

# Module Catalogue

for the Subject

## Mathematics

as Unterrichtsfach

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

> Examination regulations version: 2013 Responsible: Institute of Mathematics

JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record L7/105/-/-/H/2013

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### The subject is divided into

section / sub-section	ECTS credits	starting page
Scientific Discipline	54	5
Compulsory Courses	54	6
Teaching	12	15
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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 (2014-53)

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.





### Scientific Discipline

(54 ECTS credits)

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	cord Lehramt Mittelschulen (Unterrichtsfach) Mathematik - 2013





### **Compulsory Courses**

(54 ECTS credits)

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	cord Lehramt Mittelschulen (Unterrichtsfach) Mathematik - 2013	

Module title Abbreviation			Abbreviation		
Elementary Mathematics 1 (German Grundschule/Hauptschule/Realschule) 10-M-EL1-092-mo1				10-M-EL1-092-m01	
Module coordinator			Module offered by		
Dean o	fStudi	es Mathematik (Mathen	natics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	
7	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
1 semester undergraduate		Certain prerequisites must be met to qualify for admission to as- sessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be con- sidered a declaration of will to seek admission to assessment. If stu- dents have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for as- sessment into effect. Students who meet all prerequisites will be admit- ted to assessment in the current or in the subsequent semester. For as- sessment at a later date, students will have to obtain the qualification for admission to assessment anew			
Conten	ts				
Introdu tics, ba	ction to sic top	o fundamental techniqu ics in elementary numb	ues in mathematics. Appendix the structure of the structu	pproach to the numb cture of the number s	er as a basic theme in mathema- system.
Intende	ed learı	ning outcomes			
The stu matical the stru	ident ki l proof ucture c	nows the basic ways of methods. He/She is ab of the number system.	thinking and working i le to apply these skills	n mathematics, as w to basic problems ir	vell as the fundamental mathe- n the fields of number theory and
Course	<b>S</b> (type, n	umber of weekly contact hours	, language — if other than Gei	rman)	
V + Ü (r	no infor	mation on SWS (weekly	y contact hours) and co	ourse language avail	able)
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
written examination (approx. 120 minutes); if announced by the lecturer, the written examination can be repla- ced by an oral examination of one candidate each (approx. 15 minutes) or an oral examination in groups (groups of 2: approx. 20 minutes, groups of 3: approx. 30 minutes) or by a written and/or multi-media portfolio (as an- nounced)				tten examination can be repla- al examination in groups (groups r multi-media portfolio (as an-	
Allocation of places					
Additio	nal inf	ormation			
Worklo	ad				
Teachi	ng cycl	9			
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)				
§ 51 (1)	3. Mat	hematik Elementare Za	hlentheorie, Elementa	re Stochastik, Eleme	ntargeometrie
Module	e appea	ITS IN	ag dagraa Crundaahula	Mathamatics (ass	
First sta	FIRST STATE examination for the teaching degree Hauntschule Mathematics (2009)				)
First sta	First state examination for the teaching degree Realschule Mathematics (2009)				
First sta	ate exa	mination for the teaching	ng degree Mittelschule	Mathematics (2013)	
LA Mittelsc	hulen Mat	hematics (2013)	JMU Würzburg • ge cord Lehramt Mittel	enerated 26-Aug-2024 • exam schulen (Unterrichtsfach) Mat	n. reg. data re- page 7 / 34 thematik - 2013

Module title		Abbreviation			
Elementary Mathematics 2 (German Grundschule/Hauptschule/Realschule)		10-M-EL2-092-m01			
Module	coordi	nator		Module offered by	
Dean of	Studie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
11	numer	rical grade			
Duratior	n	Module level	Other prerequisites		
2 semes	ster	undergraduate			
Content	S				
Introduc an geom	ction to netry a	o fundamental and advar s well as stochastics.	nced techniques in m	athematics. Basic to	pics in elementary and Euclide-
Intende	d learn	ing outcomes			
The stud matical and eler	dent kr proof r mentar	nows the basic ways of th methods. He/She is able y stochastics.	iinking and working i to apply these skills	n mathematics, as w to basic problems ir	vell as the fundamental mathe- n the fields of Euclidean geometry
Courses	(type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
compon	ent. o-M-EL2 o-M-EL2 o-M-EL2	2-P-092: M (no informatio 2-1-092: V + Ü (no inform 2-2-092: V + Ü (no inform	on on SWS (weekly co ation on SWS (weekly ation on SWS (weekly	ontact hours) and co y contact hours) and y contact hours) and	urse language available) course language available) l course language available)
Method module is of Assessm	of ass creditabl nent in	essment (type, scope, langua le for bonus) this module comprises	ge — if other than German, e the assessments in th	examination offered — if no	t every semester, information on whether e components as specified be-
<ul> <li>Assessment in module component 10-M-EL2-P-092: Elementary Mathematics 2 (German Grundschule/Haupt-schule/Realschule)</li> <li>1 ECTS, Method of grading: numerical grade</li> <li>written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2: approx. 30 minutes, groups of 3: approx. 45 minutes) or by a written and/or multi-media portfolio (as announced)</li> <li>Only after successful completion of module components: Successful completion of the two module components 10-M-EL2-1 and 10-M-EL2-2 is a prerequisite for participation in module component 10-M-EL2-P.</li> <li>Assessment in module component 10-M-EL2-1-092: Elementary Mathematics 2: Geometry (German Grundschule/Hauptschule/Realschule)</li> <li>6 ECTS, Method of grading: (not) successfully completed</li> <li>exercises: At the beginning of the course, the lecturer will specify the type and scope of exercises to be successfully completed.</li> <li>Assessment in module component 10-M-EL2-2-092: Elementary Mathematics 2: Stochastics (German Grundschule/Hauptschule/Realschule)</li> <li>6 ECTS, Method of grading: (not) Successfully completed</li> <li>exercises: At the beginning of the course of the semester for the module component to be considered successfully completed.</li> </ul>			(German Grundschule/Haupt- he written examination can be ites) or an oral examination in s) or by a written and/or mul- oletion of the two module com- odule component 10-M-EL2-P. Geometry (German Grundschu- ndschule/Hauptschule/Real- ype and scope of exercises to e component to be considered e Stochastics (German Grund- an Grundschule/Hauptschu-		
• 4 l • ex be su	ECTS, I kercise e succe uccessi	Method of grading: (not) s: At the beginning of th essfully completed over t fully completed.	successfully complet ne course, the lecture he course of the sem	ed er will specify the ty ester for the module	pe and scope of exercises to e component to be considered

