

Module Catalogue

for the Subject

Biology

as Unterrichtsfach

with the degree "Erste Staatsprüfung für das Lehramt an Mittelschulen"

> Examination regulations version: 2013 Responsible: Faculty of Biology

JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record L7|026|-|-|H|2013

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

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The subject is divided into

section / sub-section	ECTS credits	starting page
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Teaching	12	26
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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:

LASPO2009

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

25-Sep-2014 (2014-54)

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.

LA Mittelschulen	Biology (2013)
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Scientific Discipline

(54 ECTS credits)

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Compulsory Courses

(54 ECTS credits)

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Modu	le title				Abbreviation
Basics of Biology - Cytology and Anatomy			07-LA-BI01-092-m01		
Modu	le coord	linator		Module offered by	1
Dean	of Studi	Studies Biologie (Biology)		Faculty of Biology	
ECTS	Meth	od of grading	Only after succ. cor	npl. of module(s)	
11	nume	rical grade			
Durati	on	Module level	Other prerequisites		
1 sem	ester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.		

Contents

The first part of the course will acquaint students with the elementary building blocks of life as well as biological categories. Building on this knowledge, the course will then discuss the cell, the smallest unit of life, starting with its macroscopic structure before moving on to its microscopic structure. The course will point out differences and similarities between prokaryotic cells (bacteria, archaebacteria) and eukaryotic cells (animals, plants). Using the examples of plants and animals, the subsequent module components will introduce students to the phylogenetic diversity of eukaryotes. At the level of groups in the plant and animal kingdoms, students will acquire the fundamental knowledge necessary to understand the forms and functions of animal and plant organisms, with morphology and cytology being discussed in an evolutionary and ecological context. The contents of the module are relevant for biological disciplines at all levels of biological organisation. Students will also acquire and practise some of the fundamental preparation skills bioscientists are often required to possess.

Intended learning outcomes

Students will be familiar with the elementary building blocks of life, with biological categories as well as with the cell, the smallest unit of life, and its macroscopic and microscopic structure. They will understand the forms and functions of animal and plant organisms as well as morphology and cytology in an evolutionary and ecological context. Students will be able put their fundamental preparation skills into practice.

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

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

- 07-LA-BIO1-1-121: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 07-LA-BIO1-2-121: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 07-LA-BIO1-3-121: V + Ü (no information on SWS (weekly contact hours) and course language available)

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

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

Assessment in module component o7-LA-BIO1-1-121: Structure and Function of Cells (Lecture, Practice) Structure and Function of Cells (Lecture, Practice)

- 3 ECTS, Method of grading: numerical grade
- written examination (30 to 60 minutes)
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.

Assessment in module component 07-LA-BIO1-2-121: The Plant Kingdom (Lecture, Practice) The Plant Kingdom (Lecture, Practice)

- 4 ECTS, Method of grading: numerical grade
- written examination (30 to 60 minutes)

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• Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.

Assessment in module component o7-LA-BIO1-3-121: The Animal Kindom (Lecture, Practice) The Animal Kindom (Lecture, Practice)

- 4 ECTS, Method of grading: numerical grade
- written examination (approx. 30 to 60 minutes)
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.

Allocation of places

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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)

§ 41 (1) 1. Biologie "Zytologie, Anatomie, Formenkenntnis und Systematik von Pflanzen und Tieren"

§ 41 (1) 2. "Physiologie der Pflanzen und Tiere"

§ 61 (1) 1. Biologie "Zytologie, Anatomie, Formenkenntnis und Systematik von Pflanzen und Tieren"

Module appears in

First state examination for the teaching degree Grundschule Biology (2009)

First state examination for the teaching degree Hauptschule Biology (2009)

First state examination for the teaching degree Realschule Biology (2009)

First state examination for the teaching degree Gymnasium Biology (2009)

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

Module title			Abbreviation		
Evolution				07-LA-EVO-092-m01	
Module coordinator			Module offered by		
Dean of Studies Biologie (Biology)		_	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
1	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate	seminars and lab co of unexcused absen fortnightly courses: completion of the re	urses (weekly cours ce and one excused one incident of unex spective exercises (he course). The prep	regular attendance of exercises, es: a maximum of one incident absence for a legitimate reason; ccused absence) and successful required percentage as specified paration of logs (10 to 15 pages) eent.
Conten	ts				
ses will on, stu	l be dis dents v	cussed, and students wi	ll be introduced to ma different mechanism	ajor phylogenetic red s of speciation from	nental mechanisms and hypothe- construction methods. In additi- populations. In this context, a eographic separation.
Intende	ed learı	ning outcomes			
genetic	trees b		characters Ability to	recognise natural s	cies Ability to construct phylo- election as a criterion for the sur- n in habitats.
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)				
written examination (approx. 30 minutes)					
Allocation of places					
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referred to in LPO I (examination regulations for teaching-degree programmes)					
§ 41 (1) 4. Biologie "Ökologie", "Evolutionsbiologie" und "Verhaltensbiologie" § 61 (1) 4. Biologie "Ökologie", "Evolutionsbiologie" und "Verhaltensbiologie"					
Module	Module appears in				
First sta First sta First sta	First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)				

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Module title				Abbreviation	
Basic Physiology I 07-LA-PHY				07-LA-PHY1-092-m01	
Module coordinator			Module offered by		
Dean of Stu	dies Biologie (Biology)		Faculty of Biology		
ECTS Me	thod of grading	Only after succ. com	pl. of module(s)		
4 nur	nerical grade				
Duration	Module level	Other prerequisites			
1 semester	undergraduate	seminars and lab co of unexcused absen fortnightly courses: completion of the re	urses (weekly cours ce and one excused one incident of unex spective exercises (he course). The prep	regular attendance of exercises, es: a maximum of one incident absence for a legitimate reason; ccused absence) and successful required percentage as specified paration of logs (10 to 15 pages) tent.	
Contents					
and will pro ratory. The tions are co	vide them with an opportu course will first explain the	nity to develop the fur biochemical bases of then move on to disc	ndamental skills for the reactions withir uss the physiologica	arative physiology of organisms working in a physiological labo- n cells as well as how these reac- al processes that regulate the in-	
Intended le	arning outcomes				
				egulation of organisms. They ha- sentation of scientific results.	
Courses (typ	e, number of weekly contact hours, l	anguage — if other than Ger	man)		
V + Ü (no information on SWS (weekly contact hours) and course language available)					
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
written examination (approx. 30 to 60 minutes)					
Allocation of places					
Additional information					
		2			
Workload					
Teaching cy	rcle				
Referred to in LPO I (examination regulations for teaching-degree programmes)					
§ 41 (1) 2. "Physiologie der Pflanzen und Tiere" § 61 (1) 2. Biologie "Physiologie der Pflanzen und Tiere"					
Module app	Module appears in				
	xamination for the teaching				
First state e	First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009)				
	First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)				

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Module title Abbreviation				Abbreviation	
Basic Pl	Basic Physiology II				07-LA-PHY2-092-m01
Module coordinator				Module offered by	
Dean of	Studie	es Biologie (Biology)		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
4	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate	seminars and lab co of unexcused absen fortnightly courses: completion of the re	urses (weekly cours ce and one excused one incident of unex spective exercises (he course). The prep	regular attendance of exercises, es: a maximum of one incident absence for a legitimate reason; cused absence) and successful required percentage as specified paration of logs (10 to 15 pages) ent.
Content	ts		· ·	•	
and will ratory. T tions ar ternal e	This module will acquaint students with the principles of the general and comparative physiology of organisms and will provide them with an opportunity to develop the fundamental skills for working in a physiological labo- ratory. The course will first explain the biochemical bases of the reactions within cells as well as how these reac- tions are coordinated. The module will then move on to discuss the physiological processes that regulate the in- ternal environment of multicellular organisms such as plants and animals.				
		ning outcomes			
					egulation of organisms. They ha- sentation of scientific results.
Courses	5 (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (n	o infor	mation on SWS (weekly o	contact hours) and co	urse language avail	able)
		essment (type, scope, langua) le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written	examir	nation (approx. 30 to 60 r	ninutes)		
Allocati	on of p	olaces			
Additio	nal info	ormation			
Workloa	ad				
Teachin	ig cycl	9			
		LPOI (examination regulations		mmes)	
	§ 41 (1) 2. "Physiologie der Pflanzen und Tiere" § 61 (1) 2. Biologie "Physiologie der Pflanzen und Tiere"				
Module	appea	rs in			
First sta First sta First sta	First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)				

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Module	e title				Abbreviation
The Flora of Germany				07-LA-FLORA-092-m01	
Module	e coord	inator		Module offered by	
holder of the Chair of Plant Physiology a			and Biophysics Faculty of Biology		
ECTS Method of grading Only		Only after succ. con	npl. of module(s)		
6	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
1 semester undergraduate		By way of exception assessments.	, additional prerequi	isites are listed in the section on	

Contents

The module will discuss the fundamental principles of the systematics and ecology of flowering plants. Students will acquire an overview of the major flowering plants to be found in the temperate zone as well as their ecological and economic importance. Using the field guide *Flora von Deutschland* by Schmeil-Fitschen, the course will demonstrate how dichotomous keys are used, and students will practise identifying freshly-gathered plants using dichotomous keys. Identifying plants, students will learn how to identify major morphological plant characteristics and will become familiar with the respective terminology. The module will also include field trips to typical habitats in the Botanical Garden and the vicinity of Würzburg. Students will become familiar with the common as well as scientific names of the plants found and will be introduced to the family- as well as species-specific characteristics of these plants. Students will practise using field guides and identification keys on site. Habitat ecological, geobotanical, climatic as well as conservation-relevant characteristics will also be discussed. The module will also include sessions at the Botanical Garden of the University of Würzburg with its outdoor facilities and greenhouses to help students acquire species identification skills.

Intended learning outcomes

Students have acquired knowledge and skills related to the ecology, systematics and taxonomy of indigenous flowering plants. They are familiar with the terminology of plant morphology and know how to use Floras and set up scientific herbaria.

