland in the North
	d learning				
	s are famil ecosystem		hology, developmenta	l biology, physiolog	y and ecology of organisms in a
Courses	(type, nur	nber of weekly co	ontact hours, language	— if other than Gerr	nan)
• 07	7-4S1MZ3-2	MO-112: Ü + E (no	information on SWS (v	veekly contact hours	and course language available) 5) and course language available) nation offered — if not every seme
			e can be chosen to ear		
Assessm low. Unle vidual as	nent in this ess stated ssessmen	s module compris otherwise, succe s.	ses the assessments in	the individual mod e module will requir	
Assessm low. Unlovidual as Assessm • 1 E • pro • As Assessm Marine E • 4 E	nent in this ess stated ssessment nent in mo ECTS, Meth resentation ssessment nent in mo Biology (pr ECTS, Meth	s module compris otherwise, succe s. dule component nod of grading: (n (approx. 20 to 3 offered: once a y dule component	es the assessments in essful completion of the o7-4S1MZ3-2MO-092: ot) successfully compl o minutes) ear, summer semester o7-4S1MZ3-1MO-112: / d field excursion)	the individual mod e module will requir Seminar on Marine eted	e successful completion of all ind
Assessm low. Unlovidual as Assessm 1 E 9 pro Ass Assessm Marine E 9 4 E 9 log 0 Ot	nent in this ess stated ssessment nent in mo ECTS, Meth esentation sessment nent in mo Biology (pr ECTS, Meth g (approx. ther prerec	s module compris otherwise, succe s. dule component nod of grading: (n (approx. 20 to 3 offered: once a y dule component actical course an nod of grading: no 10 to 20 pages) quisites: Admissi	ses the assessments in essful completion of the o7-4S1MZ3-2MO-092: ot) successfully compl o minutes) ear, summer semester o7-4S1MZ3-1MO-112: <i>I</i> d field excursion) umerical grade	the individual mod e module will requir Seminar on Marine eted Marine Biology (prac essment: regular at	e successful completion of all ind Biology ctical course and field excursion) ttendance of exercises and suc-
Assessm low. Unlovidual as Assessm • 1 E • providual • As Assessm Marine E • 4 E • log • Ot ce	nent in this ess stated ssessment nent in mo ECTS, Meth esentation sessment nent in mo Biology (pr ECTS, Meth g (approx. ther prerec	s module compris otherwise, succe s. dule component nod of grading: (n (approx. 20 to 3 offered: once a y dule component actical course an nod of grading: nu 10 to 20 pages) quisites: Admissi pletion of the resp	ses the assessments in essful completion of the o7-4S1MZ3-2MO-092: ot) successfully compl o minutes) ear, summer semester o7-4S1MZ3-1MO-112: / d field excursion) umerical grade on prerequisite to ass	the individual mod e module will requir Seminar on Marine eted Marine Biology (prac essment: regular at	e successful completion of all ind Biology ctical course and field excursion) ttendance of exercises and suc-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 102 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

#### Additional information

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Workload

Teaching cycle

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

# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 103 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Metho	Methods in Biotechnology 07-4S1MZ4-102-m01				
Module	e coord	inator		Module offered by	
holder	of the C	Chair of Biotechnology ar	nd 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				
techno lysis of	logy an f biolog	d biomedicine and the u	nderlying physical pr ular and cellular level	inciples. It will discu I. These methods inc	trument-based methods in bio- uss modern methods for the ana- lude light microscopy, fluore- netry and microfluidics.
Intend	ed learr	ning outcomes			
		gain an overview of key n ll learn to decide what m			ctive advantages and disadvan- particular issue.
Course	s (type	number of weekly conta	ct hours, language –	- if other than Germa	
This mo compo • c	odule c nent. 07-4S1N	omprises 2 module comp IZ4-1-102: V (no informat	oonents. Information ion on SWS (weekly o	on courses will be li contact hours) and c	sted separately for each module ourse language available) ourse language available)
Metho ster, in	<b>d of ass</b> formati	<b>essment</b> (type, scope, la on on whether module ca	nguage — if other than be chosen to earn	an German, examina a bonus)	ition offered — if not every seme-
low. Ur		ated otherwise, successf			successful completion of all indi-
• 3 • v Assess • 2	BECTS, vritten e sment in ECTS,	module component o7- Method of grading: nume examination (approx. 30 module component o7- Method of grading: (not) ation (approx. 15 to 20 m	erical grade minutes) <b>4S1MZ4-2-102:</b> Meth successfully comple	ods in Biotechnolog	
Allocat	ion of p	olaces			
allocat logy) w ces wil 5% of p ject Bio ble in o the oth places, course dure, a tive mo they be plicant	ed as for vith 180 l be allo blaces ( blogie (l tics and blogy (a blogy (a	ollows: Places will primar ECTS credits. Should the ocated to students of the a minimum of one partic Biology) with 60 ECTS cre Mathematik (Mathemat s well as potentially to st ta exceed the number of a. Should there be, withi will be a uniform regulation odule component that a ts who already have suc ill be given preferential c available. Selection proce ous academic achievement	ily be allocated to sta 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 'imp applications, the rer in one module compo on for the courses of re concerned will be cessfully completed onsideration. A waiti ess group 1 (95%): Ple ents. For this purpose	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). She 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 e, applicants will be	Favailable places, places will be lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and its of the Bachelor's degree sub- gree 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 aken during their studies or of

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 104 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

# Additional information

Workload

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Teaching cycle

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

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# Module appears in

Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2010) Bachelor' degree (1 major) Physics (2010)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 105 / 254
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Module title		Abbreviation		
Aspects of molecular Biotechnology 07-4S1MZ5-102-m01				07-4S1MZ5-102-m01
Module	e coordinator		Module offered by	
holder of the Chair of Biotechnology			Faculty of Biology	
ECTS	Method of grading	Only after succ. con	npl. of module(s)	
5	numerical grade			
Duratio		Other prerequisites	i	
1 seme	ster undergraduate			
Conten	ts			
mes, p sor des		ecular biology, recom	binant DNA technolo	nobilisation of cells and enzy- ogy, protein engineering, biosen- ibodies, hybridoma technology,
Intende	ed learning outcomes			
ges and Studen dently to inde	d disadvantages. They will learr its will acquire a knowledge of f	n to decide what meth undamental methods dition, they will becor with - relevant mech	od is most suitable in biotechnology th ne acquainted with - anisms.	or, where necessary, will be able
compo • c	-	tion on SWS (weekly o	contact hours) and co	
	<b>d of assessment</b> (type, scope, la formation on whether module o			tion offered — if not every seme-
low. Ur	ment in this module comprises nless stated otherwise, success assessments.			e components as specified be- successful completion of all indi-
<ul> <li>Assessment in module component 07-4S1MZ5-1-102: Aspects of molecular Biotechnology         <ul> <li>3 ECTS, Method of grading: numerical grade</li> <li>written examination (approx. 30 minutes)</li> </ul> </li> <li>Assessment in module component 07-4S1MZ5-2-102: Molecular Biotechnology - Seminar         <ul> <li>2 ECTS, Method of grading: (not) successfully completed</li> <li>presentation (approx. 15 to 20 minutes)</li> </ul> </li> </ul>				
Allocat	ion of places			
allocat logy) w ces wil 5% of p ject Bic themat ject Bic ble in c the oth places, course dure, a	ed as follows: Places will prima with 180 ECTS credits. Should the l be allocated to students of the places (a minimum of one partice plogie (Biology) with 60 ECTS cre- cics and Mathematik (Mathematice plogy (as well as potentially to so one quota exceed the number of the quota. Should there be, with there will be a uniform regulation of a module component that a pplicants who already have succ	rily be allocated to str e module be used in or Bachelor's degree su- ipant in total) will be edits and to students cics), each with 180 E0 tudents of other 'imp f applications, the rer in one module compo- tion for the courses of are concerned will be ccessfully completed	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). Sho naining places will b onent, several course one module compor allocated in a standa at least one other mo	is of the Bachelor's degree sub- gree subjects Computational Ma- of the application-oriented sub- ould the number of places availa- e allocated to applicants from es with a restricted number of

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 106 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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. XX2: XX3 places. Places will be allocated by lot.

#### Additional information

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Workload

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Teaching cycle

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

# Module appears in

Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2010) Master's degree (1 major) Functional Materials (2012)

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Module title					Abbreviation
Special Bioinformatics 1					07-4S1MZ6-102-m01
Module coordinator				Module offered by	
holder of the Chair of Bioinformatics				Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. compl. of module(s)		
5	nume	rical grade			
Duration Modul		Module level	Other prerequisites	i i i i i i i i i i i i i i i i i i i	
1 semester		undergraduate	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.		
Conten	its				

Fundamental principles of the tree of life, fundamental principles of phylogenetics (methods and markers), fundamental principles of evolutionary biology (concepts), sequence analysis, RNA structure prediction, phylogenetic reconstruction.

#### Intended learning outcomes

Students are able to use software and databases for sequence analysis, RNA structure prediction and phylogenetic reconstruction.

**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 can be chosen to earn a bonus)

log (approx. 10 to 20 pages)

Language of assessment: German or English

# Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant;

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among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

## Additional information

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### Workload

Teaching cycle

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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 (2010)

Bachelor' degree (1 major) Mathematics (2012)

Bachelor' degree (1 major) Mathematics (2013)

Bachelor' degree (1 major) Physics (2010)

Bachelor' degree (1 major) Nanostructure Technology (2010)

Bachelor' degree (1 major) Nanostructure Technology (2012)

Bachelor' degree (1 major) Computational Mathematics (2012)

Bachelor' degree (1 major) Computational Mathematics (2013)

Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul					Abbreviation
Specif	ic Cell-	and Developmental Biol	0gy 1		07-4S1MZ7-102-m01
Modul	Module coordinator			Module offered by	<u> </u>
		Chair of Cell Biology and	Developmental Bio-	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. con	pl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate		pletion of the respec	regular attendance of exercises ctive exercises as specified at the
Conter	nts				
ference dule w phila, l work w to prov	e will bo ill prov Hydra, vith urcl vide you	e used to make processe ide you with an opportur Trypanosoma and mamn hins - this is virtually a m	s visible as well as to hity to use transgenic halian cells as model ust at the Theodor-Bo	manipulate and dig c. elegans, Chlamyd organisms. Hopefull overi-Institute. The m	situ hybridisation and RNA inter- itally document these. This mo- omonas, Dictyostelium, Droso- y, we will also get a chance to nain aim of this practical course is selected fundamental concepts o
Intend	ed lear	ning outcomes			
Ability	to use	basic and advanced met	hods to approach sim	ple problems in ani	mal developmental biology.
Course	<b>es</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	in)
V + Ü (	no info	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)
		sessment (type, scope, la ion on whether module c			tion offered — if not every seme-
c) oral didate	examir s (appr	ation of one candidate e	each (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- minutes); students will be infor-
	tion of		•		
allocat logy) w ces wil 5% of j ject Bid thema ject Bid ble in o the oth places course dure, a tive mo they be plicant of ECTS all moo thema	ed as fi vith 180 Il be all places blogie ( tics and blogy (a blogy (a blog	ollows: Places will prima ECTS credits. Should the ocated to students of the (a minimum of one partice Biology) with 60 ECTS cred Mathematik (Mathematice is well as potentially to so ota exceed the number of ta. Should there be, with will be a uniform regulation nodule component that a not swho already have succ ill be given preferential of available. Selection proce ious academic achievem is they have achieved an imponents in the subject thematics)) at the time o	rily be allocated to str e module be used in or e Bachelor's degree su- cipant in total) will be edits and to students tics), each with 180 E0 tudents of other 'imp f applications, the rer in one module compo- tion for the courses of are concerned will be ccessfully completed consideration. A waiti ess group 1 (95%): Pl ents. For this purpose d their average grade of Biologie (Biology) f application. This wil	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 ( l be done as follows:	f available places, places will be lor's degree subject Biologie (Bio will be two quotas: 95% of pla- 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 saken during their studies or of Chemistry), Physik (Physics), Ma- : First, applicants will be ranked, TS credits (qualitative ranking)

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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.

#### Additional information

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Workload

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## Teaching cycle

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

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## Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 111 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Specific Methods in Proteinbiochemistry and Cell Biology			try and Cell Biology		07-4S1MZ8-102-m01
Module	e coord	linator		Module offered by	
holder of the Chair of Cell Biology and Developmental Bi logy		Developmental Bio-	Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	ipl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate	Admission prerequi	Admission prerequisite to assessment: regular attendance of exercises	
			and successful com	pletion of the respec	ctive exercises as specified at the
			beginning of the co	urse.	
			•		

#### Contents

Fundamental principles, theory and application of modern methods in cell biology. Since many of these methods are based on molecular biology and protein chemistry approaches, we will also discuss these techniques. Using practical examples, this course will acquaint students with the following methods: - cell fractionation - protein separation by one- and two-dimensional gel electrophoresis - identification of proteins and protein complexes with immunoblots - immunoprecipitation - overlay techniques or pull-down experiment - intracellular localisation of proteins by immunofluorescence microscopy - preparing cultivated cells and tissues for immunofluorescence microscopy - whole-mount immunolocalisation for the analysis of the expression pattern of a protein in the Xenopus embryo - whole-mount in situ hybridisation for the analysis of the expression pattern of an mRNA in the Xenopus embryo - investigation of the dynamic behaviour of proteins in living cells: expression of a fluorescent (GFP) fusion protein in human cells after transfection with a DNA vector - determination of the subclass of antibodies by immunodiffusion (Ouchterlony test). Basic experiments in molecular biology.

### Intended learning outcomes

Students will be familiar with the methods discussed in class and will know what problems in cell biology may be addressed with these methods.

**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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

## Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number

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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 their total number of ECTS credits allocated according to the qualitative 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 of the respective applicant; among applicants with the same number of subject semesters of the respective applicant; among applicants with the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

#### Additional information

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### Workload

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### Teaching cycle

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

## Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 113 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation
Neurob	Neurobiology 1				07-4S1NVO1-112-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Chair of Neurobiology and	d Genetics	Faculty of Biology	
ECTS	Methe	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	Admission prerequisite to assessment: regular attendance of exercises		
			and successful completion of the respective exercises as specified at the		
			beginning of the cou	urse.	
Conten	Its				
Neurobiology and methods in molecular neurobiology (neurogenetic model system Drosophila and humans) focus: sleep behaviour and endogenous clock.					
Intend	ed lear	ning outcomes			

Students have acquired an advanced knowledge of the neurobiology of a model organism and are able to apply the relevant methods in neurobiology.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

## Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, pla-

 Bachelor's with 1 major Biology (2011)
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 reg. data record Bachelor (180 ECTS) Biologie - 2011
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ces 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.

#### Additional information

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Workload

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Teaching cycle

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

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Module appears in

Bachelor' degree (1 major) Biology (2011)

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Module					Abbreviation	
Integra	ative Be	ehavioral Biology			07-4S1NVO2-102-m01	
Module	Module coordinator			Module offered by		
		Chair of Behavioral Phys	iology and Sociobio-	Faculty of Biology		
logy		·,		, 3,		
ECTS		od of grading	Only after succ. con	npl. of module(s)		
5	nume	rical grade				
Duratio		Module level	Other prerequisites			
1 seme	ster	undergraduate			regular attendance of exercises	
				• •	ctive exercises as specified at the	
_			beginning of the co	urse.		
Conten						
					oment, perception and proces-	
		ehaviour, orientation m		r, adaptive reeding i	pehaviour, reproductive beha-	
		ning outcomes				
			knowledge in the area	of behavioural biol	ogy and are able to deliver pre-	
		current studies on relev			by and are able to deliver pre	
Course	<b>s</b> (type	, number of weekly cont	act hours, language –	- if other than Germa	in)	
	-	mation on SWS (weekly				
		· · · · · · · · · · · · · · · · · · ·			tion offered — if not every seme-	
		ion on whether module				
metho	ds of as	ssessment: a) written ex	amination (approx. 45	to 60 minutes) or b	) log (approx. 10 to 20 pages) or	
					ination in groups of up to 3 can-	
		ox. 20 minutes per cand e method and length of :			minutes); students will be infor-	
		-	the assessment prior	to the course		
Allocat				1.1 1		
					f available places, places will be lor's degree subject Biologie (Bio	
					will be two quotas: 95% of pla-	
				•	ogy) with 180 ECTS credits and	
		-	-		ts of the Bachelor's degree sub-	
					gree 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	
course	s of a n	nodule component that	are concerned will be	allocated in a standa	ardised procedure. In this proce-	
		-			odule component of the respec-	
	tive 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 ap-					
plicants' previous academic achievements. For this purpose, applicants will be ranked according to the numbe of ECTS credits they have achieved and their average grade of all assessments 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-	
corum	ording 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.

## Additional information

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Workload

## Teaching cycle

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

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## Module appears in

Bachelor' degree (1 major) Biology (2011)

Bachelor' degree (1 major) Biology (2010)

Bachelor' degree (1 major) Mathematics (2012)

Bachelor' degree (1 major) Mathematics (2013)

Bachelor' degree (1 major) Computational Mathematics (2012)

Bachelor' degree (1 major) Computational Mathematics (2013)

Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Functio	Functional Morphology of arthropods				07-4S1NVO3-092-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Chair of Zoology III		Faculty of Biology	
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	1 semester undergraduate Admission prerequisite to assessment: regular attendance of exercis and successful completion of the respective exercises as specified a beginning of the course.			-	
Conten	ts				

Morphology, anatomy, phylogeny and ecology of arthropods.

## Intended learning outcomes

Students are able to explain arthropod radiations in a functional context as well as to explain the importance of arthropods to ecosystems.

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 can be chosen to earn a bonus)

term paper (approx. 5 to 10 pages)

#### Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters 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.

Bachelor's with 1 major Biology (2011) JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record Bachelor (180 ECTS) Biologie - 2011

Additional information	
Workload	
Teaching cycle	
<b>Referred to in LPO I</b> (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 Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 119 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation	
Basic F	Populat	ion Ecology			07-4S1NVO5-102-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Chair of Animal Ecology a	nd Tropical Biology	Faculty of Biology	
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 semester         undergraduate         Admission prerequisite to assessment: regular attendance of exercised and successful completion of the respective exercises as specified beginning of the course.		•			
Contents					
More in-depth discussion of the structure and dynamics of human and animal populations; regulation of popula- tion density; management.					

#### Intended learning outcomes

Students are able to interpret the structure and dynamics of populations and metapopulations on the basis of model concepts in population ecology and to apply more advanced methods of quantitative analysis to these.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

## Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, pla-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 120 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

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ces 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.

### Additional information

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Workload

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## Teaching cycle

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

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## Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 121 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation	
Molecu	ılar mo	delling - From DNA to pro	otein		07-4S1PS1-102-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		
and successf			sion prerequisite to assessment: regular attendance of exercises accessful completion of the respective exercises as specified at the ning of the course.		
Conten	ts				
This module will equip students with advanced knowledge on the structure and function of nucleic acids and proteins as well as on the search for and analysis and modelling of plant macromolecules using databases and specific software.					
Intended learning outcomes					
Students have acquired a specialist knowledge of the structure-function relationships of macromolecules and are able to work with relevant databases and software.					

**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 can be chosen to earn a bonus)

computerised practical examination (approx. 6 hours)

#### Allocation of places

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 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 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

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

## Additional information

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Workload

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## Teaching cycle

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

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## Module appears in

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 123 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation
Metho	ds in Pl	lant Ecophysiology			07-4S1PS2-112-m01
Modul	e coord	linator		Module offered by	
holder	ofthe	Chair of Plant Physiol	ogy and Biophysics	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. compl. of module(s)		
5	nume	rical grade			
Duratio	on	Module level	Other prerequisites	5	
1 semester       undergraduate       Admission prerequisite to assessment: regular attendance of exerciand seminar as well as successful completion of the respective exertion as specified at the beginning of the course.			letion of the respective exercises		
Contents					
Complex experiments to introduce students to the current state of research in plant ecophysiology as well as dis- cussion of experimental findings in a comprehensive scientific context.					

#### Intended learning outcomes

Students are able to use current methods in plant ecophysiology as well as to document experimental findings and put these in a scientific context.

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

Ü + 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 can be chosen to earn a bonus)

log (approx. 10 to 20 pages)

#### Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 124 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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

# Teaching cycle

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

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Module appears in

Bachelor' degree (1 major) Biology (2011)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 125 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation
Pharm	aceutio	al Drugs in Plants			07-4S1PS3-102-m01
Modul	e coord	linator		Module offered by	
holder	of the	Chair of Pharmaceutic	al Biology	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	and seminar as wel		regular attendance of exercises eletion of the respective exercises rse.
Conter	nts	• •			
cals as	s well a	s to their application in		c and phytochemica	al plants and phytopharmaceuti- l analyses will be performed and ed.
Intend	ed lear	ning outcomes			
			knowledge on active ag and analytical methods		l plants and phytopharmaceuti- eia.
Course	es (type	, number of weekly co	ntact hours, language –	- if other than Germa	an)
Ü + S (	no info	rmation on SWS (week	ly contact hours) and co	ourse language avail	able)
					tion offered — if not every seme-
ster, information on whether module can be chosen to earn a bonus) methods of assessment: a) written examination (approx. 45 to 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 of up to 3 can- didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course					

### Allocation of places

Number of places: 6. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module

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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.

#### Additional information

Workload

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### Teaching cycle

**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 (2010) Bachelor' degree (1 major) Mathematics (2012) Bachelor' degree (1 major) Mathematics (2013)

Bachelor' degree (1 major) Computational Mathematics (2012)

Bachelor' degree (1 major) Computational Mathematics (2013)

Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation
Basic Methods in Pharmaceutical Biology			ogy		07-4S1PS4-102-m01
Module coordinator				Module offered by	
holder of the Chair of Pharmaceutical Biology			Biology	Faculty of Biology	
ECTS	Methe	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	Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.		
Conten	te				

#### Contents

This module will provide students with a theoretical and methodological introduction to fundamental techniques in molecular biology and drug analysis. (For more information, please refer to www.pbio.biozentrum.uni-wuerz-burg.de.)

### Intended learning outcomes

Students are able to analyse groups of drugs, using a variety of methods.

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

 $\ddot{U}$  + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

## Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, pla-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 128 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

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ces 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.