#### Additional information

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#### Workload

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#### Teaching cycle

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

§ 51 (1) 3. Mathematik Elementare Zahlentheorie, Elementare Stochastik, Elementargeometrie

#### Module appears in

First state examination for the teaching degree Grundschule Mathematics (2009) First state examination for the teaching degree Hauptschule Mathematics (2009) First state examination for the teaching degree Realschule Mathematics (2009)

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

Module title			Abbreviation			
Basics in Mathematics (German Grundschule/Hauptschule/Gym		/Gymnasium)	10-M-M1GHR-092-n	101		
Module	e coord	inator		Module offered by		
Dean o	f Studi	es Mathematik (Mathe	matics)	Institute of Mathem	natics	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
15	nume	rical grade				
Duratio	on	Module level	Other prerequisites	5		
2 seme	ster	undergraduate				
Conten	ts					
Introdu	iction t	o the two most importa	int basic fields of math	ematics: linear algeb	ora and analysis.	
Intende	ed lear	ning outcomes				
The stu is able orally a and lin	Idents i to com Ind in v ear alg	is acquainted with the prehend the central pr vritten form. He/She ca ebra to solve them.	basic methods, concer oof methods, can perfo In analyse basic mathe	ots and results in ana orm easy mathematic matical problems an	alysis and linear alge cal arguments and p d employ methods o	bra. He/She resent them of analysis
Course	<b>S</b> (type, r	number of weekly contact hour	s, language — if other than Ge	rman)		
This mo compo • 1 • 1	<ul> <li>This module comprises 3 module components. Information on courses will be listed separately for each module component.</li> <li>10-M-M1GHR-P-092: M (no information on SWS (weekly contact hours) and course language available)</li> <li>10-M-M1GHR-1-092: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> </ul>					
Metho module is	Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)					
low. Ur vidual a Assess schule, • 1 • w rr g ti • C p Assess schule, le/Gym • 8 • e b s Schule, • 6 • e b s schule, • 6 • 1	ment in /Gymma ECTS, vritten of eplaced roups i-media Daly aft ponents A-M1GH ment in /Haupt masium ECTS, exercise of succ success ment in rundsch /Haupt je ECTS, exercise of succ success ment is rundsch /Haupt je ECTS, exercise of succ success ment is rundsch /Haupt	ated otherwise, succes ments. <b>n module component 1</b> asium) Method of grading: nui examination (approx. 1 d by an oral examinati (groups of 2: approx. 2 a portfolio (as announce er successful completions to -M-M1GHR-1 and 100 IR-P. <b>n module component 1</b> schule/Gymnasium) B n) Method of grading: (not ess: At the beginning of essfully completed over fully completed. <b>n module component 1</b> nule/Hauptschule/Gym schule/Gymnasium) Method of grading: (not ess: At the beginning of ess: At the beginning of essfully completed over fully completed.	o-M-M1GHR-P-092: Ba merical grade 20 minutes); if announ on of one candidate ea 5 minutes, groups of 3 ed) on of module compone o-M-M1GHR-2 is a prefe asics in Mathematics - ot) successfully comple the course, the lecture or the course of the sen o-M-M1GHR-2-092: Ba anasium) Basics in Mat ot) successfully comple the course, the lecture of the course, the lecture of successfully comple	module will require s sics in Mathematics ced by the lecturer, t ach (approx. 30 minute at approx. 60 minute nts: Successful comp equisite for participat sics in Mathematics Linear Algebra (Germ ated frer will specify the ty nester for the module sics in Mathematics thematics - Analysis i ated frer will specify the ty nester for the module	successful completion (German Grundschu the written examination tes) or an oral examples) or by a written ar poletion of the two mo tion in module completion in module completion - Linear Algebra (German Grundschule/Ha ype and scope of ex e component to be c - Analysis in one Variable (Germ in one Variable (German) ype and scope of ex e component to be c	on of all indi- le/Haupt- ion can be nination in nd/or mul- odule com- oonent 10- man Grund- uptschu- eercises to onsidered riable (Ger- nan Grund- eercises to onsidered
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#### Additional information