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

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

o7-LA-FLORA-1-092: V + Ü (no information on SWS (weekly contact hours) and course language available)
 o7-LA-FLORA-2-092: E (no information on SWS (weekly contact hours) and course language available)

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

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

Assessment in module component o7-LA-FLORA-1-092: Systematics of the Flora of Germany Systematics of the Flora of Germany

- 4 ECTS, Method of grading: numerical grade
- written examination (approx. 45 minutes) and practical identification assignment (approx. 45 minutes)
- Assessment offered: once a year, summer semester
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.

Assessment in module component o7-LA-FLORA-2-092: Field Excursions on the Flora of Germany

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

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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)

§ 41 (1) 1. Biologie "Zytologie, Anatomie, Formenkenntnis und Systematik von Pflanzen und Tieren"

§ 41 (1) 4. Biologie "Ökologie", "Evolutionsbiologie" und "Verhaltensbiologie"

§ 61 (1) 1. Biologie "Zytologie, Anatomie, Formenkenntnis und Systematik von Pflanzen und Tieren"

§ 61 (1) 4. Biologie "Ökologie", "Evolutionsbiologie" und "Verhaltensbiologie"

Module appears in

First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)

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Modul	Module title Abbreviation					
Humar	Human Biology 07-LA-HUBIO-092-m01					
Modul	e coord	inator		Module offered by		
holder	of the (Chair of Zoology I		Faculty of Biology		
ECTS	Metho	od of grading Only after succ. compl. of module(s)				
9	nume	rical grade				
Durati	Duration Module level Other prerequisites					
1 seme	ester	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in th	e section on
Conter	nts					
se, inh man d	eritanc	vill be divided up into th e), - human physiology (nental physiology (sex o	human sensory physi	ology, nutrition, mai	ntaining physical he	alth), - hu-
Intend	ed lear	ning outcomes				
- Famil	iarity w	ith the fundamental prin	ciples of human gene	etics		
Course	es (type, r	umber of weekly contact hours,	language — if other than Ge	rman)		
compo • c	onent. 07-LA-H	omprises 2 module com UBIO-1-092: V (no inforn UBIO-2-092: Ü (no inforn	nation on SWS (weekl	y contact hours) and	course language av	ailable)
		essment (type, scope, langu le for bonus)	age — if other than German,	examination offered — if no	t every semester, informat	ion on whether
low. U		n this module comprises ated otherwise, success ments.				
• 5 • 7 • 7 • 7 • 7 • 7 • 7 • 7 • 7 • 7 • 7	5 ECTS, written of sment in 4 ECTS, ogs (ap Donly aft Donly Aft Do	module component of Method of grading: num examination (approx. 60 module component of Method of grading: (not prox. 30 hours) and 10 t er successful completio UBIO-1 is a prerequisite rerequisites: Admission courses (weekly course for a legitimate reason; ion of the respective exe paration of logs (10 to 15	erical grade to 90 minutes) -LA-HUBIO-2-092: Ba) successfully comple o 15 drawings n of module compone for participation in mo prerequisite to asses s: a maximum of one fortnightly courses: c ercises (required perce	sic Human Biology (F ted ents: Successful com odule component o7 sment: regular atter incident of unexcus one incident of unexce entage as specified a	Practice) pletion of module c -LA-HUBIO-2. Idance of exercises, sed absence and on used absence) and s it the beginning of th	, seminars e excused successful
Alloca	tion of p	olaces	_			
Additio	Additional information					
Worklo	bad					
Teachi	ng cycl	e				
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Referred to in LPO I (examination regulations for teaching-degree programmes)

§ 41 (1) 5. Biologie "Humanbiologie"

§ 61 (1) 5. Biologie "Humanbiologie"

Module appears in

First state examination for the teaching degree Grundschule Biology (2009)

First state examination for the teaching degree Hauptschule Biology (2009)

First state examination for the teaching degree Realschule Biology (2009)

First state examination for the teaching degree Gymnasium Biology (2009)

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

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Modul	e title				Abbreviation
The Fauna of Germany 07-LA-FAUNA-092-m01					07-LA-FAUNA-092-m01
Modul	e coord	inator		Module offered by	<u> </u>
holder of the Chair of Animal Ecology and Tropical Biolog			and Tropical Biology	Faculty of Biology	
ECTS	1	od of grading	Only after succ. con		
6	nume	rical grade		•	
Durati		Module level	Other prerequisites	;	
1 seme	ester	undergraduate	By way of exception assessments.	, additional prerequi	isites are listed in the section on
Conter	nts				
They w cordin will be provid	vill acqu g of bio taxon-s e stude	ire a fundamental know diversity and will pract specific and will repres nts with an opportunity	wledge of the systemat ise identifying species, ent specific habitats or	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 crises in a variety of habitats will ney acquired in the lab by iden-
Intend	ed lear	ning outcomes			
verteb cular, t habita	rates) a their inc ts of sp	nd use dichotomous k ligenous biotopes as v ecies, students are abl	eys. They are familiar w vell as with their faunas	vith selected Central s and phenology. On v and ecology of thes	digenous fauna (vertebrates, in- European habitats and, in parti- the basis of the morphology and e species as well as, where app- oncern.
Course	es (type, r	umber of weekly contact hour	s, language — if other than Ge	rman)	
compo • (• (Metho	onent. 07-LA-FA 07-LA-FA d of ass	AUNA-1-092: V + Ü (no i AUNA-2-092: E (no info sessment (type, scope, lang	nformation on SWS (we rmation on SWS (week	ekly contact hours) a ly contact hours) and	sted separately for each module and course language available) d course language available) ot every semester, information on whether
Assess low. U	sment ir	ated otherwise, succes			e components as specified be- successful completion of all indi-
Fauna • 4 • () • () • () • () • () • () • ()	of Germ 4 ECTS, written of Other pl and lab absence complet Che prep sment in 2 ECTS,	Method of grading: nu examination (approx. 4 rerequisites: Admissio courses (weekly cours for a legitimate reason ion of the respective ex paration of logs (10 to a module component o Method of grading: (no prox. 3 pages)	merical grade 5 minutes) and practic n prerequisite to asses es: a maximum of one n; fortnightly courses: c	al identification assi ssment: regular atter incident of unexcus one incident of unexc entage as specified a on prerequisite to as ld Excursions on the	
Additio	onal inf	ormation			
LA Mittels	chulen Biol	ogy (2013)		enerated 26-Aug-2024 • exan elschulen (Unterrichtsfach) B	

Workload

Teaching cycle

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

§ 41 (1) 1. Biologie "Zytologie, Anatomie, Formenkenntnis und Systematik von Pflanzen und Tieren"

§ 41 (1) 4. Biologie "Ökologie", "Evolutionsbiologie" und "Verhaltensbiologie"

- § 61 (1) 1. Biologie "Zytologie, Anatomie, Formenkenntnis und Systematik von Pflanzen und Tieren"
- § 61 (1) 4. Biologie "Ökologie", "Evolutionsbiologie" und "Verhaltensbiologie"

Module appears in

First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)

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Ervintersenden Biology (2015)	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	puge 17 / 02

Module	e title				Abbreviation	
Basic M	Basic Microbiology 07-GHR-MIBI-092-m01					101
Module coordinator				Module offered by		
Dean o	f Studi	es Biologie (Biology)		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
1	(not) s	successfully completed				
Duratio	on	Module level	Other prerequisites	i i		
1 semester undergraduate		seminars and lab co of unexcused abser fortnightly courses: completion of the re at the beginning of	site to assessment: purses (weekly cours ace and one excused one incident of unex espective exercises (the course). The prep requisite to assessm	es: a maximum of or absence for a legitin ccused absence) and required percentage paration of logs (10 t	ne incident mate reason; d successful as specified	
Conten	Its					
prokar exercis	yotes a ses, stu	vill discuss the prokaryon nd factors that different dents will become fami ssification of bacteria as	tiate prokaryotes from liar both with importar	eukaryotes will also nt examples of bacte	be addressed. Durin	ng practical
		ning outcomes	·			
ryotic o with im	cells k nportan	If the structure of proka Knowledge of the specif t representatives of the ased on features visible	ic characteristics of th prokaryotic communit	e intracellular structu ty Familiarity with c	ure of prokaryotes riteria for the classif	Familiarity fication of
Course	S (type, r	number of weekly contact hours	s, language — if other than Ge	rman)		
V + Ü (I	no info	mation on SWS (weekly	y contact hours) and co	ourse language avail	able)	
		sessment (type, scope, lang Ile for bonus)	uage — if other than German,	examination offered — if no	t every semester, informat	ion on whether
logs (1	0 to 15	pages)				
Allocat	ion of j	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	ons for teaching-degree progra	ammes)		
		netik oder Mikrobiologi logie "Genetik und Mikr				
Module	e appea	ars in				
First st First st	Module appears inFirst state examination for the teaching degree Grundschule Biology (2009)First state examination for the teaching degree Hauptschule Biology (2009)First state examination for the teaching degree Realschule Biology (2009)First state examination for the teaching degree Mittelschule Biology (2013)					
	bulan D:		18.811 \ 8/25	prototod of Automatica	, rog data ra	page (0.1/-
LA Mittelsc	nuten Bio	logy (2013)		enerated 26-Aug-2024 • exan elschulen (Unterrichtsfach) B	-	page 18 / 62

Module	e title				Abbreviation
Animal	and Pl	ant Ecology			07-GHR-OEKO-092-m01
Module	e coord	inator		Module offered by	
Dean o	fStudie	es Biologie (Biology)		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
4	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate	By way of exception assessments.	, additional prerequ	isites are listed in the section on
Conten	ts				
and bio as on tl model	otic env he stru concep	ironments. The module v cture and dynamics of po	vill focus on the functory of the functory of the second	tional adaptation to stems. Students will	and animals with their abiotic environmental conditions as well be introduced to fundamental ary to develop an understanding
Intende	ed learı	ning outcomes			
portant their er mental	abiotio vironm issues	c and biotic factors that i nent. In addition, they ha	nfluence the distribu ve developed a funda	tion and frequency o amental understand	ecology and with the most im- of occurrence of organisms in ing of the assessment of environ-
					sted separately for each module
compo • o b	nent. 7-GHR- le)	OEKO-2-092: V + Ü (no iı	nformation on SWS (v	weekly contact hour	s) and course language availa-
Metho	d of ass	sessment (type, scope, langua	ge — if other than German, (examination offered — if no	ot every semester, information on whether
		le for bonus)			-
	less st	ated otherwise, successf			e components as specified be- successful completion of all indi-
Practice • 2 • w • C a a c T	e) ECTS, vritten e Other pr nd lab bsence omplet he prep ment i	Method of grading: nume examination (approx. 30 rerequisites: Admission courses (weekly courses for a legitimate reason; ion of the respective exe paration of logs (10 to 15 n module component 07 -	erical grade to 45 minutes) prerequisite to asses a maximum of one fortnightly courses: o rcises (required perce pages) is an admissio	sment: regular atter incident of unexcus ne incident of unexc entage as specified a on prerequisite to as	e, Practice) Plant Ecology (Lecture, ndance of exercises, seminars sed absence and one excused cused absence) and successful at the beginning of the course). ssessment. re, Practice) Animal Ecology (Lec-
• w	ritten e	Method of grading: nume examination (approx. 30 rerequisites: Admission	to 45 minutes)	sment: regular atte	ndance of exercises, seminars

 Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.

