

# Module Catalogue

for the Subject

## Mathematics

as Unterrichtsfach

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

> Examination regulations version: 2015 Responsible: Faculty of Mathematics and Computer Science Responsible: Institute of Mathematics

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#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG

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### The subject is divided into

section / sub-section	ECTS credits	starting page
Scientific Discipline	54	5
Cumpulsory Courses	54	6
Teaching	12	15
Compulsory Courses	12	16
Paper	4	19
Freier Bereich (general as well as subject-specific electives)		21
Mathematics		22
Paper	10	55



#### 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:

#### LASPO2015

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

#### 05-Oct-2015 (2015-187)

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)





### **Cumpulsory Courses**

(54 ECTS credits)

Module title			Abbreviation		
Elemen	tary Nı	imber Theory			10-M-ELZT-152-m01
Module	coord	inator		Module offered by	
Dean of	Studie	es Mathematik (Mathema	tics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Contents					
Introdu tics, ba	ction to sic top	o fundamental technique ics in elementary number	s in mathematics. Ap r theory and the struc	proach to the numbe ture of the number s	er as a basic theme in mathema- system.
Intende	d learr	ning outcomes			
The stue matical the stru	dent kr proof i cture c	nows the basic ways of th methods. He/She is able of the number system.	inking and working i to apply these skills	n mathematics, as w to basic problems in	vell as the fundamental mathe- n the fields of number theory and
Courses	<b>5</b> (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
V (4) + Ü	Ü (2)				
Method module is	l <b>of ass</b> creditab	<b>essment</b> (type, scope, languag le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written If annou oral exa (approx sheet).	examir unced l aminati a. 15 mi	nation (approx. 60 to 90 r by the lecturer at the begi on of one candidate each nutes per candidate) and	ninutes) inning of the course, n (approx. 20 minutes l written exercises (aj	the written examinat s) or an oral examina oprox. 12 exercise sh	tion may be replaced by an ation in groups of 2 candidates neets, approx. 3 exercises per
Allocati	ion of p	olaces			
	•				
Additio	nal info	ormation			
Workloa	ad				
180 h					
Teachin	ig cycle	9			
Referre	d to in	LPO I (examination regulations	for teaching-degree progra	mmes)	
§ 51   Nr. 3					
Module appears in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)					

Module	title				Abbreviation
Elementary Geometry				10-M-ELGE-152-m01	
Module coordinator		Module offered by			
Dean of	Studie	es Mathematik (Mathema	itics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
6	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	ts				
Fundam gruence sic mat	nental t e geom hemati	opics in elementary and etry, imaging geometry, s cal techniques.	Euclidean geometry: Similarity geometry, b	axiomatic foundatio asics in analytic geo	ns of Euclidean geometry, con- metry in R^3, introduction to ba-
Intende	d learr	ning outcomes			
The stue matical	dent kr proof i	nows the basic ways of th methods. He/She is able	inking and working i to apply these skills	n mathematics, as w to basic problems in	vell as the fundamental mathe- n Euclidean geometry.
Courses	<b>5</b> (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
V (4) + Ü	Ü (2)				
<b>Method</b> module is	<b>l of ass</b> creditab	<b>essment</b> (type, scope, languag le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written If annou oral exa (approx sheet).	examir unced l aminati a. 15 mi	nation (approx. 60 to 90 r by the lecturer at the begi on of one candidate each nutes per candidate) and	ninutes) inning of the course, n (approx. 20 minute: l written exercises (aj	the written examinat s) or an oral examina oprox. 12 exercise sh	tion may be replaced by an ation in groups of 2 candidates neets, approx. 3 exercises per
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Workloa	ad				
180 h					
Teachin	ıg cycl	9			
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
§ 51   Nr. 3					
Module appears in					
Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Realschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)					

Module title			Abbreviation		
Elemen	tary St	ochastics			10-M-ELST-152-m01
Module coordinator				Module offered by	
Dean of	fStudie	es Mathematik (Mathema	itics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5	numer	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	ts				
Fundam al statis	nental t stics, st	opics in elementary stoc tochastic modelling, intro	hastics: descriptive s oduction to basic mat	tatistics, probability hematical technique	theory, combinatorics, inferenti- es.
Intende	ed learr	ning outcomes			
The stu matical	dent kr proof i	nows the basic ways of th methods. He/She is able	inking and working i to apply these skills	n mathematics, as w to basic problems in	vell as the fundamental mathe- n stochastics.
Courses	<b>5</b> (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
V (3) + Ü	Ü (1)				
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)         written examination (approx. 60 to 90 minutes)         If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate) and written exercises (approx. 12 exercise sheets, approx. 3 exercises per sheet).         Allocation of places					
	<u></u>				
Worklo	ad				
150 h					
Teachin	ng cycle	9			
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
§ 51   Nr. 3					
Module appears in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)					

Module title			Abbreviation	
Basic Linear Analysis				10-M-GRLA-152-m01
Module coordinator			Module offered by	
Dean of Studi	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS Meth	od of grading	Only after succ. com	pl. of module(s)	
9 nume	rical grade			
Duration	Module level	Other prerequisites		
1 semester	undergraduate			
Contents				
Basics in line nants, linear	ar algebra: groups, rings, naps, examples and appl	fields, systems of lin lications.	ear equations, vecto	r spaces, matrices and determi-
Intended lear	ning outcomes			
The student is the central pr can analyse b	aquainted with the basic oof methods, can perform asic mathematical proble	c methods and conce n easy mathematical a ems and employ meth	pts of linear algebra arguments and prese nods of linear algebra	. He/She is able to comprehend ent them in written form. He/She a to solve them.
Courses (type,	number of weekly contact hours, l	anguage — if other than Ger	man)	
V (4) + Ü (2)				
Method of as module is credital	Sessment (type, scope, langua ole for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
If announced examination of prox. 15 minu creditable for	by the lecturer at the beg of one candidate each (ap tes per candidate). bonus	inning of the course, pprox. 20 minutes) or	the written examinat an oral examination	tion may be replaced by an oral in groups of 2 candidates (ap-
Allocation of	places			
Additional inf	ormation			
Workload				
270 h				
Teaching cycl	e			
Referred to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
§ 51   Nr. 2				
Module appears in				
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)				

Module title			Abbreviation		
Basic Analysis			10-M-GRAN-152-m01		
Module	coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	natics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
12	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
2 seme	ster	undergraduate			
Conten	ts				
Convers mann ir tiability mensio	gence a ntegral) v, invers ns (Ful	and divergence of sequer ), Taylor approximation a se and implicit function t pini's theorem, transform	nces and series, funct nd power series, func heorem, curves in R^ ation rule), examples	tions, continuity, difictions in several vari n, curve integrals, ir and applications.	ferentiation and integration (Rie- ables, total and partial differen- ntegration theorems in higher di-
Intende	ed learı	ning outcomes			
The stu compre form. H riables	dent is hend t e/She to solv	aquainted with methods he central proof methods can analyse basic mathe e them.	s and concepts in ana s, can perform easy m matical problems and	Ilysis of one and sev Iathematical argume d employ methods o	eral variables. He/She is able to ents and present them in written f analysis in one and several va-
Courses	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V (4) + (	Ü (2) +	V (2) + Ü (2)			
Method module is	l of ass creditab	s <b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written If annou examin prox. 15 credital	examinunced ation o minut ble for	nation (approx. 60 to 120 by the lecturer at the beg if one candidate each (ap es per candidate). bonus	minutes). inning of the course, oprox. 20 minutes) or	the written examina an oral examination	tion may be replaced by an oral in groups of 2 candidates (ap-
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
360 h					
Teachir	ng cycl	e			
Referred to in LPO I (examination regulations for teaching-degree programmes)					
§ 51   Nr. 1					
Module appears in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)					