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#### Workload

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#### Teaching cycle

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

§ 51 (1) 1. Mathematik Differential- und Integralrechnung, Gewöhnliche Differentialgleichungen

§ 51 (1) 2. Mathematik Lineare Algebra und Analytische Geometrie

#### Module appears in

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

LA Mittelschulen Mathematics (2013)

Module title		Abbreviation			
Advances in Mathematics (German Grundschule/Hauptschu		ule/Realschule)	10-M-M2GHR-092-m01		
Module	e coord	inator		Module offered by	
Dean o	fStudi	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
18	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
3 seme	ster	undergraduate			
Conten	ts				
Advanc metry; tion of	ed top extensi methoo	ics in the two most impor on of analysis from one t Is of analysis and linear a	tant fields of mathen o several variables, b algebra in this field.	natics: applications pasics in ordinary dif	of linear algebra in analytic geo- ferential equations and applica-
Intende	ed leari	ning outcomes			
try, as well as in analysis in several variables and the theory of ordinary differential equations. He/She is able to comprehend the central proof methods, can perform easy mathematical arguments and present them orally and in written form. He/She can analyse basic mathematical problems and employ methods of analysis in one and several variables, linear algebra, analytic geometry and the theory of ordinary differential equations to solve them. <b>Courses</b> (type, number of weekly contact hours, language – if other than German) This module has 4 components; information on courses listed separately for each component. <ul> <li>10-M-M2GHR-P-092: M (no information on language and number of weekly contact hours available)</li> <li>10-M-M2GHR-1-092, 10-M-M2GHR-2-092, and 10-M-M2GHR-3-092: V + Ü (no information on language and</li> </ul>					
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether         madula is straditable for bonue)					
This mo these a	This module has the following 4 assessment components. Unless stated otherwise, students must pass all of these assessment components to pass the module as a whole.				ise, students must pass all of
Assess schule) 1 w b ir ti C b M Assess (Grund- schule gen (Gr and Real (Grund- Realsch	ment in (Assess ECTS c vritten o e repla mertia only aft e taken 12GHR- ment in -, Haup and Re und-, F alschul -, Haup nule) :	<b>n module component 10-</b> ssment Advanced Mather redit, numerical grading examination (approx. 120 iced by an oral examination (groups of 2: approx. 4 portfolio (as announced er successful completion n by students who succes 2 and 10-M-M2GHR-3. <b>n module component 10-</b> bt- und Realschule) (Adva alschule), <b>in module comp</b> taupt- und Realschule) (Adva e), and <b>in module comp</b>	M-M2GHR-P-092: Auf matics, Grundschule, o minutes); if annour ion of one candidate 5 minutes, groups of ). n of module compone ssfully completed the M-M2GHR-1-092: Auf mced Mathematics - A ponent 10-M-M2GHR-3 nced Mathematics - D	fbau Mathematik - P Hauptschule and Re need by the lecturer, each (approx. 30 mi 3: approx. 60 minuto ents: Module compo e three module comp bau Mathematik - An Analysis in Several V <b>R-3-092:</b> Aufbau Mathe o Differential Equations	rüfung (Grund-, Haupt- und Real- ealschule) , the written examination may inutes) or an oral examination es) or by a written and/or mul- onent 10-M-M2GHR-P can only conents 10-M-M2GHR-1, 10-M- nalysis in mehreren Variablen /ariables, Grundschule, Haupt- chematik - Differentialgleichun- tions, Grundschule, Hauptschule ematik - Differentialgleichungen s, Grundschule, Hauptschule and
• 5 • e b	e success	essfully completed.	he course, the lecture he course of the sem	er will specify the ty ester for the module	pe and scope of exercises to component to be considered

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#### Additional information

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#### Workload

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#### Teaching cycle

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

§ 51 (1) 1. Mathematik Differential- und Integralrechnung, Gewöhnliche Differentialgleichungen

§ 51 (1) 2. Mathematik Lineare Algebra und Analytische Geometrie

#### Module appears in

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

LA Mittelschulen Mathematics (2013)

Module title				Abbreviation	
Revision Course in Mathematics (German Grundschule um)			an Grundschule/Hau	ptschule/Gymnasi-	10-M-M3GHR-092-m01
Module	e coord	inator		Module offered by	
Dean of	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	atics
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	Certain prerequisites must be met to qualify for admission to as- sessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be con- sidered a declaration of will to seek admission to assessment. If stu- dents have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for as- sessment into effect. Students who meet all prerequisites will be admit- ted to assessment in the current or in the subsequent semester. For as- sessment at a later date, students will have to obtain the qualification for		
Conten	ts				
Revisio cises a	n and o nd ans	consolidation of the topic wering past state examin	s covered in modules ation questions.	s 10-M-M1GHR and 1	o-M-M2GHR by completing exer-
Intende	ed lear	ning outcomes			
The stu prograr	dent h nmes),	as advanced knowledge §51 (2) 1, 2, and is able t	in the topics stated ir to apply them on the	LPO I (examination level of the state exa	regulations for teaching degree amination.
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
Ü (no ir	nformat	tion on SWS (weekly cont	act hours) and cours	e language available	2)
Methoo module is	<b>d of ass</b> creditab	<b>sessment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
talk (ap	prox. 2	45 minutes)			
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teaching cycle					
Referre	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)	
Module	annos	urs in			
First state examination for the teaching degree Grundschule Mathematics (2009) First state examination for the teaching degree Hauptschule Mathematics (2009) First state examination for the teaching degree Realschule Mathematics (2009)					
The state examination for the teaching degree mittelsendle mathematics (2015)					