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	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	

Allocation of places

Additional information

Workload

--

Teaching cycle

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

§ 41 (1) 4. Biologie "Ökologie", "Evolutionsbiologie" und "Verhaltensbiologie"

Module appears in

First state examination for the teaching degree Grundschule Biology (2009)

First state examination for the teaching degree Hauptschule Biology (2009)

First state examination for the teaching degree Realschule Biology (2009)

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

LA Mittelschulen Biology (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg. data re- cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	page 20 / 62

Module	title				Abbreviation	
Microb	iology	2			07-GHR-MIBI2-092-	m01
Module	coord	inator		Module offered by		
		Chair of Microbiology		Faculty of Biology		
ECTS			Only after succ. con	, ,		
2		rical grade		•		
Duratio	n	Module level	Other prerequisites			
1 semester undergraduate Admission prerequisite to assessment: regular attendance of exerciseminars and lab courses (weekly courses: a maximum of one incide of unexcused absence and one excused absence for a legitimate reformightly courses: one incident of unexcused absence) and succe completion of the respective exercises (required percentage as spe at the beginning of the course). The preparation of logs (10 to 15 pa is an admission prerequisite to assessment.			ne incident nate reason; l successful as specified			
Conten	ts					
covered come fa rentiate lated to additio nic pro	This module will provide students with an opportunity to deepen their knowledge and skills related to aspects covered in the module <i>Die prokaryotische Zelle (The Prokaryotic Cell</i>) during their first semester. Students will be come familiar with the fundamental principles of the metabolic physiology of bacteria and will learn how to differentiate bacteria according to their respective metabolic performance. They will consolidate their knowledge related to the classification of bacteria into archaebacteria and eubacteria based on their respective characters. In addition, the module will discuss the use of microorganisms in industry and technology as well as the pathogenic properties of some species of microorganisms and the diseases caused by these.				dents will be- how to diffe- owledge re- haracters. In	
		ning outcomes	sed in microbiology lab			
rence b al kingo miliarit with th	etweer dom as y with r e role b	n gram-negative and gra well as some importar methods for the differe acteria play in nutrient	am-positive bacteria nt representatives Ab ntiation of bacteria acc cycles in nature Fam y to evaluate the patho	Ability to name the o ility to name metabo ording to their meta iliarity with industria	different divisions of olic performances of bolic performance al processes involvin	the bacteri- bacteria Fa- Familiarity
		-	s, language — if other than Ger	- •		
Ü + V (r	no infor	mation on SWS (weekl	y contact hours) and co	ourse language avail	able)	
		e essment (type, scope, lang le for bonus)	uage — if other than German, o	examination offered — if no	ot every semester, informati	on on whether
written	exami	nation (approx. 30 min	utes)			
Allocat	ion of p	olaces				
Additio	nal info	ormation				
	<u> </u>					
Worklo	a0					
 Taashii		-				
Teacini	Teaching cycle					
Referre	d to in	IPOI (overination versile)	ons for teaching-degree progra	mmoc)		
		netik oder Mikrobiologi		inines)		
Module						
First sta	ate exa	mination for the teachi	ng degree Grundschule ng degree Hauptschule			
LA Mittelsc	hulen Biol	ogy (2013)		enerated 26-Aug-2024 • exan elschulen (Unterrichtsfach) B	-	page 21 / 62





First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)

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	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	

Module	title				Abbreviation
Biology	/ in Tec	hnics and Medicine			07-GHR-BT-092-m01
Module coordinator		Module offered by			
holder of the Chair of Biotechnology and Biophysics		d Biophysics	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
1	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
view of be cove biomate Intende Studen	Using examples from the field of biotechnology, this module will provide teaching degree students with an over- view of the applications of biology in technology and medicine. Topics from the area of biotechnology that will be covered include biosensors and environmental biotechnology, microbiotechnology and nanobiotechnology, biomaterials, cryobiotechnology, bioprocess engineering and microbial biotechnology. Intended learning outcomes Students have become familiar with the fundamental principles of biotechnology. They recognise the relevance				
		logy have to technologic umber of weekly contact hours, la	· -	man)	
		ion on SWS (weekly cont)
Method	l of ass				t every semester, information on whether
written	examir	nation (approx. 20 minute	es)		
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	9			
		LPO I (examination regulations			
§ 41 (1)	1. Biol	ogie "Zytologie, Anatomie	e, Formenkenntnis ur	nd Systematik von Pf	lanzen und Tieren"
Module					
First sta First sta	ate exa ate exa	mination for the teaching mination for the teaching mination for the teaching mination for the teaching	g degree Hauptschule g degree Realschule E	Biology (2009) Biology (2009)	

Module	title				Abbreviation
Behavioural Biology		07-GH-ETHO-092-m01			
Module coordinator		Module offered by			
Dean of Studies Biologie (Biology)		Faculty of Biology			
ECTS	Metho	od of grading	Only after succ. compl. of module(s)		
2	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semesterundergraduateAdmission prerequisite to assessment: regular attendance of exer seminars and lab courses (weekly courses: a maximum of one inc of unexcused absence and one excused absence for a legitimate r fortnightly courses: one incident of unexcused absence) and succ completion of the respective exercises (required percentage as sp at the beginning of the course). The preparation of logs (10 to 15 p is an admission prerequisite to assessment.			es: a maximum of one incident absence for a legitimate reason; ccused absence) and successful required percentage as specified paration of logs (10 to 15 pages)		
Conten	ts				
dule, st The sec and in J	udents ond pa particu	will acquire a general ov art of the module will focu	verview of major conc us on the cohabitation n between individuals	epts and important t n of animals in socia s or, respectively, the	iour. In the first part of the mo- terminology of animal behaviour. Il colonies or animal societies e behaviour of the individual wi-
Intende	ed leari	ning outcomes			
ments i logy A	n beha Awaren	vioural biology and the b	oiology of learning k	Knowledge of the fun	Familiarity with classical experi- damental principles of sociobio- ledge of the forms of communi-
		umber of weekly contact hours, l			
V + Ü (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written	exami	nation (approx. 30 to 60 i	minutes)		
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ıg cycl	9			
 D-(
		LPOI (examination regulation			
-		ogie "Ökologie", "Evoluti vec in	onspiologie" und "Ve	emaitensbiologie"	
Module		i rs in mination for the teaching	degree Grundschule	Biology (2000)	
		mination for the teaching	-		
		mination for the teaching			

Module	e title				Abbreviation	
Basic Principles of Genetics				07-GHR-GEN-092-m	101	
Module	e coord	inator		Module offered by		
Dean o	of Studi	es Biologie (Biology)		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
3	nume	rical grade				
Duratio	on	Module level	Other prerequisites			
1 semesterundergraduateAdmission prerequisite to assessment: regular attendance of exercises seminars and lab courses (weekly courses: a maximum of one in of unexcused absence and one excused absence for a legitimate fortnightly courses: one incident of unexcused absence) and succ completion of the respective exercises (required percentage as s at the beginning of the course). The preparation of logs (10 to 15 is an admission prerequisite to assessment.		ne incident mate reason; d successful as specified				
Conten	nts					
genetic for the structu view of in expe Intende Studen type of	c inform phenor ire of th f metho eriment ed lear nts are a	nation, potential errors type. The module will d e eukaryotic genome. I ds in genetics. Having s on the model organis ning outcomes able to recognise the D anisms. They understa	lassic Mendelian genet in the transmission of iscuss the structural ar Building on this knowle been simplified for tea m Drosophila melanog NA as a repository of in nd that regulation is ne chanisms. In addition, s	genetic information and adge, the module wil ching purposes, the aster. formation that is a k	and the respective content nentals of the DNA as l provide students w se methods will then ey factor determinin me expression and i	onsequences s well as the rith an over- n be applied g the pheno- recognise the
well as	the rel	evance these have to r				
V + Ü (I	no info	rmation on SWS (weekl	y contact hours) and co	ourse language avail	able)	
		sessment (type, scope, lang le for bonus)	guage — if other than German,	examination offered — if no	t every semester, informat	ion on whether
written	exami	nation (approx. 30 to 4	5 minutes)			
Allocat	tion of _l	olaces				
Additio	onal inf	ormation				
Worklo	ad					
Teachi	ng cycl	е				
Referre	ed to in	LPO I (examination regulati	ons for teaching-degree progra	ammes)		
§ 41 (1)) 3. "Ge	netik oder Mikrobiolog	ie"			
Module	e appea	ars in				
First st First st	First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)					
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Teaching

(12 ECTS credits)

P		
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Module	e title				Abbreviation
Basic D	Didactio	s in Biology			07-LA-FDGRU-092-m01
Module	e coord	inator		Module offered by	
head o	f group	Didactics of Biology		Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. compl. of module(s)		
7	nume	rical grade			
Duratio	on	Module level	Other prerequisites	i	
2 seme	ester	undergraduate	By way of exception assessments.	, additional prerequ	isites are listed in the section on

Contents

[Version 1: This seminar will provide students preparing for the written state examination with an opportunity to revise key topics in biology didactics. In small teams, students will prepare and deliver presentations on three key areas. The first block will discuss an area of the theory of biology didactics, this will be followed by the discussion of a topic in the biology classroom with respect to aspects of the scientific discipline and a didactic analysis. In the final part of the course, students will solve an exam paper from a previous year.] [Version 2: Using examples from the classroom, the seminar will acquaint students with specific teaching aids (originals, preparations and media) for use in the biology classroom and will assess these with regard to the media literacy skills to be developed. The seminar will discuss both traditional aids used in the biology classroom and modern media. After having received a theoretical introduction to teaching aids, students will be arranged into small teams that will deliver lessons or individual phases of lessons on specific topics from the curriculum. They will focus on a teaching aid of their choice which will subsequently be assessed with regard to aspects of media didactics.]