Analytic Geometry       10-M-ANGE-152-m01         Module coordinator       Module offered by         Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Method of grading       Only after succ. compl. of module(s)         6       numerical grade          2       Undergraduate          1 semester       undergraduate          Contents       Applications of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, cussion of Euclidean spaces (scalar products, arcs, orthonormal bases).       Interventery and analytic geometry: quadrics, characterisation of affine maps and isometries, cussion of Euclidean spaces (scalar products, corthonormal bases).         Interventeree weekly contact hours, language – interventeree weekly contact hours, language – interventeree weekly contact hours, language – if other than German)         V (µ) + 0 (2)         Method of assessment (type, scope, language – if other than German)         V (µ) + 0 (2)         Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whethe module cradidate, cardidate each (approx. 30 minutes)         If announced by the lecturer at the beginning of the course, the written examination may be replaced by an ora examination of one candidate, each (approx. 30 minutes)         If announced by the lect	Module title			Abbreviation		
Module view       View       View       View       View       Module offered by         Institute of Mathematics       Institute of Mathematics       Institute of Mathematics         ECTS       Methewatics       Only after succ. compL of module(s)       Institute of Mathematics         6       numerical grade       -       Institute of Mathematics       Institute of Mathematics         1 semester       undergraduate        Institute of Mathematics       Institute of Mathematics         Applications of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, or cussion of Euclidean spaces (scalar products, arcs, onthonormal bases).       Institute of Mathematical argumets and analytic geometry: the solute on more products, arcs, onthonormal bases).         Interded learning outcomes       Institute of Mathematical argumets and present them orally and in written form. He/She can analyse basic mathematical problems and employ metho of finear algebra and analytic geometry to solve them.         Courses (wpe, number of weekly contact hours, language – if other than Geman)       V (4) + 0 (2)         Methewatic in browns       Written examination of fore cardidate each (sprox. 20 minutes)       Institute or anal analytic geometry is a cuadidate or provematical argumeter in formation on wheek madule is creditable for bonus         Methewatical for bonus       Written examination of one cardidate each (sprox. 20 minutes)       Institute examination in groups of 2 candidates (aprox. 10 minutes	Analytic Geometry			10-M-ANGE-152-m01		
Dean of Studies         Mathematik (Mathematics)         Institute of Mathematics           ECTS         Method is radius         Only after succ. compl. of module(s)           6         numerical grade            Duration         Module level         Other preequisites           Isamester         undergraduate            Content         Content         Content           Applications of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, or cussion of Euclidean spaces (scalar products, arcs, orthonormal bases).         Intende/Learning outcomes           The students is acquainted with advanced methods, concepts and results in linear algebra and analytic geometry to solve them.         Courses           Courses (type, number of weekly contact hours, language – if other than German, examination offered – if not every semester, information on whethe module is creditable for bonus         Written of multical and analytic geometry to solve them.           Courses (type, scope, language – if other than German, examination offered – if not every semester, information on whethe module is creditable for bonus         Interview of weekly contact hours, language – if other than German, examination offered – if not every semester, information on whethe module is creditable for bonus           Write Advance         The contradicate each (approx. 20 minutes))         Interview examination of ne candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 20 minutes)	Module	coord	inator		Module offered by	
ECTS         Method provide level         Only after succ. compl. of module(s)           6         numerical grade            Duration         Module level         Other prerequisites           1 semation         undergraduate            Contentations of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, or cussion of Euclidean spaces (scalar products, arcs, orthonormal bases).         Intervention of affine maps and isometries, or cussion of affine maps and isometries, or cussion of Euclidean spaces (scalar products, arcs, orthonormal bases).           Intervention         Total subtract 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 methor of linear algebra and analytic geometry to solve them.           Courses type, number of weekly contact hours, language – if other than German         V(4) + 0 (2)           Method is creditable for hourse.         Integraduate (approx. 6 to por minutes)           If announced by the lecturer at the beginning of the course, the written examination in groups of z candidate. (approx. 15 minutes per candidate). (approx. 25 minutes per candidate). (approx. 25 minutes)           readidate         Iteration (approx. 6 to por minutes)           If announced by the lecturer at the beginning of the course, the written examination in groups of z candidate). (approx. 35 minutes per candidate). (approx. 25 minutes) or an oral examination in groups of z candidate). (approx. 35 minutes) or an oral ex	Dean of	fStudi	es Mathematik (Mathema	atics)	Institute of Mathem	atics
6       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents	ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
Duration         Module level         Other prerequisites           1 semester         undergraduate            Applications of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, classion of turber anguebra to analytic geometry: custa or of anguebra and analytic geometry: quadrics, characterisation of affine maps and isometries, classion of turber of used in written form. He/She is able to comprehend the central proformethods, can perform easy mathematical arguments and present them orally and in written form. He/She can analyse basic mathematical problems and employ methor of linear algebra and analytic geometry to solve them.           Correse (type, number of weekly contact hours, language – if other than German)         V (4) + 0 (2)           Method of assessmet (type, scope, language – if other than German)         V (4) + 0 (2)           Written examination (approx. 6o to 9 minutes)         France (type, scope) and analytic geometry to solve them.           Method of assessmet (type, scope) and (the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (type). so minutes) or an oral examination in groups of a candidate (type) and the examination in groups of a candidate (type).           Yere to the for bourse         Image: The term of the teaching degree programmes)           Allocation of one candidate each (type) so the course, the written examination in groups of a candidate (type) and the course, the written examination in groups of a candidate (type) and the course, the written examination in groups of a candidate (type) and the course, the written examination ingroups of a candidate (type)	6	nume	rical grade			
1 semester       undergraduate          Contents         Applications of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, or cussion of Euclidean spaces (scalar products, arcs, orthonormal bases).         Intended lear-maps of Euclidean spaces (scalar products, arcs, orthonormal bases).         The students is acquainted with advanced methods, concepts and results in linear algebra and analytic geometry to solve them.         Courses (type, number of weekly contact hours, language – if other than German)         V (a) + 0 (a)         Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whethe module is certilable for bonus)         written examination (approx. 6o to 90 minutes)         finanounced by the lecturer at the beginning of the course, the written examination may be replaced by an orre examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate), creditable for bonus         Additional information	Duratio	n	Module level	Other prerequisites		
Contents         Applications of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, or cussion of Euclidean spaces (scalar products, arcs, orthonormal bases).         Intended learning outcomes         The students is acquainted with advanced methods, concepts and results in linear algebra and analytic geometry. 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 metho of linear algebra and analytic geometry to solve them.         COurses (type, number of weekly contact hours, language – if other than German)       V (a) + Û (2)         Method of assessment (type, scope, language – if other than German)       V (a) + Û (2)         Method of assessment (type, scope, language – if other than German)       V (a) + Û (2)         Method of assessment (type, scope, language – if other than German)       V (a) + Û (2)         Method of assessment (type, scope, language – if other than German)       V (a) + Û (2)         Method of assessment (type, scope, language – if other than German)       V (a) + Û (2)         Method of assessment (type, scope, language – if other than German)       V (a) + Û (2)         Method of assessment (type, scope, language – if other than German)       V (a) + Û (2)         Method of assessment (type, scope, language – if other than German)       V (a) + Ú (2)         Morticate as commation of aprose candidate each (approx. 20 minutes) or an oral examination im	1 semes	ster	undergraduate			
Applications of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, of cussion of Euclidean spaces (scalar products, arcs, orthonormal bases). Intended learning outcomes The students is acquainted with advanced methods, concepts and results in linear algebra and analytic geometry. 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 metho of linear algebra and analytic geometry to solve them. Courses (type, number of weekly contact hours, language – if other than German) V (a) + U (a) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whethe module is creditable for bonus) Written examination (approx. 60 to 90 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an ora examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 35 minutes per candidate). creditable for bonus Allocation of places	Contents					
Intended learning outcomes         The students is acquainted with advanced methods, concepts and results in linear algebra and analytic geometry the/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 metho of linear algebra and analytic geometry to solve them.         Courses (type, number of weekly contact hours, language – if other than German)       V (a) + ① (2)         Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whethe module is creditable for bonus)         written examination (approx. 6o to 90 minutes)         If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).         creditable for bonus         Allocation of places	Applications of linear algebra to analytic geometry: quadrics, characterisation of affine maps and isometries, dis- cussion of Euclidean spaces (scalar products, arcs, orthonormal bases).					
The students is acquainted with advanced methods, concepts and results in linear algebra and analytic geometry. 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 metho of linear algebra and analytic geometry to solve them.  Courses (type, number of weekly contact hours, language – if other than German) V (a) + Û (2)  Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whethe module is creditable for bonus) Written examination (approx. 60 to 90 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an ora examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 20 minutes) or an oral examination of places	Intende	ed lear	ning outcomes			
Courses (type, number of weekly contact hours, language – if other than German)         V (4) + Ü (2)         Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whethe module is creditable for bonus)         written examination (approx. 60 to 90 minutes)         If announced by the lecturer at the beginning of the course, the written examination may be replaced by an ora examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).         creditable for bonus         Allocation of places            Additional information            Morkload         180 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51 l Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)	The stu try. He/ present of linea	dents i She is them r algeb	s acquainted with advan able to comprehend the orally and in written form ra and analytic geometry	ced methods, concep central proof method . He/She can analyse to solve them.	ots and results in line s, can perform easy e basic mathematica	ear algebra and analytic geome- mathematical arguments and l problems and employ methods
V (4) + Ü (2)  Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whethe module is creditable for bonus)  Written examination (approx. 60 to 90 minutes)  If announced by the lecturer at the beginning of the course, the written examination may be replaced by an ora examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (ap- prox. 15 minutes per candidate). creditable for bonus  Allocation of places Additional information Workload 180 h Teaching cycle Referred to in LPO I (examination regulations for teaching-degree programmes) § 51 l Nr. 2 Module appears in First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathemat	Course	<b>S</b> (type, r	umber of weekly contact hours, l	anguage — if other than Ger	man)	
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. 6o to 90 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an ora examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (ap- prox. 15 minutes per candidate). creditable for bonus Allocation of places Additional information Workload 180 h Teaching cycle Referred to in LPO I (examination regulations for teaching-degree programmes) § 51 l Nr. 2 Module appears in First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First	V (4) + l	Ü (2)				
written examination (approx. 60 to 90 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an ora examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). creditable for bonus Allocation of places Additional information Workload 180 h Teaching cycle Referred to in LPO I (examination regulations for teaching-degree programmes) § 51 l Nr. 2 Module appears in First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020) (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	Method module is	l of ass creditab	s <b>essment</b> (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
Allocation of places            Additional information            Workload         180 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51 l Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020)         exchange program Mathematics (2023)	written examination (approx. 60 to 90 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (ap- prox. 15 minutes per candidate).					tion may be replaced by an oral in groups of 2 candidates (ap-
Additional information            Workload         180 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51   Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020)         Prüfungsordnungsversion 2015)         exchange program Mathematics (2023)	Allocati	ion of p	olaces			
Additional information            Workload         180 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51 l Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020)         exchange program Mathematics (2023)						
Workload         180 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51 l Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Realschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020)         Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	Additio	nal inf	ormation			
Workload         180 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51 l Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Realschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020)         Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)						
180 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51   Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Realschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	Worklo	ad				
Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51   Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Realschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	180 h					
Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51   Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Realschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	Teachir	ng cycl	e			
Referred to in LPO I (examination regulations for teaching-degree programmes)         § 51   Nr. 2         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Realschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         First state examination for the teaching degree Mittelschule Mathematics (2020)         Prüfungsordnungsversion 2015)         exchange program Mathematics (2023)		• •				
§ 51   Nr. 2 Module appears in First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020) First state examination for the teaching degree Mittelschule Mathematics (2020)	Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Realschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2015)         First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	§ 51   Nr. 2					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	Module appears in					

Module title			Abbreviation		
Basic D	ifferen	tial Equations			10-M-GRDG-152-m01
Module	coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	tics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. compl. of module(s)		
5	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Contents					
Exampl card-Lir	es and ndelöf,	natural appearances of o Peano), systems of linea	ordinary differential e r differential equation	quations, existence ns, applications and	and uniqueness theorems (Pi- examples.
Intende	ed learr	ning outcomes			
The stu prehen He/She	dent is d the c can ar	aquainted with methods entral proof methods, can nalyse basic mathematica	and concepts of ord n perform easy mathe al problems and emp	inary differential equ ematical arguments a loy methods of diffe	uations. He/She is able to com- and present them in written form. rential equations to solve them.
Courses	<b>S</b> (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
V (3) + ĺ	Ü (2)				
Method module is	<b>l of ass</b> creditab	s <b>essment</b> (type, scope, languag le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
written If annou examin prox. 15 credital	examir unced l ation o ; minut ble for l	nation (approx. 60 to 90 i by the lecturer at the beg f one candidate each (ap es per candidate). bonus	ninutes) inning of the course, prox. 20 minutes) or	the written examinat an oral examination	tion may be replaced by an oral in groups of 2 candidates (ap-
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Worklo	ad				
150 h					
Teachir	ng cycl	e			
Referre	d to in	LPOI (examination regulations	for teaching-degree progra	mmes)	
§ 51   Nr. 1					
Module appears in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)					

Module title			Abbreviation		
Review Course Mathematics (German Grundschule/Mittelschule/Realschule)			chule/Realschule)	10-M-M3GMR-152-m01	
Module coordinator Module offered			Module offered by		
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
5	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
Revisio geomet	n and o ry by c	consolidation of the topic ompleting exercises and	s in analysis, ordina answering past state	y differential equati examination questi	ons, linear algebra and analytic ons.
Intende	ed learı	ning outcomes			
The stu progran	dent ha nmes),	as advanced knowledge i §51 (2) 1, 2, and is able t	n the topics stated ir o apply them on the	n LPO I (examination level of the state exa	regulations for teaching degree amination.
Courses	<b>5</b> (type, n	umber of weekly contact hours, la	anguage — if other than Ger	man)	
Ü (4)					
<b>Method</b> module is	<b>l of ass</b> creditab	<b>eessment</b> (type, scope, languag le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) talk ( b) proje	approx ect (10	<. 45 minutes) or to 15 pages)			
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
150 h					
Teachir	ng cycl	e			
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
§ 51 special branch of science without assignment					
Module appears in					
First state examination for the teaching degree Grundschule Mathematics (2015)					
First state examination for the teaching degree Realschule Mathematics (2015)					
First state examination for the teaching degree Mittelschule Mathematics (2015)					
rirst sta 2015))	ite exa	mination for the teaching	, degree <i>w</i> ittelschule	mathematics (2020	(Prurungsoranungsversion





### Teaching

(12 ECTS credits)





### **Compulsory Courses**

(12 ECTS credits)