### Teaching

14

(12 ECTS credits)

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	cord Lehramt Mittelschulen (Unterrichtsfach) Mathematik - 2013

Module title			Abbreviation		
Didacti	Didactics of Mathematics (German Hauptschule/Realschule) 10-M-DGHR-092-mo1				
Module coordinator				Module offered by	
Dean o	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	ıpl. of module(s)	
10	nume	rical grade			
Duratio	on	Module level	Other prerequisites		
3 seme	ster	undergraduate			
Conten	ts		<u>I</u>		
Discus	sion of	basic topics in teaching	mathematics in Haun	tschule and Realsch	ule taking into account didactic
aspect	s as we	ll as possibilities of impl	ementation in the cla	ssroom, also includi	ing modern technologies.
Intend	ed lear	ning outcomes			
The stu	ident is	acquainted with mather	natical ways of thinki	ng and working tech	niques, and is able to take into
accour	it the st	tudents'perception of ma	thematical topics. He	e/She knows importa	ant aspects of planning and ana-
lysing	eachin	g of mathematics, maste	rs different strategies	for teaching and lea	arning und can assess them.
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
This m	odule h	as 4 components; inform	nation on courses list	ed separately for eac	ch component.
• 1	o-M-DO	GHR-P-092: M (no informa	ation on language and	d number of weekly o	contact hours available)
• 1	o-M-DO	GHR-1-092, and 10-M-DGH	HR-2-092: V + Ü (no in	formation on langua	ge and number of weekly con-
t	act hou	irs available)	tion on language and	l number ef weekly c	ontact hours available)
• 1	0-141-DC		tion on language and		
module is	<b>d of ass</b> 5 creditab	<b>Sessment</b> (type, scope, langua ile for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
This m	odule h	as the following 4 assess	sment components. L	Jnless stated otherw	ise, students must pass all of
these a	issessr	nent components to pass	s the module as a who	ole.	
	. •				
Assess	sessme	n <b>module component 10-</b> Int Mathematics Didactic	M-DGHK-P-092: Dida s. Hauntschule and R	ktik der Mathematik ealschule)	- Prurung (Haupt- und Realschu-
• 1	ECTS c	redit, numerical grading		eaischule)	
• v	vritten	examination (approx. 120	o minutes); if annour	nced by the lecturer,	, the written examination may
Ł	e repla	aced by an oral examinat	ion of one candidate	each (approx. 30 mi	nutes) or an oral examination
i	n group	os (groups of 2: approx. 4	5 minutes, groups of	3: approx. 60 minute	es) or by a written and/or mul-
t	i-media	a portfolio (as announced	l). Lafmadula compone	nte. Madula compor	ant to M DCHP D can only be
	niy ali aken h	v students who successf	fully completed the t	aree module compoi	nents 10-M-DGHR-P call only be
	)GHR-2	and 10-M-DGHR-3.	any completed the ti	lice module compo	
Assess	ment i	n module component 10-	M-DGHR-1-092: Dida	ktik der Mathematik	- Algebra (Haupt- und Real-
schule	) (Math	ematics Didactics - Algeb	ora, Hauptschule and	Realschule), and <b>in</b>	module component 10-M-
DGHR-	2-092:	Didaktik der Mathematik	- Geometrie (Haupt-	und Realschule) (Ma	thematics Didactics - Geometry,
Haupts	Chule a	and Realschule) :			
• •	xercise	es: at the beginning of the	ne course, the lectur	er will specify the ty	upe and scope of exercises to
L L	e succ	essfully completed over t	the course of the sem	lester for the module	component to be considered
s	successfully completed.				
Assess	Assessment in module component 10-M-DGHR-3-092: Didaktik der Mathematik - Stochastik (Haupt- und Real-				
schule	(Math	ematics Didactics - Stoch	nastics, Hauptschule	and Realschule)	
	ECIS ( vercise	reur, pass / tail ss at the heginning of th	he course the lectur	er will specify the ty	me and scope of exercises to
	e succ	essfully completed over t	the course of the sem	lester for the module	e component to be considered
s	uccess	fully completed.			