Intended learning outcomes

Familiarity with relevant aspects of biology didactics and awareness of the fact that typical methods of the discipline play a central role in the biology classroom. Ability to design lively biology lessons, using original objects and teaching aids. Ability to use methods in biology in a way that promotes the learning processes of pupils. Familiarity with both biology-specific and interdisciplinary topics from the curriculum for *Grundschule*. Ability to prepare scientific analyses of selected topics from the curriculum for *Grundschule*. Ability present these topics in a manner that is tailored to the target group. Ability to prepare didactic analyses of topics from the curriculum for *Grundschule*. Ability to translate, with the help of didactic analyses, selected topics from the curriculum into teaching sequences and lessons as well as to deliver these teaching sequences and lessons, applying problem-based and/or open teaching methods. Overview of experiments on botany, zoology and human biology typically performed in the *Grundschule* biology classroom. Ability to implement the experiments in the classroom and to integrate them into activity and problem-based lessons. Insight into frameworks for education in *Grundschule*. Insight into legal and social factors that influence schools.

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

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

- 07-LA-FDGRU-2-092: S (no information on SWS (weekly contact hours) and course language available)
- o7-LA-FDGRU-1-092: 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 is creditable for bonus)

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

Assessment in module component o7-LA-FDGRU-2-092: School-Type-Specific Didactics in Biology (Seminar)

- 2 ECTS, Method of grading: numerical grade
- written examination (30 to 45 minutes) or term paper (10 to 15 pages)
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful

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completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.

Assessment in module component o7-LA-FDGRU-1-092: Introduction into Didactics in Biology (Lecture, Practice) Introduction into Didactics in Biology (Lecture, Practice)

- 5 ECTS, Method of grading: numerical grade
- a) written examination (60 to 90 minutes) and written examination (20 to 30 minutes), weighted 3:2 or b) written examination (60 to 90 minutes) and oral examination of one candidate each (10 to 30 minutes)
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.

Allocation of places

Additional information

UNIVERSITÄT

WÜRZBURG

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Workload

Teaching cycle

--

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

§ 36 (1) 7. Didaktik der Grundschule Biologie

§ 38 (1) 1. Didaktik der Hauptschule Biologie

 \S 38 (1) 1. Didaktik der Mittelschule Biologie

§ 41 (1) 6. Biologie Fachdidaktik

§ 61 (1) 8. Biologie Didaktik

Module appears in

First state examination for the teaching degree Grundschule Biology (2009)

First state examination for the teaching degree Hauptschule Biology (2009)

First state examination for the teaching degree Realschule Biology (2009)

First state examination for the teaching degree Gymnasium Biology (2009)

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

LA Mittelschulen Biology (2013)	
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Specia	e title				Abbreviation	
-	l Didac	tics in Biology: Teaching	Aids		07-LA-FDUM-092-n	101
Module	e coord	inator		Module offered by		
head o	fgroup	Didactics of Biology		Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
2	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ster	undergraduate	Admission prerequi seminars and lab cc of unexcused abser fortnightly courses: completion of the re at the beginning of t is an admission pre	ourses (weekly cours ice and one excused one incident of une espective exercises (the course). The prep	es: a maximum of o absence for a legiti ccused absence) and required percentage paration of logs (10 f	ne incident mate reason; d successful e as specified
Conten	Its		•			
skills to media. teams	o be de After h that wi on a tea	and media) for use in the veloped. The seminar wi aving received a theoret Il deliver lessons or indiv ching aid of their choice	ll discuss both traditi ical introduction to te idual phases of lesso	onal aids used in th aching aids, studen ons on specific topic	e biology classroom ts will be arranged i s from the curriculur	and modern nto small n. They will
Intend	ed lear	ning outcomes				
of biold as the f classro	ogy-spe functio oom. Pr	arity with a biology-spec ecific media. Overview of n of media. Familiarity w actical skills using media riate for pupils and the r	classifications of me ith the limitations and a of all kinds. Ability t	dia, factors that influ d problems associat	uence the choice of ed with the use of m	media as well ledia in the
	<u>···</u>					
		number of weekly contact hours,	language — if other than Gei	rman)		
Course	S (type, r	number of weekly contact hours, tion on SWS (weekly con			2)	
Course S (no ir Method module is	es (type, r nformat d of ass s creditab	tion on SWS (weekly con sessment (type, scope, langua le for bonus)	tact hours) and cours	e language available		tion on whether
Course S (no ir Method module is semina	es (type, r nformat d of ase s creditat ar pape	tion on SWS (weekly con sessment (type, scope, langua le for bonus) r (10 to 15 pages)	tact hours) and cours	e language available		tion on whether
Course S (no ir Method module is	es (type, r nformat d of ase s creditat ar pape	tion on SWS (weekly con sessment (type, scope, langua le for bonus) r (10 to 15 pages)	tact hours) and cours	e language available		tion on whether
Course S (no ir Method module is semina Allocat	es (type, r nformat d of ass s creditat ar pape tion of p	tion on SWS (weekly con sessment (type, scope, langua le for bonus) r (10 to 15 pages)	tact hours) and cours	e language available		tion on whether
Course S (no ir Method module is semina Allocat	es (type, r nforma d of ass s creditab ar pape tion of p onal inf	tion on SWS (weekly con sessment (type, scope, langua le for bonus) r (10 to 15 pages) olaces	tact hours) and cours	e language available		tion on whether
Course S (no ir Method module is semina Allocat Additio	es (type, r nforma d of ass s creditab ar pape tion of p onal inf	tion on SWS (weekly con sessment (type, scope, langua le for bonus) r (10 to 15 pages) olaces	tact hours) and cours	e language available		tion on whether
Course S (no ir Method module is semina Allocat Additio	es (type, r nforma d of ass s creditat ar pape tion of p onal inf	tion on SWS (weekly con sessment (type, scope, langua ile for bonus) r (10 to 15 pages) olaces ormation	tact hours) and cours	e language available		tion on whether
Course S (no ir Method semina Allocat Additio Worklo	es (type, r nforma d of ass s creditat ar pape tion of p onal inf	tion on SWS (weekly con sessment (type, scope, langua ile for bonus) r (10 to 15 pages) olaces ormation	tact hours) and cours	e language available		tion on whether
Course S (no ir Method semina Allocat Additio Worklo Teachin	es (type, r nforma d of ass s creditat ar pape tion of p onal inf pad	tion on SWS (weekly con sessment (type, scope, langua ile for bonus) r (10 to 15 pages) olaces ormation	tact hours) and cours	e language available		tion on whether
Course S (no ir Method semina Allocat Additio Worklo Teachin Referre § 41 (1)	es (type, r nforma d of ass s creditab ar pape tion of p onal inf pad ng cycl ed to in 6. Bio	tion on SWS (weekly con sessment (type, scope, langua le for bonus) r (10 to 15 pages) blaces ormation e LPO I (examination regulation logie Fachdidaktik	tact hours) and cours	e language available		tion on whether
Course S (no ir Method module is semina Allocat Additio Worklo Teachin Referre § 41 (1) Module	es (type, r nforma d of ass s creditab ar pape ion of p onal inf pad ng cycl ed to in 0 6. Bio e appea	tion on SWS (weekly con sessment (type, scope, langua le for bonus) r (10 to 15 pages) olaces ormation e LPO I (examination regulation logie Fachdidaktik ars in	tact hours) and cours age — if other than German, (e language available examination offered — if no mmes)		tion on whether
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First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)

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	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	

C	Module title				Abbreviation
Special Didactics in Biology: Learning Places outside Scho			Places outside Schoo	ol	07-LA-FDASL1-092-m01
Module coordinator				Module offered by	<u> </u>
head of group Didactics of Biology			Faculty of Biology		
ECTS	1	od of grading	Only after succ. com		
3	1	successfully completed		•	
Duration Module level		Other prerequisites			
1 semester undergraduate		Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.			
Conten	nts		•		
for the this co <i>schule</i> . nous a ronmer	selection ntext, t Desigr nimals nts.	on of out-of-classroom le he course will also discu ning practice-oriented te	earning environments iss the opportunities a aching units, students	that are relevant for nd limitations of ou will practise teach	idactic and pedagogical criteria the respective type of school. In it-of-classroom learning in <i>Gruna</i> ing the identification of indige- out-of-classroom learning envi-
	-		d responsibilities of to	achers - Incight int	a the following este and regula
1					o the following acts and regula-
ve pup implen gy clas sight ir behavi cific an les beh spectiv Ability is tailo the per	ils and nentatio sroom. nto sele ours nd dida nind the ve type to desi red to t rsonal c	prevent disruption Over on of open methods for the created theories that may be overview of older and cur- created theories that may be overview of school and the development of pupils.]	O Insight into cause erview of disciplinary r eaching biology Abil on the emergence an help explain why childr irrent approaches to th y to teach topics in he nslate topics in the are lly reduced manner, in revention programme, e respective group of p	s of disruption as w measures Overvie lity to prepare a ran d types of typical h ren and adolescents ne prevention of spe alth education Ins ea of health educat to teaching sequen to be taught over the pupils Ability to in	vell as ways to deal with disrupti- w of methodical variations in the ge of teaching aids for the biolo- ealth-impairing conditions In- s adopt typical health-impairing ecific behaviours Subject-spe- sight into the scientific princip- ion from the curriculum for the re ces, teaching units and lessons. he course of one school year, tha nplement measures to support
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Teaching cycle

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

§ 41 (1) 6. Biologie Fachdidaktik

Module appears in

First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)

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Freier Bereich (general as well as subject-specific electives)

(ECTS credits)

Teaching degree students must take modules worth a total of 15 ECTS credits in the area Freier Bereich (general as well as subject-specific electives) (Section 9 LASPO (general academic and examination regulations for teaching-degree programmes)). To achieve the required number of ECTS credits, students may take any modules from the areas below.