### Additional information

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Workload

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## Teaching cycle

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

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## Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 129 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module					Abbreviation
Practic	Practical Course as Exchange Student				07-5AP-102-m01
Module coordinator				Module offered by	
Coordi	nator B	ioCareers		Faculty of Biology	
ECTS		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		eginning of the cour	regular attendance of lab course rse; please consult with acade-
Conten	ts				
change <i>Biowiss</i>	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.
Studen	ts are f				an Germany. They have develo-
Course	<b>s</b> (type	, number of weekly conta	ict hours, language —	if other than Germa	n)
P (no ir	format	tion on SWS (weekly cont	act hours) and cours	e language available	e)
		sessment (type, scope, la ion on whether module ca			tion offered — if not every seme-
c) oral ( didates	examin 5 (appr	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	tes) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-
Allocat	ion of <sub>l</sub>	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
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 (2010)					

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

moaule	e title				Abbreviation
External Practical Course					07-5EP-102-m01
Module	o coord	inator		Module offered by	
		ioCareers		Faculty of Biology	
ECTS		od of grading	Only after succ. com	, 0,	
10	<u> </u>	rical grade			
Duratio	·	Module level	Other prerequisites		
1 seme		undergraduate		site to assessment:	regular attendance of lab course
					rse; please consult with acade-
			, mic advisory service		
Conten	ts		<u> </u>		
		complete a placement at	an authority, a non-u	niversity research ir	nstitution or a business. Contents
		ned by the respective ins		······, ·····	
Intende	ed learr	ning outcomes			
Studen	its are f			ons and businesses	and have developed skills which
		, number of weekly conta		if other than Corma	
		•			
		ion on SWS (weekly cont			
		s <b>essment</b> (type, scope, la on on whether module ca			ation offered — if not every seme-
					) log (approx. 10 to 20 pages) or
					ination in groups of up to 3 can-
		e method and length of th			minutes); students will be infor-
Allocat		-			
Additio	nal inf	ormation			
Auuitio	matim				
Worklo					
WUIKIU					
 Taa ah !:		-			
Teachiı	ing cycl	e			
Referre	d to in	LPOI (examination regu	lations for teaching-o	legree programmes)	
Module appears in					
Bachelor' degree (1 major) Biology (2011)					
Bachelor' degree (1 major) Biology (2010) Bachelor' degree (1 major) Methematics (2010)					
Bachelor' degree (1 major) Mathematics (2012) Bachelor' degree (1 major) Mathematics (2012)					
Bachelor' degree (1 major) Mathematics (2013) Bachelor' degree (1 major) Computational Mathematics (2012)					
	Bachelor' degree (1 major) Computational Mathematics (2012) Bachelor' degree (1 major) Computational Mathematics (2013)				
Bachel	-				

Module					Abbreviation	
Specifi	c Cell-	and Developmental Bio	logy 2		07-5S2MZ1-102-m0	1
Module	e coord	inator		Module offered by	<u> </u>	
		Chair of Cell Biology and	Developmental Bio-	Faculty of Biology		
logy						
ECTS		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	Admission prerequi	site to assessment:	regular attendance o	of exercises
			and seminar as well	as successful comp	letion of the respect	ive exercises
			as specified at the b	beginning of the cou	rse.	
Conten	ts					
cell cyc del org compo ments t include sign se rescene Intende Studen able to Course Ü + S (r Method ster, in method c) oral d didates	ele cont anisms nents r to answ electure ries of ce and ed learn ts have indepe s (type no infor d of ass formati ds of ass examin s (appro	and developmental bic rol and the part the cell ranging from bacteria a edistributed during the ver these and other func- es, eLectures and, in pa experiments. The metho- electron microscopy to <b>ning outcomes</b> e acquired knowledge al endently perform scienti , number of weekly cont mation on SWS (weekly <b>sessment</b> (type, scope, on on whether module ssessment: a) written ex ation of one candidate ox. 20 minutes per cand	cycle plays in the dev and yeasts to frogs and cell cycle? What contro damental questions. Ir rticular, virtual experin ods you will use range methods in molecular bout general strategies fic laboratory work. cact hours, language – contact hours) and co language — if other the can be chosen to earn amination (approx. 45 each (approx. 30 minu lidate) or e) presentati	elopment of organis d mammals. How is g ols mitosis and repli n addition to the prac- ments that will teach from in vitro fertilisa biology such as Wes s and methods of mo - if other than Germa ourse language avail an German, examina a bonus) to 60 minutes) or b ites) or d) oral examion on (approx. 20 to 30	ms. We will offer a var growth controlled? H cation? We will perfo- ctical part, the cours you how to indeper ition as well as quan stern blot and RNA ir olecular and cell biol able) ition offered — if not olog (approx. 10 to 2 ination in groups of the statement of the statemen	ariety of mo- ow are cell orm experi- e will also idently de- titative fluo- iterference. logy. They ar every seme- o pages) or up to 3 can-
Allocat		e method and length of	the assessment prior i	to the course		
		ices: 20. Should the nur	mber of applications of	vceed the number of	available places pl	aces will be
allocate logy) w ces will 5% of p ject Bio ble in o the oth places, courses dure, a tive mo they be plicant of ECTS all moo	ed as fo ith 180 l be allo blaces ( blogie ( ics anc blogy (a one quo there v s of a m pplicar bdule w ecome a s' previ S credit lule con	ollows: Places will prima ECTS credits. Should the ocated to students of the a minimum of one parti Biology) with 60 ECTS can Mathematik (Mathematis well as potentially to so the exceed the number of the acceed the number of the acceed the number of the acceed the number of the swell as potentially to so the acceed the number of the acceed the number of the swell as potentially to so the acceed the number of the system of the subject the stress of the subject the subject of the subject the subject of the subject the stress) at the time of	arily be allocated to strate module be used in or e Bachelor's degree succipant in total) will be redits and to students titcs), each with 180 E0 students of other 'imp of applications, the rem in one module compo- tion for the courses of are concerned will be ccessfully completed consideration. A waiti cess group 1 (95%): Planents. For this purpose and their average grade t of Biologie (Biology)	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 e, applicants will be of all assessments t (excluding Chemie (	or's degree subject will be two quotas: ogy) with 180 ECTS c is of the Bachelor's of gree subjects Comp of the application-ori ould the number of p re allocated to applic es with a restricted n nent. In this case, pla ardised procedure. In odule component of ained and places re- e allocated according ranked according to aken during their stu Chemistry), Physik (F	Biologie (Bio 95% of pla- redits and degree sub- utational Ma ented sub- blaces availa cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma-
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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 of the respective applicant; among applicants with the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

### Additional information

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### Workload

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## Teaching cycle

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

## Module appears in

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

10         numerical grade	Modul	Module title Abbreviation					
Index         Only after succ. compl. of module(s)           CTS         Method of grading         Only after succ. compl. of module(s)           Duration         Module level         Other prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.           Contents         Admission prerequisite to assessment: regular attendance of exercises as specified at the beginning of the course.           Contents         In this module, students will investigate interactions of obligate intracellular and facultative intracellular bacteria with their host cells, e. g. the internalisation of pathogens by mammalian cells or interactions with cellular signa pathways.           Intended learning outcomes         You will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e. g. human epithelial cell culture, infecting these host cells with pathogenic microoganisms, analysing host-pathogen inter actions by light microscopy, confocal laser scanning fluorescence microscopy, flow cytometry, Western biot and traditional methods for determining virulence such as adhesion and internalisation experiments etc.           Courses (type, number of weekly contact hours, language – if other than German)         Ot > 10 or assessment (type, scope, language – if other than German, examination offered – if not every semester, information on Wetler module can be chosen to earn a bonus)           methods of assessment: a) written examination (approx. 45 to 6 o minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of patecise y. So to 3 aninutes); students will be informed about the method and len	Specif	ic Micro	obiology 2		_	07-5S2MZ2-102-mc	01
Index         Only after succ. compl. of module(s)           CTS         Method of grading         Only after succ. compl. of module(s)           Duration         Module level         Other prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.           Contents         Admission prerequisite to assessment: regular attendance of exercises as specified at the beginning of the course.           Contents         In this module, students will investigate interactions of obligate intracellular and facultative intracellular bacteria with their host cells, e. g. the internalisation of pathogens by mammalian cells or interactions with cellular signa pathways.           Intended learning outcomes         You will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e. g. human epithelial cell culture, infecting these host cells with pathogenic microoganisms, analysing host-pathogen inter actions by light microscopy, confocal laser scanning fluorescence microscopy, flow cytometry, Western biot and traditional methods for determining virulence such as adhesion and internalisation experiments etc.           Courses (type, number of weekly contact hours, language – if other than German)         Ot > 10 or assessment (type, scope, language – if other than German, examination offered – if not every semester, information on Wetler module can be chosen to earn a bonus)           methods of assessment: a) written examination (approx. 45 to 6 o minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of patecise y. So to 3 aninutes); students will be informed about the method and len	Modul	e coord	inator		Module offered by	<u> </u>	
ECTS         Method of grading         Only after succ. compl. of module(s)           10         numerical grade            11         semester         Undergraduate         Other prerequisites           13         as specified at the beginning of the course.           Contents         Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.           Contents         In this module, students will investigate relevant problems in the infection biology of a variety of pathogenic microorganisms. Students will investigate interactions of biggate intracellular and facultative intracellular bacteria with their host cells, e. g. the internalisation of pathogens by mammalian cells or interactions with cellular signa pathways.           Thended learning outcomes         To will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e. g. human epithelial cell culture, infecting these host cells with pathogenic microorganisms, analysing host-pathogen interactions by light microcopy, confocal laser scanning fluorescence microscopy, flow cytometry. Western blot and traditional methods for determining virulence such as adhesion and internalisation experiments etc.           Courses (type, number of weekly contact hours, language — if other than German, examination offred — if not every semester, information on WSG (weekly contact hours, and course language available)           Method of assessment (type, scope, language — if other than German, examination if groups of up to 3 canitation of one candidate each (aprox, 30 minutes)							
10         numerical grade			•	Only after succ. con	· · · · · · · · · · · · · · · · · · ·		
a semester       undergraduate       Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.         Contents       In this module, students will investigate relevant problems in the infection biology of a variety of pathogenic microorganisms. Students will investigate interactions of obligate intracellular and facultative intracellular bacteria with their host cells, e. g. the internalisation of pathogens by mammalian cells or interactions with cellular bacteria with their host cells, e. g. the internalisation of pathogens by mammalian cells or interactions with cellular bacteria with gathogens.         Nou will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e. g. human epithelial cell culture, infecting these host cells with pathogenic microorganisms, analysing host-pathogen interactions by light microscopy, confocal laser scanning fluorescence microscopy, flow cytometry, Western blot and traditional methods for determining virulence such as adhesion and internalisation experiments etc.         Courses (type, number of weekly contact hours, language – if other than German)       0         U + S (no information on SWS (weekly contact hours) and course language available)         Method of assessment: a) written examination (approx. 4s to 6o minutes) or b) log (approx. 1o to 2o pages) or c) oral examination of one candidate each (approx, 2o to 30 minutes) or d) oral examination in groups of up 10 c 3 candidate (approx. 2o minutes per candidate) or e) presentation (approx. 2o to 30 minutes); students will be informed about the method and length of the assessment prior to the course         Number of places: 30. Should the n	10				• • • •		
and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.           Contents           In this module, students will investigate relevant problems in the infection biology of a variety of pathogenic microorganisms. Students will investigate interactions of obligate intracellular and facultative intracellular bacteria with their host cells, e. g. the internalisation of pathogens by mammalian cells or interactions with cellular signa pathways.           Intended learning outcomes           You will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e. g. human pathways.           Courses (type, number of weekly contact hours, language — if other than German)           Qu + S (no information on SWS (weekly contact hours, language — if other than German)           Qu + S (no information on SWS (weekly contact hours, anguage — if other than German)           Qu examination on whether module can be chosen to eam a bonus?           methods of assessment (type, scope, language — if other than German, examination in groups of up to 3 candidate (approx. 20 to 30 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the aschelor's degree subject Biologie (Biology) with 100 ECTS credits and to students of the Bachelor's degree subject Biologie (Biology) with 100 ECTS credits and becther degree subject Biologie (Biology) with 100 ECTS credits and to students of the Bachelor's degree subject Biologie (Biology) with 100 ECTS credits	Durati	on	Module level	Other prerequisites	i		
as specified at the beginning of the course. Contents In this module, students will investigate relevant problems in the infection biology of a variety of pathogenic microorganisms, Students will investigate interactions of obligate intracellular and facultative intracellular bacteria with their host cells, e. g. the intermalisation of pathogens by mammalian cells or interactions with cellular signa pathways. Intended learning outcomes You will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e. g. human epithelial cell culture, infecting these host cells with pathogenic microorganisms, analysig host-pathogen inter-actions by light microscopy, confocal laser scanning fluorescence microscopy, flow cytometry, Western blot and traditional methods for determining virulence such as a dhesion and internalisation experiments etc. Courses (type, number of weekly contact hours, language — if other than German) U + 5 (no information on SWS (weekly contact hours) and course language available) Method of assessment (bype, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus) methods of assessment: a) written examination (approx. 45 to 6 on 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course Allocation of places: 30. Should the number of applications exceed the number of available places, places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 30 ECTS credits. Should the module be used in other subjects, there will be two quozies sys <sup>5</sup> of places (a minimum of one participant in tota) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 30 ECT	1 seme	ester	undergraduate	Admission prerequi	site to assessment:	regular attendance o	of exercises
Contents         In this module, students will investigate relevant problems in the infection biology of a variety of pathogenic microorganisms. Students will investigate interactions of obligate intracellular and facultative intracellular bacteria with their host cells, e.g. the internalisation of pathogens by mammalian cells or interactions with cellular signa pathways.         Intended learning outcomes         You will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e.g. human epithelial cell culture, infecting these host cells with pathogenic microorganisms, analysing host-pathogen interactions by light microscopy, confocal laser scanning fluorescence microscopy, flow cytometry, Western blot and traditional methods for determining virulence such as adhesion and internalisation experiments etc.         Courses (type, number of weekly contact hours, language — if other than German) <ul> <li>↓ 5 (no information on SWS (weekly contact hours) and course language available)</li> <li>Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module can be chosen to earn a bonus)</li> <li>methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) ral examination in groups of up to 3 candidates (approx, 20 minutes) or b) log: (approx. 10 to 20 pages) or c) oral examination of places         Number of places: 30. 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 80 ECTS credits. Andors's degree subject Biologie (Biolo</li></ul>					•	•	tive exercises
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croorganisms. Students will investigate interactions of obligate intracellular and facultative intracellular bacteria with their host cells, e. g. the internalisation of pathogens by mammalian cells or interactions with cellular signa pathways. Intended learning outcomes You will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e. g. human epithelial cell culture, infecting these host cells with pathogenic microscopy, flow cytometry, Western blot and traditional methods for determining virulence such as adhesion and internalisation experiments etc. Courses (type, number of weekly contact hours, language — if other than German) Ü + 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 seme- ster, information on whether module can be chosen to earn a bonus) methods of assessment: a) written examination (approx. 45 to 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 of up to 3 can- didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course Allocation of places: So. 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 (Bio logy) with 180 ECTS credits. And o the Bachelor's degree subject Single (Bio logy) with 180 ECTS credits and to students of the Bachelor's degree subject Single (Bio logy) with 180 ECTS credits and to students of the Bachelor's degree subject Single (Bio logy) with 180 ECTS credits and to students of the Bachelor's degree subject Single (Bio logy) with 180 ECTS credits and to students of the Bachelor's degree subject Single (Bio logy) with 180 ECTS cr	Conte	nts					
You will learn and apply fundamental methods in cell and microbiology (= cellular microbiology), e. g. human epithelial cell culture, infecting these host cells with pathogenic microorganisms, analysing host-pathogen inter- actions by light microscopy, confocal laser scanning fluorescence microscopy, flow cytometry, Western blot and traditional methods for determining virulence such as adhesion and internalisation experiments etc. <b>Courses</b> (type, number of weekly contact hours, language — if other than German) Ü + S (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 seme- ster, information on whether module can be chosen to earn a bonus) methods of assessment: a) written examination (approx. 45 to 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 of up to 3 can- didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course <b>Allocation of places</b> Number of places: 30. 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 and s% of places (a minimum of one participant in tota) will be allocated to students of the Bachelor's degree subject Somputational Bue for Biologi (as well as potentially to students of other "importing' subjects). Should the number of places availa ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, pl	croorg with th pathw	anisms neir hos ays.	. Students will investig t cells, e. g. the interna	ate interactions of oblig	gate intracellular and	d facultative intracel	lular bacteria
epithelial cell culture, infecting these host cells with pathogenic microorganisms, analysing host-pathogen inter- actions by light microscopy, confocal laser scanning fluorescence microscopy, flow cytometry, Western blot and traditional methods for determining virulence such as adhesion and internalisation experiments etc. <b>Courses</b> (type, number of weekly contact hours, language — if other than German) U + S (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 seme- ster, information on SWS (weekly contact hours) and course language available) <b>Methods</b> of assessment: a) written examination (approx. 45 to 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 of up to 3 can- didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course <b>Allocation of places</b> <b>Number of places:</b> 30. 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 and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree sub- lect Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- lect Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- lect Biology (as well as potentially to students of the Cachelor's degree sublects Computational Ma thematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented sub- lect Biology (as well as potentially to students of the Cachelor's degree sublacets on all courses of a module component that are concerned will be allocated to astonardi	Intend	led lear	ning outcomes				
<ul> <li>Ü + S (no information on SWS (weekly contact hours) and course language available)</li> <li>Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)</li> <li>methods of assessment: a) written examination (approx. 45 to 6 on 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 of up to 3 candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course</li> <li>Allocation of places: 30. 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 Scomputational Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (Biology) with 60 ECTS credits and to students of the Bachelor's degree subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of paplications, the remaining places will be allocated to applications 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, application process group 1 (95%): Places will be ranked according to the 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 and the subject of Biology) (excluding Chemistry), Physik (Physics), Mathematics), according to their average grade weighted according to the number of ECTS credits and to students</li></ul>	epithe action	lial cell s by ligi	culture, infecting these nt microscopy, confoca	e host cells with pathog I laser scanning fluores	genic microorganism scence microscopy, f	s, analysing host-pa flow cytometry, West	thogen inter- ern blot and
Method of assessment (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus) methods of assessment: a) written examination (approx. 45 to 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 of up to 3 can- didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course Allocation of places Allocation of places: 30. 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 (Bio logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places swill 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subject Biologie (Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- tive 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 th	Course	<b>es</b> (type	, number of weekly cor	ntact hours, language –	- if other than Germa	an)	
ster, information on whether module can be chosen to earn a bonus) methods of assessment: a) written examination (approx. 45 to 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 of up to 3 can- didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course <b>Allocation of places</b> <b>Number of places:</b> 30. 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 (Bio logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Ma thematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented sub- ject Biology (as well as potentially to students of ther 'importing' subjects). Should the number of places availa ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- tive 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 primar	Ü + S (	(no info	rmation on SWS (week	ly contact hours) and co	ourse language avail	lable)	
didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course <b>Allocation of places</b> Number of places: 30. 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 (Bio logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subject Computational Ma thematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec- tive module will be given preferential consideration. A waiting list will be maintained and places re-allocated as 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 Chemis (Chemistry), Physik (Physics), Ma- thematik (Mathematics)) at the time of application.	ster, ir metho	nformati ds of as	ion on whether module ssessment: a) written e	e can be chosen to earn xamination (approx. 45	a bonus) 5 to 60 minutes) or b	) log (approx. 10 to 2	o pages) or
Number of places: 30. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be ranked according to the applicates or of ECTS credits they have achieved and their average grade of all assessments taken during their studies or 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 ac-	didate med a	s (approblem) bout the	ox. 20 minutes per can e method and length o	didate) or e) presentati	ion (approx. 20 to 30		
allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subject Biologie (Biology) (as well as potentially to students of other 'importing' subjects). Should the number of places availa ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the 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 achiev							
	Number of places: 30. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the 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), Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their total number of ECTS credits						
reg. data record Bachelor (180 ECTS) Biologie - 2011	Bachelor's	s with 1 ma	jor Biology (2011)				page 134 / 254

cording 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.

#### Additional information

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Workload

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Teaching cycle

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

### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 135 / 254
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Modul	e title				Abbreviation
Specifi	Specific Bioinformatics 2				07-5S2MZ3-102-m01
Modul	e coord	inator		Module offered by	<u>I</u>
holder	ofthe	Chair of Bioinformatic	S	Faculty of Biology	
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	Admission prerequi	site to assessment:	regular attendance of exercises
			and successful com	pletion of the respe	ctive exercises as specified at the
			beginning of the co	urse.	
Conter	nts				
quence	e analy:	•	l evolution - gene expres		from the following list: - se- ein structure analysis - program-
Intend	ed lear	ning outcomes			
		e acquired knowledge perform scientific labo		s and methods of bi	oinformatics. They are able to in-
Course	<b>s</b> (type	, number of weekly co	ntact hours, language –	- if other than Germa	an)
V + Ü (	no info	rmation on SWS (weel	kly contact hours) and co	ourse language avai	lable)
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus)					
methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course					

#### Allocation of places

Number of places: 16. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 136 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

### Additional information

Workload

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### **Teaching cycle**

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

## Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 137 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation
Specific Biotechnology 2				07-5S2MZ4-102-m01	
Modul	e coord	inator		Module offered by	
holder	ofthe	Chair of Biotechnology a	nd Biophysics	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. con	Only after succ. compl. of module(s)	
10	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate	Admission prerequi	site to assessment:	regular attendance of exercises
			and seminar as well as successful completion of the respective exercises		
			as specified at the beginning of the course.		
Conte	nts				
Under lar bio	This practical course provides students with an insight into different biotechnological and biophysical topics. Under expert guidance, students will perform selected experiments on the following topics: cellular and molecu- lar biotechnology, nano and microsystems biotechnology, biomaterials and biosensors, high-resolution fluore- scence microscopy, fluorescence spectroscopy, analysis and electromanipulation of cells.				
Intend	led lear	ning outcomes			
Students will have acquired a knowledge of fundamental biotechnological and biophysical methods and their applications that will enable them to independently review relevant literature. In addition, they will have become acquainted with - or, where necessary, will be able to independently acquaint themselves with - biophysical mechanisms. Students will have acquired practical experience performing experiments, using a variety of scientific tools. In the seminar, students will have acquired detailed theoretical knowledge on these experiments and will have delivered a short presentation (15 minutes) on one of the experiments they performed.					

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

#### **Allocation of places**

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 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 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)

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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 of the respective applicant; among applicants with the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

#### Additional information

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Workload

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Teaching cycle

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

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## Module appears in

Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2010) Bachelor' degree (1 major) Nanostructure Technology (2010) Bachelor' degree (1 major) Nanostructure Technology (2012)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 139 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

	Module title Abbreviation				
Neurol	oiology	2			07-5S2NVO1-102-m01
Modul	e coord	inator		Module offered by	
holder	ofthe	Chair of Neurobiology and	d Genetics	Faculty of Biology	·
ECTS	1	od of grading	Only after succ. con	,	
10	nume	rical grade		•	
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate		pletion of the respec	regular attendance of exercises ctive exercises as specified at th
Conter	nts				
tain an practic tations Intend Studer	a overvi al exer on the ed lear nts are a	ew of current research fo cises on the contents of t experiments performed ning outcomes	cuses at the Universi he lecture as well as during exercises or w	ty of Würzburg. The r a seminar during wh vill present and discu	inical neurobiology and will ob- module will comprise a lecture, nich students will deliver presen- uss literature on individual topics vanced topics in neurobiology, ta
		, number of weekly conta	act hours, language –	- if other than Germa	an)
		rmation on SWS (weekly			
Metho	d of as	•	anguage — if other th	an German, examina	ition offered — if not every seme-
methods of assessment: a) written examination (approx. 45 to 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 of up to 3 can- didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be infor- med about the method and length of the assessment prior to the course					
Allocat	tion of	places			
					f available places, places will be lor's degree subject Biologie (Bi

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

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

#### Additional information

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Workload

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## Teaching cycle

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

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## Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 141 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Integrative Behavioural Biology 2       o7-5S2NVO2-102-mg         Module cordinator       Module offered by         holder of the Chair of Behavioral Physiology and Sociobio- logy       Faculty of Biology         ECTS       Method of grading       Only after succ. compl. of module(s)         10       numerical grade          Duratio-       Module level       Other prerequisites to assessment: regular attendance of and successful completion of the respective exercises as special beginning of the course.         Contents       Admission prerequisite to assessment: regular attendance of and successful completion of the respective exercises as special beginning of the course.         In this module, students will acquire an in-depth insight into behavioural physiology and sociobiolog particuar focus on the biology of social insects.         Intended termine of the course and are proficient in methods used in research on social insects.         Gurees type, number of weekly contact hours, language — if other than German, examination offered — if not of         V + Ü (no information on SWS (weekly contact hours) and course language available)	
holder of the Chair of Behavioral Physiology and Sociobio- logy       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       Admission prerequisite to assessment: regular attendance of and successful completion of the respective exercises as spective beginning of the course.         Contents       In this module, students will acquire an in-depth insight into behavioural physiology and sociobiolog particular focus on the biology of social insects.         Intended learning outcomes       Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog 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 + Ü (no information on SWS (weekly contact hours) and course language available)	
logy       ECTS       Method of grading       Only after succ. compl. of module(s)         10       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate       Admission prerequisite to assessment: regular attendance of and successful completion of the respective exercises as special beginning of the course.         Contents       In this module, students will acquire an in-depth insight into behavioural physiology and sociobiolog particular focus on the biology of social insects.         Intended learning outcomes       Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog 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 + Ü (no information on SWS (weekly contact hours) and course language available)	
ECTS       Method of grading       Only after succ. compl. of module(s)         10       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate       Admission prerequisite to assessment: regular attendance of and successful completion of the respective exercises as special beginning of the course.         Contents       In this module, students will acquire an in-depth insight into behavioural physiology and sociobiolog particular focus on the biology of social insects.         Intended learning outcomes       Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog 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 + Ü (no information on SWS (weekly contact hours) and course language available)	
10       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate       Admission prerequisite to assessment: regular attendance of and successful completion of the respective exercises as species beginning of the course.         Contents       Emereduisite to assessment: regular attendance of and successful completion of the respective exercises as species beginning of the course.         In this module, students will acquire an in-depth insight into behavioural physiology and sociobiolog particular focus on the biology of social insects.         Intended learning outcomes         Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog 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 + Ü (no information on SWS (weekly contact hours) and course language available)	
Duration       Module level       Other prerequisites         1 semester       undergraduate       Admission prerequisite to assessment: regular attendance of and successful completion of the respective exercises as spee beginning of the course.         Contents       In this module, students will acquire an in-depth insight into behavioural physiology and sociobiolog particular focus on the biology of social insects.         Intended learning outcomes       Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog 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 + Ü (no information on SWS (weekly contact hours) and course language available)	
1 semester       undergraduate       Admission prerequisite to assessment: regular attendance of and successful completion of the respective exercises as spebeginning of the course.         Contents       In this module, students will acquire an in-depth insight into behavioural physiology and sociobiolog particular focus on the biology of social insects.         Intended learning outcomes       Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog 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 + Ü (no information on SWS (weekly contact hours) and course language available)	
and successful completion of the respective exercises as spective beginning of the course.         Contents         In this module, students will acquire an in-depth insight into behavioural physiology and sociobiology 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 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 + Ü (no information on SWS (weekly contact hours) and course language available)	fexercises
In this module, students will acquire an in-depth insight into behavioural physiology and sociobiolog particular focus on the biology of social insects. Intended learning outcomes Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog 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 + Ü (no information on SWS (weekly contact hours) and course language available)	
particular focus on the biology of social insects. Intended learning outcomes Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog 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 + Ü (no information on SWS (weekly contact hours) and course language available)	
Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog familiar with hypotheses and are proficient in methods used in research on social insects. <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)	gy with a
Students have acquired knowledge and skills in the areas of behavioural physiology and sociobiolog familiar with hypotheses and are proficient in methods used in research on social insects. <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)	
V + $\ddot{U}$ (no information on SWS (weekly contact hours) and course language available)	gy. They are
Method of assessment (type, scope, language - if other than Corman, ovamination offered _ if not	
ster, information on whether module can be chosen to earn a bonus)	every seme-
didates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students were about the method and length of the assessment prior to the course <b>Allocation of places</b>	witt be infor-
Number of places: 18. Should the number of applications exceed the number of available places, pla allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject B logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 2 ces will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS cr 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's d ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Compu- thematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-orie ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of p ble in one quota exceed the number of applications, the remaining places will be allocated to applica- the other quota. Should there be, within one module component, several courses with a restricted nu places, there will be a uniform regulation for the courses of one module component. In this case, pla courses of a module component that are concerned will be allocated in a standardised procedure. In dure, applicants who already have successfully completed at least one other module component of t tive module will be given preferential consideration. A waiting list will be maintained and places re-a they become available. Selection process group 1 (95%): Places will primarily be allocated according plicants' previous academic achievements. For this purpose, applicants will be ranked according to the fECTS credits they have achieved and their average grade of all assessments taken during their stu all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Pi thematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will firstly, according to their total number of ECTS credits achieved (quantitative ranking). The a position in a thir	Biologie (Bio p5% of pla- redits and egree sub- utational Ma ented sub- laces availa ants from umber of thes proce- the respec- illocated as g to the ap- the number dies or of hysics), Ma- l be ranked, e ranking) pplicants' pocated ac- rding to the rding to the
Bachelor's with 1 major Biology (2011) JMU Würzburg • generated 26-Aug-2024 • exam.	