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#### Additional information

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#### Workload

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#### Teaching cycle

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

§ 51 (1) 4. Mathematik Didaktik

§ 51 (1) 4. Mathematik Fachdidaktik

#### Module appears in

First state examination for the teaching degree Hauptschule Mathematics (2009) First state examination for the teaching degree Realschule Mathematics (2009)

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

Module title				Abbreviation	
Advanced Didactics of Mathematics (German Hauptschule)       10-M-DVHS-092-m01					
Module o	coordinator		Module offered by		
Dean of S	Studies Mathematik (Mathema	atics)	Institute of Mathem	atics	
ECTS N	Method of grading	Only after succ. com	pl. of module(s)		
2 (	(not) successfully completed				
Duration	Module level	Other prerequisites			
1 semest	er undergraduate				
Contents	5				
Discussio lar mathe possible	on of topics in teaching mathe ematical foundations, didactic approaches in the classroom.	matics in Hauptschul analyses, contempo	le taking into accoun rary discussions in m	t different aspects, in particu- nathematics didactics as well as	
Intended	l learning outcomes				
The stud dering su	ent is able to discuss central to ubject-specific, didactical and	opics and issues on t methodical aspects.	eaching mathematic	s in German Hauptschule, consi-	
Courses	(type, number of weekly contact hours, la	anguage — if other than Ger	man)		
S (no info	ormation on SWS (weekly cont	act hours) and course	e language available	)	
Method of module is c	of assessment (type, scope, languag reditable for bonus)	ge — if other than German, e	examination offered — if not	t every semester, information on whether	
a) talk (a	pprox. 60 minutes) or b) assig	nment to be complet	ed at home (approx.	50 to 60 hours)	
Allocatio	on of places				
Addition	al information				
Workload	d				
Teaching	g cycle				
Referred	to in LPO I (examination regulations	s for teaching-degree progra	mmes)		
§ 51 (1) 4	. Mathematik Fachdidaktik				
Module appears in					
First state examination for the teaching degree Hauptschule Mathematics (2009) First state examination for the teaching degree Hauptschule Didactics in Mathematics (Secondary School) (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Secondary School) (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2013) First state examination for the teaching degree Mittelschule Mathematics (2013) First state examination for the teaching degree Mittelschule Mathematics (2013)					
First state	e examination for the teaching	degree Mittelschule	Didactics in Mathem	natics (Middle School) (2013)	



### 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".





### Mathematics (ECTS credits)

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

LA Mittelschulen Mathematics	(201 <u>3</u>	)	

Module title			Abbreviation		
Comput	ters in	Mathematical Teaching			10-M-DCMU-092-m01
Module	coord	inator		Module offered by	
Dean of	Studie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
Discuss puter to	ion of ools.	possible ways to use con	nputers in teaching m	nathematics as well a	as discussion of common com-
Intende	d lear	ning outcomes			
The stu tics, as	dent is well as	acquainted with basic p with the potential and li	ossibilities for the em mitations of compute	ployment of computer tools.	ters in the teaching of mathema-
Courses	<b>5</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V (no in	format	ion on SWS (weekly cont	act hours) and course	e language available	)
Method module is	l of ass creditab	<b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
project Assessi	(type a ment o	nd expenditure of time to ffered: every two years, s	b be specified by the ummer semester	lecturer at the begin	ning of the course)
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
Teachir	ng cycl	9			
	0 . )	-			
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
	2.00 111				
Module	appea	rs in			
First sta	ite exa	mination for the teaching	degree Hauptschule	Mathematics (2009	)
First sta	ite exa	mination for the teaching	degree Hauptschule	Didactics in Mathen	natics (Secondary School) (2009)
First sta	First state examination for the teaching degree Realschule Mathematics (2009)				
First sta	ite exa	mination for the teaching	degree Gymnasium	Mathematics (2012)	
First sta (2009)	First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Secondary School) (2009)				
First sta (2013)	First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2013)				
First sta	ite exa	mination for the teaching	degree Mittelschule	Mathematics (2013)	
First sta	ite exa	mination for the teaching	degree Mittelschule	Didactics in Mathem	natics (Middle School) (2013)

Module title			Abbreviation		
Methodology of Teaching in Mathematics (German Hauptschule)10-M-DMHS-092-m			10-M-DMHS-092-m01		
Module	coordi	inator		Module offered by	
Dean of	<sup>:</sup> Studie	es Mathematik (Mathema	tics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	ts				
Discuss	ion of	selected methods for tea	ching mathematics in	n Hauptschule.	
Intende	d learr	ning outcomes			
The stue their res the situ	dent is spectiv ation a	acquainted with differen e advantages and disadv nd the subject.	t methods of teachin vantages, and can se	g mathematics at Ge lect and employ an a	erman Hauptschule, can assess appropiate method depending on
Courses	<b>5</b> (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
S (no in	format	ion on SWS (weekly cont	act hours) and cours	e language available	.)
Method module is	l <b>of ass</b> creditab	essment (type, scope, languag le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) talk (	approx	. 45 minutes) or b) projec	ct (approx. 5 to 15 pag	ges) or c) portfolio (a	pprox. 5 to 15 pages)
Allocati	on of p	olaces			
Additio	nal info	ormation			
Workloa	ad				
Teachin	ig cycle	9			
Referre	d to in	LPO I (examination regulations	for teaching-degree progra	mmes)	
Module	appea	rs in			
First state examination for the teaching degree Hauptschule Mathematics (2009) First state examination for the teaching degree Hauptschule Didactics in Mathematics (Secondary School) (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Secondary School) (2009) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2013)					
First sta First sta	ite exai ite exai	mination for the teaching mination for the teaching	degree Mittelschule degree Mittelschule	Mathematics (2013) Didactics in Mathem	natics (Middle School) (2013)