Didactics of Mathematics - Geometry (German Grundschule)       10-M-DGGS1-152-m01         Module coordinator       Module offered by         Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Method of grading       Only after succ. compl. of module(s)         5       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
Module coordinator       Module offered by         Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Method of grading       Only after succ. compl. of module(s)         5       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents       In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Meth→ of grading       Only after succ. compl. of module(s)         5       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents         In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
ECTS       Meth→ of grading       Only after succ. compl. of module(s)         5       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents       In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
5       numerical grade          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents       In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents       In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
1 semester       undergraduate          Contents       In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
<b>Contents</b> In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
In-depth discussion of topics in teaching geometry in Grundschule, taking didactic aspects into account (aims of geometry, spatial visualisation ability, planar figures, symmetries, 3-dimensional solids, geometric drawing				
Possibilities of implementation in the classroom and employment of materials and media, including modern technologies.				
Intended learning outcomes				
The student knows about the objectives of teaching geometry in elementary school, basics in developmental psychology and didactics of mathematics, fundamentals in elementary school mathematics, as well as import ant models, presentations and media which can be employed in elementary school teaching of mathematics. She/he knows about common difficulties and problems of pupils in the acquisition of mathematical skills, and can employ and assess didactical principles and teaching and learning strategies.				
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)				
V (2) + Ü (2)				
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)				
written examination (approx. 60 to 90 minutes) If announced by the lecturer at the beginning of the course, the written examination may be replaced by an ora examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (ap prox. 15 minutes per candidate). creditable for bonus				
Allocation of places				
Additional information				
Workload				
150 h				
Teaching cycle				
Referred to in LPO I (examination regulations for teaching-degree programmes)				
§ 51   Nr. 4				
Module appears in				
First state examination for the teaching degree Grundschule Mathematics (2015) exchange program Mathematics (2023)				

Module title			Abbreviation		
Didactics of Mathematics - Arithmetics and Application of Mathematics (Ger- man Grundschule)			10-M-DGGS2-152-m01		
Module	coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	natics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
7	nume	rical grade			
Duratio	n	Module level	Other prerequisites		
2 seme	ster	undergraduate			
Conten	Contents				
In-depth discussion of topics in teaching arithmetics and application-oriented mathematics in Grundschule, ta- king didactic aspects into account (aims of teaching arithmetics, didactic principles, sets, numbers, positional notations, arithmetic models, elementary arithmetic, mental calculation, half-written and written calculations, aims of teaching applications of mathematics, treatment of quantities, representation of data, possibilities of te- aching application-oriented mathematics, heuristic principles, strategies and tools, modelling, mappings, typi- cal difficulties in solving text problems, possibilities of promoting competences in applied calculation). Possibi- lities of implementation in the classroom and employment of materials and media, including modern technolo-					
Intende	ed learr	ning outcomes			
The student knows about the objectives of teaching mathematics in elementary school, basics in developmental psychology and didactics of mathematics, fundamentals in elementary school mathematics, as well as import- ant models, presentations and media which can be employed in elementary school teaching of mathematics. She/he knows about common difficulties and problems of pupils in the acquisition of mathematical skills, and					
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
V (2) +	Ü (1) + '	V (2) + Ü (2)			
Methoo module is	<b>l of ass</b> creditab	s <b>essment</b> (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) oral ( b) oral ( c) writte	examin examin en exar	ation of one candidate e ation in groups (groups o nination (approx. 60 to 1	ach (approx. 30 minu of 2, approx. 15 minut 20 minutes)	tes) or es per candidate) or	r
Allocat	ion of p	olaces			
Additio	nal inf	ormation			
Workload					
210 h					
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
§ 51   Nr. 4					
Module	appea	irs in		Mathematic	
exchan	First state examination for the teaching degree Grundschule Mathematics (2015) exchange program Mathematics (2023)				

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### Paper

(4 ECTS credits)

Students studying for a teaching degree Grundschule must complete a practical training in didactics and teaching methodology (studienbegleitendes fachdidaktisches Praktikum) which refers to one of the subjects they selected as vertieft studiertes Fach (subject studied with a focus on the scientific discipline) pursuant to Section 34 Subsection 1 No. 4 LPO I (examination regulations for teaching-degree programmes). The obligatory accompanying tutorial is offered by the respective subject. The ECTS credits obtained are counted in the subject Erziehungswissenschaften pursuant to Section 10 Subsection 3 LASPO (general academic and examination regulations for teaching-degree programms).

Module	Module title Abbreviation				
Practical Training in Classroom Teaching including Theory (German Grund-					10-M-SFDPGS-152-m01
schule)					
Module	coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
4	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
The module introduces the student to the classroom practice of his/her Unterrichtsfach (subject studied with a focus on the scientific discipline) or Didaktikfach (subject studied with a focus on teaching methodology). Using specific teaching models, examples and projects in different grades, the module introduces the student to subject-specific techniques. In the university course accompanying the placement, the student reflects and structures what he/she has learned during his/her teaching placement and explores additional subject-specific and didactic aspects. In this context, the course discusses selected practical aspects of teaching mathematics in accordance with applicable guidelines and curricula. The course focuses on recent developments in classroom practice, also taking into account aspects of school pedagogy and learning psychology that can support the successful practical implementation of subject-specific conceptual designs.  Intended learning outcomes The student is acquainted with the most important components of planning and organising teaching. He/She is able to teach the relevant topics for different forms, and can critically reflect the recent developments in the edu-					
cognisa Courses	ance ar	nd incorporate them in the	e mise-en-scène of hi	is/her teaching.	
P (o) + 9	S (2)	,			
Method module is	l of ass	<b>eessment</b> (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) prese b) term Content regulati tasks as	<ul> <li>a) presentation (30 to 45 minutes) with position paper (1 to 2 pages) or</li> <li>b) term paper (10 to 15 pages)</li> <li>Contents and duration of placement as specified in Section 34 Subsection 1 Sentence 1 No. 4 LPO I (examination regulations for teaching-degree programmes); participation in mandatory teaching practice, completion of all set tasks as specified by placement school</li> </ul>				
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Workload					
120 h					
Teachir	ng cycl	e			
Referred to in LPO I (examination regulations for teaching-degree programmes)					
§34 1	Nr. 4				
Module	e appea	irs in			
First state examination for the teaching degree Grundschule Educational Science (2015)					



### 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)

On-M-DAGS1-152-mon         Module correred is no didactics of Mathematics 1 (German Grunds Chule)         Module offered by         Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Metword of grading       Only after succ. compl. of module(s)         2       (not) successfully completed          Duration       Module level       Other prerequisites         Undergraduate          Contents         Undergraduate          Contestorics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, eva on of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grundschule, using computers for teaching mathematics in Grundschule, using computers for teaching and tearning environmer         Intended tearning out completed         Intended tearning with heterograduate is acquainted with theoretical concepts in the didactics of mathematics, knows important asp planning and analysing teaching of mathematics, masters different strategies for teaching and learning un assess and employ them.         Sign to be assessement (type, scope, language – if other than German, examination offered – if not every semester, information on w module is creditabe for bonus) <th>luati- Ind- nathe- s).</th>	luati- Ind- nathe- s).			
Module coordinator       Module offered by         Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Method of grading       Only after succ. compl. of module(s)         2       (not) successfully completed          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents           Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, evo on of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grundschule, selected topics and research results in modern mathematics didactics, theoretical foundations of matics didactics, dealing with heterogeneity in the classroom, organising substantial learning environmer         Intended learning outcomes	luati- ind- nathe- s).			
Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Method f grading       Only after succ. compl. of module(s)         2       (not) : uccessfully completed          Duration       Module level       Other prerequisites         1 semester       undergraduate          Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e.g. dyscalculia, evo on of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grundschule, using computers for teaching mathematics in Grundschule, using computers for teaching mathematics of diactics, dealing with heterogeneity in the classroom, organising substantial learning environmer         Intended learning und analysing teaching of mathematics, masters different strategies for teaching and learning und sassess and employ them.       Second mathematics of for the than Germanite of fired – if not every semester, information on we module is creditable for bonus)         a) talk (approx. 45 minutes) or       jermester semester       semester         a) talk (approx. 45 minutes) or       jermester semester       semester         Allocational learning to the pages)       and the semester       semester         Allocational learning to the pages)       genesiter       fermester       fermester         Intended learning to the pages)       genesiter       fermester       fermester         Intended learning to the pages) <t< td=""><td>luati- ınd- nathe- s).</td></t<>	luati- ınd- nathe- s).			
ECTS       Method of grading       Only after succ. compl. of module(s)         2       (not) Juccessfully completed          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents       Contents       Contents         Discussion of basic topics in mathematics in Grundschule, using computers for teaching mathematics in Grundschule, using computers for teaching mathematics in Grundschule, using computers for teaching mathematics of matics didactics, dealing with heterogeneity in the classroom, organising substantial learning environmer         Intended tearring outcomes       Intended tearring outcomes       Intended tearring outcomes         Courses (type, number of weekly contact hours, language – if other than German)       S (a)       Intended tearring outcomes         a) talk (approx. 45 minutes) or       b) term paper (5 to 10 pages) or       c) or jor (1 to 15 pages)       Intended tearring outcomes         a) talk (approx. 45 minutes) or       b) term paper (5 to 10 pages) or       senseter       S (a)         Allocative tuber tu	luati- ınd- nathe- s).			
2       (not) → □ cossingly completed <b>Module level Other prerequisites</b> 1 seme>t       undergraduate          Content         Contents         Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e.g. dyscalculia, evaluation on teaching materials for mathematics in Grundschule, using computers for teaching and alsing teaching of mathematics. Anose important asplanning and analysing teaching of mathematics, masters different strategies for teaching and learning ur assess and erbey them.         Courses (type, number of weekly contact hours, language – if other than German)         S (2)         Method r asserts <td< td=""><td>luati- ınd- nathe- s).</td></td<>	luati- ınd- nathe- s).			
Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents           Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e.g. dyscalculia, ewa on of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grundschule, selected topics and research results in modern mathematics didactics, theoretical foundations of matics didactics, dealing with heterogeneity in the classroom, organising substantial learning environmer         Intended learning outcomes	luati- ınd- nathe- s).			
1 semester       undergraduate          Contents         Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, evo on of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grundschule, selected topics and research results in modern mathematics didactics, theoretical foundations of matics didactics, dealing with heterogeneity in the classroom, organising substantial learning environmer         Intended learning outcomes       Intended learning outcomes         The student is acquainted with theoretical concepts in the didactics of mathematics, knows important asp planning and analysing teaching of mathematics, masters different strategies for teaching and learning ur assess and employ them.         Courses (type, number of weekly contact hours, language – if other than German)         S (2)         Method of assessment (type, scope, language – if other than German)         S (2)         Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on we module is creditable for bonus)         a) talk (approx. 45 minutes) or         b) term paper (5 to 10 pages) or         c) project (10 to 15 pages)         Assessment offered: Every two years, winter semester         Allocation of places	luati- ınd- nathe- s).			
Contents         Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, evere on of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grundschule, selected topics and research results in modern mathematics didactics, theoretical foundations of matics didactics, dealing with heterogeneity in the classroom, organising substantial learning environmere intended learning outcomes         Intended learning outcomes	luati- ınd- nathe- ːs).			
Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, evo on of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Gr schule, selected topics and research results in modern mathematics didactics, theoretical foundations of matics didactics, dealing with heterogeneity in the classroom, organising substantial learning environmer Intended learning outcomes The student is acquainted with theoretical concepts in the didactics of mathematics, knows important asp planning and analysing teaching of mathematics, masters different strategies for teaching and learning ur assess and employ them. Courses (type, number of weekly contact hours, language – if other than German) S (2) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on w module is creditable for bonus) a) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, winter semester Allocation of places	luati- ınd- nathe- s).			
Intended learning outcomes The student is acquainted with theoretical concepts in the didactics of mathematics, knows important asp planning and analysing teaching of mathematics, masters different strategies for teaching and learning ur assess and employ them. Courses (type, number of weekly contact hours, language – if other than German) S (2) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on w module is creditable for bonus) a) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, winter semester Allocation of places				
The student is acquainted with theoretical concepts in the didactics of mathematics, knows important asp planning and analysing teaching of mathematics, masters different strategies for teaching and learning ur assess and employ them. <b>Courses</b> (type, number of weekly contact hours, language – if other than German) S (2) <b>Method of assessment</b> (type, scope, language – if other than German, examination offered – if not every semester, information on w module is creditable for bonus) a) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, winter semester <b>Allocation of places</b> 				
Courses (type, number of weekly contact hours, language – if other than German) S (2) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on w module is creditable for bonus) a) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, winter semester Allocation of places	ects of d can			
S (2) Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on w module is creditable for bonus) a) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, winter semester Allocation of places 				
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on w module is creditable for bonus) a) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, winter semester Allocation of places				
a) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, winter semester Allocation of places 	ether			
Allocation of places				
Additional information				
Workload				
60 h				
Teaching cycle				
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)				
§ 22    Nr. 1 h)				
Module appears in				
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)				