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.

### Additional information

Workload

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### **Teaching cycle**

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

## Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 143 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation		
Animal Ecology 2 07-5S2NV03-102-m01			101				
Modul	Module coordinator Module offered by						
holder	nolder of the Chair of Animal Ecology and Tropical Biology Faculty of Biology						
ECTS		od of grading	Only after succ. con	, .,			
10		rical grade					
Duratio	·	Module level	Other prerequisites				
1 seme		undergraduate		equisite to assessment: regular attendance of exercises			
1 Seine	.5(0)	undergraduate		and seminar as well as successful completion of the respective exercises			
				beginning of the cour	•		
Conter	nts						
In this perime	module ent desi	e, students will acquire gn. The module will cor pportunity to put their a	nprise exercises in sta	tistics as well as exp	eriments during whi		
Intend	ed learı	ning outcomes					
		able to design appropri- he results.	ate experiments to add	lress a scientific issu	ie as well as to analy	/se, present	
Course	es (type	, number of weekly con	tact hours, language –	- if other than Germa	n)		
Ü + V +	- S (no i	nformation on SWS (we	ekly contact hours) an	d course language a	vailable)		
		essment (type, scope, on on whether module			tion offered — if not	every seme-	
med al	bout the				minutes); students	will be infor-	
med about the method and length of the assessment prior to the course <b>Allocation of places</b> Number of places: 20. Should the number of applications exceed the number of available places, places will b allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (B logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places ava ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proc dure, applicants who already have successfully completed at least one other module component of the respec tive module will be given preferential consideration. A waiting list will be maintained and places re-allocated a plicants' 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), <i>N</i> thematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked according to their average grade weighted according to the nu					Biologie (Bio 95% of pla- redits and legree sub- utational Ma- ented sub- olaces availa- cants from umber of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma- l be ranked, re ranking) pplicants' ocated ac- rding to the ording to the		
Bachelor's	s with 1 maj	or Biology (2011)		irg • generated 26-Aug-2024		page 144 / 254	
			reg. data reco	ord Bachelor (180 ECTS) Biolog	gie - 2011		

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.

### Additional information

Workload

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### **Teaching cycle**

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

### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 145 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation
Specif	ic Mem	branebiology of Plant	S 2		07-5S2PS1-112-m01
Modul	e coord	linator		Module offered by	<u> </u>
holder	ofthe	Chair of Plant Physiolo	gy and Biophysics	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
10	nume	rical grade			
Durati	on	Module level	Other prerequisites	;	
1 seme	ester	undergraduate	Admission prerequi	site to assessment:	regular attendance of exercises
			and seminar as wel	l as successful comp	oletion of the respective exercises
			as specified at the l	as specified at the beginning of the course.	
Conter	nts				
biolog	ical and	•	. On the basis of curren	•	ansport with modern molecular ons, different aspects of plant
Intend	ed lear	ning outcomes			
			esearch in the field of pl deliver presentations o		port as well as with the methods ions.
Course	<b>es</b> (type	, number of weekly co	ntact hours, language –	– if other than Germa	an)
Ü + S (	no info	rmation on SWS (week	kly contact hours) and c	ourse language avai	lable)
Metho	d of as		, language — if other th		ation offered — if not every seme-

ster, information on whether module can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

# Allocation of places

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

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

ents 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.

### Additional information

Workload

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**Teaching cycle** 

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

Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 147 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Specifi	ic Mole	cular Physiology of Plant	15 2		07-5S2PS2-112-m01
Module	e coord	inator		Module offered by	
holder	ofthe	Chair of Plant Physiology	and Biophysics	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. compl. of module(s)		
10	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate	Admission prerequisite to assessment: regular attendance of exercise and seminar as well as successful completion of the respective exerci ses.		-
Conten	its		<u>.</u>		

## In this module, students will acquire advanced knowledge and skills in techniques of molecular biology for questions of plant physiology. Every student will perform a physiological experiment that will be analysed using the methods the students have learned. Current scientific publications in the field of plant physiology will be presented and discussed.

### Intended learning outcomes

Students are able to perform advanced experiments in plant physiology as well as to interpret and deliver presentations on scientific publications.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

### **Allocation of places**

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

 Bachelor's with 1 major Biology (2011)
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ng 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.

# Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 149 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation
Analys	is of Bi	osensors			07-5S2PS3-112-m01
Modul	e coord	linator		Module offered by	, <u>,</u>
holder	of the	Chair of Plant Physiol	ogy and Biophysics	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. co	mpl. of module(s)	
10	nume	rical grade			
Duratio	on	Module level	Other prerequisite	es	
1 seme	ester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exerci- ses.		•
Conter	nts				
tion an	nd prote	ein purification as wel	-	d biochemical analys	protein expression, protein isola- is of proteins. Current scientific
Intend	ed lear	ning outcomes			
		. –			ein expression and subsequent resentations on scientific publica-
Course	c (tuno	number of weekly of	antact hours language	if other than Corm	22)

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

 $\ddot{U}$  + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

### **Allocation of places**

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 150 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

ng 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.

# Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 151 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation
Advan	ced Pla	nt Ecophysiology			07-5S2PS4-102-m01
Modul	e coord	inator		Module offered by	<u> </u>
holder	ofthe	Chair of Plant Physiology	and Biophysics	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	ester undergraduate Admission prerequisite to assessment: regular attendance of exercis and seminar as well as successful completion of the respective exercis as specified at the beginning of the course.		letion of the respective exercises		
Conter	nts				
ecolog	ical me				biological, chemical analytical or ocumented in the context of the
Intend	ed lear	ning outcomes			

Students are able to independently perform complex experiments in the field of plant ecophysiology, to interpret their findings in the context of the current state of research as well as to document these.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

### Allocation of places

Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 152 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

### Additional information

Workload

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## **Teaching cycle**

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

# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 153 / 254
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Molecular Bio				Abbreviation
	ological Methods in Ph	armaceutical Biology		07-5S2PS5-102-m01
Module coord	linator		Module offered by	
holder of the	Chair of Pharmaceutic	al Biology	Faculty of Biology	
	od of grading	Only after succ. con		
	erical grade			
Duration	Module level	Other prerequisites		
1 semester	undergraduate			regular attendance of exercises
I Semester				pletion of the respective exercise
		as specified at the b	•	•
Contents	<u> </u>			
			<u> </u>	
			ecome proficient in	advanced methods in molecular
	cular biochemistry or	metabolite analysis.		
	ning outcomes			
				focus on molecular biology or mo
	emistry and possess th	ie skills necessary for co	onducting research i	in the context of research pro-
jects.	number of weekly	nto at house law areas	if other them. Comm	an)
		ntact hours, language –		
U + S (no info	rmation on SWS (week	kly contact hours) and co	ourse language avai	lable)
		e, language — if other the e can be chosen to earn		ation offered — if not every seme
		of the assessment prior i	to the course	
Allocation of		of the assessment prior t		o minutes); students will be infor f available places, places will be

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 154 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

### Additional information

Workload

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### **Teaching cycle**

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

### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 155 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul					Abbreviation
Thesis	Biolog	y			07-6BT-102-m01
Modul	e coord	inator		Module offered by	
chairperson of examination committee Bio		Biologie (Biology)	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
12	nume	rical grade			
Duratio	on	Module level	Other prerequisites	<b>i</b>	
1 seme	ster	undergraduate			
Conten	Its				
and pe	rform e pic in a	xperiments, collect data a seminar. For more infor	and present it in a th	esis and will deliver	scientific question. They will plan a presentation on and discuss use refer to www.biostudium.u-
Intend	ed lear	ning outcomes			
ring to	the pri	nciples of good scientific	practice. They will be	e able to document t	n time frame (10 weeks), adhe- heir findings in both written and present knowledge in the field.
Course	<b>s</b> (type	, number of weekly conta	ict hours, language –	– if other than Germa	n)
no cou	rses as	signed			
		<b>sessment</b> (type, scope, la ion on whether module c			tion offered — if not every seme-
written	thesis	(approx. 20 to 40 pages)			
Allocat	ion of <sub>l</sub>	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)	
Modul	e appea	ars in			
		ree (1 major) Biology (20:	11)		
Bachel					
	or' deg	ree (1 major) Biology (20			

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record Bachelor (180 ECTS) Biologie - 2011	page 156 / 254
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Specifi	e title				Abbreviation
	c Cell-	and Developmental Biolo	ogy 3		07-6S3MZ1-102-m01
Module	e coord	inator		Module offered by	·
holder logy	of the (	Chair of Cell Biology and	Developmental Bio-	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
15	nume	rical grade			
Duratio	on	Module level	Other prerequisites	6	
1 seme	ester	undergraduate	and seminar as well		regular attendance of exercises oletion of the respective exercises rse.
Conten	Its				
		e, students will acquire a oply methods in cell biol			ethods in cell biology. Students
Intend	ed lear	ning outcomes			
					ell biology, using appropriate me- e, present and interpret the re-
Course	<b>s</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	in)
Ü + S (I	no infoi	rmation on SWS (weekly	contact hours) and co	ourse language avail	able)
		*			ition offered — if not every seme-
		ion on whether module c			
c) oral	examin				) log (approx. 10 to 20 pages) or
			date) or e) presentati	on (approx. 20 to 30	ination in groups of up to 3 can- minutes); students will be infor-
med at Allocat	oout the	ox. 20 minutes per candi e method and length of tl <b>blaces</b>	date) or e) presentati he assessment prior	on (approx. 20 to 30 to the course	

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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.

## Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 158 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation	
Specif	ic Micro	obiology 3			07-6S3MZ3-102-m01	
Modul	e coord	linator		Module offered by	1	
holder	ofthe	Chair of Microbiology		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
15	nume	rical grade				
Durati	on	Module level	Other prerequisites			
1 seme	ester	undergraduate			regular attendance of exercises	
				•	oletion of the respective exercises	
			as specified at the b	as specified at the beginning of the course.		
Conter	nts					
			n work within a current re rvision of a principal inv		ne topic of microbiology in a large-	
Intend	ed lear	ning outcomes				
					y, using appropriate methods. ent and interpret the results.	
Course	es (type	, number of weekly co	ontact hours, language –	- if other than Germa	an)	
Ü + S (	no info	rmation on SWS (wee	kly contact hours) and co	ourse language avail	able)	
			e, language — if other th le can be chosen to earn		ation offered — if not every seme-	
c) oral didate	examir s (appr	nation of one candida ox. 20 minutes per ca	te each (approx. 30 minu	ites) or d) oral exam on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- minutes); students will be infor-	

# Allocation of places

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 159 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

ces 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.

### Additional information

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Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 160 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

				Abbreviation
Specific Bio	technology 3			07-6S3MZ4-102-m01
Module coo	rdinator		Module offered by	
holder of th	e Chair of Biotechnology a	nd Biophysics	Faculty of Biology	
ECTS Met	hod of grading	Only after succ. con	npl. of module(s)	
15 num	erical grade			
Duration	Module level	Other prerequisites	<b>i</b>	
l semester	undergraduate	Admission prerequi	site to assessment:	regular attendance of exercises
		and seminar as wel	l as successful com	pletion of the respective exercise
		as specified at the l	peginning of the cou	irse.
Contents				
biosensors, ion of cells and instrum dently on cu vill help the <b>ntended lea</b> Students wi They will be	high-resolution fluorescer Performing experiments u ents. Over the duration of rrent research topics. Wor m select a topic for their B trning outcomes Il become acquainted with able to independently wor	nce microscopy, fluor inder expert guidance the course, students k on current research achelor's thesis.	escence spectrosco e, students will becc will then be require topics will spark th methods and their a	s biotechnology, biomaterials an py, analysis and electromanipul ome acquainted with techniques d to work increasingly indepen- e students' interest in topics and applications in biotechnology.
theoretical l Courses (typ Ü + S (no inf Method of a	nowledge on experiments e, number of weekly conta ormation on SWS (weekly ssessment (type, scope, la	of biophysical mecha and will give short p act hours, language – contact hours) and co anguage — if other th	anisms. In the semir resentations on exp - if other than Germ ourse language avai an German, examin	aar, students will acquire further eriments performed. an) lable)
theoretical I Courses (typ Ü + S (no inf Method of a ster, informa methods of c) oral exam didates (app med about t	nowledge on experiments or, number of weekly conta ormation on SWS (weekly <b>ssessment</b> (type, scope, la ation on whether module c assessment: a) written exa ination of one candidate e orox. 20 minutes per candi he method and length of t	of biophysical mecha and will give short p act hours, language – contact hours) and co anguage — if other th an be chosen to earn amination (approx. 49 each (approx. 30 minu date) or e) presentati	anisms. In the semir resentations on exp - if other than Germ ourse language avai an German, examin a bonus) to 60 minutes) or b utes) or d) oral exam on (approx. 20 to 30	eriments performed. an)
theoretical I Courses (typ Ü + S (no inf Method of a ster, informa methods of c) oral exam didates (app med about t Allocation o	nowledge on experiments be, number of weekly conta ormation on SWS (weekly ssessment (type, scope, la ation on whether module c assessment: a) written exa ination of one candidate e orox. 20 minutes per candi he method and length of t f places	of biophysical mecha and will give short p act hours, language – contact hours) and co anguage — if other th an be chosen to earn amination (approx. 49 each (approx. 30 minu date) or e) presentati he assessment prior	anisms. In the semir resentations on exp - if other than Germ ourse language avai an German, examin a bonus) 5 to 60 minutes) or b utes) or d) oral exam on (approx. 20 to 30 to the course	aar, students will acquire further eriments performed. an) lable) ation offered — if not every seme ation offered — if not every seme b) log (approx. 10 to 20 pages) or ination in groups of up to 3 can-

dure, 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), Ma-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 161 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

thematik (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 of the respective applicant; among applicants with the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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### Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 162 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

Specific Bioin	Module title			Abbreviation
	Specific Bioinformatics 3 07-6S3MZ5-102-m01			07-6S3MZ5-102-m01
Module coordinator		Module offered by		
nolder of the	Chair of Bioinformatics		Faculty of Biology	
ECTS Meth	od of grading	Only after succ. con	npl. of module(s)	
15 nume	rical grade			
Duration	Module level	Other prerequisites	;	
1 semester	undergraduate	Admission prerequi	site to assessment:	regular attendance of exercises
		and seminar as well	l as successful comp	oletion of the respective exercise
		as specified at the b	peginning of the cou	rse.
Contents	•	•		
				nethods in bioinformatics. Stu-
	rn to address a scientific	problem in bioinform	latics.	
	ning outcomes			
	•	•		ics, using appropriate methods. ent and interpret the results.
C <b>ourses</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	an)
Ü + S (no info	rmation on SWS (weekly	contact hours) and co	ourse language avai	lable)
	· · · · · · · · · · · · · · · · · · ·			
		angliage — it other th	an German examina	ation offered — if not every seme
ster, informat methods of as	ion on whether module c ssessment: a) written exa	an be chosen to earn amination (approx. 45	a bonus) 5 to 60 minutes) or b	ation offered — if not every seme ) log (approx. 10 to 20 pages) or
ster, informat methods of as c) oral examir didates (appr	ion on whether module c ssessment: a) written exa nation of one candidate e	an be chosen to earn amination (approx. 45 ach (approx. 30 minu date) or e) presentati	a bonus) 5 to 60 minutes) or b utes) or d) oral exam fon (approx. 20 to 30	
ster, informat methods of as c) oral examir didates (appr med about th <b>Allocation of</b>	ion on whether module c ssessment: a) written exa nation of one candidate e ox. 20 minutes per candi e method and length of th <b>places</b>	an be chosen to earn amination (approx. 45 each (approx. 30 minu date) or e) presentati he assessment prior	a bonus) 5 to 60 minutes) or b utes) or d) oral exam fon (approx. 20 to 30 to the course	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can-

cording 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, pla-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 163 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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ces 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.

### Additional information

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Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 164 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation	
Neurobiology 3					07-6S3NVO1-102-m01
Module	e coord	inator		Module offered by	·
holder	ofthe	Chair of Neurobiology a	nd Genetics	Faculty of Biology	
ECTS	Methe	od of grading	Only after succ. con	npl. of module(s)	
15	nume	rical grade			
Duratio	on	Module level	Other prerequisites	<b>i</b>	
1 semesterundergraduateAdmission prerequisite to assessment: regular attendance of exe and seminar as well as successful completion of the respective e as specified at the beginning of the course.			letion of the respective exercises		
Contents					
In this	In this module, students will acquire specific insights into tonics, approaches and methods in neurobiology. Stu				

In this module, students will acquire specific insights into topics, approaches and methods in neurobiology. Students will also be involved in current research projects.

### Intended learning outcomes

Students will be proficient in the theory and practice of research in the field of neurobiology and will have developed skills required for a career in research.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

# Allocation of places

Number of places: 16. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, pla-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 165 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

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ces 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.

### Additional information

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Workload

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# Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 166 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title			Abbreviation		
Integrative Behavioural Biology 3					07-6S3NVO2-102-m01
Module	e coord	linator		Module offered by	·
holder logy	holder of the Chair of Behavioral Physiology and Sociobio- logy		siology and Sociobio-	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
15	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semester       undergraduate       Admission prerequisite to assessment: regular attendance of exerce and seminar as well as successful completion of the respective exerce as specified at the beginning of the course.			letion of the respective exercises		
Contents					
In this I	In this module, students will acquire specific insights into topics, approaches and methods in integrative beha-				

In this module, students will acquire specific insights into topics, approaches and methods in integrative behavioural biology. Students will also be involved in current research projects in the area of experimental behavioural physiology and sociobiology.

#### Intended learning outcomes

Students will be proficient in the theory and practice of research in the field of integrative behavioural biology and will have developed skills required for a career in research.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

### **Allocation of places**

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 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 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

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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.

## Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 168 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title			Abbreviation		
Animal Ecology 3			07-6S3NVO3-102-m01		
Module coordinator			Module offered by		
holder	Ider of the Chair of Animal Ecology and Tropical Biology Faculty of Biology				
ECTS		od of grading	Only after succ. com	npl. of module(s)	
15	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in the section on
Conten	Its				
Studer	nts will a		nt research projects. I		ods in special animal ecology. 07-6S3NVO3-1 is mandatory. Out
Intend	ed lear	ning outcomes			
	yse the				ial animal ecology. They are able ese in the context of current pu-
Course	<b>s</b> (type	, number of weekly conta	ct hours, language —	- if other than Germa	in)
• c • c • c • c • c • c	07-6S3N 07-6S3N 07-6S3N 07-6S3N d of ass formati	IVO3-2-102: V + Ü + S (no IVO3-3-102: V + S + E (no IVO3-4-102: V + S (no info sessment (type, scope, la on on whether module ca	information on langu information on langu ormation on language nguage — if other tha an be chosen to earn	age and number of w age and number of w e and number of wee an German, examina a bonus)	ekly contact hours available) veekly contact hours available) veekly contact hours available) ekly contact hours available) tion offered — if not every seme-
the firs	t asses	sment component and o	ne of the remaining t	hree.	as a whole students must pass (Advanced Animal Ecology 3)
• 1 • [4 • A r c <b>Assess</b>	o ECTS og (app Additior ninar as course.	credits, numerical gradir rox. 10 to 30 pages) nal prerequisites: admiss s well as successful com n module component o7-	ng ion prerequisite to as pletion of the respec 6 <b>S3NVO3-2-102:</b> Mod	sessment: regular a tive exercises as sp dellierung in der Ökc	ttendance of exercises and se- ecified at the beginning of the blogie (Ecological Modelling), <b>in</b>
<b>ponent</b> • 5 • v • <i>P</i>	<ul> <li>module component o7-6S3NVO3-3-102: Naturschutzbiologie (Nature Conservation Biology), and in module component o7-6S3NVO3-4-102: Tropenbiologie (Tropical Biology) : <ul> <li>5 ECTS credits, numerical grading</li> <li>written examination (approx. 30 to 60 minutes)</li> <li>Additional prerequisites: admission prerequisite to assessment: regular attendance of seminar as well</li> </ul> </li> </ul>				
	-	essful completion of the i	espective exercises a	as specified at the b	eginning of the course.
Allocation of places					
allocat logy) w ces wil 5% of p logie (E matics Biology	ed as fo vith 180 l be allo blaces ( Biology) and Ma y (as we	ECTS credits. Should the ECTS credits. Should the ocated to students of the a minimum of one place with 60 ECTS credits an athematik (Mathematics) ell as potentially to stude	ily be allocated to stu module be used in o Bachelor's degree su in total) will be alloca d to students of the E , each with 180 ECTS nts of other 'importin	udents of the Bachel other subjects, there ubject Biologie (Biolo ated to students of th Bachelor's degree su credits, as part of th g' subjects). Should	available places, places will be lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and he Bachelor's degree subject Bio- bjects Computational Mathe- he application-oriented subject the number of places available located to applicants from the

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 169 / 254
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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 the same 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): lottery. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