Module title				Abbreviation		
E-Learning and Blended Learning in Mathematics at scho					10-M-DVHB-092-mc	01
Module	e coord	inator		Module offered by		
Dean o	f Studi	es Mathematik (Mather	natics)	Institute of Mathem	natics	
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
3	(not) s	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 semester undergraduate		Certain prerequisite sessment. The lectur at the beginning of t sidered a declaratio dents have obtained the course of the se sessment into effect ted to assessment i sessment at a later for admission to ass Hochschule Bayern porated into a modu identified by the wo the exercise must al course. This registra of will to seek admis ly completed, the le fect at the end of the	s must be met to quarer will inform stude the course. Registrat on of will to seek adm d the qualification for mester, the lecturer t. Students who mee n the current or in th date, students will h sessment anew. Cou (vhb) in the field of n ale with an exercise. rd virtuell (online) ad lways be made via S ation for the exercise ssion to assessment cturer will put the re- e course.	alify for admission to nts about the respec- ion for the course wi hission to assessmen r admission to assess will put their registra et all prerequisites wi e subsequent semes ave to obtain the qu rses offered online b mathematics are alw The respective modu dded in brackets. Reg B@Home at the begi will be considered a . If the exercise was gistration for assess	a s- ctive details ll be con- nt. If stu- ssment over ation for as- ill be admit- ster. For as- alification by Virtuelle ays incor- ules can be gistration for inning of the a declaration successful- ment into ef-	
Conten	ts					
In a cou technic	urse off Jues in	ered by Virtuelle Hochs e-learning and blended	schule Bayern (vhb), th I learning for teaching	e student becomes a mathematics.	acquainted with and	reflects on
Intende	ed lear	ning outcomes				
The stu well as	dent is their p	acquainted with basic otentials and limitation	methods of e-learning is.	and blended learnir	ng in teaching methe	matics, as
Course	<b>S</b> (type, r	number of weekly contact hour	s, language — if other than Gei	rman)		
Ü (no ir	nformat	tion on SWS (weekly co	ntact hours) and cours	e language available	e)	
Methoo module is	<b>d of ass</b> creditab	<b>sessment</b> (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	ot every semester, informati	on on whether
web-ba course)	ised pr	oject assignments and	tests (length/expendit	ure of time to be anr	nounced at the begin	ning of the
Allocat	ion of p	olaces				
Additio	nal inf	ormation				
Workload						
Teaching cycle						
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)						
LA Mittelsc	hulen Mat	hematics (2013)	JMU Würzburg • ge cord Lehramt Mittel	enerated 26-Aug-2024 • exan schulen (Unterrichtsfach) Ma	n. reg. data re- thematik - 2013	page 23 / 34



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

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

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

First state examination for the teaching degree Gymnasium Mathematics (2012)

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

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Secondary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2013)

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

Module title				Abbreviation			
Stochastics in Sekundarstufe I (virtual course)				10-M-VHBSto-092-r	n01		
Module	e coord	inator		Module offered by			
Dean o	f Studi	es Mathematik (Mather	natics)	ics) Institute of Mathematics			
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 semester undergraduate		Certain prerequisite sessment. The lectu at the beginning of t sidered a declaratio dents have obtained the course of the se sessment into effect ted to assessment in sessment at a later for admission to ass Hochschule Bayern porated into a modu identified by the wo the exercise must al course. This registra of will to seek admis ly completed, the le-	certain prerequisites must be met to quality for admission to as- sessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be con- sidered a declaration of will to seek admission to assessment. If stu- dents have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for as- sessment into effect. Students who meet all prerequisites will be admit- ted to assessment in the current or in the subsequent semester. For as- sessment at a later date, students will have to obtain the qualification for admission to assessment anew. Courses offered online by Virtuelle Hochschule Bayern (vhb) in the field of mathematics are always incor- porated into a module with an exercise. The respective modules can be identified by the word virtuell (online) added in brackets. Registration for the exercise must always be made via SB@Home at the beginning of the course. This registration for the exercise will be considered a declaration of will to seek admission to assessment. If the exercise was successful- bucemplated, the lecturer will put the registration for a successful-				
Conten	ts						
Revisio fic and	n and o didacti	consolidation of the fur ic courses in stochastic	idamental topics in sto s.	chastics that are pre	erequisites for the su	ıbject-speci-	
Intende	ed lear	ning outcomes					
The stu tics.He	ident h /She is	as basic knowledge of a cquainted with the e	stochastics, as required mployment of new tech	d for the study of ma nologies for teachin	thematics and its di g stochastics in sch	dac- pol.	
Course	<b>S</b> (type, r	number of weekly contact hours	s, language — if other than Ger	man)			
Ü (no ir	nforma	tion on SWS (weekly co	ntact hours) and cours	e language available	2)		
Metho module is	<b>d of ass</b> s creditab	<b>sessment</b> (type, scope, lang le for bonus)	uage — if other than German, e	examination offered — if no	t every semester, informati	on on whether	
web-ba course)	ased pro	oject assignments and	tests (length/expendit	ure of time to be anr	nounced at the begin	ning of the	
Allocat	ion of p	olaces					
Additio	onal inf	ormation					
Workload							
Teaching cycle							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
LA Mittelsc	hulen Mat	hematics (2013)	JMU Würzburg • ge cord Lehramt Mittels	enerated 26-Aug-2024 • exan schulen (Unterrichtsfach) Ma	n. reg. data re- thematik - 2013	page 25 / 34	