Module	Module title Abbreviation				
Method	Methodology of Teaching in Mathematics 1 (German Grundschule)       10-M-DMGS1-152-m01				
Module	coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
Discuss ly weak stantial dern tee	sion of or par l learni chnolo	topics in the methodolog ticularly strong in mather ng environments as well gies.	y of teaching mathen natics, dealing with h as possibilities of imp	natics; e. g. support neterogeneity in the plementation in the	for pupils who are particular- classroom, organisation of sub- classroom, also including mo-
Intende	ed learr	ning outcomes			
The stu in teach is acqu	dent kı ning ma ainted	nows about possibilities athematics and importan with learning and teachin	to promote mathema t aspects in planning ng strategies and can	tical skills, criteria fi and analysing the to employ and assess	ir assessing media and their use eaching of mathematics. He/She them.
Courses	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
S (2)					
Method module is	l of ass creditab	s <b>essment</b> (type, scope, langua; le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) talk ( b) term c) proje Assessi	(approx paper ect (10 t ment o	k. 45 minutes) or (5 to 10 pages) or o 15 pages) ffered: Every two years, w	vinter semester		
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
90 h					
Teachir	ng cycl	e			
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
§ 22    Nr. 1 h)					
Module appears in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))					
exchan	ge prog	gram Mathematics (2023)	)		

Selected Topics in Didactics of Mathematics 2 (German Gruntschule)       10-M-DAGS2-152-m01         Module cordinator       Module offered by         Deam of Studies Mathematik (Mathematics)       Institute of Mathematics         CTS       Method of grading       Ohly after succ. compl. of module(S)         2       (not) successfully completed	Module title Abbreviation					Abbreviation
Module coordinator         Module offered by           Dean of Studies Mathematik (Mathematics)         Institute of Mathematics           ECTS         Method of grading         Only after succ. compl. of module(s)           2         (not) successfully completed            2         (not) successfully completed            1 semester         undergraduate            Contemts         Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, evaluation of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grund-schule, selected topics and research results in moder mathematics didactics, theoretical foundations of mathematics didactics, dealing with heterogeneity in the classroom, organising substantial learning environments).           Intended learning outcomes         The student is acquainted with theoretical concepts in the didactics of mathematics, knows important aspects of planning and analysing teaching of mathematics, masters different strategies for teaching and learning und can assess and employ them.           Courses (ype, number of weekly contact hours, language – if other than German)         S (z)           Method of grading for distributely or b) term paper (for to o 15 pages) or         c) project (to 15 pages) or           3) talk (approx, 4,5 minutes) or b) term paper (for to 15 pages) or         c) project (to 15 pages) or           4 Additional information <td>Selecte</td> <td>d Topic</td> <td>s in Didactics of Mathen</td> <td>natics 2 (German Gru</td> <td>ndschule)</td> <td>10-M-DAGS2-152-m01</td>	Selecte	d Topic	s in Didactics of Mathen	natics 2 (German Gru	ndschule)	10-M-DAGS2-152-m01
Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Method of grading       Only after succ. compl. of module(s)         2       (not) successfully completed	Module	e coordi	nator		Module offered by	
ECTS         Mether Jerstally completed         ··           2         [not] successfully completed         ··           Duration         Module level         Other prerequisites           1 semester         undergraduate         ··           I semester         undergraduate         ··           Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e.g. dyscalculia, evaluation of teaching materials for mathematics in Grundschule, using computers for teaching materials for fundations of mathematics didactics, theoretical foundations of mathematics and analysing teaching of mathematics, masters different strategies for teaching and learning und can assess and employ them.           Courses Urpen, number of weekly contact hours, language – if other than German)         S (c)           Method of assessment (type, scope, language – if other than German)         S (c)           Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether methed is creditable for honu)           a) talk (approx. 4, 5 minutes) or         b) term paper (5 to 10 spage)           c) project (u to 15 pages)         v           Additional infered: Every two years, summer semester           Additional infered: Every two years, summer semester           Seessment	Dean of	f Studie	s Mathematik (Mathema	atics)	Institute of Mathem	atics
2       (not) successfully completed          Duration       Module level       Other prerequisites         1 semester       undergraduate          Contents           Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, evaluation of teaching materials for mathematics in Grundschule, using computers for teaching materials in Grundschule, using computers for teaching mathematics in Grundschule, using computers for teaching and learning und can assess and employ them.         Courses (type, number of weekly contact hours, language – if other than German)       S         S (a)       Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for homa)         a) talk (approx. 4, 65 minutes) or       b) term paper (5 to to pages)         Assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for homa	ECTS	Metho	d of grading	Only after succ. com	pl. of module(s)	
Duration         Module level         Other prerequisites           1 semester         undergraduate            Contents	2	(not) s	uccessfully completed			
1 semester undergraduate	Duratio	n	Module level	Other prerequisites		
Contents         Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, evaluation of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grundschule, selected topics and research results in modern mathematics didactics, theoretical foundations of mathematics assess and employ them.         Courses (type, number of weekly contact hours, language – if other than German)       S         S (2)       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) talk (approx. 45 minutes) or       b) term paper (5 to to pages) or         c) project (to to 15 pages)       Assessment offered: Every two years, summer semester         Aldictional information	1 semes	ster	undergraduate			
Discussion of basic topics in mathematics didactics with a focus on didactic aspects (e. g. dyscalculia, evaluati- on of teaching materials for mathematics in Grundschule, using computers for teaching mathematics in Grund- schule, selected topics and research results in modern mathematics didactics, theoretical foundations of mathe- matics didactics, dealing with heterogeneity in the classroom, organising substantial learning environments). Intended learning outcomes The student is acquainted with theoretical concepts in the didactics of mathematics, knows important aspects of planning and analysing teaching of mathematics, masters different strategies for teaching and learning und can assess and employ them. Courses (type, number of weekly contact hours, language – if other than German) S (2) Method of assessment (type, scope, language – if other than German) S (2) 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) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (no to 15 pages) Assessment offered: Every two years, summer semester Allocation of places 	Conten	ts				
Intended learning outcomes The student is acquainted with theoretical concepts in the didactics of mathematics, knows important aspects of planning and analysing teaching of mathematics, masters different strategies for teaching and learning und can assess and employ them. Courses (type, number of weekly contact hours, language – if other than German) S (2) 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) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (to to 15 pages) Assessment offered: Every two years, summer semester Allocation of places	Discuss on of te schule, matics	sion of b eaching selecte didactio	pasic topics in mathemat materials for mathemati ed topics and research re cs, dealing with heteroge	tics didactics with a f cs in Grundschule, us sults in modern math eneity in the classroo	ocus on didactic asp sing computers for to nematics didactics, t m, organising substa	pects (e.g. dyscalculia, evaluati- eaching mathematics in Grund- theoretical foundations of mathe- antial learning environments).
The student is acquainted with theoretical concepts in the didactics of mathematics, knows important aspects of planning and analysing teaching of mathematics, masters different strategies for teaching and learning und can assess and employ them. Courses (type, number of weekly contact hours, language – if other than German) S (2) 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) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, summer semester Allocation of places	Intende	ed learn	ing outcomes			
Courses (type, number of weekly contact hours, language – if other than German)         S (2)         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) talk (approx. 45 minutes) or         b) term paper (5 to 10 pages)         c) project (10 to 15 pages)         Assessment offered: Every two years, summer semester         Allocation of places            Additional information            Workload         60 h         Teaching cycle            Referred to in LPO 1 (examination regulations for teaching-degree programmes)         § 2 21 INr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2025)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prifungsordnungsversion 2015))         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)	The stu plannin assess	dent is ng and a and em	acquainted with theoreti nalysing teaching of ma ploy them.	ical concepts in the d thematics, masters d	lidactics of mathema lifferent strategies fo	atics, knows important aspects of or teaching and learning und can
S (2)  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) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, summer semester  Allocation of places  Morkload 60 h  Teaching cycle Referred to in LPO I (examination regulations for teaching degree programmes) § 2 2 Il Nr. 1 h)  Module appears in First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	Course	<b>S</b> (type, nu	umber of weekly contact hours, la	anguage — if other than Ger	man)	
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) talk (approx. 45 minutes) or         b) term paper (5 to 10 pages) or         c) project (10 to 15 pages)         Assessment offered: Every two years, summer semester         Allocation of places            Additional information            Morkload         60 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 Il Nr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         (2020)       (Prifungsordnungsversion 2015))         exchange program Mathematics (2023)	S (2)					
a) talk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (10 to 15 pages) Assessment offered: Every two years, summer semester Allocation of places  Additional information  Workload 60 h Teaching cycle  Referred to in LPO I (examination regulations for teaching-degree programmes) § 22 II Nr. 1 h) Module appears in First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	Method module is	d of asso creditable	essment (type, scope, langua; e for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
Allocation of places Additional information Workload 60 h Teaching cycle Referred to in LPO I (examination regulations for teaching-degree programmes) § 22    Nr. 1 h) Module appears in First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	a) talk ( b) term c) proje Assessi	(approx paper ( ect (10 to ment of	. 45 minutes) or 5 to 10 pages) or 0 15 pages) fered: Every two years, s	ummer semester		
Additional information Additional information Additional information Additional information Additional information Additional information Workload Additional information Freaching cycle Referred to in LPO I (examination regulations for teaching-degree programmes) § 22 II Nr. 1 h) Module appears in First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	Allocati	ion of p	laces			
Additional information            Workload         60 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 II Nr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         (2020) (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)						
<ul> <li>Workload</li> <li>60 h</li> <li>Teaching cycle</li> <li>Referred to in LPO I (examination regulations for teaching-degree programmes)</li> <li>§ 22 II Nr. 1 h)</li> <li>Module appears in</li> <li>First state examination for the teaching degree Grundschule Mathematics (2015)</li> <li>First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)</li> </ul>	Additio	nal info	rmation			
Workload         60 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 II Nr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         (2020) (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)						
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Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 II Nr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	60 h					
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	excitati	ge hlog	ram mathematics (2023)	)		