### Additional information

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Workload

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Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 170 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

ology 4 pordinator			Abbreviation
oordinator			07-6S3NV07-121-m01
		Module offered by	<u> </u>
the Chair of Animal Ecolog	gy and Tropical Biology	Faculty of Biology	
ethod of grading	Only after succ. con	, , ,	
umerical grade			
Module level	Other prerequisites	•	
er undergraduate			
	rrent research projects.		ods in special animal ecology. 07-6S3NVO3-1 is mandatory. Ou
learning outcomes			
e their own research findin	ngs, to present these as	well as to discuss th	ial animal ecology. They are ablesse in the context of current pu-
type, number of weekly co			
information on SWS (week	· .		
mation on whether modul			ition offered — if not every seme
30 pages) 1 of places			
e allocated to students of t ces (a minimum of one par	the Bachelor's degree su rticipant in total) will be	ubject Biologie (Biol	will be two quotas: 95% of pla- ogy) with 180 ECTS credits and ts of the Bachelor's degree sub-
and Mathematik (M gy (as well as poten quota exceed the n quota. Should there ere will be a uniform f a module compon- licants who already ale will be given pref me available. Selec previous academic a redits they have ach e components in the (Mathematics)) at th cording to their aver	Aather tially t numbe be, w n regu ent tha have ferenti tion p achiev ieved e subjo ne time age gr	D ECTS credits and to students Mathematics), each with 180 E tially to students of other 'imp number of applications, the ren be, within one module compo- n regulation for the courses of ent that are concerned will be have successfully completed ferential consideration. A waiti tion process group 1 (95%): Pl achievements. For this purpos- ieved and their average grade e subject of Biologie (Biology) ne time of application. This will age grade weighted according	b ECTS credits and to students of the Bachelor's de Mathematics), each with 180 ECTS credits, as part of tially to students of other 'importing' subjects). Sh number of applications, the remaining places will be be, within one module component, several course in regulation for the courses of one module compor- ent that are concerned will be allocated in a standa have successfully completed at least one other mo- ferential consideration. A waiting list will be mainta- tion process group 1 (95%): Places will primarily be achievements. For this purpose, applicants will be ieved and their average grade of all assessments to e subject of Biologie (Biology) (excluding Chemie (one time of application. This will be done as follows age grade weighted according to the number of ECTS heir total number of ECTS credits achieved (quantiti-

places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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Workload

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# Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 172 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module					Abbreviation	
Specifi	c moleo	cular Physiology of Pla	nts 3		07-6S3PS1-112-mo	L
Module	e coord	inator		Module offered by	<u> </u>	
holder	of the C	Chair of Plant Physiolog	ogy and Biophysics Faculty of Biology			
ECTS		od of grading	Only after succ. compl. of module(s)			
15		rical grade				
Duratio	on	Module level	Other prerequisites	5		
1 seme	ster	undergraduate		isite to assessment: I l as successful comp	-	
Conten	its		•			
scientif ting and will be	fic prac d comn involve	nples of topics in content tice, including planning nunicating research fin d in ongoing research . In addition they will a	g research strategies, p dings in the form of a p and will learn how to in	performing complex e presentation, a publi ndependently apply a	experiments as well cation or a term pap advanced methods i	as documen er. Students n modern
-	ed learr	ning outcomes				
	address	ble to independently us and document questi				
Course	<b>s</b> (type,	number of weekly con	tact hours, language –	– if other than Germa	n)	
Ü + S (r	no infor	mation on SWS (weekl	y contact hours) and c	ourse language avail	able)	
		essment (type, scope, on on whether module			tion offered — if not	every seme-
c) oral o didates med ab	examin s (appro pout the	sessment: a) written ex ation of one candidate ox. 20 minutes per cand e method and length of	each (approx. 30 minu didate) or e) presentat	utes) or d) oral exami ion (approx. 20 to 30	nation in groups of a	up to 3 can-
Allocat	ion of p	olaces				
located gy) with will be places logie (E tics and logy (as one qu quota. re will b a modu licants le will b come a previou credits le comp tik (Ma	d as foll h 180 E allocate (a mini Biology) d Mathe s well a ota exc Should be a uni ule com who all be giver ivailable us acad they ha ponents themat ording t	ces: 5. Should the num ows: Places will primar CTS credits. Should the ed to students of the B mum of one participan with 60 ECTS credits a ematik (Mathematics), s potentially to studen eed the number of app there be, within one m iform regulation for the ponent that are concer ready have successfull n preferential considera e. Selection process gr emic achievements. Fo ave achieved and their s in the subject of Biolo ics)) at the time of app o their average grade w	ily be allocated to stude module be used in ot achelor's degree subject in total) will be allocat and to students of the f each with 180 ECTS creater ts of other 'importing's lications, the remaining odule component, seven courses of one modul ned will be allocated i y completed at least of ation. A waiting list will oup 1 (95%): Places with r this purpose, applicater average grade of all as opie (Biology) (excludir lication. This will be do	dents of the Bachelon her subjects, there we ect Biologie (Biology) ated to students of th Bachelor's degree su edits, as part of the a subjects). Should the org places will be alloo veral courses with a r le component. In this n a standardised pro ne other module com l be maintained and ill primarily be alloca ants will be ranked ac ssessments taken du ng Chemie (Chemistry one as follows: First,	r's degree subject Bi with 180 ECTS credi e Bachelor's degree bjects Computationa pplication-oriented e number of places a cated to applicants f estricted number of case, places on all cedure. In this proce places re-allocated a ted according to the respe places re-allocated a ted according to the number ring their studies or y), Physik (Physics), applicants will be ra	ologie (Biolo 5% of places ts and 5% of subject Bio- al Mathema- subject Bio- vailable in rom the othe places, the- courses of edure, app- ctive modu- as they be- applicants' of all modu- Mathema- nked, first-
-	lly, acco	ording to their total nur	nber of ECTS credits ac	chieved (quantitative	ranking). The applic	-

on 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.

### Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 174 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation	
Structural and functional Analysis of Biosensors 3 07-6					07-6S3PS2-112-m01
Module coordinator Module offered by				· · · · · · · · · · · · · · · · · · ·	
holder	ofthe	Chair of Plant Physiology	and Biophysics	Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
15	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises		
			and seminar as well as successful completion of the respective exercises		
			as specified at the b	peginning of the cour	rse.
Conter	nts				
<b>Contents</b> Using the examples of topics in contemporary research, students will be introduced to the concepts of good scientific practice, including planning research strategies, performing complex experiments as well as documenting and communicating research findings in the form of a presentation, a publication or a term paper. Students will be involved in ongoing research and will learn to independently apply advanced methods in biophysics and protein chemistry. In addition, they will acquire an advanced knowledge of the mechanisms and structure-function relationships of chemo- and photoreceptors in particular.					

# Intended learning outcomes

Students are able to independently use advanced methods in the protein chemistry of biosensors. They are able to independently address and document questions in the field of plant biology, adhering to the principles of good scientific practice.

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

Ü + 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 can be chosen to earn a bonus)

methods of assessment: a) written examination (approx. 45 to 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 of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course

### Allocation of places

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 175 / 254
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on 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.

### Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 176 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

er of the Chair of Plant Physiology and BiophysicsFaMethod of gradingOnly after succ. complnumerical gradeModule levelOther prerequisitesnesterundergraduateAdmission prerequisites				
er of the Chair of Plant Physiology and BiophysicsFaMethod of gradingOnly after succ. complnumerical gradeModule levelOther prerequisitesnesterundergraduateAdmission prerequisites	aculty of Biology . of module(s)			
er of the Chair of Plant Physiology and BiophysicsFaMethod of gradingOnly after succ. complnumerical gradeModule levelOther prerequisitesnesterundergraduateAdmission prerequisites	aculty of Biology . of module(s)			
Method of grading         Only after succ. comple           numerical grade            Module level         Other prerequisites           nester         undergraduate         Admission prerequisites	. of module(s)			
numerical grade        tion     Module level     Other prerequisites       nester     undergraduate     Admission prerequisites				
nester undergraduate Admission prerequisit	the second s			
nester undergraduate Admission prerequisite				
and cominar ac well as	e to assessment: regular attendance of exercises			
	s successful completion of the respective exercises			
as specified at the beg	ginning of the course.			
ents				
g the examples of topics in contemporary research, stude ntific practice, including planning research strategies, per and communicating research findings in the form of a pres be involved in ongoing research and will learn how to inde ogy and biophysics. In addition they will acquire an advan added learning outcomes	forming complex experiments as well as documen- sentation, a publication or a term paper. Students ependently apply advanced methods in molecular			
ents are able to independently use advanced methods in are able to independently address and document questic ciples of good scientific practice.				
<b>ses</b> (type, number of weekly contact hours, language — if	other than German)			
6 (no information on SWS (weekly contact hours) and cour	se language available)			
<b>nod of assessment</b> (type, scope, language — if other than information on whether module can be chosen to earn a l				
nods of assessment: a) written examination (approx. 45 to al examination of one candidate each (approx. 30 minutes tes (approx. 20 minutes per candidate) or e) presentation about the method and length of the assessment prior to t	s) or d) oral examination in groups of up to 3 can- (approx. 20 to 30 minutes); students will be infor-			
cation of places				
Number of places: 5. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This				
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on 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.

### Additional information

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Workload

Teaching cycle

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

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# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 178 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module					Abbreviation	
Scienti	fic Wor	k in Plant Ecophysiolog	у		07-6S3PS4-112-mo	1
Module	coord	inator		Module offered by	<u> </u>	
holder	holder of the Chair of Ecophysiology and Vegetation Ecolo- Faculty of Biology					
gy ECTS	Metho	od of grading	Only after succ. con	nnl. of module(s)		
15		rical grade				
Duratio	L	Module level	Other prerequisites			
	Direction         Instruction         Direction         Direction <thdirection< th=""> <thdirection< th=""> <t< td=""><th></th></t<></thdirection<></thdirection<>					
Conten	ts					
scientif ting an will be logy, ar	fic prac d comn involve nalytica	nples of topics in conte tice, including planning nunicating research find d in ongoing research a l chemistry or molecula	research strategies, p ings in the form of a p nd will learn how to in	erforming complex erforming complex e	experiments as well cation or a term pap	as documen er. Students
Intende	ed leari	ning outcomes				
	addres	ble to independently co s and document questio				
Course	<b>s</b> (type	, number of weekly cont	act hours, language –	· if other than Germa	n)	
Ü + R +	S (no i	nformation on SWS (wee	ekly contact hours) an	d course language a	vailable)	
Metho	d of ass	e <b>ssment</b> (type, scope, l on on whether module o	anguage — if other tha	an German, examina		every seme-
c) oral ( didates	examin 5 (appro	sessment: a) written ex ation of one candidate e ox. 20 minutes per cand e method and length of t	each (approx. 30 minu idate) or e) presentati	tes) or d) oral exami on (approx. 20 to 30	nation in groups of	up to 3 can-
Allocat	ion of p	olaces				
Allocation of places Number of places: 15. 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 (Bio logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec- tive 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 ap- plicants' 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), Ma- thematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, acc						
3achelor's	with 1 maj	or Biology (2011)		rg • generated 26-Aug-2024 rd Bachelor (180 ECTS) Biolo		page 179 / 254

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.

Additional information

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Workload

Teaching cycle

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

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Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 180 / 254
		page 100 / 2 /4
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Resear	e title				Abbreviation
neseu	rch Proj	ect in Pharmaceutical B	iology with Focus on	Molecular Biology	07-6S3PS5-102-m01
Modul	e coord	inator		Module offered by	I
holder of the Chair of Pharmaceutical Biology				Faculty of Biology	
ECTS	-	od of grading	Only after succ. con		
15		rical grade		1	
Durati	on	Module level	Other prerequisites		
1 seme		undergraduate	Admission prerequi and seminar as well	site to assessment:	regular attendance of exercises pletion of the respective exercise rse.
Conter	nts				
scienti ting an will be cal bio	fic prac nd comr involve logy wi	tice, including planning nunicating research find ed in ongoing research a th a focus on molecular	research strategies, p ings in the form of a p nd will learn how to ir	performing complex presentation, a publi	uced to the concepts of good experiments as well as documen cation or a term paper. Students specific methods in pharmaceut
Intend	ed lear	ning outcomes			
on mo	lecular	biology. They are able to	independently addre		rmaceutical biology with a focus uestions in the field of plant bio-
logy, adhering to the principles of good scientific practice. <b>Courses</b> (type, number of weekly contact hours, language — if other than German)					
Course			act hours, language –	- if other than Germa	an)
	<b>es</b> (type	, number of weekly conta			
Ü + S (	<b>es</b> (type no infoi	, number of weekly conta mation on SWS (weekly	contact hours) and co	ourse language avai	lable)
Ü + S ( <b>Metho</b> ster, in	es (type no info d of ass nformat	, number of weekly conta mation on SWS (weekly sessment (type, scope, la ion on whether module o	contact hours) and co anguage — if other th can be chosen to earn	ourse language avai an German, examina a bonus)	lable) ation offered — if not every seme
Ü + S ( <b>Metho</b> ster, in metho c) oral didate	es (type no infor d of ass formati ds of as examin s (appro	, number of weekly conta mation on SWS (weekly sessment (type, scope, la ion on whether module c ssessment: a) written exa ation of one candidate e	contact hours) and co anguage — if other the can be chosen to earn amination (approx. 45 each (approx. 30 minu idate) or e) presentati	ourse language avai an German, examina a bonus) 5 to 60 minutes) or b 1tes) or d) oral exam on (approx. 20 to 30	
Ü + S ( <b>Metho</b> ster, in metho c) oral didate med al	es (type no infor d of ass formati ds of as examin s (appro	, number of weekly contain mation on SWS (weekly cessment (type, scope, la ion on whether module c ssessment: a) written exa tation of one candidate e ox. 20 minutes per candi e method and length of t	contact hours) and co anguage — if other the can be chosen to earn amination (approx. 45 each (approx. 30 minu idate) or e) presentati	ourse language avai an German, examina a bonus) 5 to 60 minutes) or b 1tes) or d) oral exam on (approx. 20 to 30	lable) ation offered — if not every seme ) log (approx. 10 to 20 pages) or ination in groups of up to 3 can-

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 181 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

cording 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.

#### Additional information

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Workload

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Teaching cycle

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

#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 182 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module					Abbreviation	
	ch Proj	ect in Pharmaceutical	Biology with Focus on	Molecular Bioche-	07-6S3PS6-102-mo	1
mistry						
Module coordinator			Module offered by			
holder of the Chair of Pharmaceutical Biology			Faculty of Biology			
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
15	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate	Admission prerequi	site to assessment:	regular attendance o	of exercises
			and seminar as well	l as successful comp	oletion of the respect	ive exercises
			as specified at the b	beginning of the cou	rse.	
Conten	lts		•			
Usingt	he exa	nnles of tonics in cont	emporary research, stu	dents will be introdu	iced to the concepts	ofgood
			g research strategies, p			
			dings in the form of a p			
will be	involve	d in ongoing research	and will learn how to ir			
cal bio	logy wi	th a focus on molecula	r biochemistry.			
Intende	ed lear	ning outcomes				
Studen	its are a	able to independently p	oursue research project	ts in the field of pha	rmaceutical biology v	with a focus
			able to independently		ent questions in the	field of plant
biology	, adhe	ring to the principles of	f good scientific practic	e.		
Course	<b>s</b> (type	, number of weekly con	itact hours, language –	- if other than Germa	an)	
Ü + S (r	no infoi	mation on SWS (weekl	y contact hours) and co	ourse language avail	lable)	
Metho	d of ass	essment (type, scope,	language — if other th	an German, examina	ation offered — if not	every seme-
			can be chosen to earn			
method	ds of as	sessment: a) written e	xamination (approx. 45	to 60 minutes) or b	) log (approx. 10 to 2	o pages) or
			each (approx. 30 minu			
			didate) or e) presentati		minutes); students	will be infor-
med at	pout the	e method and length of	the assessment prior	to the course		
Allocat	ion of <sub>l</sub>	olaces				
Numbe	er of pla	ces: 8. Should the nun	nber of applications ex	ceed the number of	available places, pla	ces will be
allocat	ed as fo	ollows: Places will prim	arily be allocated to st	udents of the Bache	lor's degree subject	Biologie (Bio
			he module be used in o			
			ne Bachelor's degree si			
<u> </u>		•	icipant in total) will be			•
			credits and to students atics), each with 180 E			
		-	students of other 'imp	· · ·	• •	
			of applications, the rer			
			thin one module compo			
			ation for the courses of			
•		_	are concerned will be			
dure, a	pplicar	nts who already have si	uccessfully completed	at least one other m	odule component of	the respec-
	tive 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 ap-					
•	plicants' 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					
		-			_	
			ct of Biologie (Biology) of application. This wil			
			de weighted according			
			al number of ECTS cred			
			culated as the sum of t			
Bachelor's	with 1 ma	or Biology (2011)		Irg • generated 26-Aug-2024		page 183 / 254
			reg. data reco	ord Bachelor (180 ECTS) Biolo	gie - 2011	

cording 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.

#### Additional information

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Workload

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Teaching cycle

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

#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 184 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation	
Excurs	ion I				07-S1-Ex1-102-m01	
Module coordinator				Module offered by		
Coordi	nator B	ioCareers		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	1	rical grade		-		
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate	1		regular attendance of field trip as	
			specified at the beg	inning of the course	; please consult with academic	
			advisory service in a	advance.		
Conter	nts		•			
Conter	nts of th	e field trip to be determ	ined by the respective	institution.		
Intend	ed lear	ning outcomes				
Studer	nts have	e developed skills which	qualify them to work	in their profession.		
Course	es (type	, number of weekly cont	act hours, language –	- if other than Germa	an)	
E (no ir	nforma	tion on SWS (weekly con	tact hours) and cours	e language available	2)	
			1		ition offered — if not every seme-	
		ion on whether module of				
didate	s (appr		idate) or e) presentati	on (approx. 20 to 30	ination in groups of up to 3 can- minutes); students will be infor-	
Allocat	tion of	places				
Additio	onal inf	ormation	_			
Worklo	oad					
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination reg	ulations for teaching-	degree programmes)		
Modul	e appea	ars in				
Bachel	lor' deg	ree (1 major) Biology (20	011)			
	Bachelor' degree (1 major) Biology (2010)					
	Bachelor' degree (1 major) Mathematics (2012)					
	-	ree (1 major) Mathemati	-			
	-	ree (1 major) Computatio				
	-	ree (1 major) Computatio		13)		
Bachel	lor's de	gree (1 major, 1 minor) B	1010gy (Minor, 2010)			

Module title					Abbreviation
Interdi	sciplin	ary Project I			07-S1-IP1-102-m01
Module coordinator				Module offered by	<u> </u>
Coordi	nator B	ioCareers		Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)	
5	1	rical grade		•	
Duratio	on	Module level	Other prerequisites	j	
1 seme	ster	undergraduate	· · · · ·		regular attendance of project se
		_			ie course; please consult with
			academic advisory	service in advance.	
Conter	Its		•		
Conten	its of th	e project to be determin	ed by the competent	coordinators; conte	nts will vary according to topic.
Intend	ed lear	ning outcomes			i
Studer	nts have	e developed skills which	qualify them to work	in their profession.	
		, number of weekly conta		· · · · · · · · · · · · · · · · · · ·	an)
		tion on SWS (weekly con			
					ation offered — if not every seme
		ion on whether module c			
		ation of one candidate e	each (approx. 30 mini	ites) or d) oral exam	ination in grouns of up to 2 can-
	pout th	e method and length of t		ion (approx. 20 to 30	
med at Allocat	pout th	e method and length of t		ion (approx. 20 to 30	
Allocat 	ion of	e method and length of t places		ion (approx. 20 to 30	
Allocat 	ion of	e method and length of t		ion (approx. 20 to 30	
Allocat 	ion of	e method and length of t places		ion (approx. 20 to 30	o minutes); students will be info
Allocat 	ion of ponal inf	e method and length of t places		ion (approx. 20 to 30	
Allocat  Additic	ion of ponal inf	e method and length of t places		ion (approx. 20 to 30	
Allocat  Additic	oout the	e method and length of t places ormation		ion (approx. 20 to 30	
Allocat  Additic  Worklo	oout the	e method and length of t places ormation		ion (approx. 20 to 30	
Allocat  Additio  Workld  Teachi	ion of ponal inf	e method and length of t places ormation	he assessment prior	ion (approx. 20 to 30	o minutes); students will be info
Allocat  Additio  Workld  Teachi	ion of ponal inf	e method and length of t places ormation e	he assessment prior	ion (approx. 20 to 30	o minutes); students will be info
Allocat  Additic  Worklo  Teachi  Referre	ion of ponal inf	e method and length of t places ormation e LPOI (examination regu	he assessment prior	ion (approx. 20 to 30	o minutes); students will be info
Allocat  Additio  Worklo  Teachi  Referre  Modulo	oout the ion of ponal info pad ng cycl ed to in e appea	e method and length of t places ormation e LPOI (examination regu	he assessment prior	ion (approx. 20 to 30	o minutes); students will be info
Allocat  Additic  Worklo  Teachi  Referre  Modulo Bachel Bachel	ion of ponal inf ponal inf pad ed to in e appea or' deg or' deg	e method and length of t places ormation e LPOI (examination regu ars in ree (1 major) Biology (20 ree (1 major) Biology (20	he assessment prior ulations for teaching- 11) 10)	ion (approx. 20 to 30	o minutes); students will be info
Allocat  Additic  Worklo  Teachi  Referre Bachel Bachel Bachel Bachel	ed to in e appea or' deg or' deg	e method and length of t places ormation e LPOI (examination regu ars in ree (1 major) Biology (20 ree (1 major) Biology (20 ree (1 major) Mathematio	he assessment prior ulations for teaching- 11) 10) CS (2012)	ion (approx. 20 to 30	o minutes); students will be info
Allocat  Additio  Worklo  Teachi  Referre  Bachel Bachel Bachel Bachel Bachel Bachel	ion of point the content of point the content of point of point of point of point of the content	e method and length of t places ormation e LPO I (examination regu ars in ree (1 major) Biology (20 ree (1 major) Biology (20 ree (1 major) Mathematic ree (1 major) Mathematic	he assessment prior ulations for teaching- 11) 10) cs (2012) cs (2013)	degree programmes)	o minutes); students will be info
Allocat  Additio  Worklo  Teachi  Referre Bachel Bachel Bachel Bachel Bachel Bachel Bachel	ed to in e appea or' deg or' deg or' deg or' deg	e method and length of t places ormation e LPO I (examination regu ars in ree (1 major) Biology (20 ree (1 major) Biology (20 ree (1 major) Mathematic ree (1 major) Mathematic ree (1 major) Mathematic	he assessment prior ulations for teaching- 11) 10) cs (2012) cs (2013) onal Mathematics (20	degree programmes)	o minutes); students will be info
Allocat  Additic  Worklo  Teachi  Referre Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel Bachel	ed to in e appea or' deg or' deg or' deg or' deg or' deg or' deg or' deg	e method and length of t places ormation e LPO I (examination regu ars in ree (1 major) Biology (20 ree (1 major) Biology (20 ree (1 major) Mathematic ree (1 major) Mathematic	he assessment prior ulations for teaching- 11) 10) cs (2012) cs (2013) onal Mathematics (20 onal Mathematics (20	degree programmes)	o minutes); students will be info

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record Bachelor (180 ECTS) Biologie - 2011	page 186 / 254	
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Module	title				Abbreviation
Laborat	ory practical course I				07-S1-LP1-102-m01
Module	coordinator			Module offered by	
Coordinator BioCareers				Faculty of Biology	
	Method of grading		Only after succ. com	· -·	
	numerical grade				
Duratio			Other prerequisites		
1 semes				site to assessment:	regular attendance of lab course
					rse; please consult with acade-
			mic advisory service		
Content	S				
	ctical coursed is offere	ed by an i	institution that is par	t of the University. C	ontents to be determined by the
Intende	d learning outcomes				
Student	s have developed skill	s which	qualify them to work	in their profession.	
Courses	(type, number of weel	kly conta	ct hours, language —	· if other than Germa	an)
P (no in	formation on SWS (wee	ekly cont	act hours) and cours	e language available	2)
ster, inf method c) oral e didates	ormation on whether n s of assessment: a) wr xamination of one can	nodule ca itten exa didate ea er candio	an be chosen to earn mination (approx. 45 ach (approx. 30 minu date) or e) presentati	a bonus) to 60 minutes) or b) tes) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- minutes); students will be infor-
Allocati	on of places				
Additio	nal information				
Workloa	ad				
Teachin	g cycle				
Referre	d to in LPO I (examinat	tion regu	lations for teaching-o	legree programmes)	
Module appears in					
Bachelor' degree (1 major) Biology (2011)					
Bachelor' degree (1 major) Biology (2010)					
	Bachelor' degree (1 major) Mathematics (2012)				
	Bachelor' degree (1 major) Mathematics (2013)				
	or' degree (1 major) Cor	•			
	or' degree (1 major) Cor	•		13)	
Bachelo	or's degree (1 major, 1 r	ninor) Bi	010gy (Minor, 2010)		