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

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

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

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Secondary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2013)

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



Module	title				Abbreviation	
Basics in Arithmetics (virtual course)				10-M-VHBAri-092-m	101	
Module coordinator			Madula offered by			
Dean of Studies Mathematik (Mathematics)			Institute of Mathem	atics		
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 semesterUndergraduateCertain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment at a later date, students will have to obtain the qualification for admission to assessment anew. Courses offered online by Virtuelle Hochschule Bayern (vhb) in the field of mathematics are always incorporated into a module with an exercise. The respective modules can be identified by the word virtuell (online) added in brackets. Registration for the exercise must always be made via SB@Home at the beginning of the course. This registration for the exercise will be considered a declaration of will to seek admission to assessment. If the exercise was successfully completed, the lecturer will put the registration for assessment into					as- tive details ll be con- nt. If stu- ssment over tion for as- ill be admit- ster. For as- alification by Virtuelle ays incor- ules can be gistration for nning of the declaration successful- ment into ef-	
Conton	te .		fect at the end of the	e course.		
Basic to	nics o	n teaching arithmetics	in school, e. g. divisabi	ility theory, prime nu	mbers, set theory.	
Intende	d lear	ning outcomes		,, p		
The stu proofs.	dent le He/Sh	arns basic topics in the e is acquainted with th	e teaching of arithmetic e employment of new t	s and the related ma echnologies for teac	athematical backgro hing arithmetic in sc	unds and hool.
Courses	<b>5</b> (type, n	umber of weekly contact hours	s, language — if other than Ger	man)		
Ü (no in	format	ion on SWS (weekly co	ntact hours) and cours	e language available	2)	
Method module is	l of ass creditab	e <b>essment</b> (type, scope, lang le for bonus)	uage — if other than German, e	examination offered — if no	t every semester, informati	on on whether
web-ba course)	sed pr	oject assignments and	tests (length/expendito	ure of time to be ann	nounced at the begin	ning of the
Allocati	ion of p	olaces				
Additional information Workloss d						
Teaching cycle						
Referre	<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module	appea	irs in				
LA Mittelsch	nulen Mat	hematics (2013)	JMU Würzburg ● ge cord Lehramt Mittels	nerated 26-Aug-2024 • exam schulen (Unterrichtsfach) Ma	n. reg. data re- thematik - 2013	page 27 / 34

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

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

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Secondary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2013)

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



Module title				Abbreviation		
Basics in School Geometry (virtual course)				10-M-VHBGeo-092-	m01	
Module coordinator				Module offered by		
Dean of	Studie	es Mathematik (Mathem	atics)	Institute of Mathem	atics	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
3	(not) s	successfully completed				
Duration	n	Module level	Other prerequisites			
1 semester undergraduate		Certain prerequisite sessment. The lectu at the beginning of t sidered a declaratio dents have obtained the course of the se sessment into effect ted to assessment in sessment at a later of for admission to ass Hochschule Bayern porated into a modu identified by the wo the exercise must al course. This registrat of will to seek admis ly completed, the lef	s must be met to qua rer will inform stude he course. Registrat n of will to seek adm d the qualification fo mester, the lecturer was students who mee n the current or in the date, students will he cessment anew. Cours (vhb) in the field of r ile with an exercise. rd virtuell (online) ac ways be made via SI tion for the exercise ssion to assessment cturer will put the reg e course.	alify for admission to nts about the respec- ion for the course wi ission to assessmer r admission to asses will put their registra t all prerequisites wi e subsequent semes ave to obtain the qua- rses offered online b nathematics are alw The respective modu- ded in brackets. Reg B@Home at the begi will be considered a . If the exercise was gistration for assess	as- tive details ll be con- nt. If stu- sement over tion for as- ill be admit- ter. For as- alification by Virtuelle ays incor- ules can be gistration for nning of the declaration successful- ment into ef-	
Content	S					
Revisior ject-spe metrv.	n and o cific a	consolidation of the func nd didactic courses (in p	lamental topics in ele articular teaching deg	mentary geometry th grees Grundschule, H	at are prerequisites lauptschule, Realscl	for the sub- hule) in geo-
Intende	d learr	ning outcomes	-			
The stuc tics.He/	dent ha She is	as basic knowledge of so acquainted with the em	chool geometry, as ree ployment of new tech	quired for the study on nologies for teachin	of mathematics and g geometry in schoo	its didac- l.
Courses	(type, n	umber of weekly contact hours,	language — if other than Ger	man)		
Ü (no in	format	tion on SWS (weekly con	tact hours) and cours	e language available	2)	
Method module is	<b>of ass</b> creditab	<b>essment</b> (type, scope, langua le for bonus)	age — if other than German, e	examination offered — if no	t every semester, informati	on on whether
web-bas course)	sed pro	oject assignments and te	ests (length/expendit	ure of time to be ann	ounced at the begin	ning of the
Allocati	on of p	olaces				
			-			
Addition	nal inf	ormation				
Workload						
Teachin	Teaching cycle					
Referred	d to in	LPO I (examination regulation	s for teaching-degree progra	mmes)		
		· · · · · · · · · · · · · · · · · · ·				
LA Mittelsch	ulen Mat	hematics (2013)	JMU Würzburg ● ge cord Lehramt Mittels	nerated 26-Aug-2024 • exam schulen (Unterrichtsfach) Mat	n. reg. data re- thematik - 2013	page 29 / 34