Methodology of Teaching in Mathematics 2 (German Gruntstein Line)       10-M-DMG52-152-m01         Module correliator       Module offered by         Dear of Studies Mathematik (Mathematics)       Institute of Mathematics         CTS       Method of grading       Only after succ. compl. of module(s)         3       (not) successfully completed          1 semester       undergraduate          Discussion of topics in the methodology of teaching mathematics; e.g. support for upils who are particularity throng in mathematics, dealing with heterogeneity in the classroom, organisation of substantial learning environments as well as possibilities of implementation in the classroom, also including modern technologies.         Inteaching mathematics and important aspects in planning and analysing the teaching of anthematics. He/She is acquainted with learning and teaching strategies and can employ and assess them.         COUSES (lype, number of weekly contact hours, language – if other than German.         5 (2)         Method of assessment (type, scope, language – if other than German.         2 (a) (kaptrox. 45 minutes) or         1 b term apar (5 to 15 pages)         2 a) talk (approx. 45 minutes) or         2 b term apar (5 to 15 pages)         2 a) talk (approx. 45 minutes) for teaching degree from term (5 (2015))         9 n h         Teaching rule         Motide         2 2 Il Nr. 1 h)	Module title A					Abbreviation
Module offered by       Module offered by         Dean of Studies Mathematik (Mathematics)       Institute of Mathematics         ECTS       Method of grading       Only after succ. comp. I of module(s)         3       [not] successfully completed          Discursion of topics in the methodology of teaching mathematics; e.g. support for pupils who are particularly strong in mathematics, dealing with heterogeneity in the classroom, organisation of substantial learning environments as well as possibilities of implementation in the classroom, also including moderne technologies.         Interded learning outcomes       The student knows about possibilities to promote matematical skills, criteria für assessing media and their use is acquainted with learning and teaching strategies and can employ and assess them.         Courses (type, number of weekly contact hours, language – if other than German, examination offered – if not every senester, information on whether module is creditable for hours)         30 (alk (approx. 4g minutes) or b) term paper (g to to 3g ages)	Methodology of Teaching in Mathematics 2 (German Grundschule)       10-M-DMGS2-152-m01					10-M-DMGS2-152-m01
Dean of Studies Mathematik (Mathematics)         Institute of Mathematics           ECTS         Method of grading         Image: Complete Mathematics           3         Institute of Mathematics         Only after succ. compl. of module(s)           3         Module level         Other prerequisites           1 semester         undergraduate            Contents         Discussion of topics in the methodology of teaching mathematics; e.g. support for pupils who are particular, strong in mathematics, dealing with heterogeneity in the classroom, aganisation of substantial learning environments as well as possibilities of implementation in the classroom, also including modern teaching mathematics and important aspects in planning and analysing the teaching of mathematics. He/She is acqualred with learning and teaching strategies and can employ and assess them.           Courses (type, number of weekly contact hours, language – if other than Geman)         S (2)           S (2)         Method of assessment toffered: Every two years, summer semester           Additional information or blaces         S (2)           Additional information regulations for teaching degree programmes)         S (2)           S (2)         S (2)           Additional information regulations for teaching degree programmes)         S (2)           Additional information regulations for teaching degree programmes)         S (2)           S (2)         S (2)         S (2)	Module	coord	inator		Module offered by	
ECTS         Mether J grading         Only after succ. compl. of module(s)           3         [not] successfully completed            Duration         Module level         Other prerequisites           1 semester         undergraduate            Discussion of topics in the methodology of teaching mathematics; e.g. support for pupils who are particularly weak or particularly strong in mathematics, dealing with heterogeneity in the classroom, organisation of substantial learning environments as well as possibilities of implementation in the classroom, also including modern technologies.           Intended learning outcomes         Intended learning and teaching strategies and can employ and assess them.           Courses (wpe, number of weekly contact hours, language – if other than German)         S (a)           Method of assessment (wpe, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for hours)           a) talk (approx. 4g minutes) or         b) term paper (g to to pages) or           c) project (so to ts pages)         S           Allotation Information	Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
3       (not) successfully completed          Ouration       Module level       Other prerequisites         1 semestr       undergraduate          Contents           Discussion of topics in the methodology of teaching mathematics; e.g. support for pupils who are particularly tweak or particularly strong in mathematics, dealing with heterogeneity in the classroom, organisation of substantial learning environments as well as possibilities of implementation in the classroom, also including modern technologies.         Intended learning outcomes          The student knows about possibilities to promote mathematical skills, criteria für assessing media and their use in teaching mathematics and important aspects in planning and analysing the teaching of mathematics. He/She is acquainted with learning and teaching strategies and can employ and assess them.         Courses (type, number of weekly contact hours, language – if other than German)          S (2)       Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether medule is creditable for bonus)          a) talk (approx. 45 minutes) or       b) tem paper (5 to 10 pages)          Allocation I forces                 Allocational information	ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
Duration         Module level         Other prerequisites           1 semester         undergraduate            Contents            Discussion of topics in the methodology of teaching mathematics; e. g. support for pupils who are particular- ly weak or particularly strong in mathematics, dealing with heterogeneity in the classroom, organisation of sub- stantial learning environments as well as possibilities of implementation in the classroom, also including mo- dem technologies.           Intended learning outcomes            The student knows about possibilities to promote mathematical skills, criteria für assessing media and their use in teaching mathematics and important aspects in planning and analysing the teaching of mathematics. He/She is acquainted with learning and teaching strategies and can employ and assess them.           Courses (type, number of weekly contact hours, language – if other than German)            S (2)	3	(not) s	successfully completed			
1 semester       undergraduate          Contents         Discussion of topics in the methodology of teaching mathematics; e. g. support for pupils who are particular.         Weak or particularly strong in mathematics, dealing with heterogeneity in the classroom, organisation of substantial learning environments as well as possibilities of implementation in the classroom, also including modern technologies.         Intended learning outcomes          The student knows about possibilities to promote mathematical skills, criteria für assessing media and their use in teaching mathematics and important aspects in planning and analysing the teaching of mathematics. He/She is acquainted with learning and teaching strategies and can employ and assess them.         Courses (type, number of weekly contact hours, language – if other than German)       S         S (2)          Method of assessment (type, scope, language – if other than German)          S (2)          Method of assessment (type, scope, language – if other than German)          S (2)          Method of places          a) talk (approx. 45 minutes) or          b) term paper (5 to 10 pages)          Additional information              Moldue approx          go h	Duratio	n	Module level	Other prerequisites		
Contents         Discussion of topics in the methodology of teaching mathematics; e.g. support for pupils who are particularly weak or particularly strong in mathematics, dealing with heterogeneity in the classroom, organisation of substantial learning environments as well as possibilities of implementation in the classroom, also including modern technologies.         Intended learning outcomes       Intended learning outcomes on the substantial learning and analysing the teaching of mathematics. He/She is acquainted with learning and teaching strategies and can employ and assess them.         Courses (type, number of weekly contact hours, language – if other than German)       S         S (2)       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) talk (approx. 45 minutes) or       b) term paper (5 to 10 pages)         Assessment offered: Every two years, summer semester       Alditional information          Additional information          Setting cycle          Seting cycle        <	1 semes	ster	undergraduate			
Discussion of topics in the methodology of teaching mathematics; e. g. support for pupils who are particular- ly weak or particularly strong in mathematics, dealing with heterogeneity in the classroom, organisation of sub- stantial learning environments as well as possibilities of implementation in the classroom, also including mo- dern technologies. Intended learning outcomes The student knows about possibilities to promote mathematical skills, criteria für assessing media and their use in teaching mathematics and important aspects in planning and analysing the teaching of mathematics. He/She is acquainted with learning and teaching strategies and can employ and assess them. Courses (type, number of weekly contact hours, language – if other than German) S (2) 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) altalk (approx. 45 minutes) or b) term paper (5 to 10 pages) or c) project (to to 15 pages) Assessment offered: Every two years, summer semester Allocation of places 	Conten	ts				
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The student knows about possibilities to promote mathematical skills, criteria für assessing media and their use in teaching mathematics and important aspects in planning and analysing the teaching of mathematics. He/She is acquainted with learning and teaching strategies and can employ and assess them.	Intende	ed leari	ning outcomes			
Courses (type, number of weekly contact hours, language – if other than German)         S (2)         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) talk (approx. 45 minutes) or         b) term paper (5 to 10 pages) or         c) project (10 to 15 pages)         Assessment offered: Every two years, summer semester         Allocation of places            Additional information            Workload         go h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 2 11 Nr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         (2020 (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	The stu in teach is acqu	dent kı ning ma ainted	nows about possibilities athematics and importan with learning and teachin	to promote mathema t aspects in planning ng strategies and can	tical skills, criteria fi and analysing the to employ and assess	ür assessing media and their use eaching of mathematics. He/She them.
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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) talk (approx. 45 minutes) or         b) term paper (5 to 10 pages) or         c) project (10 to 15 pages)         Assessment offered: Every two years, summer semester         Allocation of places            Additional information            Morkload         90 h         Teaching cycle            Referred to in LPO 1 (examination regulations for teaching-degree programmes)         § 22 Il Nr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	S (2)					
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Allocation of places            Additional information            Workload         90 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 II Nr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         (2020) (Prüfungsordnungsversion 2015))         exchange program Mathematics (2023)	a) talk ( b) term c) proje Assessi	(approx paper ect (10 t ment o	k. 45 minutes) or (5 to 10 pages) or 10 15 pages) ffered: Every two years, s	ummer semester		
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Workload         90 h         Teaching cycle            Referred to in LPO I (examination regulations for teaching-degree programmes)         § 22 Il Nr. 1 h)         Module appears in         First state examination for the teaching degree Grundschule Mathematics (2015)         First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020)         exchange program Mathematics (2023)						
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<ul> <li>Referred to in LPO I (examination regulations for teaching-degree programmes)</li> <li>§ 22 II Nr. 1 h)</li> <li>Module appears in</li> <li>First state examination for the teaching degree Grundschule Mathematics (2015)</li> <li>First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))</li> <li>exchange program Mathematics (2023)</li> </ul>	Teachir	ng cycl	e			
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§ 22 II Nr. 1 h) <b>Module appears in</b> First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
Module appears in First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	§ 22    Nr. 1 h)					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)	Module appears in					
exchange program Mathematics (2023)	First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))					
	exchan	ge prog	gram Mathematics (2023)	)		

Module title Abbreviation					Abbreviation
E-Learn	E-Learning and Blended Learning in Mathematical Teaching (virtual Course) 10-M-DVHB-152-mo1				
Module	coord	inator		Module offered by	
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
3	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
ln a cou techniq	urse off ues in	ered by Virtuelle Hochscl e-learning and blended l	hule Bayern (vhb), the earning for teaching r	e student becomes a nathematics.	acquainted with and reflects on
Intende	ed learr	ning outcomes			
The stu well as	dent is their p	acquainted with basic m otentials and limitations.	ethods of e-learning	and blended learnin	g in teaching methematics, as
Courses	<b>5</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
Ü (2) Course	type: e	Learning, mostly Virtuell	e Hochschule Bayern	(vhb)	
Method module is	l of ass	essment (type, scope, langua	ge — if other than German, e	examination offered — if no	t every semester, information on whether
project	(web-b	ased, 15 to 20 hours)			
Assessi	ment o	ffered: Once a year, winte	er semester		
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Worklo	ad				
90 h					
Teachir	ng cycl	9			
Referre	d to in	LPOI (examination regulations	s for teaching-degree program	mmes)	
§ 22    N § 22    N § 22    N	Nr. 1 h) Nr. 2 f) Nr. 3 f)				
Module appears in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015)					
First sta First sta	First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Gymnasium Mathematics (2019)				