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 187 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title					Abbreviation
Excurs	ion II				07-S2-EX2-102-m01
Module coordinator				Module offered by	
Coordi	nator B	ioCareers		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	, ,	
10		rical grade		1 (7	
Duratio	on .	Module level	Other prerequisites		
1 seme	-	undergraduate			regular attendance of field trip as
		Ū			; please consult with academic
			advisory service in a	idvance.	
Conten	Its	<u> </u>			
[Versio	n 1: Co	ntents of the field trip to	be determined by the	respective institution	on.] [Version 2: Contents of the
		letermined by the compe			
Intend	ed lear	ning outcomes		· · · · ·	
Studer	nts have	e developed skills which	qualify them to work	in their profession.	
Course	<b>s</b> (type	, number of weekly conta	ct hours, language —	if other than Germa	an)
E (no ir	nformat	ion on SWS (weekly cont	act hours) and course	e language available	2)
		*			tion offered — if not every seme-
		ion on whether module ca			and one every serie
metho	ds of as	sessment: a) written exa	mination (approx. 45	to 60 minutes) or b	) log (approx. 10 to 20 pages) or
					ination in groups of up to 3 can-
					minutes); students will be infor-
		e method and length of th	ie assessment prior t	o the course	
Allocat	ion of <sub>l</sub>	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
	0.7				
Referre	ed to in	LPOI (examination regu	lations for teaching-o	legree programmes)	
Module	e appea	ars in			
		ree (1 major) Biology (201	1)		
	Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2010)				
	Bachelor' degree (1 major) Mathematics (2012)				
Bachel	or' deg	ree (1 major) Mathematic	s (2013)		
	-	ree (1 major) Computatio			
	-	ree (1 major) Computatio		13)	
Bachel	or's de	gree (1 major, 1 minor) Bi	ology (Minor, 2010)		

Module	e title			Abbreviation	
Interdi	sciplin	ary Project II			07-S2-IP2-102-m01
Module coordinator				Module offered by	
		ioCareers		Faculty of Biology	
ECTS		od of grading	Only after succ. con	, , ,	
10		rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate	Admission prerequi	t the beginning of th	regular attendance of project ses- e course; please consult with
Conten	ts				
Conten	ts of th	e project to be determin	ed by the competent	coordinators; conter	nts will vary according to topic.
Intende	ed lear	ning outcomes			
Studen	ts have	e developed skills which	qualify them to work	in their profession.	
Course	<b>s</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	an)
R (no ir	forma	tion on SWS (weekly con	tact hours) and cours	e language available	2)
c) oral o didates med ab Allocat	examir 5 (appr 5 out th <b>ion of</b> [	ation of one candidate e ox. 20 minutes per candi e method and length of t	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exam on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- minutes); students will be infor-
	<u>nat ini</u>				
Worklo	ad				
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	llations for teaching-o	legree programmes)	
Module	e appea	ars in			
Module appears inBachelor' degree (1 major) Biology (2011)Bachelor' degree (1 major) Biology (2010)Bachelor' degree (1 major) Mathematics (2012)Bachelor' degree (1 major) Mathematics (2013)Bachelor' degree (1 major) Computational Mathematics (2012)Bachelor' degree (1 major) Computational Mathematics (2013)Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)					

Modul	e title				Abbreviation
Labora	tory Pra	actical Course II			07-S2-LP2-102-m01
Module coordinator				Module offered by	
Coordinator BioCareers				Faculty of Biology	
ECTS		od of grading	Only after succ. com	, ,,	
10		rical grade			
Duratio	·	Module level	Other prerequisites		
1 seme		undergraduate		site to assessment:	regular attendance of lab course
2 0 0 0					rse; please consult with acade-
			mic advisory service		
Conter	nts		<u> </u>		
This pr	actical	coursed is offered by an	institution that is par	t of the University. C	ontents to be determined by the
		titution.	·		,
Intend	ed learı	ning outcomes			
		amiliar with the structure rofession.	es of internal instituti	ons and have develo	oped skills which qualify them to
		, number of weekly conta	ct hours language -	if other than Germa	n)
		ion on SWS (weekly cont			
		· · ·	· · · · · · · · · · · · · · · · · · ·	~ ~	•
		on on whether module ca			tion offered — if not every seme-
metho	ds of as	sessment: a) written exa	mination (approx. 45	to 60 minutes) or b)	) log (approx. 10 to 20 pages) or
c) oral	examin	ation of one candidate e	ach (approx. 30 minu	tes) or d) oral exami	ination in groups of up to 3 can-
		ox. 20 minutes per candid e method and length of th			minutes); students will be infor-
	tion of p	-			
Allocal		Jaces			
Additic		ormation			
Additio					
Worklo					
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	lations for teaching-o	legree programmes)	
Modul	e appea	irs in			
	Bachelor' degree (1 major) Biology (2011)				
		ree (1 major) Biology (201			
	-	ree (1 major) Mathematic			
	-	ree (1 major) Mathematic	-		
	-	ree (1 major) Computatio			
	-	ree (1 major) Computatio gree (1 major, 1 minor) Bi		13)	
Dachel		siee (1 illajoi, 1 illillol) DI	010gy (19111101, 2010)		

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 190 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Excursion III					07-S3-Ex3-102-m01
Module coordinator				Module offered by	
Coordi	nator B	ioCareers		Faculty of Biology	
ECTS		od of grading	Only after succ. con	npl. of module(s)	
15	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate		inning of the course;	regular attendance of field trip as please consult with academic
Conten	ts				
		ne field trip to be determin nesses or fieldwork in the			may include visits to instituti-
Intende	ed lear	ning outcomes			
learn a will pro	bout a vide st	dditional non-academic a tudents with an opportun	spects of careers in t ity to learn how to co	piology. Fieldwork in llect and interpret da	
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)
E (no ir	format	tion on SWS (weekly cont	act hours) and cours	e language available	)
		<b>sessment</b> (type, scope, la ion on whether module ca			tion offered — if not every seme-
c) oral didates	examir 5 (appr	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-
Allocat			·		
Additio	onal inf	ormation			
Worklo	ad				
Teachi	ng cvrl	e			
	.5 .9				
Referre	d to in	LPOI (examination regu	lations for teaching	legree programmee	
				acgree programmes)	
Module		ars in			
		ree (1 major) Biology (20:	11)		
	-	ree (1 major) Biology (201			
Buchel	ucs	100 (1 major) biology (20.	,		

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 191 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul	e title				Abbreviation
Interdi	isciplina	ary Project III			07-S3-IP3-102-m01
Modul	e coord	inator		Module offered by	
		ioCareers		Faculty of Biology	
ECTS	1	od of grading	Only after succ. con		
15	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 seme	ester	undergraduate		t the beginning of th	regular attendance of project ses- e course; please consult with
Conter	nts				
Conter	nts of th	e project to be determine	ed by the competent	coordinators; conter	nts will vary according to topic.
Intend	ed lear	ning outcomes			
Studer	nts have	e developed skills which	qualify them to work	in their profession.	
Course	<b>es</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	ın)
R (no i	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	2)
		<b>sessment</b> (type, scope, la on on whether module c			tion offered — if not every seme-
c) oral didate	examin s (appro	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- minutes); students will be infor-
	tion of p	_	· · ·		
Additio	onal inf	ormation			
Worklo	bad				
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)	
Modul	e appea	urs in			
		ree (1 major) Biology (20:	11)		
Bache	lor' deg	ree (1 major) Biology (20	10)		

Module	e title				Abbreviation
Labora	tory Pr	actical Course III			07-S3-LP3-102-m01
Module	e coord	inator		Module offered by	
		ioCareers		Faculty of Biology	
ECTS	1	od of grading	Only after succ. con	, ,	
15	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate		beginning of the cour	regular attendance of lab course rse; please consult with acade-
Conten	ts				
		coursed is offered by an titution.	institution that is par	t of the University. C	ontents to be determined by the
Intende	ed lear	ning outcomes			
		amiliar with the structure rofession.	es of internal instituti	ons and have develo	pped skills which qualify them to
Course	<b>s</b> (type	, number of weekly conta	ict hours, language –	- if other than Germa	ın)
P (no ir	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	2)
		s <b>essment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-
c) oral ( didates	examin 5 (appro	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	ed to in	LPOI (examination regu	lations for teaching-o	degree programmes)	
Module	e appea	irs in			
	-	ree (1 major) Biology (20: ree (1 major) Biology (20:	-		

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 193 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	
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Modul	Module title Abbreviation				Abbreviation
Biotechnology and Social Acceptance					07-SQF-BGA-102-m01
Modul	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. compl. of module(s)		
3	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	1 semester undergraduate				
Contents					
Applica	ations o	of green biotechnology; b	iological background	l, economic interests	s, ecological risks, social accepta-

# bility.

#### Intended learning outcomes

Students are able to discuss/evaluate society's views of biotechnology. They know how to conduct a literature search and are able to critically review scientific publications as well as issues raised by society. Students have enhanced their oral and written presentation skills and are able to use these to present the data they have collected.

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

V + 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 can be chosen to earn a bonus)

term paper or preparing educational materials (approx. 5 to 10 pages) and presentation (approx. 20 to 30 minutes)

#### Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 194 / 254
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places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

## Additional information

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Workload

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## Teaching cycle

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

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#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 195 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul				Abbreviation	
Compu	utertools for Molecular Biology			07-SQF-CTA-102-m	01
Module coordinator			Module offered by		
holder	nolder of the Chair of Bioinformatics		Faculty of Biology		
ECTS	Method of grading Only after succ. compl. of module(s)				
2	(not) successfully completed				
Duration Module level Other prerequisites					
1 seme					
Conter					
	nts know how simple and free t	ools for molecular bio	logical analysis work	ά.	
Intend	ed learning outcomes				
	nts will be familiar with the met nese methods.	hods discussed in cla	ss and will know wh	at problems may be	addressed
Course	<b>es</b> (type, number of weekly cont	act hours, language –	- if other than Germa	an)	
V + Ü (	no information on SWS (weekly	contact hours) and co	ourse language avai	able)	
	<b>d of assessment</b> (type, scope, nformation on whether module			ition offered — if not	every seme
writter	n examination or practical exam	ination (approx. 30 m	inutes)		
Alloca	tion of places				
allocat logy) w ces wil 5% of j ject Bio	ted as follows: Places will prima vith 180 ECTS credits. Should th Il be allocated to students of th places (a minimum of one parti ologie (Biology) with 60 ECTS c	arily be allocated to st ne module be used in o e Bachelor's degree so cipant in total) will be redits and to students	udents of the Bache other subjects, there ubject Biologie (Biol allocated to studen of the Bachelor's de	will be two quotas: ogy) with 180 ECTS c ts of the Bachelor's c gree subjects Comp	Biologie (Bi 95% of pla- redits and degree sub- utational M
allocat logy) w ces wil 5% of J ject Bid ble in of the oth places course dure, a tive mo they be plicant of ECTS all moo thema firstly, and, so positio cording qualita followi compoi ces will among places	ted as follows: Places will prima with 180 ECTS credits. Should the places (a minimum of one parti- ologie (Biology) with 60 ECTS of tics and Mathematik (Mathema- ology (as well as potentially to one quota exceed the number of the quota. Should there be, with the will be a uniform regular tes of a module component that applicants who already have su odule will be given preferential ecome available. Selection pro- ts' previous academic achieven S credits they have achieved ar dule components in the subject tik (Mathematics)) at the time of according to their average grace econdly, according to their tota on in a third ranking will be calco g to this third ranking. Among a ative ranking or otherwise by lo ing quotas: Quota 1 (50% of pla onents of the Faculty of Biology; Il be allocated by lot. Quota 2 (a gapplicants with the same num b): allocation by lot. Should the	arily be allocated to state module be used in or e Bachelor's degree su- cipant in total) will be redits and to students attics), each with 180 Ed- students of other 'imp of applications, the rem- nin one module compo- tion for the courses of are concerned will be ccessfully completed consideration. A waiti cess group 1 (95%): Pl nents. For this purpose at their average grade t of Biologie (Biology) of application. This will be weighted according l number of ECTS cred ulated as the sum of t applicants with the sar t. Selection process gr ces): total number of among applicants wite ber of subject semest module be used only in	udents of the Bache other subjects, there ubject Biologie (Biol allocated to studen of the Bachelor's de CTS credits, as part of orting' subjects). Sh maining places will be onent, several course one module comport allocated in a stand at least one other m ing list will be mainta aces will primarily b e, applicants will be of all assessments to (excluding Chemie ( l be done as follows to the number of EC its achieved (quanti these two rankings, a me ranking, places w roup 2 (5%): Places w ECTS credits already th the same number er of subject semest ers, places will be all in the Bachelor's deg	lor's degree subject will be two quotas: ogy) with 180 ECTS of the Bachelor's of gree subjects Comp of the application-ori ould the number of p be allocated to applic es with a restricted in nent. In this case, pla ardised procedure. In odule component of ained and places re- e allocated according ranked according to taken during their stu Chemistry), Physik (F : First, applicants will TS credits (qualitative tative ranking). The a and places will be allocated accord vill be allocated accord vill be allocated accord achieved in module of ECTS credits achi- ers of the respective clocated by lot. Quota gree subject Biologie	Biologie (Bi 95% of pla- redits and degree sub- utational Ma iented sub- places avail cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma Il be ranked ve ranking) applicants' located ac- ording to the s/module eved, pla- applicant; a 3 (25% of
allocat logy) w ces wil 5% of j ject Bid thema ject Bid ble in o the oth places course dure, a tive mo they be plicant of ECTS all moo thema firstly, and, se positio cording qualita followi compo ces wil among places with 18	ted as follows: Places will prima with 180 ECTS credits. Should the places (a minimum of one parti- ologie (Biology) with 60 ECTS of tics and Mathematik (Mathema- ology (as well as potentially to one quota exceed the number of her quota. Should there be, with s, there will be a uniform regular es of a module component that applicants who already have su odule will be given preferential ecome available. Selection pro- ts' previous academic achieven S credits they have achieved ar dule components in the subject tik (Mathematics)) at the time of according to their average grace econdly, according to their tota on in a third ranking will be calco g to this third ranking. Among a ative ranking or otherwise by lo ing quotas: Quota 1 (50% of pla onents of the Faculty of Biology; Il be allocated by lot. Quota 2 (a g applicants with the same num	arily be allocated to state module be used in or e Bachelor's degree su- cipant in total) will be redits and to students attics), each with 180 Ed- students of other 'imp of applications, the rem- nin one module compo- tion for the courses of are concerned will be ccessfully completed consideration. A waiti cess group 1 (95%): Pl nents. For this purpose and their average grade t of Biologie (Biology) of application. This will be weighted according l number of ECTS cred ulated as the sum of t applicants with the sar t. Selection process gr ces): total number of among applicants wite ber of subject semest module be used only in	udents of the Bache other subjects, there ubject Biologie (Biol allocated to studen of the Bachelor's de CTS credits, as part of orting' subjects). Sh maining places will be onent, several course one module comport allocated in a stand at least one other m ing list will be mainta aces will primarily b e, applicants will be of all assessments to (excluding Chemie ( l be done as follows to the number of EC its achieved (quanti these two rankings, a me ranking, places w roup 2 (5%): Places w ECTS credits already th the same number er of subject semest ers, places will be all in the Bachelor's deg	lor's degree subject will be two quotas: ogy) with 180 ECTS of the Bachelor's of gree subjects Comp of the application-ori ould the number of p be allocated to applic es with a restricted in nent. In this case, pla ardised procedure. In odule component of ained and places re- e allocated according ranked according to taken during their stu Chemistry), Physik (F : First, applicants will TS credits (qualitative tative ranking). The a and places will be allocated accord vill be allocated accord vill be allocated accord achieved in module of ECTS credits achi- ers of the respective clocated by lot. Quota gree subject Biologie	Biologie (Bi 95% of pla- redits and degree sub- utational Ma iented sub- places avail cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma Il be ranked ve ranking) applicants' located ac- ording to the s/module eved, pla- applicant; a 3 (25% of
allocat logy) w ces wil 5% of j ject Bid thema ject Bid ble in of the oth places course dure, a tive mo they be plicant of ECTS all moo thema firstly, and, se positio cordin qualita followi compo ces wil among places with 18	ted as follows: Places will prima with 180 ECTS credits. Should the ll be allocated to students of the places (a minimum of one parti- ologie (Biology) with 60 ECTS cre- tics and Mathematik (Mathema- ology (as well as potentially to one quota exceed the number of her quota. Should there be, with s, there will be a uniform regular es of a module component that applicants who already have su odule will be given preferential ecome available. Selection pro- ts' previous academic achieven S credits they have achieved ar dule components in the subject tik (Mathematics)) at the time of according to their average grace econdly, according to their tota on in a third ranking. Among a ative ranking or otherwise by lo ing quotas: Quota 1 (50% of pla- onents of the Faculty of Biology; Il be allocated by lot. Quota 2 (a gapplicants with the same num s): allocation by lot. Should the BOECTS credits, places will be a	arily be allocated to state module be used in or e Bachelor's degree su- cipant in total) will be redits and to students attics), each with 180 Ed- students of other 'imp of applications, the rem- nin one module compo- tion for the courses of are concerned will be ccessfully completed consideration. A waiti cess group 1 (95%): Pl nents. For this purpose and their average grade t of Biologie (Biology) of application. This will be weighted according l number of ECTS cred ulated as the sum of t applicants with the sar t. Selection process gr ces): total number of among applicants wite ber of subject semest module be used only in	udents of the Bache other subjects, there ubject Biologie (Biol allocated to studen of the Bachelor's de CTS credits, as part of orting' subjects). Sh maining places will be onent, several course one module comport allocated in a stand at least one other m ing list will be mainta aces will primarily b e, applicants will be of all assessments to (excluding Chemie ( l be done as follows to the number of EC its achieved (quanti these two rankings, a me ranking, places w roup 2 (5%): Places w ECTS credits already th the same number er of subject semest ers, places will be all in the Bachelor's deg	lor's degree subject will be two quotas: ogy) with 180 ECTS of the Bachelor's of gree subjects Comp of the application-ori ould the number of p be allocated to applic es with a restricted in nent. In this case, pla ardised procedure. In odule component of ained and places re- e allocated according ranked according to taken during their stu Chemistry), Physik (F : First, applicants will TS credits (qualitative tative ranking). The a and places will be allocated accord vill be allocated accord vill be allocated accord achieved in module of ECTS credits achi- ers of the respective clocated by lot. Quota gree subject Biologie	Biologie (Bi 95% of pla- redits and degree sub- utational Ma iented sub- places avail cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma Il be ranked ve ranking) applicants' located ac- ording to the s/module eved, pla- applicant; a 3 (25% of

### Workload

Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 197 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	title				Abbreviation		
		ocessing			07-SQF-EDV-102-m01		
Module coordinator				Module offered by			
holder	of the (	Chair of Bioinformatics		Faculty of Biology			
ECTS		od of grading	Only after succ. com	pl. of module(s)			
3	<u> </u>	rical grade					
Duratio		Module level	Other prerequisites				
1 seme		undergraduate					
Conten	ts						
logy: - ι Windov dents w and dat	up-to-d vs and vill be r tabase	ate information on hardw Linux operating systems equired to work with dur	vare and software, da - in the area of softwa ing their university str e course will focus or	ta protection and da are, the course will f udies: word process	ntial not only for students of bio- ta security - basic information on ocus on Office applications stu- ing, spreadsheets, presentation as of communication technolo-		
		ning outcomes					
re for b protect how to with too	ioscien data. S search ols for f	itists. They have gained a Students are able to use a for information on the in these purposes. Students	n overview of prevale NS Office-like softwa ternet. They know ho s are proficient in ima	ent operating system re to address in part w to create and main ge editing software	area of computers and softwa- is and know how to backup and icular scientific issues and know ntain web pages and are familiar and techniques and know how to o when writing scientific publica-		
Course	<b>s</b> (type	, number of weekly conta	ct hours, language —	if other than Germa	n)		
Ü (no ir	format	tion on SWS (weekly cont	act hours) and cours	e language available	e)		
		<b>sessment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-		
c) oral e didates	examin 6 (appro	ation of one candidate ea	ach (approx. 30 minu date) or e) presentatio	tes) or d) oral exami on (approx. 20 to 30	log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-		
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
Teachir	ng cycl	e					
Referre	d to in	LPOI (examination regu	lations for teaching-d	legree programmes)			
Module	appea	urs in					
		ree (1 major) Biology (201	11)				
Bachel	or' deg	ree (1 major) Biology (201	10)				

Module	e title			Abbreviation
Basic P	Principles for Laboratory Work		_	07-SQF-GGL-102-m01
Module	e coordinator		Module offered by	
Coordi	nator BioCareers		Faculty of Biology	
ECTS	Method of grading	Only after succ. con	npl. of module(s)	
3	numerical grade			
Duratio	on Module level	Other prerequisites	j	
1 seme				
Conten	ts			
sensibl equipm copy. lı	le use of checks, keeping lab r nent, handling of radioactivity;	otebooks, handling of background knowled uss fundamental cell	f reagents, storage a ge on electrophoresi culture techniques (e	e.g. designing experiments, the nd disposal, maintenance of lab s, centrifugation and light micros- eukaryotic and bacterial) as well nd proteins.
Intende	ed learning outcomes			
Studen of findi	its are able to effectively struct	-up experiments if ini		esign through to the publication gest certain findings, and to pro-
Course	<b>s</b> (type, number of weekly con	act hours, language –	– if other than Germa	an)
V + Ü (r	no information on SWS (weekly	contact hours) and co	ourse language avail	able)
	<b>d of assessment</b> (type, scope, formation on whether module			tion offered — if not every seme-
written	examination or practical exam	ination (approx. 20 m	inutes)	
Allocat	ion of places			
allocatilogy) w ces will 5% of p ject Bio themati ject Bio ble in o the oth places, coursed dure, a tive mo they be plicant of ECTS all moo thematifistly, and, se positio cording qualita followin compo	ed as follows: Places will prime ith 180 ECTS credits. Should the l be allocated to students of the blaces (a minimum of one part blogie (Biology) with 60 ECTS of cics and Mathematik (Mathematics) one quota exceed the number of one quota exceed the number of the quota exceed the number of the quota. Should there be, wit , there will be a uniform regula s of a module component that pplicants who already have sub odule will be given preferential ecome available. Selection pro s' previous academic achiever according to their average grad econdly, according to their tota n in a third ranking will be calo g to this third ranking. Among a tive ranking or otherwise by lo ng quotas: Quota 1 (50% of pla nents of the Faculty of Biology	arily be allocated to st be module be used in o e Bachelor's degree si cipant in total) will be redits and to students tics), each with 180 E students of other 'imp of applications, the ren hin one module compo- tion for the courses of are concerned will be ccessfully completed consideration. A waiti cess group 1 (95%): Pl nents. For this purpose to f Biologie (Biology) of application. This will be weighted according l number of ECTS cred ulated as the sum of the pplicants with the sam t. Selection process gr ces): total number of among applicants wi	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 maining places will b onent, several course one module compor allocated in a standa at least one other mo ing list will be mainta aces will primarily be of all assessments t (excluding Chemie (C l be done as follows to the number of EC its achieved (quantit chese two rankings, a me ranking, places w FOUP 2 (5%): Places w ECTS credits already th the same number	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- <i>v</i> ill be allocated according to the will be allocated according to the achieved in modules/module

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 199 / 254
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#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

### Additional information

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Workload

## Teaching cycle

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

# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 200 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module					Abbreviation
Global Acting in Globally and Locally linked Decision Proc			inked Decision Proce	sses	07-SQF-GHE-102-m01
Module coordinator				Module offered by	<u> </u>
		hair of Bioinformatics		Faculty of Biology	
ECTS		d of grading	Only after succ. com	, .,	
3		ical grade		•	
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
differen will refl the righ as an e	nt fields ect the nt decis xample	of biology and/or bioted latest trends and develo ion Decision making a of "ecology vs. economy	chnology with regard pments. Topics that i nd disposal Decisio	to their socio-politic might be covered in	course will discuss findings fror cal relevance. Topics will vary an clude: - Global threats making s of social insects Ecosystems
		ing outcomes			nd requirements and will under-
sues an to spec ecology blems r	nd will h ific loca , socio relevan	be better qualified to ada al conditions as well as t biology), the course will t to society and develop	opt the opportunities o implement these. W have acquainted stud approaches to solution	and/or necessities a Vith the help of topic dents with principles	deeper awareness of complex is associated with global challenge cal examples from nature (e.g. s that may help understand pro-
		number of weekly conta			
		ion on SWS (weekly cont			
		<b>essment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-
log (apj	prox. 10	o to 20 pages)			
Allocati	ion of p	laces			
allocate logy) wi ces will 5% of p ject Bio themati ject Bio ble in o the othe places, courses dure, ap tive mo they be plicants of ECTS all mod themati firstly, a	ed as fc ith 180 l be allc blaces ( blogie (I ics and blogy (a one quo er quot there v s of a m pplican dule wi ccome a s' previ s credits lule cor ik (Mat accordi	Allows: Places will primar ECTS credits. Should the ocated to students of the a minimum of one partic Biology) with 60 ECTS cre Mathematik (Mathemat s well as potentially to st ta exceed the number of a. Should there be, withi vill be a uniform regulation odule component that a ts who already have suc Il be given preferential c vailable. Selection proce ous academic achievement they have achieved and they have achieved and they have achieved and they have the subject of the matics)) at the time of	ily be allocated to stue module be used in or Bachelor's degree su ipant in total) will be edits and to students ics), each with 180 EC udents of other 'impo applications, the ren n one module compo on for the courses of re concerned will be a cessfully completed a onsideration. A waitin ess group 1 (95%): Pla ents. For this purpose I their average grade of Biologie (Biology) ( application. This will e weighted according	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 ( be done as follows to the number of EC	available places, places will be lor's degree subject Biologie (Bio will be two quotas: 95% of pla- ogy) with 180 ECTS credits and ts of the Bachelor's degree sub- gree subjects Computational Ma of the application-oriented sub- ould the number of places availa- te 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 aken during their studies or of Chemistry), Physik (Physics), Ma trist, applicants will be ranked, TS credits (qualitative ranking)