Freier Bereich -- interdisciplinary: The interdisciplinary additional offer for a teaching degree can be found in the respective Annex "Ergänzende Bestimmungen für den "Freien Bereich" im Rahmen des Studiums für ein Lehramt".

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Biology (ECTS credits)

(Freier Bereich (general as well as subject-specific electives) -- subject specific)

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Module title Ecology and Developmental Biology of marine organisms					Abbreviation	
					07-4S1MZ3-092-m01	
Module coordinator				Module offered by		
head of the Department of Electronmicros			roscopy	Faculty of Biology		
ECTS	Meth	od of grading	Only after succ. compl. of module(s)			
5	nume	rical grade				
Duration Module level		Module level	Other prerequisites			
1 semester		undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.			
Conten	nts	*	<u>.</u>			

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

Intended learning outcomes

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

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

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

- o7-4S1MZ3-1MO-092: Ü (no information on SWS (weekly contact hours) and course language available)
- o7-4S1MZ3-2MO-092: S (no information on SWS (weekly contact hours) and course language available)

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

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

Assessment in module component o7-4S1MZ3-1MO-092: Ecology and Developmental Biology of Marine Organisms

- 4 ECTS, Method of grading: numerical grade
- log (approx. 10 to 20 pages)
- Assessment offered: once a year, summer semester
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.

Assessment in module component 07-4S1MZ3-2MO-092: Seminar on Marine Biology

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

Allocation of places

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

07-4S1MZ3-1MO-092: Number of places: 18. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 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

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

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

UNIVERSITÄT

WÜRZBURG

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

LA Mittelschulen	Biology	(2013)	
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Module	title				Abbreviation	
Superv	ising T	utorial for Basic Courses	in Biology 1		07-LA-TUFB1-092-m01	
Module	coord	inator		Module offered by		
degree	progra	mme coordinator Biologi	e (Biology)	Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. com	Only after succ. compl. of module(s)		
3	(not) s	successfully completed				
Duratio	, in the second se	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts	-				
three in dents in They wi tors wil	n partic mprove ill corre l suppo	ular. Tutors will identify t upon their understandir ct exercises, will discuss ort other students on thei	he key subject-specil ng of material, consol these with students	ic concepts covered idate their knowledg and will help them f	pleted in semesters one through in the lectures and will help stu- ge and prepare for assessments. ill gaps in their knowledge. Tu-	
Intende	ed learn	ning outcomes				
ence su stions a enhanc	upervisi and exp ed thei	ing a group. Having acqu blain material in detail, th ir teaching skills.	ired the background ne tutors have also er	knowledge needed t hanced their own si	way. They have gained experi- to be able to answer specific que- ubject-specific skills. They have	
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
T (no in	format	ion on SWS (weekly cont	act hours) and course	e language available	2)	
			ge — if other than German, e	examination offered — if no	ot every semester, information on whether	
		le for bonus) eports (approx. 60 hours	total)			
Allocat						
		haces				
Additio	nal info	ormation				
Worklo	ad					
Teachir	ng cycl	e				
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)		
Module	e appea	irs in				
First sta First sta First sta	ate exa ate exa ate exa	mination for the teaching mination for the teaching mination for the teaching mination for the teaching mination for the teaching	g degree Hauptschule g degree Realschule E g degree Gymnasium	Biology (2009) Biology (2009) Biology (2009)		
FIRST Sta	ate exa	mination for the teaching	, degree Mittelschule	ыоюду (2013)		

LA Mittelschulen B	iology (2013)
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Module	e title				Abbreviation
Additio	nal Qu	alification MINT 2			07-LA-ZQN2-092-m01
Module	e coord	inator		Module offered by	
degree	progra	mme coordinator Biologi	e (Biology)	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
lated to	o their o				n the natural sciences that is re- burg or by external institutions.
Intende	ed learı	ning outcomes			
		e acquired advanced kno ecialise in a sub-disciplin		ditional specialist sk	ills in STEM subjects that will
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + S +	Ü (no i	nformation on SWS (wee	kly contact hours) an	d course language a	vailable)
		essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
each (2	o to 60				camination of one candidate or e) presentation (20 to 45 minu-
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
Module	e appea	ars in			
First sta	ate exa	mination for the teaching	g degree Grundschule	Biology (2009)	
			-		ı (Primary School) (2009)
		mination for the teaching			(Casandan, Schael) (as a)
		mination for the teaching mination for the teaching			r (Secondary School) (2009)
		mination for the teaching			
					ology (Secondary School) (2009)
					ology (Middle School) (2013)
		mination for the teaching	-		(Middle Cebeel) (cere)
rirst sta	ale exa	mination for the teaching	g degree Mittelschule	Didactics in Biology	(midule School) (2013)

Module	e title				Abbreviation
Additio	onal Qu	alification MINT 3			07-LA-ZQN3-092-m01
Module	e coord	inator		Module offered by	
degree	progra	mme coordinator Biologi	e (Biology)	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
lated to	o their o				n the natural sciences that is re- burg or by external institutions.
Intende	ed lear	ning outcomes			
		e acquired advanced kno ecialise in a sub-disciplin	-	ditional specialist sk	ills in STEM subjects that will
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
Ü + S +	V (no i	nformation on SWS (wee	kly contact hours) an	d course language a	vailable)
		eessment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
each (2	20 to 60				camination of one candidate or e) presentation (20 to 45 minu-
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
Module	e appea	ars in			
First sta	ate exa	mination for the teaching	g degree Grundschule	Biology (2009)	
			-		r (Primary School) (2009)
		mination for the teaching			(Casandan, Schael) (asas)
		mination for the teaching mination for the teaching			(Secondary School) (2009)
		mination for the teaching			
					ology (Secondary School) (2009)
					ology (Middle School) (2013)
		mination for the teaching			(Middle School) (acco)
riist sta	ate exa	mination for the teaching	s degree millerscriule	Diudetites III Biology	

Addition MINT 407-LA-ZQN4-092-m01Module offered byModule offered byGally of BiologyGally of BiologyGally of BiologyOnly after succ. of module(s)Only after succes shull colspan="6">Only
degree programme coordinator Biologie (Biology) Faculty of Biology ECTS Method of grading Only after succ. compl. of module(s) 4 (not) successfully completed Duration Module level Other prerequisites 1 semester undergraduate Contents Contents Courses in the natural sciences that equip students with advanced knowledge in the natural sciences that is related to their discipline. These courses may be offered by the University of Würzburg or by external institutions. Credit transfer subject to approval. Intended learing outcomes Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
ECTS Method of grading Only after succ. compl. of module(s) 4 (not) successfully completed Duration Module level Other prerequisites 1 semester undergraduate Contents Courses in the natural sciences that equip students with advanced knowledge in the natural sciences that is related to their discipline. These courses may be offered by the University of Würzburg or by external institutions. Credit transfer subject to approval. Intended learning outcomes Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
4 (not) successfully completed Duration Module level Other prerequisites 1 semester undergraduate Contents Courses in the natural sciences that equip students with advanced knowledge in the natural sciences that is related to their discipline. These courses may be offered by the University of Würzburg or by external institutions. Credit transfer subject to approval. Intended learning outcomes Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
Duration Module level Other prerequisites 1 semester undergraduate Contents Contents courses in the natural sciences that equip students with advanced knowledge in the natural sciences that is related to their discipline. These courses may be offered by the University of Würzburg or by external institutions. Credit transfer subject to approval. Intended learning outcomes Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
1 semester undergraduate Contents Courses in the natural sciences that equip students with advanced knowledge in the natural sciences that is related to their discipline. These courses may be offered by the University of Würzburg or by external institutions. Credit transfer subject to approval. Intended learning outcomes Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
Contents Courses in the natural sciences that equip students with advanced knowledge in the natural sciences that is related to their discipline. These courses may be offered by the University of Würzburg or by external institutions. Credit transfer subject to approval. Intended learning outcomes Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
Courses in the natural sciences that equip students with advanced knowledge in the natural sciences that is re- lated to their discipline. These courses may be offered by the University of Würzburg or by external institutions. Credit transfer subject to approval. Intended learning outcomes Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
lated to their discipline. These courses may be offered by the University of Würzburg or by external institutions. Credit transfer subject to approval. Intended learning outcomes Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
Students have acquired advanced knowledge as well as additional specialist skills in STEM subjects that will help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
help them specialise in a sub-discipline of biology. Courses (type, number of weekly contact hours, language – if other than German)
V + S + II (no information on SWS (weekly contact hours) and course language available)
v + 5 + 6 (no momation on 5w5 (weekly contact nous) and course language available)
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)
a) written examination (30 to 120 minutes) or b) log (10 to 30 pages) or c) oral examination of one candidate each (20 to 60 minutes) or d) oral examination in groups of up to 3 candidates or e) presentation (20 to 45 minutes) or f) portfolio (30 to 120 hours)
Allocation of places
Additional information
Workload
Teaching cycle
Referred to in LPO I (examination regulations for teaching-degree programmes)
Module appears in
First state examination for the teaching degree Grundschule Biology (2009)
First state examination for the teaching degree Grundschule Didactics in Biology (Primary School) (2009)
First state examination for the teaching degree Hauptschule Biology (2009)
First state examination for the teaching degree Hauptschule Didactics in Biology (Secondary School) (2009) First state examination for the teaching degree Realschule Biology (2009)
First state examination for the teaching degree Gymnasium Biology (2009)
First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Secondary School) (2009)
First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2013)
First state examination for the teaching degree Mittelschule Biology (2013)
First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2013)