LA Grundschulen Mathematics (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 27 / 56
	cord Lehramt Grundschulen (Unterrichtsfach) Mathematik - 2015	

First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

Module	Module title Abbreviation						
Basics	Basics in Arithmetics (virtual course)   10-M-VHBAri-152-m01						
Module	e coord	inator		Module offered by			
Dean o	f Studi	es Mathematik (Mather	natics)	Institute of Mathem	atics		
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)			
2	(not) s	successfully completed					
Duratio	on	Module level	Other prerequisites				
1 seme	ster	undergraduate					
Conten	ts						
Basic to	opics o	n teaching arithmetics	in school, e. g. divisab	ility theory, prime nu	mbers, set theory.		
Intende	ed lear	ning outcomes					
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	cs and the related ma echnologies for teac	athematical backgrounds and hing arithmetic in school.		
Course	<b>S</b> (type, r	umber of weekly contact hour	s, language — if other than Gei	rman)			
Ü (2) Course	type: e	Learning, mostly Virtue	elle Hochschule Bayern	(vhb)			
Methoo module is	<b>d of ass</b> creditab	sessment (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, information on whether		
project Assess	(web-t ment o	based, 15 to 20 hours) ffered: Once a year, wir	nter semester				
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
60 h							
Teachi	ng cycl	e					
Referre	d to in	<b>LPO I</b> (examination regulation	ons for teaching-degree progra	mmes)			
§ 22      § 22      § 22	Nr. 1 h) Nr. 2 f) Nr. 3 f)	`					
Module	e appea	irs in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Gymnasium Mathematics (2019) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))							
LA Grundsc	hulen Ma	thematics (2015)	JMU Würzburg • g cord Lehramt Grund	enerated 18-Apr-2025 • exam schulen (Unterrichtsfach) Mat	. reg. data re- page 29 / 56 :hematik - 2015		



First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

exchange program Mathematics (2023)

Module title Abbreviation						
Basics	Basics in School Geometry (virtual course) 10-M-VHBGeo-152-mo1					
Module	e coord	inator		Module offered by	offered by	
Dean o	f Studi	es Mathematik (Mathen	natics)	Institute of Mathem	atics	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
2	(not)	successfully completed				
Duratio	on	Module level	Other prerequisites	i		
1 seme	ster	undergraduate				
Conten	Its					
Revisic ject-sp metry.	on and ecific a	consolidation of the fun nd didactic courses (in	damental topics in ele particular teaching de	ementary geometry th grees Grundschule, H	nat are prerequisites Hauptschule, Realscl	for the sub- hule) in geo-
Intend	ed lear	ning outcomes				
The stu tics.He	udent h /She is	as basic knowledge of s acquainted with the en	chool geometry, as re nployment of new tech	quired for the study on nologies for teachin	of mathematics and g geometry in schoo	its didac- l.
Course	<b>S</b> (type, r	number of weekly contact hours	, language — if other than Gei	rman)		
Ü (2) Course	type: e	Learning, mostly Virtue	lle Hochschule Bayern	ı (vhb)		
Metho	d of ass	sessment (type, scope, langu	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether
module is	s creditab	le for bonus)				
project Assess	: (web-l ment o	oased, 15 to 20 hours) ffered: Once a year, sur	nmer semester			
Allocat	ion of <sub>l</sub>	olaces				
Additio	onal inf	ormation				
Worklo	ad					
60 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulation	ns for teaching-degree progra	ammes)		
§ 22	Nr. 1 h)					
§ 22	Nr. 2 f)					
§ 22    Nr. 3 f)						
Module appears in						
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School)						
(2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015)						
First st First st First st	ate exa ate exa ate exa	mination for the teachir mination for the teachir mination for the teachir	ng degree Mittelschule ng degree Mittelschule ng degree Gymnasium	e Mathematics (2015) Didactics in Mathen Mathematics (2019)	natics (Middle Schoo	)) (2015)
LA Grundso	chulen Ma	thematics (2015)	JMU Würzburg ● g cord Lehramt Grund	enerated 18-Apr-2025 • exam schulen (Unterrichtsfach) Ma	. reg. data re- thematik - 2015	page 31 / 56



First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

exchange program Mathematics (2023)

Module title Abbreviation					Abbreviation
Stochas	Stochastics in Sekundarstufe I (virtual course) 10-M-VHBSto-152-mo1				
Module	coord	inator		Module offered by	
Dean of	fStudi	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	ts				
Revision fic and	n and o didacti	consolidation of the fund ic courses in stochastics.	amental topics in sto	chastics that are pre	requisites for the subject-speci-
Intende	ed lear	ning outcomes			
The stu tics.He/	dent h /She is	as basic knowledge of sto acquainted with the emp	ochastics, as required ployment of new tech	d for the study of ma nologies for teachin	thematics and its didac- g stochastics in school.
Courses	<b>5</b> (type, r	number of weekly contact hours, l	anguage — if other than Ger	man)	
Ü (2) Course	type: e	Learning, mostly Virtuell	e Hochschule Bayern	(vhb)	
Method	l of ass	<b>Sessment</b> (type, scope, langua	ge — if other than German, e	examination offered — if no	t every semester, information on whether
module is	creditab	le for bonus)			
project Assessi	(web-t ment o	based, 15 to 20 hours) ffered: Once a year, winte	er semester		
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
60 h					
Teachin	ıg cycl	e			
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)	
§ 22    N § 22    N § 22    N	Nr. 1 h) Nr. 2 f) Nr. 3 f)				
Module appears in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)					
First sta (2015) First sta First sta First sta	<ul> <li>(2015)</li> <li>First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015)</li> <li>First state examination for the teaching degree Mittelschule Mathematics (2015)</li> <li>First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015)</li> <li>First state examination for the teaching degree Gymnasium Mathematics (2019)</li> </ul>				

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	cord Lehramt Grundschulen (Unterrichtsfach) Mathematik - 2015	



First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

exchange program Mathematics (2023)

Module	Module title Abbreviation					
Mathematics in grade 10 (virtual course)10-M-VHBM10-152-m01					10-M-VHBM10-152-m01	
Module	coord	inator		Module offered by		
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics	
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)		
2	(not) s	successfully completed				
Duratio	n	Module level	Other prerequisites			
1 seme	ster	undergraduate				
Conten	ts					
Basic to	opics o	n teaching mathematics	in tenth grade in Hau	ptschule, Realschule	e and Gymnasium.	
Intende	ed learr	ning outcomes				
The stu schule, of new	dent le as wel techno	arns basic topics in the t l as the related mathema logies for teaching mathe	eaching of mathemat itical backgrounds ar ematics in tenth form	tics in tenth form at ( ad proofs. He/She is	German Mittelschule and Real- acquainted with the employment	
Course	<b>S</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)		
Ü (2) Course	type: e	Learning, mostly Virtuell	e Hochschule Bayern	(vhb)		
Methoo module is	<b>l 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	
project Assess	(web-b ment o	based, 15 to 20 hours) ffered: Once a year, sumi	ner semester			
Allocat	ion of r	olaces				
Additio	nal info	ormation				
Worklo	ad					
60 h						
Teachir	ng cycl	6				
	<u> </u>					
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)		
§ 22      § 22      § 22	Nr. 1 h) Nr. 2 f) Nr. 3 f)					
Module appears in						
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School)						
(2015) First sta (2015)	(2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School)					
First sta First sta First sta	<ul> <li>(2015)</li> <li>First state examination for the teaching degree Mittelschule Mathematics (2015)</li> <li>First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015)</li> <li>First state examination for the teaching degree Gymnasium Mathematics (2019)</li> </ul>					

LA Grundschulen Mathematics (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 35 / 56
	cord Lehramt Grundschulen (Unterrichtsfach) Mathematik - 2015	



First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

exchange program Mathematics (2023)

LA Grundschulen Mathematics (2015)

Module	title				Abbreviation
Basics of Mathematics für German Grundschule 1: Arithmetics and Orders of Magnitude (virtual course)			10-M-VHBAuG-152-m01		
Module	coord	inator		Module offered by	·
Dean of	fStudie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	ts				
Fundarr arithme vered ir	nental f etic law n Gruno	topics in teaching arithm 's, divisibility. Additional dschule.	etics in Grundschule, selected topics in ap	e.g. positional nota plication-oriented m	ation, elementary arithmetics, nathematics on the quantities co-
Intende	ed leari	ning outcomes			
notions mathen They kn They are of instru indeper	and m natics i low stra e able uction.	related to quantities, and ategies for development to assess and value the i They know various fields	and map. They know t are able to structure of understanding of t mportance of digital of application of arit	he subject-related c the notions and me he central notions o technology with resp hmetic concepts, ar	ontents in application-oriented thods within a conceptual map. f arithmetic in elementary school. pect to todays and future design and are able to perform modelling
Courses	<b>5</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
Ü (2) Course	type: e	Learning, mostly Virtuell	e Hochschule Bayern	(vhb)	
Method module is	l of ass creditab	s <b>essment</b> (type, scope, langua le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
project Assessi	(web-b ment o	oased, 15 to 20 hours) ffered: Once a year, winte	er semester		
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
60 h					
Teachin	ng cycl	e			
Referre	d to in	LPOI (examination regulations	s for teaching-degree progra	mmes)	
§ 22    N	vr. 1 h)				
Module	appea	nrs in			
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) (2015)					
First sta (2020 ( exchan	ate exa Prüfun ge pros	mination for the teaching gsordnungsversion 2015) gram Mathematics (2023)	; degree Sonderpäda; )) )	gogik Didactics in M	athematics (Primary School)

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Module	title				Abbreviation
Basics of Mathematics für German Grundschule 2: Geometry and Stochastics (virtual course)			y and Stochastics	10-M-VHBGuS-152-m01	
Module	coord	inator		Module offered by	·
Dean of	Studie	es Mathematik (Mathema	atics)	Institute of Mathem	natics
ECTS	Metho	od of grading	Only after succ. com	pl. of module(s)	
2	(not) s	successfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Content	ts				
Fundam ented m	nental t nathem	topics in teaching geome natics (statistics, probabi	try (planar figures, so lity and combinatoric	olids, congruence an (s) in Grundschule.	d symmetry) and application-ori-
Intende	d learr	ning outcomes			
notions and methods within a conceptual map. They know the subject-related contents in application-oriented mathematics related to statistics, probability and combinatorics, and are able to structure the notions and me- thods within a conceptual map. They know strategies for development of understanding of the central notions of geometry and application-oriented mathematics in elementary school. They are able to assess and value the im- portance of digital technology with respect to todays and future design of instruction. They know various fields of application of geometry and application-oriented mathematics concepts, and are able to perform modelling in-					
Courses	<b>5</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
Ü (2) Course	type: e	Learning, mostly Virtuell	e Hochschule Bayern	(vhb)	
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	(web-b ment o	based, 15 to 20 hours) ffered: Once a year, sumi	ner semester		
Allocati	ion of p	olaces			
Additio	nal info	ormation			
Workloa	ad				
60 h					
Teachin	ig cycl	e			
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
§ 22    N	Vr. 1 h)				
Module	appea	ars in			
First sta First sta First sta (2015)	ite exa ite exa ite exa	mination for the teaching mination for the teaching mination for the teaching	g degree Grundschule g degree Grundschule g degree Sonderpädag	Mathematics (2015 Didactics in Mather gogik Didactics in M	) matics (Primary School) (2015) athematics (Primary School)
First sta (2020 ( exchan	ite exa Prüfun ge prog	mination for the teaching gsordnungsversion 2015) gram Mathematics (2023)	g degree Sonderpädag )) )	gogik Didactics in M	athematics (Primary School)