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 201 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

### Additional information

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Workload

Teaching cycle

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

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#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 202 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title Abbreviation				Abbreviation
Basics in System Administra	tion			07-SQF-GSA-102-m01
Module coordinator			Module offered by	
holder of the Chair of Bioinfo	ormatics		Faculty of Biology	
ECTS Method of grading		Only after succ. com	pl. of module(s)	
2 (not) successfully co	mpleted			
Duration Module level		Other prerequisites		
1 semester undergraduat	e			
Contents				
The lecture will introduce stu dows). Practical exercises in				stems (Linux, Mac OSX, Win- lecture.
Intended learning outcomes			,	
Students will demonstrate a				sed and will be able to perform h a broader range of operating
Courses (type, number of we	ekly conta	ct hours, language —	· if other than Germa	n)
V + Ü (no information on SW	S (weekly o	contact hours) and co	ourse language avail	able)
Method of assessment (type ster, information on whether				tion offered — if not every seme-
written examination or practi	cal exami	nation (approx. 30 mi	inutes)	
Allocation of places				
allocated as follows: Places y logy) with 180 ECTS credits. S ces will be allocated to stude 5% of places (a minimum of ject Biologie (Biology) with 6 thematics and Mathematik (f ject Biology (as well as poter ble in one quota exceed the the other quota. Should ther places, there will be a unifor courses of a module compor dure, applicants who already tive module will be given pre they become available. Select plicants' previous academic of ECTS credits they have act all module components in th thematik (Mathematics)) at t firstly, according to their ave and, secondly, according to the position in a third ranking wi cording to this third ranking. qualitative ranking or otherw following quotas: Quota 1 (50 components of the Faculty of ces will be allocated by lot. C among applicants with the sa	will primar Should the ents of the one particl o ECTS cree Mathematin tially to st number of e be, within m regulation that a succe ferential c ction process achieved and e subject of he time of rage grades their total in ll be calcu Among ap vise by lot. 5% of place f Biology; a Quota 2 (29) ame numb	ily be allocated to stue module be used in of Bachelor's degree su- ipant in total) will be dits and to students ics), each with 180 EC udents of other 'impe- applications, the ren n one module compo- on for the courses of re concerned will be accessfully completed a onsideration. A waiting ess group 1 (95%): Pla- ents. For this purpose I their average grade of Biologie (Biology) ( application. This will e weighted according number of ECTS credi lated as the sum of the plicants with the sam Selection process gro es): total number of E among applicants with the sen of subject semestor	udents of the Bachel other subjects, there ubject Biologie (Biolo allocated to student of the Bachelor's de CTS credits, as part o orting' subjects). Sho naining places will b onent, several course one module compon allocated in a standa at least one other mo ng list will be mainta aces will primarily be applicants will be n of all assessments ta (excluding Chemie (C be done as follows: to the number of EC its achieved (quantit hese two rankings, a ne ranking, places w oup 2 (5%): Places w ECTS credits already th the same number er of subject semeste ers, places will be all	available places, places will be or's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and s of the Bachelor's degree sub- gree subjects Computational Ma- of the application-oriented sub- ould the number of places availa- e 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- ined and places re-allocated as e allocated according to the ap- ranked according to the number aken during their studies or of Chemistry), Physik (Physics), Ma- First, applicants will be ranked, TS credits (qualitative ranking) ative ranking). The applicants' and places will be allocated ac- ill be allocated according to the <i>v</i> ill 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 gree subject Biologie (Biology)

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

### Additional information

Workload

### --Teaching cycle

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

### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 204 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module					Abbreviation
Teamw	Teamwork in Natural Science     07-SQF-GTA-102-m01				
Module coordinator Module offered by					<u> </u>
Coordi	nator B	ioCareers		Faculty of Biology	
ECTS	2	od of grading	Only after succ. con	npl. of module(s)	
2	(not) s	successfully completed			
Duratio		Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
teams	of 3 to ;				nd phases of team building. In . They will summarise and deliver
Intende	ed lear	ning outcomes			
based familia work. Ir	environ r with t n addit	ment. They will know ho he advantages of teamwo ion, they will have becom	w their team projects ork as well as with di ne familiar with the d	were different from sadvantages teamwo ifferent phases of tea	
		, number of weekly conta			
-		tion on SWS (weekly cont	-		-
		<b>sessment</b> (type, scope, la on on whether module c			tion offered — if not every seme-
c) oral ( didates	examin 5 (appro	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-
Allocat			•		
		-			
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	d to in	LPOI (examination regu	lations for teaching-	degree programmes)	
Module	e appea	urs in			
Bachel	or' deg	ree (1 major) Biology (20:			
Bachel	or' deg	ree (1 major) Biology (20:	10)		

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam. reg. data record Bachelor (180 ECTS) Biologie - 2011	page 205 / 254
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Module					Abbreviation
Good P	Practice	s in Laboratory, Clinics a	and Production		07-SQF-GXP-102-m01
Module coordinator			Module offered by		
		oCareers		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
techno are in p aboven res, e. g rage an trophor technic	logical place at mentior g. desig nd dispo resis, co ques (en	production. The course v American, European and ed areas. In addition, th gning experiments, the se osal, maintenance of lab entrifugation and light m	vill discuss the guide d German authorities, e course will teach st ensible use of checks equipment, handling icroscopy. In additior	lines for safeguardir universities and org udents basic rules ro , keeping lab notebo of radioactivity; ba n, the course will dis	rmaceutical, chemical and bio- ng good scientific practice that ganisations that are active in the egarding everyday lab procedu- ooks, handling of reagents, sto- ckground knowledge on elec- ccuss fundamental cell culture e molecular biological analysis of
		ning outcomes			
dents a place. of findi	are able They ar ings -, t	to adhere to existing gu e able to effectively struc	idelines, both during ture research project up experiments if init	lab courses at unive s - from experiment	o the relevant regulations. Stu- ersity and in their future work- design through to the publication gest certain findings, and to pro-
Course	<b>s</b> (type	number of weekly conta	ect hours, language —	if other than Germa	in)
		ion on SWS (weekly cont			
		<b>essment</b> (type, scope, la on on whether module c			ition offered — if not every seme-
written	examiı	nation or practical exami	nation (approx. 20 mi	inutes)	
Allocat	ion of p	olaces	-		
allocate logy) w ces will 5% of p	ed as fo vith 180 l be allo places ( plogie (l	ollows: Places will prima ECTS credits. Should the	rily be allocated to stu e module be used in c Bachelor's degree su	udents of the Bachel other subjects, there ubject Biologie (Biolo	f available places, places will be lor's degree subject Biologie (Bio will be two quotas: 95% of pla- ogy) with 180 ECTS credits and

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 206 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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.

### Additional information

Workload

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Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 207 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Outsta	nding F	Publications in Biology			07-SQF-HVB-102-m01
Module	e coord	inator		Module offered by	<u> </u>
Coordi	nator B	ioCareers		Faculty of Biology	·
ECTS	Metho	od of grading	Only after succ. con	, ,,	
3	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	Its				
rical sig	gnificar		ered ground-breaking		olications that are either of histo- hods and techniques that helped
Intend	ed learı	ning outcomes			
Studen dings/j evaluat Course	nts are a publica te new <b>s</b> (type	ble to understand as we tions. A retrospective rev developments in science number of weekly conta	ll as to critically pres view of these "key pul	ent and discuss key blications" has giver · if other than Germa	
S (no ir	nformat	ion on SWS (weekly cont	act hours) and cours	e language available	e)
		essment (type, scope, la on on whether module ca			ition offered — if not every seme-
presen	tation (	approx. 20 to 30 minutes	5)		
Allocat	tion of p	olaces			
allocat logy) w ces wil 5% of p ject Bic themat ject Bic ble in c the oth places, course dure, a tive mo they be plicant of ECTS all moo themat firstly, p and, se positio cording qualita followin compo	ed as for ith 180 l be allo blaces ( blogie (l tics and blogy (a blogy (a b	ollows: Places will primar ECTS credits. Should the poated to students of the a minimum of one partic Biology) with 60 ECTS cred Mathematik (Mathemat s well as potentially to st ta exceed the number of ta. Should there be, within will be a uniform regulation odule component that a ts who already have suc ill be given preferential c available. Selection proce ous academic achievement s they have achieved and ponents in the subject hematics)) at the time of ng to their average grade , according to their total hird ranking will be calcu third ranking. Among ap oking or otherwise by lot. cas: Quota 1 (50% of plac f the Faculty of Biology; a	ily be allocated to strue 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 'imp 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) application. This will e weighted according number of ECTS credi- lated as the sum of to policants with the sar Selection process gr ess): total number of I among applicants with	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 ( be done as follows to the number of EC its achieved (quantif hese two rankings, a ne ranking, places w oup 2 (5%): Places w ECTS credits already h the same number	Favailable 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;

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 208 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

### Additional information

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Workload

## Teaching cycle

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

# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 209 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation
	Tutorial Intercultural Competence 07-SQF-IKK-102-m01			
Module coordinator M		Module offered by		
Coordinator E	BioCareers		Faculty of Biology	
· · · · · · · · · · · · · · · · · · ·	od of grading	Only after succ. com	npl. of module(s)	
4 (not)	successfully completed			
Duration	Module level	Other prerequisites		
2 semester	undergraduate			
Contents				
the Faculty of dents from al ternational st small-group t	<sup>•</sup> Biology at the University proad (in particular from n	of Würzburg, we aim on-EU states) studyir ling scientific conten	to offer more intensing biology. For this p ts, to overcome lang	foster the international focus of ive mentoring for first-year stu- purpose, we train tutors to help in- guage problems with the help of dents in general.
		able skills including i	intercultural and inte	ernational competencies, the
				as the ability to supervise groups.
	, number of weekly conta		· · · · · · · · · · · · · · · · · · ·	
	rmation on SWS (weekly o			·
ster, informat	sessment (type, scope, la ion on whether module ca o to 20 pages)			ition offered — if not every seme-
Allocation of				
allocated as f logy) with 180 ces will be all 5% of places ject Biologie thematics and ject Biology ( ble in one qu the other quo places, there courses of a r dure, applica tive module v they become plicants' prev of ECTS credir all module co thematik (Ma firstly, accord and, secondly position in a cording to thi qualitative ra following quo components ces will be all	follows: Places will primar o ECTS credits. Should the located to students of the (a minimum of one partic (Biology) with 60 ECTS cred d Mathematik (Mathemat as well as potentially to st ota exceed the number of ta. Should there be, withi will be a uniform regulation nodule component that a nts who already have suc- vill be given preferential c available. Selection proce- tious academic achievement to they have achieved and mponents in the subject thematics)) at the time of ing to their average grade y, according to their total third ranking. Among ap nking or otherwise by lot. otas: Quota 1 (50% of plac of the Faculty of Biology; a located 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 EG udents of other 'imper applications, the rem n one module composed on for the courses of re concerned will be cessfully completed a onsideration. A waiti ess group 1 (95%): Pla ents. For this purposed of Biologie (Biology) of application. This will e weighted according number of ECTS credi lated as the sum of the policants with the sam Selection process gr es): 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). Sho 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 (O l be done as follows: to the number of EC its achieved (quantit hese two rankings, a ne ranking, places w oup 2 (5%): Places w ECTS credits already th the same number er of subject semeste	available places, places will be lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- 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 aken during their studies or of Chemistry), Physik (Physics), Ma- e 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

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 210 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

## Additional information

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Workload

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### Teaching cycle

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

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#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 211 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title		Abbreviation			
Career, Personality	Career, Personality and Communication 07-SQF-KEB-102-m01				
Module coordinato	or		Module offered by	·	
Coordinator BioCar	reers		Faculty of Biology		
ECTS Method of		Only after succ. con	npl. of module(s)		
5 numerical	•				
	lule level	Other prerequisites			
1 semester und	ergraduate				
Contents					
address the topic of and will acquaint s will develop funda- ted approach to wo	of job application an tudents with criteria mental criteria for we	d staff selection. It w for developing perso orking in groups and cation (incl. rhetoric a	ill discuss methods onal and social skills teams. The fundame	yment for life scientists and will for analysing personality types 5. Building on this, the module ental principles of a project-orien- will be discussed. Students will	
Intended learning	outcomes				
market, know how veloped a fundame ment methods. The ge of project mana cient in the theory	Students know what it takes to succeed in the job market. They are familiar with current developments in the job market, know how to go job hunting, and are familiar with recruitment practices of employers. Students have developed a fundamental knowledge of personality assessment methods and are familiar with conflict management methods. They are able to work in a team-based environment and have developed a fundamental knowledge of project management methods and approaches. Students have enhanced their teaching skills and are proficient in the theory and practice of communication. They know how to design and structure talks as well as to present data in both oral and written form. Students are aware of what body language may communicate.				
		ct hours, language –	• -	- •	
V + S (no informati	on on SWS (weekly d	contact hours) and co	ourse language avail	able)	
		nguage — if other tha an be chosen to earn		tion offered — if not every seme-	
a) written examina 10 pages)	tion (30 to 60 minut	es) and b) presentati	on (approx. 10 minu	tes) or term paper (approx. 5 to	
Allocation of place	S				
allocated as follow logy) with 180 ECTS ces will be allocate 5% of places (a min ject Biologie (Biolo thematics and Mat ject Biology (as we ble in one quota ex the other quota. Sh places, there will b courses of a modul dure, applicants w tive module will be they become availa plicants' previous a of ECTS credits the all module compor thematik (Mathem	s: Places will primar oredits. Should the d to students of the nimum of one partici gy) with 60 ECTS creater hematik (Mathemati as potentially to st acceed the number of nould there be, within e a uniform regulation to already have succe given preferential c able. Selection proce academic achievement y have achieved and pents in the subject of atics)) at the time of	ily be allocated to str module be used in o Bachelor's degree su ipant in total) will be dits and to students ics), each with 180 E0 udents of other 'imp applications, the ren n one module compo on for the courses of re concerned will be cessfully completed onsideration. A waiti ess group 1 (95%): Pla ents. For this purpose I their average grade of Biologie (Biology) application. This will	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	available places, places will be lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and its 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 aken during their studies or of Chemistry), Physik (Physics), Ma- : First, applicants will be ranked, TS credits (qualitative ranking)	

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 212 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	1

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.

Additional information

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Workload

Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 213 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title			Abbreviation			
Organisation and Safety in Biosciences			07-SQF-OSB-102-m01			
Module coordinator		Module offered by	·			
Coordin	ator BioCareers		Faculty of Biology			
ECTS	Method of grading	Only after succ. con	npl. of module(s)			
5	numerical grade					
Duratio	n Module level	Other prerequisites				
1 semes	ster undergraduate					
Content	ts					
Safety procedures in the biosciences, in particular radiation protection, handling of genetically modified orga- nisms, hygiene procedures and hazardous substances, working with lab animals. Fundamental concepts that help ensure an effective and efficient workflow in the biosciences. Structure and organisation of institutions in the bioscience/biotech sector. Process-based project management. HR management in the biosciences, respon- sibilities of managers/supervisors, appraisal interviews, target agreements, management styles.						
Intende	d learning outcomes					
and are on. They	Students have developed a fundamental knowledge of the regulations governing work in the bioscience sector and are familiar with fundamental organisational principles that are relevant for work in research and producti- on. They are also familiar with fundamental principles of process-based project work in the biosciences. <b>Courses</b> (type, number of weekly contact hours, language — if other than German)					
	o information on SWS (weekly o					
	· ·			tion offered — if not every seme-		
	formation on whether module ca			tion oncica in not every senie		
a) writte 10 page	en examination (30 to 60 minut es)	es) and b) presentati	on (approx. 10 minut	tes) or term paper (approx. 5 to		
Allocati	on of places					
allocate logy) wi ces will 5% of p ject Biol themati ject Biol ble in of the othe places, courses dure, ap tive mod they bee plicants of ECTS all mod themati firstly, a and, see positior cording qualitat	ed as follows: Places will primar th 180 ECTS credits. Should the be allocated to students of the laces (a minimum of one partic logie (Biology) with 60 ECTS cre cs and Mathematik (Mathemati logy (as well as potentially to st ne quota exceed the number of er quota. Should there be, withi there will be a uniform regulation of a module component that a oplicants who already have suc dule will be given preferential c come available. Selection proce s' previous academic achievement credits they have achieved and ule components in the subject of k (Mathematics)) at the time of according to their average grade condly, according to their total n in a third ranking will be calcu to this third ranking. Among ap- tive ranking or otherwise by lot.	ily be allocated to stra module be used in or Bachelor's degree su ipant in total) will be dits and to students ics), each with 180 E0 udents of other 'imp applications, the ren n one module compo- on for the courses of re concerned will be cessfully completed onsideration. A waiti ess group 1 (95%): Pla ents. For this purpose I their average grade of Biologie (Biology) application. This will weighted according number of ECTS cred lated as the sum of to plicants with the sar Selection process gr	udents of the Bachel other subjects, there ubject Biologie (Biolo allocated to student of the Bachelor's de CTS credits, as part o orting' subjects). She 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 e, applicants will be of all assessments t (excluding Chemie (O l be done as follows: to the number of EC its achieved (quantit hese two rankings, a ne ranking, places w oup 2 (5%): Places w	is of the Bachelor's degree sub- gree subjects Computational Ma- of the application-oriented sub- ould the number of places availa- e 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 aken during their studies or of Chemistry), Physik (Physics), Ma- e First, applicants will be ranked, TS credits (qualitative ranking) rative ranking). The applicants'		

ces 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.

#### **Additional information**

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Workload

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### Teaching cycle

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

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### Module appears in

Bachelor' degree (1 major) Biology (2011)

Bachelor' degree (1 major) Biology (2010)

Bachelor' degree (1 major) Mathematics (2012)

Bachelor' degree (1 major) Mathematics (2013)

Bachelor' degree (1 major) Computational Mathematics (2012)

Bachelor' degree (1 major) Computational Mathematics (2013)

Bachelor's degree (1 major, 1 minor) Biology (Minor, 2010)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 215 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title		Abbreviation		
Principles of I	mage Data Processing		07-SQF-PBD-102-m01	
Module coord	linator		Module offered by	<u> </u>
holder of the	Chair of Biotechnology ar	nd Biophysics	Faculty of Biology	
	od of grading	Only after succ. com	, _,	
2 (not)	successfully completed		•	
Duration	Module level	Other prerequisites		
1 semester	undergraduate			
Contents	•			
	familiar with fundamenta and storage methods.	l principles of image	data processing as v	vell as different data formats,
Intended lear	ning outcomes			
Students will with these me		ods discussed in clas	ss and will know wha	at problems may be addressed
Courses (type	, number of weekly conta	ict hours, language —	if other than Germa	n)
V + Ü (no info	rmation on SWS (weekly	contact hours) and co	urse language avail	able)
	<b>sessment</b> (type, scope, la ion on whether module c			tion offered — if not every seme-
written exami	nation or practical exami	nation (approx. 30 mi	nutes)	
Allocation of	places			
ject Biologie ( thematics and ject Biology (a ble in one quo the other quo places, there courses of a n dure, applican tive module w they become plicants' prev of ECTS credit all module co thematik (Mat	Biology) with 60 ECTS creat d Mathematik (Mathemat as well as potentially to sub ta exceed the number of ta. Should there be, with will be a uniform regulati nodule component that a nots who already have suc vill be given preferential c available. Selection proce ious academic achievem as they have achieved and	edits and to students ics), each with 180 E0 tudents of other 'impo applications, the ren in one module compo on for the courses of re concerned will be cessfully completed a onsideration. A waitin ess group 1 (95%): Pla ents. For this purpose their average grade of Biologie (Biology) ( application. This will	of the Bachelor's de CTS credits, as part o prting' subjects). She naining places will b onent, several course one module compone allocated in a standa at least one other mo ng list will be mainta acces will primarily be applicants will be mo of all assessments to fexcluding Chemie ((	s of the Bachelor's degree sub- gree subjects Computational Ma- of the application-oriented sub- ould the number of places availa- e 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 aken during their studies or of Chemistry), Physik (Physics), Ma-

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 216 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

### Additional information

Workload

# --Teaching cycle

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

# Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 217 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Patents in Biology					07-SQF-PRB-102-m01
Module coordinator				Module offered by	
Coordi	nator B	ioCareers		Faculty of Biology	
ECTS		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	Its				
Patents	s in bio	logy: types, application,	specification, patent	rights, patent search	 1.
		ning outcomes			
	-		lun avul a dava a fitha a wi		whather ideas inventions and
					whether ideas, inventions and are patentable. They are familiar
					hether ideas, developments and
					isors at the University that will
		iduct a cost-benefit analy			isors at the oniversity that with
		, number of weekly conta			n)
		mation on SWS (weekly o			
	-	-			tion offered — if not every seme-
		on on whether module ca			tion onered — If not every seme-
	-	nation (approx. 20 minut		·····,	
Allocation of places Allocation of places: 25. 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 (Bio- logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subject S Computational Ma- thematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa- ble in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec- tive 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 ap- plicants' 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 (Physi					
					of ECTS credits achieved, pla- ers of the respective applicant;
ces 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					

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 218 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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Workload

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### Teaching cycle

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

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#### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 219 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

	Module title Abbreviation					
Resear	Research, Presentation, Information 07-SQF-RPI-102-mo1					
Modul	e coord	inator		Module offered by		
degree	progra	mme coordinator Biolo	logie (Biology) Faculty of Biology			
ECTS		od of grading				
4	·	rical grade				
Duratio		Module level	Other prerequisites	<b>i</b>		
1 seme		undergraduate				
Conter	-					
		s aimed at students wit paring and delivering ta				
		, objects from the zoold				
		eive information and ad				
pers.						
Intend	ed learı	ning outcomes				
		have learned how to ga edia aids.	ther information and p	present complex conc	epts in both oral an	d written
Course	s (type	, number of weekly con	tact hours, language –	– if other than Germa	n)	
		mation on SWS (weekly				
	-	sessment (type, scope,				every seme-
		on on whether module				,
presen	tation (	approx. 10 to 20 minut	es)			
Allocat	tion of p	olaces				
Allocation of places Number of places: 20. 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 (Bio- logy) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of pla- ces 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 sub- ject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree sub- ject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places availa- ble in one quota exceed the number of applications, the remaining places will be allocated to applicatins from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this proce- dure, applicants who already have successfully completed at least one other module component of the respec- tive 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 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 Chemis (Chemistry), Physik (Physics), Ma- thematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their total number of ECTS credits achieved (quantitative ranking) and, secondly, according to						95% of pla- redits and degree sub- utational Ma- ented sub- olaces availa- cants from number of aces on all n this proce- the respec- allocated as g to the ap- the number udies or of Physics), Ma- ll be ranked, ve ranking) applicants' located ac- ording to the ording to the s/module eved, pla-
Bachelor's	with 1 maj	or Biology (2011)		urg • generated 26-Aug-2024 ord Bachelor (180 ECTS) Biolog		page 220 / 254

places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

# Additional information

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Workload

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# Teaching cycle

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

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#### Module appears in

Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2010)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 221 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module					Abbreviation
Operational Safety in Ecophysiological Laboratories			l Laboratories		07-SQF-SAL-102-m01
Module coordinator				Module offered by	<u> </u>
degree programme coordinator Biologie (Biology)			ie (Biology)	Faculty of Biology	
			Only after succ. con	npl. of module(s)	
1	nume	rical grade			
Duratio	n	Module level	Other prerequisites	i	
1 seme	ster	undergraduate			
Conten	ts				
this mo	dule, s potenti	students will become fam	niliar with the fundam	nentals for recognisir	ytical chemistry laboratories. In ng, assessing, avoiding and elimi lures in accordance with statutory
Intende	ed lear	ning outcomes			
laborat statuto safety p zards ir	ories a ry prov practice n the la	nd are able to recognise isions on health and saf es when working in the la b.	and eliminate safety ety and accident prev ab and have develope	hazards. They are fa vention. Students are ed an increased alert	ology and analytical chemistry miliar with the most important e able to adhere to the respective mess toward potential safety ha-
		, number of weekly conta			
· · · ·		mation on SWS (weekly			•
		<b>sessment</b> (type, scope, la on on whether module c			tion offered — if not every seme-
		nation (approx. 15 minute			
Allocati					
allocate logy) wi ces will 5% of p ject Bio themati ject Bio ble in o the oth places, courses dure, a tive mo they be plicants of ECTS all mod themati firstly, a and, se position cording qualitat	ed as for ith 1800 be allo places ( plogie ( ics and plogy (a er quot there s of a n pplicar dule w come a s' previs credit lule con ik (Mat accordit condly n in a t s to this tive rar ng quo	bllows: Places will prima ECTS credits. Should the ocated to students of the a minimum of one partic Biology) with 60 ECTS cred Mathematik (Mathemat is well as potentially to s ota exceed the number of ca. Should there be, with will be a uniform regulati nodule component that a nots who already have suc ill be given preferential of available. Selection proc ous academic achievem is they have achieved and mponents in the subject hematics)) at the time of ing to their average grade a cacording to their total hird ranking will be calcu is third ranking. Among ap hing or otherwise by lot. tas: Quota 1 (50% of place	rily be allocated to st e module be used in of Bachelor's degree si ipant in total) will be edits and to students ics), each with 180 E tudents of other 'imp applications, the ren in one module compo- on for the courses of re concerned will be cessfully completed consideration. A waiti ess group 1 (95%): Pl ents. For this purposed their average grade of Biologie (Biology) application. This will e weighted according number of ECTS cred allated as the sum of to pplicants with the sam Selection process gr	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 maining places will b onent, several course one module compor allocated in a standa at least one other mo ing list will be mainta aces will primarily be of all assessments t (excluding Chemie ( l be done as follows to the number of EC its achieved (quantit chese two rankings, a me ranking, places w COUP 2 (5%): Places w ECTS credits already	f available places, places will be lor's degree subject Biologie (Bio will be two quotas: 95% of pla- 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 available 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-

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 222 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

# UNIVERSITÄT WÜRZBURG

ces 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.