Module	e title				Abbreviation
Excursi	ion on 2	Zoology or Botany lasting	g several days		07-LA-EXKURS1-092-m01
Module	e coord	inator		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	on	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
		ulti-day botanical or zool s and animals in German		students will explor	e selected habitats and commu-
Intend	ed lear	ning outcomes			
		amiliar with terrestrial pl ence the composition of t		nunities, their habita	at requirements as well as the fac-
Course	S (type, r	number of weekly contact hours, l	anguage — if other than Gei	rman)	
S + E (r	no infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
module is	s creditab	le for bonus)			ot every semester, information on whether
		oages) or written examina	tion (30 to 90 minute	es)	
Allocat	ion of _l	olaces			
Additio	onal inf	ormation			
Worklo	ad				
Teachi	ng cycl	e			
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	immes)	
Module	e appea	ars in			
First sta First sta First sta First sta	ate exa ate exa ate exa ate exa	mination for the teaching mination for the teaching mination for the teaching	g degree Grundschule g degree Hauptschule g degree Realschule E g degree Gymnasium	e Didactics in Biolog Biology (2009) Biology (2009) Biology (2009)	y (Primary School) (2009)
First sta	ate exa	mination for the teachinន្	g degree Mittelschule	Biology (2013)	

Module title					Abbreviation	
Enviror	nmenta	l Education in the Teac	h'n'LearnGarden		07-GH-FDUBI1A-092	2-m01
Module	e coord	inator		Module offered by		
head o	f group	Didactics of Biology		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
2	(not) s	successfully completed	1			
Duratio	on	Module level	Other prerequisites			
1 semester undergraduate			seminars and lab co of unexcused abser fortnightly courses: completion of the re	Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages)		
Conten	ts					
in child how ou are app tanical in a dic ter" and of a var lop a po engage with gro to plan ence in Intende Familia ge pup spectiv pics fro quence teach'n	This module has a practical focus and will teach participants how to systematically encourage a sense of nature in children and adolescents and thus make a contribution to environmental education. The course will explore how out-of-classroom activities may enhance the learning experience of pupils and will discuss what methods are appropriate. In the practical phase, participants will deliver teaching units to real groups of pupils. In the Bo- tanical Garden of the University (or, optionally, at a school camp), participants will learn how to impart to pupils, in a didactically reduced manner, a knowledge of species and form in the context of the topics "Forest" or "Wa- ter" and will practise their skills. Large parts of the course will also be devoted to the discussion and application of a variety of (open) teaching methods that are supposed to encourage pupils, in a playful atmosphere, to deve- lop a positive attitude and act responsibly towards nature. In this context, participants will systematically try to engage pupils on the emotional level. In the final phase of the course, participants will implement their projects with groups of pupils that come to the teach'n'learn garden (or school camp). This will encourage participants to plan their teaching in a practice-oriented manner and will provide them with an opportunity to acquire experi- ence in their new role as teachers. Intended learning outcomes Familiarity with the principles of environmental education. Familiarity with different factors that may encoura- ge pupils to act responsibly towards nature. Insight into the fundamental scientific principles behind the re- spective topics. Overview of the individual contents of the teaching units to be designed. Ability to translate to- pics from the curriculum for the respective type of school, in a didactically reduced manner, into teaching se- quences, teaching units and lessons on habitats. Knowledge of how out-of-classroom activities (in particular in a teach'n'learn garden) may enhance the learning ex					vill explore at methods ils. In the Bo- art to pupils, est" or "Wa- d application here, to deve- tically try to heir projects articipants quire experi- v encoura- d the re- ranslate to- ching se- particular in a ased lessons
Course	S (type, r	number of weekly contact hour	s, language — if other than Gei	rman)		
Ü + E (r	no infor	mation on SWS (weekl	y contact hours) and co	ourse language availa	able)	
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus) seminar paper (7 to 10 pages) Allocation of places Additional information						
Worklo	ad					
<u> </u>						
LA Mittelsc	hulen Biol	ogy (2013)		enerated 26-Aug-2024 • exam elschulen (Unterrichtsfach) B	-	page 42 / 62

Teaching cycle

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

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Module appears in

First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)

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Module	title				Abbreviation
Neurob	Neurobiology 07-LA-NEUR-092-m01				07-LA-NEUR-092-m01
Module	Ile coordinator Module offered by				
holder	of the O	Chair of Neurobiology and	d Genetics	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semester undergraduate		undergraduate	seminars and lab co of unexcused absen fortnightly courses: completion of the re at the beginning of t	Admission prerequisite to assessment: regular attendance of exercises, seminars and lab courses (weekly courses: a maximum of one incident of unexcused absence and one excused absence for a legitimate reason; fortnightly courses: one incident of unexcused absence) and successful completion of the respective exercises (required percentage as specified at the beginning of the course). The preparation of logs (10 to 15 pages) is an admission prerequisite to assessment.	
Conten	ts				
		ne preparations under th iseases, perform experim			enetic diagrams showing the in-
Intende	ed learr	ning outcomes			
liarity w ledge re	ith the elated f	diversity, efficiency and	structure of the nervo	ous systems of diffe	pread of action potential Fami- rent groups of organisms Know- niliarity with applications of neu-
Courses	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V + Ü (n	infor	mation on SWS (weekly o	contact hours) and co	ourse language avail	able)
		e essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written	examir	nation (approx. 30 minute	es)		
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	e			
· · · · · · · · · · · · · · · · · · ·	Referred to in LPO I (examination regulations for teaching-degree programmes)				
§ 61 (1)	2. Biol	ogie "Physiologie der Pfla	anzen und Tiere"		
Module					
First sta First sta First sta	First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)				

Module	e title				Abbreviation
Superv	ising T	utorial for Biology 1			07-LA-TUSB1-092-m01
Module	Module coordinator Module offered by				
degree	progra	mme coordinator Biologi	e (Biology)	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
ters. Th re unive	ey will ersity e	help students organise t	heir teaching placem students, they will de	ents and will help th velop strategies to d	anisational and personal mat- em plan and structure their enti- letect and fill gaps in their know- s.
Intende	ed learn	ning outcomes			
ence su interpe ve learr	ipervisi rsonal ned to p	ing a group and helping s skills and know how to s	students with person hare 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
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
T (no in	format	ion on SWS (weekly cont	act hours) and course	e language available)
		s essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
present	tation p	oortfolio (approx. 60 hou	rs total)		
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	е			
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	appea	irs in			
		mination for the teaching			
		mination for the teaching			
		mination for the teaching			
		mination for the teaching mination for the teaching			
11151 510	ite ekd		, degree millerschule	Didiogy (2013)	

Module title Abbreviation						
Biologi	cal Rhetorics and Communica	tion		07-LA-RHET-092-mo	01	
Module	coordinator		Module offered by			
Coordir	nator BioCareers		Faculty of Biology			
ECTS	Method of grading	Only after succ. con	npl. of module(s)			
4	(not) successfully completed					
Duratio	n Module level	Other prerequisites	i			
1 semes	ster undergraduate					
Conten	ts					
will con discuss with est	This lecture will acquaint teaching degree students with the basic guidelines for teaching topics in biology and will contrast basic rules of rhetoric and communication with biological behaviour. In addition, the lecture will discuss a variety of approaches to explaining personality, character and temperament and will contrast these with established biological models. The lecture will also explain the biological bases of thought and feeling as well as the causes of differences in motivation, in particular with regard to the development of personal skills.					
Intende	ed learning outcomes					
lity asse	ts are familiar with the fundan essment models are based on ork. In addition, students have	. They are familiar with	n methodical approa	ches to conflict man	agement and	
Courses	S (type, number of weekly contact hours	, language — if other than Ge	rman)			
compor • 0						
	l of assessment (type, scope, lange creditable for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether	
low. Un vidual a Assess • 3 • w	ment in this module comprises less stated otherwise, success assessments. ment in module component o ECTS, Method of grading: (not rritten examination (approx. 49	sful completion of the 7-LA-RHET-1-092: Basi () successfully comple () to 60 minutes) incluc	module will require s cs and Possibilities o ted ding multiple choice	successful completion of Communication questions	on of all indi-	
Assess cation"	ment in module component o;	-LA-RHEI-2-092: Spee	cial lopics on "Basic	s and Possibilities o	f Communi-	
• 1	ECTS, Method of grading: (not) presentation (approx. 20 mir					
Allocati	ion of places		· ·			
Additio	nal information					
Workload						
Teachir	ng cycle					
Referre	d to in LPO I (examination regulation	ns for teaching-degree progra	ammes)			
Module	appears in					
A Mitteleck	nulen Biology (2013)	IMII Würzburg • g	enerated 26-Aug-2024 • exam	reg data re-	page 46 / 62	
_ milleloll			elschulen (Unterrichtsfach) B		page 40 / 02	

First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009) First state examination for the teaching degree Mittelschule Biology (2013)