LA Grundschulen Mathematics (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data re-	page 38 / 56
	cord Lehramt Grundschulen (Unterrichtsfach) Mathematik - 2015	

Module title			Abbreviation			
Basic Notions and Methods of Mathematical Reasoning			10-M-GBM-152-m01			
Modul	e coord	inator		Module offered by		
Dean of Studies Mathematik (Mathematics) Institute of Mathematics						
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)		
2	(not) s	successfully completed				
Duratio	on	Module level	Other prerequisites			
1 seme	ester	undergraduate				
Conter	nts					
Introdu	uction to	o the basic notions and	proof techniques in m	athematics: approad	ch to sets, formal log	gic and maps.
Intend	ed learr	ning outcomes				
The stu the Ba	udent ge chelor's	ets acquainted with the degree study program	e basic working technic me.	ues which are prered	quisites for the furth	er courses in
Course	<b>es</b> (type, n	umber of weekly contact hour	, language — if other than Ge	rman)		
V (1) +	Ü (1)					
Metho module i	<b>d of ass</b> s creditab	s <b>essment</b> (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informat	on on whether
project Langua	t (10 to a age of a	15 pages) ssessment: German an	d/or English			
Allocat	tion of p	olaces				
Additio	onal info	ormation				
Additic	onal info	ormation on module du	ration: block taught pr	ior to the beginning	of the lecture period	
Worklo	bad			0.0	·	
60 h	-					
Teachi	ng cycl	<b>a</b>				
		-				
Referre	ed to in	LPO I (examination regulati	ons for teaching-degree progra	mmes)		
§ 22    § 22	Nr. 1 h) Nr. 2 f)					
Modul	e appea	ins in				
Bachel	lor's deg	gree (1 major) Mathema	atics (2015)			
Bachel	lor's de	gree (1 major) Economa	ithematics (2015)			
Bachel	lor's de	gree (1 major) Mathema	atical Physics (2015)			
Bachel First st	lor s deg	gree (1 major) Computa mination for the teachi	ng degree Grundschuld	015) Mathematics (2015)	)	
First st	ate exa	mination for the teachi	ng degree Grandschule I	Mathematics (2015)	)	
First st	ate exa	mination for the teachi	ng degree Mittelschule	Mathematics (2015)		
Bachel	Bachelor's degree (1 major) Mathematical Physics (2016)					
Bachelor's degree (1 major) Economathematics (2017)						
First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))						
Bachelor's degree (1 major) Mathematical Physics (2020)						
Bachel	Bachelor's degree (1 major) Economathematics (2021)					
Bachel	lor's deg	gree (1 major) Economa gree (1 major) Mathom	unematics (2022) atical Data Science (20	22)		
				<i>~~)</i>	www.data	
LA Grundso	chulen Mat	nematics (2015)	JMU Würzburg • g cord Lehramt Grund	enerated 18-Apr-2025 • exam schulen (Unterrichtsfach) Ma	. reg. data re- thematik - 2015	page 39 / 56

#### Julius-Maximilians-UNIVERSITÄT WÜRZBURG



exchange program Mathematics (2023) Bachelor's degree (1 major) Mathematics (2023) Bachelor's degree (1 major) Economathematics (2023) Bachelor's degree (1 major) Mathematical Physics (2024) Bachelor's degree (1 major) Economathematics (2025)

Module title			Abbreviation				
Didactics of Geometry (virtual course)			10-M-VHBDG-152-m	101			
Module	e coord	inator		Module offered by	odule offered by		
Dean of	f Studio	es Mathematik (Mathem	atics)	Institute of Mathem	atics		
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						
Geome importa which a chapter	try dida ant for a are usu rs on sj	actics is about learning all of geometry and mat ally discussed only brie bace geometry, trigonon	and teaching geometry nematics, namely prov fly or not at all in unive netry and similarity ge	y. This course focuse ving and problem sol ersity lectures and in ometry.	es on topics which an lving. It also address the literature. Amor	re central and ses topics ng these are	
Intende	ed learı	ning outcomes					
The students are acquainted with the subject-specific contents of school geometry, and are able to structure the notions and methods within a conceptual map. They know strategies of short, middle and long term development of understanding of the central concepts of geometry in teaching mathematics. They are able to develop and justify learning units and learning sequences for the important topics in school geometry independently. They are able to assess and value the importance of digital technology with respect to todays and future design of instruction. They know various fields of application of geometric concepts, and are able to perform modelling (in the sense of modelling cycles) independently.							
Courses	<b>S</b> (type, n	number of weekly contact hours,	language — if other than Ger	man)			
Ü (2)				<<			
Methoo module is	d of ass creditab	sessment (type, scope, langu le for bonus)	age — if other than German, e	examination offered — if no	t every semester, informati	on on whether	
project Assess	(web-b ment o	based, 15 to 20 hours) ffered: Once a year, sun	nmer semester				
Allocat	ion of p	olaces					
Additio	nal inf	ormation					
Worklo	ad						
60 h							
Teachir	ıg cycl	e					
Referre	d to in	LPO I (examination regulatio	ns for teaching-degree progra	mmes)			
§ 22	Nr. 1 h)						
9 22 II NT. 2 TJ § 22 II NT. 3 f)							
Module appears in							
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)							
LA Grundsc	hulen Mai	thematics (2015)	JMU Würzburg ● ge cord Lehramt Grund	enerated 18-Apr-2025 • exam schulen (Unterrichtsfach) Ma	. reg. data re- thematik - 2015	page 41 / 56	

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015)

First state examination for the teaching degree Mittelschule Mathematics (2015)

First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

exchange program Mathematics (2023)

Module title			Abbreviation			
Didactics of Algebra (virtual course)       10-M-VHBDA-152-m01					01	
Module coordinator Modu			Module offered by	Module offered by		
Dean c	of Studi	es Mathematik (Mather	matics)	Institute of Mathem	atics	
ECTS	Meth	od of grading	Only after succ. con	npl. of module(s)		
2	(not)	successfully completed				
Durati	on	Module level	Other prerequisites	;		
1 seme	ester	undergraduate				
Conter	nts					
Algebr pics in	a didac school	tics is about learning a algebra: extensions of	nd teaching algebra. Th number domains, vari	his course focuses or ables and terms, equ	n the central and imp ations and function	portant to- s.
Intend	ed lear	ning outcomes				
The students are acquainted with the subject-specific contents of school algebra, and are able to structure the notions and methods within a conceptual map. They know strategies of short, middle and long term development of understanding of the central concepts of algebra in teaching mathematics. They are able to develop and justify learning units and learning sequences for the important topics in school algebra independently. They are able to assess and value the importance of digital technology with respect to todays and future design of instruction. They know various fields of application of algebraic concepts, and are able to perform modelling (in the sense of modelling cycles) independently.						
Course	<b>es</b> (type, r	number of weekly contact hour	s, language — if other than Ge	rman)		
Ü (2)						
Course	e type: e	eLearning, mostly Virtue	elle Hochschule Bayern	ו (vhb)		
Metho module i	d of ass s creditab	<b>sessment</b> (type, scope, lang le for bonus)	uage — if other than German,	examination offered — if no	t every semester, informati	on on whether
project Assess	t (web-l sment o	based, 15 to 20 hours) ffered: Once a year, wi	nter semester			
Allocat	tion of <sub>l</sub>	places				
Additio	onal inf	ormation				
Worklo	oad					
60 h						
Teachi	ng cycl	e				
Referre	ed to in	LPO I (examination regulati	ons for teaching-degree progra	ammes)		
§ 22    § 22	Nr. 1 h) Nr. 3 f)	, § 22    Nr. 2 f)				
Modul	e appea	ars in				
First st	ate exa	mination for the teachi	ng degree Grundschule	e Mathematics (2015)	)	
First st	First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015)					ool) (2015)
First st	ate exa	mination for the teachi	ng degree Realschule I	Mathematics (2015)		
FIRST ST	ate exa	mination for the teach	ng degree Gymnasium ng degree Sondernäda	mathematics (2015) gogik Didactics in M	athematics (Primany	School)
(2015)	מוכ כאמ		ng degree Jonderpada	Sogn Diactics III Mi	amenianes (i initaly	Schooly
First st	ate exa	mination for the teachi	ng degree Sonderpäda	gogik Didactics in Ma	athematics (Middle	School)
(2015)	ate en	mination for the tool	na doaro - Mittel	Mathamatics ( )		
FIFST St	ate exa	thematics (2015)		enerated 18-Apr-2025 • exam	reg data re-	nage 42 / 56
L' Glunds			cord Lehramt Grund	Ischulen (Unterrichtsfach) Mai	thematik - 2015	page 43 / 30

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First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

exchange program Mathematics (2023)

Module title			Abbreviation			
Exam Tutorial Didactics of Mathematics (virtual course)			10-M-VHBEx-152-mo	01		
Module	e coordinator			Module offered by		
Dean o	f Studies Mathem	atik (Mathem	atics)	Institute of Mathem	atics	
ECTS	Method of gradi	ng	Only after succ. com	pl. of module(s)		
2	(not) successfull	ly completed				
Duratio	on Module le	evel	Other prerequisites			
1 seme	ster undergrad	duate				
Conten	ts		-			
Revisio the Ers as basi	n of basics (defin tes Staatsexamer c guidelines for a	itions of math für Lehramt G nswering exar	ematical notions, for Gymnasium (first state n questions (with a sp	nulation and proving examination for tea pecial focus on the s	g of theorems) in pre ching at a Gymnasiu tate examination in I	paration for ım) as well Bavaria).
Intende	ed learning outco	mes				
The stu	dent learns abou	t the structure	of the state exams a	nd different methods	for solving the exan	n problems.
Course	<b>S</b> (type, number of wee	kly contact hours,	language — if other than Ger	man)		
Ü (2) Course	type: eLearning,	mostly Virtuel	le Hochschule Bayern	(vhb)		
Metho module is	d of assessment (t creditable for bonus)	type, scope, langua	age — if other than German, e	examination offered — if no	t every semester, informati	on on whether
project Assess	(web-based, 15 to ment offered: One	o 20 hours) ce a year, wint	er semester			
Allocat	ion of places					
Additio	onal information					
Worklo	ad					
60 h						
Teachi	ng cycle					
Referre	ed to in LPO I (exan	nination regulation	is for teaching-degree progra	mmes)		
§ 22    § 22    § 22	Nr. 1 h) Nr. 2 f) Nr. 3 f)					
Module	e appears in					
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Mathematics (2020 (Prüfungsordnungsversion 2015))						
LA Grundso	hulen Mathematics (201	5)	JMU Würzburg • ge cord Lehramt Grund:	enerated 18-Apr-2025 • exam schulen (Unterrichtsfach) Mat	. reg. data re- thematik - 2015	page 45 / 56