#### Additional information

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Workload

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### Teaching cycle

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

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### Module appears in

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 223 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title		Abbreviation				
Supervising	Futorial for Basic Courses	07-SQF-TFB3-102-m01				
Module coord	linator		Module offered by			
degree progra	amme coordinator Biologi	e (Biology)	Faculty of Biology			
ECTS Meth	od of grading	Only after succ. con	npl. of module(s)			
3 (not)	successfully completed					
Duration	Module level	Other prerequisites				
1 semester	undergraduate					
Contents						
te their know will help ther cess.	ledge and prepare for ass n fill gaps in their knowled	essments. They will o	orrect exercises, wil	standing of material, consolida- l discuss these with students and their way towards academic suc-		
Intended lear	ning outcomes					
ence supervis	sing a group. Having prep ve also enhanced their ow	ared for answering sp n subject-specific sk	pecific questions and ills. They have enha	way. They have gained experi- d explaining material in detail, nced their teaching skills.		
Courses (type	e, number of weekly conta	ict hours, language –	- if other than Germa	n)		
	tion on SWS (weekly cont					
	<b>sessment</b> (type, scope, la ion on whether module c			tion offered — if not every seme-		
proof of tutor	ing activities and report (a	approx. 2 to 3 pages)				
Allocation of	places					
Additional in	formation					
Workload						
Teaching cyc	le					
Referred to in	<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appe	Module appears in					
Bachelor' deg	Bachelor' degree (1 major) Biology (2011)					
	Bachelor' degree (1 major) Biology (2013)					
Bachelor' deg	Bachelor' degree (1 major) Biology (2010)					

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 224 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation		
Superv	ising T	utorial for Basic Courses	07-SQF-TFB4-102-m01				
Module coordinator Module				Module offered by			
degree	progra	mme coordinator Biologi	e (Biology)	Faculty of Biology			
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)			
4	(not) s	successfully completed					
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
te their will hel cess.	knowl p them	edge and prepare for ass fill gaps in their knowled	essments. They will d	correct exercises, will	standing of material, consolida- l discuss these with students and their way towards academic suc-		
Intende	ed lear	ning outcomes					
ence su the tuto	upervis ors hav	ing a group. Having prepa e also enhanced their ow	ared for answering sp n subject-specific sk	pecific questions and ills. They have enhar	way. They have gained experi- l explaining material in detail, nced their teaching skills.		
		, number of weekly conta					
		ion on SWS (weekly cont					
		s <b>essment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-		
proof o	f tutori	ng activities and report (a	approx. 2 to 3 pages)				
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
Teachi	ng cycl	e					
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module	Module appears in						
Bachel	Bachelor' degree (1 major) Biology (2011)						
	Bachelor' degree (1 major) Biology (2013)						
Bachel	Bachelor' degree (1 major) Biology (2010)						

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record Bachelor (180 ECTS) Biologie - 2011	page 225 / 254
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Module	title				Abbreviation
Supervising Tutorial for Basic Courses 5			07-SQF-TFB5-102-m01		
Module coordinator				Module offered by	
Coordir	nator B	ioCareers		Faculty of Biology	
ECTS		od of grading	Only after succ. com	pl. of module(s)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
<i>gy</i> ) I thr te their	ough I knowle	II in particular. Tutors will edge and prepare for ass	l help students impro essments. They will c	ve upon their under orrect exercises, wil	emeine Biologie (General Biolo- standing of material, consolida- l discuss these with students and their way towards academic suc-
Intende	ed leari	ning outcomes			
ence su	pervis	ing a group. Having prepa	ared for answering sp	ecific questions and	way. They have gained experi- l explaining material in detail, nced their teaching skills.
Course	<b>s</b> (type	, number of weekly conta	ct hours, language —	if other than Germa	n)
T (no in	format	ion on SWS (weekly cont	act hours) and course	e language available	)
	<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every seme- ster, information on whether module can be chosen to earn a bonus)				tion offered — if not every seme-
proof of	ftutori	ng activities and report (a	approx. 2 to 3 pages)		
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	e			
Referre	d to in	LPOI (examination regu	lations for teaching-c	legree programmes)	
Module	appea	irs in			
Bachelo	or' deg	ree (1 major) Biology (201	.1)		
		ree (1 major) Biology (201			
Bachelo	or' deg	ree (1 major) Biology (201	.0)		

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 226 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module					Abbreviation
Supervising Tutorial for Biology 2					07-SQF-TSB2-102-m01
Module coordinator				Module offered by	
Coordir		ioCareers		Faculty of Biology	
ECTS		od of grading	Only after succ. com	pl. of module(s)	
2	· · ·	successfully completed			
Duratio		Module level	Other prerequisites		
1 semes		undergraduate			
Conten	ts				
<i>gy</i> ) I thr prove u with stu	rough l pon th udents,	II in particular. Tutors will eir understanding of mat	l help with organisati erial, consolidate the gies to detect and fill	onal and personal m ir knowledge and pr	emeine Biologie (General Biolo- natters and will help students im- epare for assessments. Together dge. Tutors will support other
Intende	ed learr	ning outcomes			
ence su interpe ve learr	ipervisi rsonal ned to p	ing a group and helping s skills and know how to sl	students with persona hare their expertise ir	al matters. The tutors n exploring complex	way. They have gained experi- s have thus enhanced their own topics. In addition, the tutors ha- and the university education of
Courses	<b>s</b> (type	, number of weekly conta	ct hours, language —	if other than Germa	n)
T (no in	T (no information on SWS (weekly contact hours) and course language available)				
		essment (type, scope, la on on whether module ca			tion offered — if not every seme-
proof of	f tutori	ng activities and report (a	approx. 2 to 3 pages)		
Allocati	ion of p	olaces			
 Additio	nal info	ormation			
Worklo	ad				
Teachir	ng cycl	e			
Referre	d to in	LPOI (examination regu	lations for teaching-d	legree programmes)	
Module	appea	ars in			
		ree (1 major) Biology (201			
	-	ree (1 major) Biology (201	-		
Bachelo	or' degi	ree (1 major) Biology (201	.0)		

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 227 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	title				Abbreviation
Supervising Tutorial for Biology 3				07-SQF-TSB3-102-m01	
Module coordinator				Module offered by	
Coordin	ator B	ioCareers		Faculty of Biology	
ECTS		od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio		Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	ts				
<i>gy</i> ) I thr prove u with stu	ough l pon th dents,	II in particular. Tutors will eir understanding of mat	help with organisati erial, consolidate the gies to detect and fill	onal and personal m ir knowledge and pr	emeine Biologie (General Biolo- natters and will help students im- epare for assessments. Together dge. Tutors will support other
Intende	d learr	ning outcomes			
ence su interpei ve learr	ipervisi rsonal red to p	ing a group and helping s skills and know how to sl	tudents with personanare their expertise in	al matters. The tutors n exploring complex	way. They have gained experi- s have thus enhanced their own topics. In addition, the tutors ha- and the university education of
Courses	<b>s</b> (type	, number of weekly conta	ct hours, language —	if other than Germa	n)
T (no in	T (no information on SWS (weekly contact hours) and course language available)				
		e <b>ssment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-
proof of	ftutori	ng activities and report (a	pprox. 2 to 3 pages)		
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachin	ig cycl	e			
Referre	d to in	LPO I (examination regu	lations for teaching-c	legree programmes)	
Module	appea	irs in			
	-	ree (1 major) Biology (201			
	-	ree (1 major) Biology (201			
Bachelo	or' deg	ree (1 major) Biology (201	.0)		

Bachelor's with 1 major Biology (2011)	JMU Würzburg ● generated 26-Aug-2024 ● exam.	page 228 / 254
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Module	title			Abbreviation
Environ	mental Education in the Botani	cal Garden of the Uni	iversity	07-SQF-UBG-102-m01
Module	e coordinator		Module offered by	<u> </u>
head of Botanical Garden			Faculty of Biology	
ECTS	Method of grading	Only after succ. com		
2	(not) successfully completed			
Duratio		Other prerequisites		
1 seme	ster undergraduate			
Conten	ts			
rent see botany, parting and usi lines) fo plete th	, ecology and gardening. In this , in a comprehensible way, spec ing appropriate aids (informatio or the comprehensible presenta ne following tasks: develop cont	ed to inform intereste module, students wil cialist knowledge to i n boards, leaflets etc tion of complex conc cents tailored to the n	d members of the pu Il develop appropria nterested layperson: ) and applying mether epts. Students will b eeds of selected tar	ublic about topics in the areas of te educational concepts for im-
Intende	ed learning outcomes			
vidual s guide to Courses Ü + E (n Methoo	ours through the Botanical Gard <b>s</b> (type, number of weekly conta to information on SWS (weekly c	eed both botanical kn len, imparting knowle let hours, language — contact hours) and co inguage — if other tha	owledge and teaching edge in a way that is if other than Germa ourse language avail an German, examina	ng skills that will enable them to tailored to their target audience. m)
term pa	aper or preparing educational m	aterials and material	s for demonstrations	s (approx. 10 to 20 pages)
Allocat	ion of places			
allocate logy) wi ces will 5% of p ject Bio themat ject Bio ble in o the oth places, courses dure, a tive mo they be plicants of ECTS all mod themat firstly, a	ith 180 ECTS credits. Should the be allocated to students of the blaces (a minimum of one partic blogie (Biology) with 60 ECTS cre ics and Mathematik (Mathemat blogy (as well as potentially to st one quota exceed the number of er quota. Should there be, withi there will be a uniform regulations of a module component that a pplicants who already have suc dule will be given preferential c come available. Selection process is previous academic achievement credits they have achieved and bulle components in the subject	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 EG udents of other 'imper applications, the rem n one module composed on for the courses of re concerned will be a cessfully completed a onsideration. A waiting ess group 1 (95%): Pla ents. For this purposed I their average grade of Biologie (Biology) ( application. This will everighted according	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). Sho naining places will b onent, several course one module compor allocated in a standa at least one other mo ng list will be mainta acces will primarily be of all assessments t (excluding Chemie (G be done as follows: to the number of EC	lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and ts of the Bachelor's degree sub- gree 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 aken during their studies or of Chemistry), Physik (Physics), Ma- e First, applicants will be ranked, TS credits (qualitative ranking)

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

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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.

Additional information

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Workload

Teaching cycle

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

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### Module appears in

Bachelor' degree (1 major) Biology (2011)

Bachelor' degree (1 major) Biology (2013)

Bachelor' degree (1 major) Biology (2010)

Bachelor's degree (1 major, 1 minor) Museology and material culture (2010)

Bachelor's degree (1 major, 1 minor) Museology and material culture (2013)

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Module	e title				Abbreviation
Entrep	reneuri	al Thinking in Bioscience	S		07-SQF-UDB-102-m01
Module coordinator Module offered by					
Coordi	nator B	ioCareers		Faculty of Biology	
ECTS		od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
- the lo pharma makes	ng jour a indus a succe	ney from the research pro try and the academic wo essful biotech entreprene	oject via biotechnolog 'ld: why join forces? - eur? - advances in ant	gy and the pharma in development of the ibody-based immun	armaceutical drug development ndustry to the patient - biotech, rapeutics at Novo Nordisk - what notherapy - the development of trends in antibody development.
Intende	ed lear	ning outcomes			
		see behind the curtain of the bioscience sector.	businesses and will	understand the proc	edures and processes used by
Course	<b>s</b> (type	, number of weekly conta	ct hours, language —	· if other than Germa	ın)
V + S (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		sessment (type, scope, la ion on whether module ca			tion offered — if not every seme-
c) oral didates	examin 5 (appro	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	tes) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cvcl	e			
	<u> </u>				
Referre	d to in	LPOI (examination regu	lations for teaching-c	legree programmes)	
				<u> </u>	
Module	e appea	ars in			
		ree (1 major) Biology (201	11)		
	-	ree (1 major) Biology (201			

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Module title Abbreviation				Abbreviation		
Publishing Scientific Data 07-SQF-WIP-102-m01						
Module coor	dinator		Module offered by			
Coordinator BioCareers Faculty of Biology						
ECTS Meth	ECTS Method of grading Only after succ. compl. of module(s)					
3 numerical grade						
Duration	Module level	Other prerequisites				
1 semester undergraduate						
Contents						
of life science "core publica lated to these where applic the standard ticle will cont be divided up gated, summ citations in th	es. These will serve as the ations" as a basis, student e articles. The most impor able, students may also u s of the scientific commur tain at least one figure, on p into the following section	basis for a review ar s will search data ba tant current original p se their own raw data hity as defined in the e table as well as on ns: title, abstract, int urrent developments	ticle to be prepared l ses (e. g. PubMed) for publications will be s a. The structure of th instructions to author e schematic represent roduction and/or hyp and discussion there	eral journal articles from the field by students. With two or three or literature that is directly re- summed up in a review article; is review article will comply with ors of a scientific journal. The ar- ntation of the contents and will pothesis/problem to be investi- eof. The article will also contain e contents of the article.		
view of recen blications in ar with the st know what to	t publications on a specif a review article complying andards regarding the stru	ic topic and will be fa with the standards o ucture of reviews and ng scientific articles.	miliar with basic rul of the scientific comr I will be able to prop	ey will know how to get an over- es for summing up original pu- nunity. Students will be famili- erly cite sources. They will thus s will be able to prepare and deli-		
Courses (type	e, number of weekly conta	ct hours, language –	- if other than Germa	n)		
S (no informa	ation on SWS (weekly cont	act hours) and cours	e language available	2)		
	<b>ssessment</b> (type, scope, la tion on whether module ca			tion offered — if not every seme-		
term paper (a	approx. 5 to 10 pages) and	presentation (appro	x. 15 minutes), weigł	nted 2:1		
Allocation of	places					
Number of pl allocated as logy) with 18 ces will be al 5% of places ject Biologie thematics an ject Biology ( ble in one qu the other quo places, there courses of a dure, applicat tive module of they become plicants' prev of ECTS credi all module co	aces: 30. Should the num follows: Places will primar o ECTS credits. Should the located to students of the (a minimum of one partic (Biology) with 60 ECTS cre d Mathematik (Mathemat fas well as potentially to st tota exceed the number of ota. Should there be, within will be a uniform regulation module component that a first who already have suc will be given preferential c available. Selection procession vious academic achievement its they have achieved and components in the subject	ily be allocated to stra module be used in or Bachelor's degree su ipant in total) will be edits and to students ics), each with 180 E0 udents of other 'imp applications, the ren n one module compo on for the courses of re concerned will be cessfully completed onsideration. A waiti ess group 1 (95%): Pla ents. For this purpose I their average grade of Biologie (Biology)	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). She 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 e, applicants will be of all assessments t (excluding Chemie (G	available places, places will be lor's degree subject Biologie (Bio- will be two quotas: 95% of pla- ogy) with 180 ECTS credits and as of the Bachelor's degree sub- gree subjects Computational Ma- of the application-oriented sub- ould the number of places availa- e 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 aken during their studies or of Chemistry), Physik (Physics), Ma- e First, applicants will be ranked,		

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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 of the respective applicant; among applicants with the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

#### Additional information

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Workload

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Teaching cycle

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

### Module appears in

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Modul					Abbreviation	
Additional Qualification outside Natural Sciences 2				07-SQF-ZQA2-102-m01		
Module coordinator				Module offered by		
Coordi	nator B	ioCareers		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. com			
2	(not)	successfully completed	ted			
Duratio	Duration Module level Other prerequisites					
1 seme	ester	undergraduate				
Conten	nts					
skills (, science	ASQ) a es. The	nd that provide students	with an opportunity t d by the University of	o strengthen their ge Würzburg or by exte	he pool of general transferable eneral background in the natural ernal institutions. Decision on cre urses.	
Intend	ed lear	ning outcomes				
					nced their general scientific skills nareas other than biology.	
Course	<b>es</b> (type	, number of weekly conta	ict hours, language –	· if other than Germa	n)	
V + S (I	no info	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
		sessment (type, scope, la ion on whether module c			tion offered — if not every seme-	
c) oral didates	examir s (appr	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	tes) or d) oral exami on (approx. 20 to 30	log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-	
	tion of		· ·			
Additio	onal inf	ormation				
Worklo	bad					
WORKIG						
	ng cycl	e				
		e				
 Teachi 	ng cycl	e LPOI (examination regu	lations for teaching-o	legree programmes)		
 Teachi 	ng cycl		lations for teaching-c	legree programmes)		
 Teachi  Referre	ng cycl	LPOI (examination regu	lations for teaching-c	legree programmes)		
 Teachi  Referre  Module	ng cycl ed to in e appea	LPOI (examination regu		legree programmes)		

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 234 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

	e title				Abbreviation		
Additio	onal Qu	alification outside Natur	al Sciences 3		07-SQF-ZQA3-102-m01		
Module	e coord	inator		Module offered by	<u> </u>		
Coordi	nator B	ioCareers		Faculty of Biology			
ECTS	Meth	od of grading	Only after succ. con	pl. of module(s)			
3	(not)	successfully completed	lly completed				
Duratio							
1 seme	ester	undergraduate					
Conten	nts						
skills (/ science	ASQ) a es. The	nd that provide students	with an opportunity t d by the University of	o strengthen their go Würzburg or by exte	he pool of general transferable eneral background in the natural ernal institutions. Decision on cre reekly contact hour.		
Intend	ed lear	ning outcomes					
					nced their general scientific skills n areas other than biology.		
Course	<b>es</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	n)		
V + S (I	no info	mation on SWS (weekly	contact hours) and co	ourse language avail	able)		
		sessment (type, scope, la ion on whether module c			tion offered — if not every seme-		
c) oral didates	examir s (appr	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-		
Allocat	tion of	places	· · · ·				
Additic	onal inf	ormation					
Worklo	bad						
Worklo	bad						
		e					
	oad ng cycl	e					
 Teachi 	ng cycl		lations for teaching-o	degree programmes)			
 Teachi 	ng cycl	e LPOI (examination regu	llations for teaching-o	degree programmes)			
 Teachi  Referre	ng cycl ed to in	LPOI (examination regu	lations for teaching-o	degree programmes)			
 Teachi  Referre  Module	ng cycl ed to in e appea	LPOI (examination regu		degree programmes)			

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reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation		
Additio	onal Qu	alification outside Natur	al Sciences 4		07-SQF-ZQA4-102-m01	
Module coordinator Modu				Module offered by	<u> </u>	
Coordi	nator B	ioCareers		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
4	(not)	successfully completed	cessfully completed			
Duratio	ration Module level Other prerequisites					
1 seme	ster	undergraduate				
Conten	Its					
skills (/ science	ASQ) ai es. The	nd that provide students	with an opportunity t d by the University of	o strengthen their g Würzburg or by exte	he pool of general transferable eneral background in the natural ernal institutions. Decision on cre day courses.	
Intend	ed lear	ning outcomes				
					nced their general scientific skills n areas other than biology.	
Course	e <b>s</b> (type	, number of weekly conta	ict hours, language –	- if other than Germa	an)	
V + S (r	no infoi	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)	
		sessment (type, scope, la ion on whether module c			ation offered — if not every seme-	
c) oral didates	examin s (appr	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exam on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- o minutes); students will be infor-	
Allocat	ion of <sub>l</sub>	places				
Additio	onal inf	ormation				
Worklo	ad					
Teachi	ng cycl	e				
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)		
Module	e appea	ars in				
Bachel	or' deg	ree (1 major) Biology (20:	11)			
Bachel	or' deg	ree (1 major) Biology (20	10)			

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

	e title				Abbreviation	
Additio	onal Qu	alification outside Natur	al Sciences 5		07-SQF-ZQA5-102-m01	
Modul	e coord	inator		Module offered by	<u> </u>	
Coordi	nator B	ioCareers		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
5	(not)	successfully completed	ipleted			
Duratio	ouration Module level Other prerequisites					
1 seme	ester	undergraduate				
Conten	nts					
skills (/ science	ASQ) a es. The	nd that provide students	with an opportunity t d by the University of	o strengthen their go Würzburg or by exte	he pool of general transferable eneral background in the natural ernal institutions. Decision on cre veekly contact hours.	
Intend	ed lear	ning outcomes				
		•	, , ,		nced their general scientific skills n areas other than biology.	
Course	<b>es</b> (type	, number of weekly conta	act hours, language –	- if other than Germa	ın)	
V + S (I	no info	mation on SWS (weekly	contact hours) and co	ourse language avail	able)	
		sessment (type, scope, la ion on whether module c			tion offered — if not every seme-	
c) oral didate:	examir s (appr	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exam on (approx. 20 to 30	) log (approx. 10 to 20 pages) or ination in groups of up to 3 can- minutes); students will be infor-	
Allocat	tion of	places				
Additic	onal inf	ormation				
	bad					
Worklo						
Worklo						
	ng cycl	e				
	ng cycl	e				
 Teachi 		e LPOI (examination regu	lations for teaching-o	degree programmes)		
 Teachi 			llations for teaching-o	degree programmes)		
 Teachi  Referre		LPOI (examination regu	lations for teaching-o	degree programmes)		
 Teachi  Referre  Module	ed to in e appea	LPOI (examination regu		degree programmes)		

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title Abbreviation					Abbreviation
Additional Qualification in Natural Sciences 2 07-SQF-ZQN2-102-mo1					07-SQF-ZQN2-102-m01
Module	e coord	inator		Module offered by	
Coordinator BioCareers Faculty of Biology					
ECTS	-	od of grading	Only after succ. com	pl. of module(s)	
2	(not) successfully completed				
Duratio	Ouration Module level Other prerequisites				
1 seme	ster	undergraduate			
Conten	ts				
dents v	vith ad by the	vanced knowledge in the University of Würzburg o	natural sciences that	t is related to their d	rable skills (ASQ) that equip stu- iscipline. These courses may be dit transfer to be made by exami-
Intende	ed lear	ning outcomes			
		e developed an improved e acquired additional exp			anced their specific qualificati- eir field.
Course	<b>s</b> (type	, number of weekly conta	ict hours, language —	· if other than Germa	n)
V + S +	Ü (no i	nformation on SWS (wee	kly contact hours) an	d course language a	vailable)
		<b>essment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-
c) oral ( didates	examin 5 (appro	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	tes) or d) oral exami on (approx. 20 to 30	log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-
Allocat	ion of <sub>l</sub>	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachiı	ng cvcl	e			
	<u> </u>				
Referre	d to in	LPOI (examination regu	lations for teaching-c	legree programmes)	
Module		urs in			
		· · ·			
	or' deg	ree (1 major) Biology (20:	11)		

Module	e title				Abbreviation	
Additio	onal Qu	alification in Natural Sci	ences 3		07-SQF-ZQN3-102-m01	
Module	e coord	inator		Module offered by		
Coordi	nator B	ioCareers		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. com	fter succ. compl. of module(s)		
3	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	Its					
dents v	vith ad l by the	vanced knowledge in the University of Würzburg o	natural sciences that	t is related to their d	erable skills (ASQ) that equip stu- iscipline. These courses may be edit transfer to be made by exami-	
Intend	ed lear	ning outcomes				
		e developed an improved e acquired additional exp			anced their specific qualificati- ieir field.	
Course	<b>s</b> (type	, number of weekly conta	ict hours, language –	- if other than Germa	in)	
V + S +	Ü (no i	nformation on SWS (wee	kly contact hours) an	d course language a	vailable)	
		sessment (type, scope, la ion on whether module ca			tion offered — if not every seme-	
c) oral didates	examin s (appr	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	) log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-	
Allocat	ion of	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Teachi	ng cvrl	e				
	.5	•				
	d to in	LPO I (examination regu	lations for teaching	legree programmoc)		
Module		arc in				
		ree (1 major) Biology (20:	11)			
	-	ree (1 major) Biology (202				
Buchel	ucs	100 (1 major) biology (20.				