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Module		tics in Biology: Preparati	ion for the Written Ex	.		
				dill	07-LA-FDSTX-092-m	101
hoad of	Module coordinator			Module offered by		
head of group Didactics of Biology				Faculty of Biology		
		od of grading	Only after succ. com	· -·		
			Only after succ. con			
	· · ·	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 semes	ster	undergraduate	Admission prerequis seminars and lab co of unexcused absen fortnightly courses: completion of the re at the beginning of t	urses (weekly cours ce and one excused one incident of une spective exercises (absence for a legitin (cused absence) and	ne incident mate reason; I successful
Content	s					
topics in The first topic in	n biolo t block the bio	vill provide students pre gy didactics. In small tea will discuss an area of t ology classroom with res e course, students will s	ams, students will pre he theory of biology d pect to aspects of the	pare and deliver pre idactics, this will be scientific discipline	esentations on three followed by the disc e and a didactic anal	key areas. cussion of a
Intende	d learr	ning outcomes				
- Ability wers to	to solv questi	f what types of problems /e an exam paper within ons. umber of weekly contact hours,	the specified time fra	me Ability to gaug		
					-)	
		ion on SWS (weekly cont				
		essment (type, scope, langua le for bonus)	age — if other than German, e	examination offered — if no	ot every semester, informati	on on whether
seminar	r papei	r (7 to 10 pages)				
Allocati	on of p	olaces				
Additio	nal info	ormation				
World	a d					
Workloa	au					
Teachin	ig cycl	9				
Referred	d to in	LPOI (examination regulation	s for teaching-degree progra	mmes)		
Module appears in						
		mination for the teaching	g degree Grundschule	Biology (2009)		
		mination for the teaching			y (Primary School) (2	009)
		mination for the teaching		•		-
		mination for the teaching	,		y (Secondary School)	(2009)
			,			-
First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Gymnasium Biology (2009)						
First sta	First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Secondary School) (2009)					
First sta			,			-
First sta	te exa	mination for the teaching	g degree Sonderpäda		iology (Middle Schoo	-





First state examination for the teaching degree Mittelschule Biology (2013) First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2013)

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	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	1

Module	e title				Abbreviation	
Specia	l Didac	tics in Biology: Health E	lucation		07-LA-FDGES-092-1	m01
Module	e coord	inator		Module offered by		
head o	f group	Didactics of Biology		Faculty of Biology		
ECTS	<u> </u>	od of grading	Only after succ. com	, , ,		
2	1	successfully completed				
Duratio		Module level	Other prerequisites			
1 seme	ster	undergraduate	Admission prerequine seminars and lab co of unexcused absen fortnightly courses: completion of the re at the beginning of t	urses (weekly cours ce and one excused one incident of une spective exercises (es: a maximum of o absence for a legiti ccused absence) and	ne incident mate reason; d successful
Conten	ts					
exercis to deve bits. Th and on or self-o plemen Intende Mowle may he and cur sary to late top reduced vention respect	e and v eloping nese un going h efficacy nt these ed learn edge on elp expl rrent ap teach t bics in t d manr n progra	iscuss the topics drugs a vill focus on different con teaching units tailored t its will be aimed at chan realth education. At the of pupils) as well as me e measures and will also ning outcomes the emergence and type ain why children and ad oproaches to the prevent opics in health educatio the area of health educatio the area of health educatio and the taught over up of pupils. Ability to in number of weekly contact hours,	ntents and skills each o the respective type ging and preventing us ame time, we will exp easures related to spectake interdisciplinary es of typical health-im plescents adopt typication of specific behavion n. Insight into the scie- tion from the curriculu- neces, teaching units a the course of one sch plement measures to	semester. Large pa of school that encou unhealthy habits as olore general measu cific topics in both t aspects into accoun pairing conditions. al health-impairing l ours. Subject-specifient entific principles below in for the respective nd lessons. Ability to ool year, that is tailed o support the person	rts of the course will arage pupils to adop well as promoting co res (e. g. raising the heory and practice. nt. Insight into selected behaviours. Overvier fic and didactic know hind these topics. A e type of school, in a o design an interdis- pred to the type of school	be devoted t healthy ha- omprehensive self-esteem We will im- U theories that w of older wledge neces- bility to trans- didactically ciplinary pre- chool and the
		ion on SWS (weekly con			e)	
Methoo module is	d of ass s creditab ar pape	sessment (type, scope, langua le for bonus) r (7 to 10 pages)				ion on whether
Additio	onal info	ormation				
Worklo	ad					
			-			
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
LA Mittelsc	hulen Biol	ogy (2013)		enerated 26-Aug-2024 • exan elschulen (Unterrichtsfach) B	-	page 50 / 62

Module appears in

First state examination for the teaching degree Grundschule Biology (2009)

First state examination for the teaching degree Grundschule Didactics in Biology (Primary School) (2009) First state examination for the teaching degree Hauptschule Biology (2009)

First state examination for the teaching degree Hauptschule Didactics in Biology (Secondary School) (2009) First state examination for the teaching degree Realschule Biology (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Secondary School) (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2013) First state examination for the teaching degree Mittelschule Biology (2013)

First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2013)

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	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	

Module title				Abbreviation			
Advan	ced Did	actics in Biology			07-GS-FDSOV-092-m01		
Modu	le coord	inator		Module offered by			
head o	of group	Didactics of Biology		Faculty of Biology			
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)			
5	(not) s	successfully completed					
Duration Module level		Other prerequisites	Other prerequisites				
1 sem	ester	undergraduate	seminars and lab co of unexcused abser fortnightly courses:	ourses (weekly cours ace and one excused one incident of unex espective exercises (regular attendance of exercises, es: a maximum of one incident absence for a legitimate reason; ccused absence) and successful required percentage as specified		
Conte	Contents						
mals a tify typ specti to dev develo	This module will explore the topic "out-of-classroom learning environments in <i>Grundschule</i> " in more detail, focu- sing on water and forest habitats during the autumn (and winter) months. It will, for example, discuss how ani- mals and plants adapt to the temperatures experienced during the cold months of the year. Students will iden- tify typical indicator species of a lentic water body, using identification aids that are suitable for pupils in the re- spective type of school. They will also perform a chemical water analysis. In a forest habitat, students will learn to develop activity and problem-based lessons on this topic, lessons that are tailored to their target group and develop their pupils' affective, methodological and cognitive skills. Particular emphasis will be placed on encou- raging an awareness of the need for environmental protection in pupils.						
Intend	led lear	ning outcomes					
differe found sight i ronme	ent zone in these nto met	s lentic water bodies co e zones. Ability to prepa hods for chemical wate stection to be delivered	onsist of and familiarity are field guides tailored r analysis. Ability to de	y with selected repre d to the needs of the evelop activity-based	nmental factors. Overview of the sentatives of plants typically respective group of pupils. In- , multisensory lessons on envi- ent "Forest" that are tailored to		
Cours	es (type, r	number of weekly contact hours	s, language — if other than Ge	rman)			
E + S (no infor	mation on SWS (weekly	y contact hours) and co	ourse language availa	able)		
		sessment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, information on whether		
a) sen	ninar pa	per (17 to 20 pages), b)	portfolio (approx. 90 ł	nours)			
Alloca	tion of j	olaces					
Additi	onal inf	ormation					
Workl	oad						
Teach	ing cycl	e					
Referr	Referred to in LPO I (examination regulations for teaching-degree programmes)						
§ 36 (:	ı) 7. Did	aktik der Grundschule I	Biologie				
Modu	le appea	ars in					
		mination for the teachi mination for the teachi			ı (Primary School) (2009)		
LA Mittels	chulen Bio	logy (2013)		enerated 26-Aug-2024 • exan elschulen (Unterrichtsfach) B			

First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Hauptschule Didactics in Biology (Secondary School) (2009) First state examination for the teaching degree Realschule Biology (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Secondary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2003) First state examination for the teaching degree Mittelschule Biology (2013)

First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2013)

LA Mittelschulen Biology (2013)	JMU Würzburg • generated 26-Aug-2024 • exam. reg. data re-	page 53 / 62
	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	

Module title				Abbreviation
Special Dida	actics in Biology: Learning	Places outside Scho	ol 2	07-GH-FDASL2-092-m01
Module coo	rdinator		Module offered by	
head of grou	p Didactics of Biology		Faculty of Biology	
	hod of grading	Only after succ. con		
2 (not) successfully completed			
Duration	Module level	Other prerequisites		
1 semester	undergraduate			
Contents	-			
lab. Having rate these ir important te	gained an overview of trad to school-specific experim	itional and modern m ients. Students will p	ethods in biology, p repare classroom an	are performed in a teach'n'learn articipants will learn to incorpo- d lab sessions, will be trained in se teaching these sessions to pu-
Intended lea	rning outcomes			
ments. Abili how sessior and current may be inco	ty to prepare sessions in a is in the teach'n'learn lab i topics in biology in particu	teach'n'learn lab and may raise the pupils' lar. Knowledge of how	d perform the respect level of motivation a w out-of-classroom s	-classroom learning environ- tive follow-up work. Insight into nd interest in biology in general essions in the teach'n'learn lab for evaluating the cognitive lear-
Courses (type	, number of weekly contact hours,	language — if other than Ger	rman)	
S + Ü (no inf	ormation on SWS (weekly	contact hours) and co	ourse language avail	able)
Method of a module is credit		age — if other than German, o	examination offered — if no	t every semester, information on whether
seminar pap	er (7 to 10 pages)			
Allocation o	fplaces			
Additional i	nformation			
Workload				
Teaching cy	cle			
Referred to	n LPO I (examination regulation	s for teaching-degree progra	mmes)	
			/	
Module appears in				
First state examination for the teaching degree Grundschule Biology (2009)				
First state examination for the teaching degree Grundschule Didactics in Biology (Primary School) (2009) First state examination for the teaching degree Hauptschule Biology (2009) First state examination for the teaching degree Hauptschule Didactics in Biology (Secondary School) (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Secondary School) (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2013) First state examination for the teaching degree Mittelschule Biology (2013) First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2013)				

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	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	