First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

LA Grundschulen Mathematics (2015)

Module title			Abbreviation		
Mathen	natics	ı (virtual course)			10-M-VHBMa1-152-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)	
2	(not) s	uccessfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
Discuss fundam	ion of entals	basic topics on teaching concerning the organisa	mathematics in a Gyı tion of classes.	nnasium, in particul	ar verbal and subject-specific
Intende	d learr	ning outcomes			
The stu conside	dent is ering bo	able to discuss selected oth subject-related and m	topics and questions nethodical aspects.	s on teaching mathe	matics at German Gymnasium,
Courses	<b>5</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
Ü (2) Course	type: e	Learning, mostly Virtuell	e Hochschule Bayern	(vhb)	
Method module is	l of ass	essment (type, scope, langua le for bonus)	ge — if other than German, e	xamination offered — if no	t every semester, information on whether
project Assessi	(web-b ment of	ased, 15 to 20 hours) ffered: Every two years, w	vinter semester		
Allocati	ion of p	laces			
	•				
Additio	nal info	ormation			
Worklo	ad				
60 h					
Teachir	ig cycle	9			
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
§ 22    N § 22    N § 22    N	Nr. 1 h) Nr. 2 f) Nr. 3 f)				
Module	appea	rs in			
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Realschule Mathematics (2015) First state examination for the teaching degree Gymnasium Mathematics (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015) First state examination for the teaching degree Mittelschule Mathematics (2015) First state examination for the teaching degree Mittelschule Mathematics (2015)					
First sta First sta	ite exai ite exai	mination for the teaching mination for the teaching	degree Mittelschule degree Gymnasium	Didactics in Mathen Mathematics (2019)	natics (Middle School) (2015)

JMU Würzburg • generated 18-Apr-2025 • exam. reg. data record Lehramt Grundschulen (Unterrichtsfach) Mathematik - 2015

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First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

exchange program Mathematics (2023)

LA Grundschulen Mathematics (2015)

Module title			Abbreviation		
Mathen	natics :	2 (virtual course)			10-M-VHBMa2-152-mo1
Module	coordi	nator		Module offered by	
Dean of	Studie	es Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS	Metho	d of grading	Only after succ. com	pl. of module(s)	
2	(not) s	uccessfully completed			
Duratio	n	Module level	Other prerequisites		
1 semes	ster	undergraduate			
Conten	ts				
Discuss bilities	ion of of of impl	central topics on teachin ementation in the classr	g mathematics in a G oom.	ymnasium, in partic	ular didactic analyses and possi-
Intende	d learn	ing outcomes			
The stu Gymnas	dent is sium fro	able to discuss and anal	lyse selected topics a riew.	nd questions on tea	ching mathematics at German
Courses	<b>5</b> (type, n	umber of weekly contact hours, l	anguage — if other than Ger	man)	
Ü (2) Course	type: e	Learning, mostly Virtuell	e Hochschule Bayern	(vhb)	
Method module is	l of ass	essment (type, scope, langua e for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
project Assessi	(web-b ment of	ased, 15 to 20 hours) ffered: Every two years, s	ummer semester		
Allocati	ion of p	laces			
Additio	nal info	ormation			
Worklo	ad				
60 h					
Teachir	ig cvcle	2			
	<u> </u>				
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
§ 22    N § 22    N	Nr. 1 h) Nr. 2 f)				
§ 22	vr. 3 f)				
Module	appea	rs in			
First sta First sta First sta	ite exar ite exar ite exar	nination for the teaching nination for the teaching nination for the teaching	degree Grundschule degree Grundschule degree Realschule M	Mathematics (2015) Didactics in Mathem Aathematics (2015)	) natics (Primary School) (2015)
First sta (2015)	ite exar	amination for the teaching degree Gymnasium Mathematics (2015) amination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School)			
First sta (2015)	First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015)				
First sta First sta First sta	ite exar ite exar ite exar	nination for the teaching nination for the teaching nination for the teaching	degree Mittelschule degree Mittelschule degree Gymnasium	Mathematics (2015) Didactics in Mathen Mathematics (2019)	natics (Middle School) (2015)

JMU Würzburg • generated 18-Apr-2025 • exam. reg. data record Lehramt Grundschulen (Unterrichtsfach) Mathematik - 2015

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First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

exchange program Mathematics (2023)

Module title				Abbreviation
Methods and Media in Teaching Mathematics 1 (German Grur			undschule)	10-M-MMMG1-152-m01
Module coor	linator		Module offered by	
Dean of Stud	ies Mathematik (Mathema	atics)	Institute of Mathem	atics
ECTS Meth	od of grading	Only after succ. com	pl. of module(s)	
3 (not)	successfully completed			
Duration	Module level	Other prerequisites		
1 semester	undergraduate			
Contents				
Topics in the cularly weak environments with a focus of	methodology of teaching in mathematics, dealing w s) and the use of media in on practical implementatio	mathematics (e.g. su vith heterogeneity in t the classroom (e.g. on in the classroom.	upport for pupils who the classroom, orgar real objects, the use	o are particularly strong or parti- nisation of substantial learning of computers) are discussed
Intended lea	rning outcomes			
The student l ployment in t	nows the possibilities, lir eaching mathematics.	nitations, advantages	s and disadvantages	of methods and media for em-
Courses (type,	number of weekly contact hours, l	anguage — if other than Ger	man)	
S (2)				
Method of as module is credita	<b>sessment</b> (type, scope, langua ble for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) talk (appro b) term pape c) project (10 Assessment (	ox. 45 minutes) or r (5 to 10 pages) or to 15 pages) offered: Every two years, w	vinter semester		
Allocation of	places			
Additional in	formation			
Workload				
90 h				
Teaching cyc	le			
Referred to in	LPOI (examination regulations	s for teaching-degree progra	mmes)	
§ 22    Nr. 1 h	)			
Module appears in				
First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015)) exchange program Mathematics (2023)				

Module title			Abbreviation		
Methods and Media in Teaching Mathematics 2 (German Grundschule)			10-M-MMMG2-152-m01		
Module	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 semes	ster	undergraduate			
Conten	ts				
Further dia in th	topics he clas	in the methodology of te sroom) are discussed an	aching mathematics d tested in practice.	(e.g. learning mater	ials, in-depth employment of me-
Intende	ed lear	ning outcomes			
The stu media f	dent ki for emp	nows the possibilities, lin bloyment in teaching mat	nitations, advantage: hematics.	s and disadvantages	of comprehensive methods and
Courses	<b>S</b> (type, r	number of weekly contact hours, la	anguage — if other than Ger	man)	
S (2)					
Method module is	<b>l of ass</b> creditab	s <b>essment</b> (type, scope, languag le for bonus)	ge — if other than German, e	examination offered — if no	t every semester, information on whether
a) talk ( b) term c) proje Assessi	(approx paper ect (10 f ment o	x. 45 minutes) or (5 to 10 pages) or to 15 pages) ffered: Every two years, s	ummer semester		
Allocati	ion of p	olaces			
Additio	nal inf	ormation			
Worklo	ad				
90 h					
Teachir	ng cycl	е			
Referre	d to in	LPO I (examination regulations	s for teaching-degree progra	mmes)	
§ 22    N	Vr. 1 h)				
Module	appea	ars in			
First sta First sta (2015) First sta (2020 (	First state examination for the teaching degree Grundschule Mathematics (2015) First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)				

exchange program Mathematics (2023)

Module	e title		Abbreviation						
School Mathematics from a Higher Perspective 10-M-SCH-152-mo1									
Module coordinator				Module offered by					
Dean of Studies Mathematik (Mathema			atics) Institute of Mathematics						
ECTS Method of grading		Only after succ. compl. of module(s)							
5 (not) successfully completed									
Duration Module level			Other prerequisites						
1 semester undergraduate									
Contents									
Discussion of selected topics in school mathematics with respect to their integration into wider theories and their didactic implementation at both school and university levels.									
Intende	ed lear	ning outcomes							
By means of selected examples, the student gains insight into the interrealtion between school mathematics and advanced mathematical theories. He/She is able to discuss these under mathematical, didactical and me-thodical aspect.									
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)									
V (2) + Ü (2)									
<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)									
b) term paper (10 to 15 pages) or c) project work (15 to 25 hours) Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester									
Allocation of places									
Additional information									
			_						
Worklo	ad								
150 h									
Teachi	ng cycl	e							
Referred to in LPO I (examination regulations for teaching-degree programmes)									
§ 22    Nr. 1 h) § 22    Nr. 2 f)									
§ 22 II Nr. 3 f)									
Module appears in									
Bachelor's degree (1 major) Mathematics (2015)									
Bachelor's degree (1 major) Mathematical Physics (2015) Bachelor's degree (1 major) Computational Mathematics (2015)									
First state examination for the teaching degree Grundschule Mathematics (2015)									
First state examination for the teaching degree Realschule Mathematics (2015)									
First state examination for the teaching degree Gymnasium Mathematics (2015)									
First state examination for the teaching degree Mittelschule Mathematics (2015)									
First state examination for the teaching degree Gymnasium Mathematics (2010)									
riist sta	ale exa	initiation for the teachin	g degree dymnasium	mathematics (2019)		I			
LA Grundso	chulen Ma	thematics (2015)	JMU Würzburg • g cord Lehramt Grund	enerated 18-Apr-2025 • exam schulen (Unterrichtsfach) Ma	. reg. data re- thematik - 2015	page 53 / 56			



Bachelor's degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major) Mathematical Data Science (2022) exchange program Mathematics (2023) First state examination for the teaching degree Gymnasium Mathematics (2023) Bachelor's degree (1 major) Mathematics (2023)

Bachelor's degree (1 major) Mathematical Physics (2024)





#### Paper

(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 Grundschule may write this thesis in the subject Didaktik der Grundschule (Didactics of Grundschule), 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.

Module	e title		Abbreviation						
Thesis	in Matl	hematics (German Grund	schule)		10-M-HMGS-152-m01				
Module	e coord	inator		Module offered by					
Dean of Studies Mathematik (Mathema			atics)	Institute of Mathematics					
ECTS	Metho	od of grading	Only after succ. con	npl. of module(s)	ol. of module(s)				
10	nume	rical grade							
Duration		Module level	Other prerequisites						
1-2 semester undergrad		undergraduate							
Contents									
Independently researching and writing on a topic in mathematics or mathematics didactics selected in consulta- tion with the supervisor.									
Intended learning outcomes									
The student is able to work independently on a given mathematical topic and apply the skills and methods ob- tained during his/her studies in the teaching degree programme. He/She can write down the result of his/her work in a suitable form, incorporating aspects of the didactics of mathematics.									
Courses (type, number of weekly contact hours, language — if other than German)									
No courses assigned to module									
<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)									
Hausarbeit (thesis) pursuant to Section 29 LPO I (examination regulations for teaching-degree programmes) (250 to 300 hours)									
Allocation of places									
Additio	nal inf	ormation							
Worklo	ad								
300 h									
Teaching cycle									
Referred to in LPO I (examination regulations for teaching-degree programmes)									
§ 29									
Module appears in									
First state examination for the teaching degree Grundschule Mathematics (2015)									