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	reg. data record Bachelor (180 ECTS) Biologie - 2011	

4 (not) successfully completed	Dnly after succ. com ed as part of the poor atural sciences that	ol of general transfe t is related to their d	iscipline. These courses may be
Coordinator BioCareers         ECTS       Method of grading       C         4       (not) successfully completed          Duration       Module level       C         1 semester       undergraduate          Contents       Courses in the natural sciences not offered dents with advanced knowledge in the notice	Doly after succ. com - Dther prerequisites - ed as part of the poo atural sciences that	Faculty of Biology <b>pl. of module(s)</b> ol of general transfe t is related to their di	iscipline. These courses may be
ECTSMethod of gradingC4(not) successfully completedDurationModule levelC1 semesterundergraduateContentsCourses in the natural sciences not offereddents with advanced knowledge in the natural sciences	Dnly after succ. com - Dther prerequisites - ed as part of the poo atural sciences that	ol of general transfe t is related to their d	iscipline. These courses may be
4       (not) successfully completed          Duration       Module level       C         1 semester       undergraduate          Contents       Courses in the natural sciences not offered dents with advanced knowledge in the not successfully completed	- <b>Other prerequisites</b> - ed as part of the poor atural sciences that	ol of general transfe t is related to their d	iscipline. These courses may be
DurationModule levelC1 semesterundergraduateContentsCourses in the natural sciences not offer dents with advanced knowledge in the natural sciences	ed as part of the por atural sciences that	t is related to their d	iscipline. These courses may be
1 semester undergraduate	ed as part of the por atural sciences that	t is related to their d	iscipline. These courses may be
<b>Contents</b> Courses in the natural sciences not offer dents with advanced knowledge in the n	atural sciences that	t is related to their d	iscipline. These courses may be
Courses in the natural sciences not offer dents with advanced knowledge in the n	atural sciences that	t is related to their d	iscipline. These courses may be
dents with advanced knowledge in the n	atural sciences that	t is related to their d	iscipline. These courses may be
nation committee.			
Intended learning outcomes			
Students have developed an improved so ons. They have acquired additional expe	•		
Courses (type, number of weekly contact	t hours, language —	if other than Germa	n)
V + S + Ü (no information on SWS (weekl	y contact hours) and	d course language a	vailable)
<b>Method of assessment</b> (type, scope, lang ster, information on whether module can			tion offered — if not every seme-
methods of assessment: a) written exam c) oral examination of one candidate eac didates (approx. 20 minutes per candida med about the method and length of the	ch (approx. 30 minut ate) or e) presentatic	tes) or d) oral exami on (approx. 20 to 30	nation in groups of up to 3 can-
Allocation of places			
Additional information			
Workload			
Teaching cycle			
Referred to in LPO I (examination regula	tions for teaching-d	legree programmes)	
Module appears in			
Bachelor' degree (1 major) Biology (2011)	)		
Bachelor' degree (1 major) Biology (2010)			

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 240 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	
	-	·

Module	e title				Abbreviation	
Additio	onal Qu	alification in Natural Sci	ences 5		07-SQF-ZQN5-102-m01	
Module	e coord	inator		Module offered by		
Coordi	nator B	ioCareers		Faculty of Biology		
ECTS		od of grading	Only after succ. com	y after succ. compl. of module(s)		
5	(not) s	successfully completed				
Duratio	on	Module level	Other prerequisites	quisites		
1 seme	ster	undergraduate				
Conten	ts					
dents v	vith ad <sup>.</sup> I by the	vanced knowledge in the University of Würzburg o	natural sciences that	t is related to their d	rable skills (ASQ) that equip stu- iscipline. These courses may be dit transfer to be made by exami-	
Intend	ed lear	ning outcomes				
		e developed an improved e acquired additional exp			anced their specific qualificati- eir field.	
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)	
V + S +	Ü (no i	nformation on SWS (wee	kly contact hours) an	d course language a	vailable)	
Metho	d of ass		nguage — if other tha	an German, examina	tion offered — if not every seme-	
c) oral didates	examin s (appro	ation of one candidate e	ach (approx. 30 minu date) or e) presentati	ites) or d) oral exami on (approx. 20 to 30	log (approx. 10 to 20 pages) or nation in groups of up to 3 can- minutes); students will be infor-	
Allocat		_	•			
Additio	onal inf	ormation	·			
Worklo						
Teachi		۵				
	ig tytt	C				
		LPOI (examination regu	lations for taashing	lagraa programme)		
Referre		LEVI (examination regu		regree programmes)		
		•				
Module						
	-	ree (1 major) Biology (20: ree (1 major) Biology (20:				
Dachel	or deg	ree (1 major) Blotogy (20)	10)			

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 241 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title Abbreviation				
	hemistry for Biology Major	S		08-AC-Bio-102-m01
Module coo	rdinator		Module offered by	
mie für Stuc gie" (Genera	ecture "Allgemeine and And dierende der Medizin, Zahn al and Inorganic Chemistry f tistry and Biology)	medizin and Biolo-	Institute of Inorgani	c Chemistry
	thod of grading	Only after succ. com	pl. of module(s)	
	nerical grade			
Duration	Module level	Other prerequisites		
1 semester	undergraduate			
Contents	·			
	e provides students with an s the fundamental techniqu			norganic chemistry. In addition,
Intended le	arning outcomes			
Students ha				emistry. They are able to identify
Courses (ty	pe, number of weekly conta	ct hours, language –	if other than Germa	n)
component • o8-AC		on on SWS (weekly c	ontact hours) and co	
	assessment (type, scope, la ation on whether module ca			tion offered — if not every seme-
	stated otherwise, successf			e components as specified be- successful completion of all indi-
<ul> <li>2 ECT.</li> <li>Vorte: appro</li> <li>Only a o8-AC</li> </ul> Assessmen Medicine ar <ul> <li>3 ECT.</li> </ul>	x. 5 to 10 pages), Nachtesta after successful completion C-NF-1 is a prerequisite for p	successfully complete is, approx. 15 minute ate (post-experiment of module compone articipation in modul <b>AC-NF-1-102:</b> Introdu	ed s each), assessment exams, approx. 15 m nts: Successful com e component o8-AC-	of practical performance (log inutes each) pletion of module component
Allocation o	of places			
Information • 08-AC	on the allocation of places			component. Places will be allocated by lot.
Additional i	nformation			
Workload				
Teaching cy	rcle			

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 242 / 254
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Referred to in LPO I (examination regulations for teaching-degree programmes)

### Module appears in

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Bachelor' degree (1 major) Biology (2011) Bachelor' degree (1 major) Biology (2010)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 243 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module	e title				Abbreviation
Bioche	mistry	for students of biologica	l sciences		08-BCB-072-m01
Module	e coord	inator		Module offered by	
holder	of the (	Chair of Biochemistry		Chair of Biochemist	try
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
2 seme	ester	undergraduate			
Conten	Its				
Compri mistry.	-	ctures and exercises, this	s module acquaints s	tudents with the fun	damental principles of bioche-
Intend	ed lear	ning outcomes			
		e become familiar with th cal processes in cellular s		ples of biochemistry	. They are able to describe the
Course	<b>s</b> (type	, number of weekly conta	ct hours, language –	- if other than Germa	n)
V + Ü +	V+Ü(	no information on SWS (	weekly contact hours	) and course langua	ge available)
		<b>essment</b> (type, scope, la on on whether module ca			tion offered — if not every seme-
written	exami	nation (approx. 90 minut	es)		
Allocat	ion of <b>j</b>	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
	_ ,				
Referre	ed to in	LPOI (examination regu	lations for teaching-	degree programmes)	
Module	e appea	urs in			
		ree (1 major) Biology (201	11)		
	-	ree (1 major) Biology (200			
Bachel	or' deg	ree (1 major) Biology (201	10)		

	le title				Abbreviation
Bioche	emistry	for students of biologica	ll sciences (practical	course)	08-BCPB-072-m01
Modul	le coorc	linator		Module offered by	
holder	r of the	Chair of Biochemistry		Chair of Biochemi	stry
ECTS	Meth	od of grading	Only after succ. con	pl. of module(s)	
5	(not)	successfully completed			
Duration Module level Other prerequisites					
1 seme	ester	undergraduate			
Conte	nts				
	cal exer iments.	cises give students the o	pportunity to learn th	e fundamental prin	ciples of conducting biochemical
Intend	led lear	ning outcomes			
Stude	nts hav	e become proficient in es	sential methods in bi	ochemistry.	
Course	<b>es</b> (type	, number of weekly conta	act hours, language —	- if other than Germ	an)
P (no i	informa	tion on SWS (weekly con	tact hours) and cours	e language availab	le)
		<b>sessment</b> (type, scope, la ion on whether module c			ation offered — if not every seme-
to 10 p	pages),	e-experiment exams, app Nachtestate (post-experi offered: once a year, sum	ment exams, approx.		ractical performance (log approx. g
		mereu. onee a year, sann	inel semester		
Alloca	tion of	· · · ·			
		· · · ·			
Numb	er of pla	places			
Numb	er of pla	places aces: 25 per group.			
Numb	er of pla onal inf	places aces: 25 per group.			
Numb Additi	er of pla onal inf	places aces: 25 per group.			
Numbo Additio  Workle	er of pla onal inf	places aces: 25 per group. formation			
Numbo Additio  Workle	er of pla ional inf oad	places aces: 25 per group. formation			
Numb Additi  Workle  Teachi 	er of pla ional inf oad ing cyc	places aces: 25 per group. formation		degree programmes	5)
Numb Additi  Workle  Teachi 	er of pla ional inf oad ing cyc	places aces: 25 per group. formation		degree programmes	
Numb Additi  Workle  Teachi  Referr	er of pla ional inf oad ing cyc	places aces: 25 per group. formation le LPO I (examination regu		degree programmes	5)
Numb Additi  Workle  Teachi  Referr  Modul	er of pla onal inf oad ing cycl red to in	places aces: 25 per group. formation le LPO I (examination regu	llations for teaching-o	degree programmes	5)
Numb Additi  Workle  Teachi  Referr  Bache	er of pla onal inf oad ing cycl red to in le appe	places aces: 25 per group. formation le LPO I (examination regu	llations for teaching-o	degree programmes	
Numb Additi  Workle  Teachi  Referr  Bache Bache Bache Bache	er of pla onal inf oad ing cycl red to in le appe elor' deg elor' deg elor' deg	places aces: 25 per group. formation le LPO I (examination regu ars in gree (1 major) Biology (20	Ilations for teaching-o 11) 07) 13)	degree programmes	5)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 245 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	
	leg. uala leculu bacheloi (160 ECTS) biologie - 2011	

Modul					Abbreviation
Organic Chemistry for students of Biology					08-OC-Bio-102-m01
Modul	e coord	inator		Module offered by	<u> </u>
lecture	er of lec	ture "Organische Chemie	für Studierende der	Institute of Organic	Chemistry
	in, Biom Ischafte	nedizin, Zahnmedizin, Ing en"	enieur- and Natur-	-	
ECTS	Metho	od of grading	Only after succ. con	pl. of module(s)	
10	nume	rical grade			
Duration Module level Other prerequisites					
1 seme	ester	undergraduate			
Conte	nts				
		rovides students with an e fundamental techniques			organic chemistry. In addition, it
Intend	ed lear	ning outcomes			
		e become familiar with the problems in chemistry an	•		nistry. They are able to identify
		, number of weekly conta	· ·		n)
• (	08-IOC- 08-OC-E	1-102: V (no information o Bio-2-102: V (no informati	on SWS (weekly conta on on SWS (weekly c	act hours) and cours ontact hours) and co	ourse language available)
ster, ir	nformati	on on whether module ca	an be chosen to earn	a bonus)	tion offered — if not every seme
vidual	assess	ments.			successful completion of all indi
gy • 1 • 1	3 ECTS, Vortesta approx. Assessr	Method of grading: (not) ate (pre-experiment exam 5 to 10 pages), Nachtesta nent offered: once a year,	successfully complet s, approx. 15 minute ate (post-experiment , winter semester	ed s each), assessmen exams, approx. 15 n	atory course for students of biolo t of practical performance (log ninutes each) apletion of module component
A <b>sses</b> tal me	08-IOC- <b>sment i</b> dicine,	1 is a prerequisite for part n module component o8- engineering and natural s	ticipation in module ( IOC-1-102: Organic C science	component o8-OC-B	
	-	Method of grading: nume	-		
Asses: • /	<b>sment i</b> 4 ECTS, a) 1 to 3 90 minu		<b>OC-Bio-2-102:</b> Organ erical grade written examination: nations: 60 minutes	approx. 90 minutes; each) or b) oral exan	2 written examinations: 60 or nination of one candidate each
	tion of <sub>j</sub>				
• ( • (	08-0C-E 08-I0C-	n the allocation of places Bio-3-072: 1-102: Only as part of poo Bio-2-102:			e component. laces will be allocated by lot.

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### Additional information

# Workload

#### --

### Teaching cycle

# --

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 (2010)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 247 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

Module title				Abbreviation		
Physical Chemistry for Biology Majors				08-PC-Bio-102-m01	L	
Module	e coordin	ator		Module offered by		
lecturer	lecturer of lecture "Thermodynamik, Kinetik, Elektrochemie					emistry
für Studierende der Biologie and Lebensmittelchemie"						
		of grading	Only after succ. compl. of module(s)			
5		cal grade				
Duratio	'	<b>Module level</b> Indergraduate	Other prerequisites			
Content	l	indelgladuate				
· · · · · ·		cussos the fundamor	tal principles of therm	odunamics kinotics	and alactrochamist	n.
		ng outcomes	itat principles of them	ouynamics, kinetics		ı y.
			he fundamental princi	nles of thermodynar	nics kinetics and el	ectroche-
			nd explain fundament			centoene
Courses	<b>s</b> (type, r	number of weekly con	tact hours, language –	- if other than Germa	n)	
This mo	odule cor	mprises 2 module cor	nponents. Information	on courses will be li	sted separately for e	each module
compor						- 1- 1 - )
			tion on SWS (weekly c rmation on SWS (week	-		
			language — if other th	•		
			can be chosen to earn			, <b>,</b>
			s the assessments in t			
	iless stat assessm		sful completion of the	module will require s	successful completion	on of all indi-
Vidual a	assessiii	ents.				
			B-PC-Bio-2-072: Physic		e and lab)	
			t) successfully complet ms, approx. 15 minute		t of practical perform	nance (log
		· ·	state (post-experiment			
		ent offered: once a yea			Electronic to a state of the	
		<b>module component o</b> a Electrochemistry	8-PC-Bio-1-102: Therm	odynamics, Kinetics,	Electrochemistry ir	iermodyna-
• 4	ECTS, M	ethod of grading: nur				
		amination (approx. 6	o minutes)			
Allocati	ion of pla	aces				
Additio	onal infor	mation				
Workloa	ad					
Teachin	ng cycle					
			gulations for teaching-			• 11
			norganische Chemie" (	and "Physikalische u	nd Analytische Cher	mie"
	e appears		244)			
	-	e (1 major) Biology (2 e (1 major) Biology (2				
Bachell	or acgre					
Bachelor's v	with 1 major	Biology (2011)	JMU Würzbu	rg • generated 26-Aug-2024	• exam.	page 248 / 254
	.,			rd Bachelor (180 ECTS) Biolog		

Module title	9			Abbreviation	
Mathematio	s for students in Chemi	stry and Biology		10-M-MCB-101-mo:	
Module coo	rdinator		Module offered by		
Dean of Studies Mathematik (Mathematics)		ematics)	Institute of Mathematics		
	thod of grading	Only after succ. compl. of module(s)			
	nerical grade				
Duration	Module level	Other prerequisites	i		
1 semester	undergraduate	ning of the course of the specified registre to qualify for admis certain percentage the respective detail exercise will be con sessment. If studen assessment over th gistration for assess will be admitted to ster. For assessmen	exercise must be ma or as announced by t ration deadlines. Cen sion to assessment of of exercises). The lead of exercises). The lead is at the beginning of sidered a declaration ts have obtained the e course of the seme sment into effect. Str assessment in the cu it at a later date, struc- tion to assessment a	he lecturer in accord tain prerequisites m (e.g. successful com turer will inform stu of the course. Regist n of will to seek adm e qualification for ad ester, the lecturer wi udents who meet all urrent or in the subs dents will have to ob	lance with nust be met npletion of a dents about ration for the nission to as- mission to ll put their re- prerequisites equent seme- otain the qua-
	elations, differentiation in several variables, po tatistics.				
Intended le	arning outcomes				
	is able to recognise and mathematical methods			nces as mathematic	al problems,
Courses (ty	pe, number of weekly co	ntact hours, language –	- if other than Germa	an)	
V + Ü (no in	formation on SWS (weel	kly contact hours) and co	ourse language avail	able)	
	<b>assessment</b> (type, scope ation on whether modul			ition offered — if not	every seme-
written exa	mination (approx. 90 to	120 minutes)			
Allocation of	of places				
<b>Additional</b> i	nformation				
Workload					
Teaching cy	rcle				
Referred to	in LPO I (examination r	egulations for teaching-	degree programmes)		
Module app	ears in				
	egree (1 major) Biochem egree (1 major) Biochem				
	major Biology (2011)		Irg • generated 26-Aug-2024	• exam.	page 249 / 254
			ord Bachelor (180 ECTS) Biolo		

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 250 / 254
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Module t	itle				Abbreviation	
		Students of	Non-physics-relate	ed Minor Subjects	11-EFNF-072-m01	
	coordinator			Module offered by		
r	g Director of the Ins	stitute of Ap		Faculty of Physics a	and Astronomy	
	Method of grading		Only after succ. co	mpl. of module(s)		
·	numerical grade					
Duration			Other prerequisite	S		
2 semest	ter undergradua	te				
Contents	5					
Mechani	cs, vibration theory	, thermody	namics, optics, scie	nce of electricity, Ato	mic and Nuclear Ph	ysics.
Intended	l learning outcomes	5				
The stude	ents have knowled	ge of the pr	inciples of Physics.			
		- ·		— if other than Germa	n)	
				course language avail		
			· · · · ·			
		• •	nguage — If other ti an be chosen to ear	nan German, examina n a bonus)	ition offered — if no	t every seme-
	xamination (appro>	K. 120 MINU	tes)			
	on of places					
		ral key skill	s (ASQ): 10 places.	Places will be allocate	ed by lot.	
Addition	al information					
Workload	d					
Teaching	z cvcle					
reacting			-			
Defermed			lation of four to o objust			
Referred		nation regu		-degree programmes)		
	appears in					
	' degree (1 major) E		•			
	' degree (1 major) E		-			
	' degree (1 major) E					
	' degree (1 major) E					
	r' degree (1 major) E					
	f' degree (1 major) E f' degree (1 major) C					
	' degree (1 major) C					
	' degree (1 major) C	-				
	' degree (1 major) C	-				
		-	-			
	Bachelor' degree (1 major) Geography (2007) Bachelor' degree (1 major) Geography (2008)					
	Bachelor' degree (1 major) Geography (2008) Bachelor' degree (1 major) Geography (2010)					
	Bachelor' degree (1 major) Computer Science (2007)					
	' degree (1 major) C	•				
	' degree (1 major) C	•				
	r' degree (1 major) F					
	' degree (1 major) N					
Bachelor	' degree (1 major) N	Nathematic	s (2014)			
Bachelor's wit	th 1 major Biology (2011)			ourg • generated 26-Aug-2024		page 251 / 254
			reg. uata rec	cord Bachelor (180 ECTS) Biolo	gie - 2011	

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

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

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 252 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	

	tle				Abbreviation							
Practical	Course Physics for	Students	of Non-physics-relat	ted Minor Subjects	11-PFNF-072-m01							
Module co	oordinator			Module offered by								
Managing	Director of the Inst	itute of A	pplied Physics	Faculty of Physics a	nd Astronomy							
	lethod of grading		Only after succ. co	mpl. of module(s)								
3 (n	not) successfully co	mpleted										
Duration	Module level		Other prerequisite	S								
1 semeste	er undergraduate	e										
Contents	·											
Mechanic	s, vibration theory,	thermody	namics, optics, X-ra	ys, nuclear magnetic	resonance, Atomic a	and Nuclear						
Physics.			_									
Intended	learning outcomes											
The stude	ents have knowledg	e of the p	rinciples of Physics.									
				– if other than Germa	n)							
· · · · · · · · · · · · · · · · · · ·												
				se language available								
			anguage — if other th an be chosen to ean	nan German, examina n a bonus)	tion offered — if not	every seme-						
				ungraded written exa	mination (approx. or	n minutes)						
	n of places		s experiment and b)			5 minutes)						
					11 1 .							
		al key skil	ls (ASQ): 10 places.	Places will be allocate	ed by lot.							
Additiona	linformation											
Workload												
Teaching	cycle											
Referred t	to in LPO L (examin	ation regu	lations for teaching	degree programmes)								
		410111030				Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module a												
	nnears in											
	ppears in degree (1 major) Bi	ochomist	ny (2011)									
Bachelor'	degree (1 major) Bi											
Bachelor' Bachelor'	degree (1 major) Bi degree (1 major) Bi	ochemist	ry (2013)									
Bachelor' Bachelor' Bachelor'	degree (1 major) Bi degree (1 major) Bi degree (1 major) Bi	ochemist ochemist	ry (2013) ry (2009)									
Bachelor' Bachelor' Bachelor' Bachelor'	degree (1 major) Bi degree (1 major) Bi	ochemist ochemist ology (20	ry (2013) ry (2009) 11)									
Bachelor' Bachelor' Bachelor' Bachelor' Bachelor'	degree (1 major) Bi degree (1 major) Bi degree (1 major) Bi degree (1 major) Bi	ochemist ochemist ology (20 ology (20	ry (2013) ry (2009) 11) 07)									
Bachelor' Bachelor' Bachelor' Bachelor' Bachelor' Bachelor'	degree (1 major) Bi degree (1 major) Bi degree (1 major) Bi degree (1 major) Bi degree (1 major) Bi	ochemisti ochemisti ology (20 ology (20 ology (20	ry (2013) ry (2009) 11) 07) 10)									
Bachelor' Bachelor' Bachelor' Bachelor' Bachelor' Bachelor'	degree (1 major) Bi degree (1 major) Bi	ochemisti ochemisti ology (20 ology (20 ology (20 nemistry (20	ry (2013) ry (2009) 11) 07) 10) 2007)									
Bachelor' Bachelor' Bachelor' Bachelor' Bachelor' Bachelor' Bachelor'	degree (1 major) Bi degree (1 major) Ch	ochemisti ochemisti ology (20 ology (20 ology (20 nemistry (2 nemistry (2	ry (2013) ry (2009) 11) 07) 10) 2007) 2008)									
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Bachelor' degree (1 major) Biomedicine (2013) Bachelor' degree (1 major) FOKUS Chemistry (2011)

Bachelor's with 1 major Biology (2011)	JMU Würzburg • generated 26-Aug-2024 • exam.	page 254 / 254
	reg. data record Bachelor (180 ECTS) Biologie - 2011	