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

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Secondary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2013)

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

Module title				Abbreviation			
Mathematics in Class 10 (virtual course)			rse)		10-M-VHBM10-092-	·mo1	
Module	e coord	inator		Module offered by			
Dean o	f Studi	es Mathematik (Mathei	natics)	Institute of Mathem	natics		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)			
3	(not) s	successfully completed					
Duratio	on	Module level	Other prerequisites	i			
1 semester undergraduate		Certain prerequisite sessment. The lectu at the beginning of t sidered a declaratio dents have obtained the course of the se sessment into effect ted to assessment i sessment at a later for admission to ass Hochschule Bayern porated into a modu identified by the wo the exercise must al course. This registra of will to seek admis ly completed, the le fect at the end of the	es must be met to quarer will inform stude the course. Registrat on of will to seek adm d the qualification for mester, the lecturer t. Students who mee n the current or in th date, students will h sessment anew. Cou (vhb) in the field of r ule with an exercise. ord virtuell (online) ac lways be made via S ation for the exercise ssion to assessment cturer will put the re-	alify for admission to nts about the respec- ion for the course win hission to assessment or admission to assess will put their registra et all prerequisites we ave to obtain the quint rses offered online bound mathematics are alw The respective mode dded in brackets. Re B@Home at the beging will be considered a . If the exercise was gistration for assess	as- tive details ll be con- nt. If stu- ssment over tion for as- ill be admit- ster. For as- alification by Virtuelle rays incor- ules can be gistration for inning of the a declaration successful- ment into ef-		
Conten	ts	<u> </u>					
Basic t	opics o	n teaching mathematic	s in tenth grade in Hau	ıptschule, Realschul	e and Gymnasium.		
Intende	ed lear	ning outcomes					
The stu schule, of new	dent le , as we techno	earns basic topics in the Il as the related mather logies for teaching mat	e teaching of mathema natical backgrounds ar thematics in tenth form	tics in tenth form at nd proofs. He/She is n.	German Mittelschule acquainted with the	e and Real- e employment	
Course	<b>S</b> (type, r	number of weekly contact hour	s, language — if other than Gei	rman)			
Ü (no ir	nforma	tion on SWS (weekly co	ontact hours) and cours	e language available	e)		
Method module is	<b>d of ass</b> creditab	<b>sessment</b> (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	ot every semester, informati	on on whether	
web-ba course)	ised pr	oject assignments and	tests (length/expendit	ure of time to be anr	nounced at the begin	ning of the	
Allocat	ion of <sub>l</sub>	olaces					
Additional information							
Workload							
Teaching cycle							
Referre	Referred to in LPO I (examination regulations for teaching-degree programmes)						
LA Mittelsc	hulen Mat	hematics (2013)	JMU Würzburg • ge cord Lehramt Mittel	enerated 26-Aug-2024 • exan schulen (Unterrichtsfach) Ma	n. reg. data re- thematik - 2013	page 31 / 34	

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

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

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

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Secondary School) (2009)

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2013)

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





### 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 Sonderpädagogik may write this thesis in the subject they selected as sonderpädagogische Fachrichtung (special education specialization). Pursuant to Section 29 Subsection 1 Sentence 2 LPO I, students may also choose to write an interdisciplinary thesis.

Module title				Abbreviation			
Thesis in Mathematics (teaching degree at German Hauptschu			chule)	10-M-HMHS-092-m01			
Module	e coord	inator		Module offered by			
Dean of	f Studi	es Mathematik (Mathema	atics)	Institute of Mathem	atics		
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)			
10	nume	rical grade	Where applicable, s supervisor.	pecific modules/mo	dule components as specified by		
Duratio	n	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
Indepe tion wit	ndently h the s	researching and writing upervisor.	on a topic in mathem	natics or mathematio	s didactics selected in consulta-		
Intende	ed lear	ning outcomes					
The stu tained work in	dent is during a suita	able to work independen his/her studies in the tea able form, incorporating a	ntly on a given mathe aching degree program aspects of the didacti	matical topic and ap mme. He/She can w cs of mathematics.	oply the skills and methods ob- rite down the result of his/her		
Course	<b>S</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)			
no cour	rses as	signed					
Methoo module is	<b>d of ass</b> creditab	<b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether		
written Langua gulatio	thesis ge of a ns for t	(approx. 250 to 300 hour ssessment: German, exc eaching degree program	rs total) eptions in accordanco nes)	e with Section 29 Su	bsection 4 LPO I (examination re-		
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Additio	nal info	ormation on module dura	tion: 1 to 2 semesters	S.			
Worklo	ad						
Teaching cycle							
Referred to in LPO I (examination regulations for teaching-degree programmes)							
Module	Module appears in						
First sta	ate exa	mination for the teaching	g degree Hauptschule	Mathematics (2009	)		
First state examination for the teaching degree Mittelschule Mathematics (2013)							