Module	e title				Abbreviation	
Special	Didac	tics in Biology: Motivatio	on and Discipline in B	iology Education	07-LA-FDDIS-092-m01	
Module	e coord	inator		Module offered by		
head of	fgroup	Didactics of Biology		Faculty of Biology		
ECTS	ECTS Method of grading Only after succ. co			pl. of module(s)		
2	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate	seminars and lab co of unexcused absen fortnightly courses:	urses (weekly cours ce and one excused one incident of unex spective exercises (regular attendance of exercises ses: a maximum of one incident l absence for a legitimate reason xcused absence) and successfu (required percentage as specifie	
Contents						
In this of vent cla act. We ternal a tions: <i>E</i> <i>ordnum</i> LDO) as <i>Gymna</i> you wit we will Intende	context assroor will di authorit Bayerise g für Le s well a sien/Ve h a ran focus o ed learn wo of th	, you will find out what y n disruptions before the scuss the use of reinforc ties, head teachers and p ches Gesetz über das Erz ehrkräfte an staatlichen S s Schulordnung für die O olksschulen/Realschulen ge of methods for design on discussing and workin ning outcomes te duties and responsibil	ou have to do before y occur. We will also r ements and repriman parents. You will also <i>iehungs- und Unterrio</i> <i>Schulen in Bayern</i> (Re <i>Gymnasien/Volksschu</i> in Bavaria, GSO/VSC ning lessons for the bing on open methods f	the school year star eflect on how the wa ds, disciplinary mea acquire an insight ir chtswesen (Bavarian gulations for Teache len/Realschulen in I D/RSO). The second iology classroom of or teaching biology.	e pupils and prevent disruption ts and what you can do to pre- ay we act affects the way pupils asures and the involvement of e nto the following acts and regula be Education Act, BayEUG), <i>Diens</i> ers at State Schools in Bavaria, <i>Bayern</i> (Regulations Governing part of the seminar will acquain the 21st century. In this context	
		otion Overview of disci	•	,		
		number of weekly contact hours,				
S (no ir	format	ion on SWS (weekly con	tact hours) and cours	e language available	e)	
module is	creditab	le for bonus)	age — if other than German, e	examination offered — if no	ot every semester, information on whether	
	<u> </u>	r (7 to 10 pages)				
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Worklo	ad					
Teachi	ıg cycl	e				
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
LA Mittelsc	hulen Biol	ogy (2013)		enerated 26-Aug-2024 • examples of the second secon		
			cora Lenramt Mitte	elschulen (Unterrichtsfach) B	DIVIUSIE - 2013	

Module appears in

First state examination for the teaching degree Grundschule Biology (2009)

First state examination for the teaching degree Grundschule Didactics in Biology (Primary School) (2009) First state examination for the teaching degree Hauptschule Biology (2009)

First state examination for the teaching degree Hauptschule Didactics in Biology (Secondary School) (2009) First state examination for the teaching degree Realschule Biology (2009)

First state examination for the teaching degree Gymnasium Biology (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Secondary School) (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2013) First state examination for the teaching degree Mittelschule Biology (2013)

First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2013)

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	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	

Module title				Abbreviation	
Supervising Tutorial for Biology 2					07-LA-TUSB2-092-m01
Module	Module coordinator			Module offered by	
degree	degree programme coordinator Biologie (Biology)			Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
4	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 seme	ster	undergraduate			
Conten	ts				
ters. Th re unive	ey will ersity e	help students organise t	heir teaching placem students, they will de	ents and will help th velop strategies to d	anisational and personal mat- em plan and structure their enti- letect and fill gaps in their know- s.
Intende	ed learn	ning outcomes			
ence su interpe ve learr	ipervisi rsonal ned to p	ing a group and helping s skills and know how to s	students with person hare 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
Course	S (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
T (no in	format	ion on SWS (weekly cont	act hours) and course	e language available)
		e essment (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
present	tation p	oortfolio (approx. 90 hou	rs total)		
Allocat	ion of p	olaces			
Additio	nal info	ormation			
Worklo	ad				
Teachir	ng cycl	9			
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)				
Module appears in					
	First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Hauptschule Biology (2009)				
		mination for the teaching			
		mination for the teaching	-		
First sta	First state examination for the teaching degree Mittelschule Biology (2013)				

Module title Abbreviation					Abbreviation
Supervi	sing T	utorial for Basic Courses	in Biology 3		07-LA-TUFB3-092-m01
Module	coord	inator		Module offered by	
degree p	orogra	mme coordinator Biologi	e (Biology)	Faculty of Biology	
ECTS	Metho	od of grading	Only after succ. com	npl. of module(s)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ter	undergraduate			
Content	S				
<i>gy</i>) I thre help stu sessme ledge. T	ough II Idents nts. Th utors v	II in particular. Tutors wil improve upon their unde ey will correct exercises, will support other studen	l identify the key sub rstanding of materia will discuss these wi	ject-specific concept l, consolidate their k ith students and will	emeine Biologie (General Biolo- ts covered in the lectures and will nowledge and prepare for as- help them fill gaps in their know- s.
Intende	d learr	ning outcomes			
ence su stions a	pervisi nd exp	ing a group. Having acqu	ired the background	knowledge needed t	way. They have gained experi- to be able to answer specific que- ubject-specific skills. They have
Courses	(type, n	umber of weekly contact hours, l	anguage — if other than Ger	rman)	
T (no inf	ormat	ion on SWS (weekly cont	act hours) and course	e language available)
			ge — if other than German, e	examination offered — if no	t every semester, information on whether
		le for bonus)			
		eports (approx. 120 hour	's total)		
Allocati	on of p	olaces			
Addition	nal info	ormation			
Workloa	d				
Teachin	g cycl	9			
Referred	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
Module	appea	in in			
First sta	te exa	mination for the teaching	degree Grundschule	e Biology (2009)	
		mination for the teaching			
		mination for the teaching			
		mination for the teaching			
First sta	te exa	mination for the teaching	gaegree Mittelschule	BIOlOgy (2013)	

LA Mittelschulen Biology (2	2013)
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ModuledegreeprECTS4Quration	ng Tutorial for Basic oordinator ogramme coordinat lethod of grading not) successfully cor		in Biology 2		07-LA-TUFB2-092-m01	
degreeprECTSM4(rDuration	ogramme coordinat Iethod of grading	or Biologi			· ·	
ECTS N 4 (t Duration	Nethod of grading	or Biologi	Module coordinator Module offered b			
4 (t Duration			e (Biology)	Faculty of Biology		
Duration	not) successfully cor		Only after succ. com	pl. of module(s)		
Duration		npleted				
1. comost	Module level		Other prerequisites	es		
1 semeste	er undergraduate	<u>;</u>				
Contents	1 0		<u>.</u>			
three in p dents imp They will tors will s	articular. Tutors will prove upon their unc correct exercises, wi upport other studer	identify t lerstandir Il discuss	he key subject-specil ng of material, consol	ic concepts covered idate their knowledg and will help them f	pleted in semesters one through in the lectures and will help stu- ge and prepare for assessments. ill gaps in their knowledge. Tu-	
Intended	learning outcomes					
ence sup stions an enhanced	ervising a group. Ha d explain material ir d their teaching skill	ving acqu ı detail, th s.	ired the background ne tutors have also er	knowledge needed t hanced their own si	way. They have gained experi- to be able to answer specific que- ubject-specific skills. They have	
			anguage — if other than Ger			
			act hours) and course			
		cope, langua	ge — if other than German, e	examination offered — if no	ot every semester, information on whether	
	editable for bonus) and reports (approx.	oo hours	total)			
·	n of places	90 110015				
Allocatio	n of places					
Additions	al information					
Additiona						
Workload	1					
	•					
Teaching	cycle					
	.,					
Referred to in LPO I (examination regulations for teaching-degree programmes)						
		in regulation:				
Module a	ppears in					
First state First state First state First state	e examination for the examination for the examination for the examination for the	e teaching e teaching e teaching	g degree Grundschule g degree Hauptschule g degree Realschule E g degree Gymnasium g degree Mittelschule	Biology (2009) Biology (2009) Biology (2009)		

LA Mittelschulen B	iology (2013)
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Thesis

(10 ECTS credits)

Preparation of a written Hausarbeit (thesis) in accordance with the provisions of Section 29 LPO I (examination regulations for teaching-degree programmes) is a prerequisite for teaching degree students to be admitted to the Erste Staatsprüfung (First State Examination). In accordance with the provisions of Section 29 LPO I, students studying for a teaching degree Mittelschule may write this thesis in the subject Didaktik einer Fächergruppe der Mittelschule (Didactics of a Group of Subjects of Mittelschule), in the subject they selected as Unterrichtsfach (subject studied with a focus on the scientific discipline) or in the subject Erziehungswissenschaften (Educational Science). Pursuant to Section 29 Subsection 1 Sentence 2 LPO I, students may also choose to write an interdisciplinary thesis.

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	cord Lehramt Mittelschulen (Unterrichtsfach) Biologie - 2013	

Module	e title				Abbreviation	
Thesis	in Biole	ogy			07-HS-UF-HA-092-m	01
Module	e coord	inator		Module offered by		
Dean o	f Studie	es Biologie (Biology)		Faculty of Biology		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
10	nume	rical grade				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
studiec subject	l with a t discip	uing a teaching degree <i>F</i> focus on the scientific d line of biology. Within a he necessary methods.	iscipline) may write t	heir Hausarbeit (thes	sis) in biology didacti	ics or in a
Intende	ed learr	ning outcomes				
didacti	c or sci	be able to address a defi entific methods appropr n this thesis, students w	iate to the respective	topic. They will prese	ent their findings in a	written the-
Course	S (type, n	umber of weekly contact hours,	language — if other than Ger	man)		
compo • 0	nent. 7-HS-U	omprises 2 module com F-HA-1-092: no courses a F-HA-2-092: no courses	assigned	on courses will be li	sted separately for ea	ach module
		essment (type, scope, languate le for bonus)	ge — if other than German, o	examination offered — if no	t every semester, informatic	on on whether
	less st	n this module comprises ated otherwise, success ments.				
• 1 • w Assess • 1	o ECTS ritten t ment ir o ECTS	n module component o7- , Method of grading: nun chesis (30 to 50 pages) n module component o7- , Method of grading: nun chesis (30 to 50 pages)	nerical grade HS-UF-HA-2-092: The			
Allocat	ion of p	olaces				
Additio	nal info	ormation				
Additio	nal info	ormation on module dura	ation: 1 to 2 semester	s.		
Workload						
Teachi	ng cycl	e				
Referred to in LPO I (examination regulations for teaching-degree programmes)						
Module appears in						
		mination for the teaching	g degree Hauptschule	Biology (2009)		
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