

## **Annex SFB**

## Studienfachbeschreibung (subject description, SFB) for the subject **Mathematics**

with the degree "Erweiterungsprüfung für das Lehramt an Realschulen" (ECTS credits)

Responsible: Faculty of Mathematics and Computer Science

Responsible: Institute of Mathematics

Examination regulations version: 2015

Examination regulations version: 2015

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

= 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 for the modules in this SFB: ditable for bonus.

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not cre-

Information on Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the meassessment procedures: thod 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 a 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:

## LASP02015

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

## 05-Oct-2015 (2015-189)

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.

Every module will be described using the following form:

Abbreviation	Module title										
	ECTS		Duration	(in semesters)	Method of grading		Module level				
	Courses		To be spe	be specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y							
	Method of as	ssessm	ent								
	Only after su completion of		ıl if applica	fapplicable							
	Other prereq	uisites	if applica	if applicable							
	Participants on of places		ocati- if applica	if applicable							
	Additional in	format	ion if applica	if applicable							
	Referred to in	n LPO I	if applica	if applicable (examination regulations for teaching-degree programmes)							

Scientific Disciplin	e (60 ECTS cred	dits)								
Area 1 (60 ECTS cro	edits)									
10-M-ELZT-152-	Elementary N	umber The	eory							
mo1	ECTS 6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Courses			$(4) + \ddot{U}(2)$						
	Method of ass		If ann of one date)	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).						
	Referred to in		§ 51 l	Nr. 3						
10-M-EL-	Elementary G									
GE-152-m01	ECTS 6	Duratio		1 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Courses			+ Ü (2)			,			
	Method of ass		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).							
A M FLCT				51 l Nr. 3						
10-M-ELST-152- mo1	ECTS 5	Duratio								
	Courses	Duratio	V (3) + Ü (1)							
	Method of ass	sessment	<u> </u>							
	Referred to in		§ 51 l	§ 51   Nr. 3						
10-M-GRLA-152-	Basic Linear A	Analysis								
mo1	ECTS 9	Duratio	,	1 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Courses	,	1 12	+ Ü (2)						
	Method of ass	sessment	If ann of one date).	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).  creditable for bonus						
	Referred to in	LPO I	§ 51 l	Nr. 2						

10-M-GRAN-152-	Basic A	nalysis						1				
mo1	ECTS	12	Duratio	n	2 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S	,	V (4) ·	$V(4) + \ddot{U}(2) + V(2) + \ddot{U}(2)$							
	Method	of asse	essment	writte	vritten examination (approx. 60 to 120 minutes).							
				of one date).	f 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).  Exercise the content of the course of the co							
	Referre	d to in L	.PO I	§ 51 l	Nr. 1							
10-M-AN-	Analyti	c Geom	etry									
GE-152-m01	ECTS	6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S		V (4) ·	+ Ü (2)							
	Method	1 01 2556	essment	If ann of one date).	ritten examination (approx. 60 to 90 minutes) announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per canditate).  editable for bonus							
	Referre	d to in L	PO I	§ 51 l	§ 51   Nr. 2							
10-M-GRDG-152-	Basic Differential Equations											
mo1	ECTS	5	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S	,	V (3) -	V (3) + Ü (2)							
	Method of assessment			If ann of one date).	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 of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minute date). creditable for bonus							
	Referre	d to in L	PO I	§ 51   Nr. 1								
10-M-M4R-152-	Consoli	idation	of Mathe	matics (German Realschule)								
mo1	ECTS	6	Duratio	n	1 semester	Method of grading	numerical grade	Modul level	undergraduate			
	Course	S		V (3) ·	V (3) + Ü (2)							
			essment	If ann of one date) credit	written examination (approx. 60 to 90 minutes) f announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examinat of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per car							
	Referre	d to in L	.PO I	§ 51 S	pecial branch of sci	ence without assignn	nent					

10-M-M3GM-	Review	Course	Mathem	atics (0	tics (German Grundschule/Mittelschule/Realschule)							
R-152-mo1	ECTS	5	Duratio	n	1 semester	Method of grading (not) successfully completed	Modul level	undergraduate				
	Course	:S		Ü (4)			-					
	Method	d of ass	essment		a) talk (approx. 45 minutes) or							
			_	b) project (10 to 15 pages)								
	Referre	d to in	LPO I	§ 51 S	§ 51 special branch of science without assignment							
Teaching (12 ECTS	credits)											
Area 1 (12 ECTS cre	dits)											
10-M-DGMR1-152-	Didactics of Mathematics - Geometry (German Mittelschule/Realschule)											
mo1	ECTS	5	Duratio	1	1 semester	Method of grading numerical grade	Modul level	undergraduate				
	Course	:S		V (2) -	+ Ü (2)		-					
	Method	d of ass	essment	writte	n examination (app	rox. 60 to 90 minutes)						
				If ann	ounced by the lectu	urer at the beginning of the course, the written exami	ination may be	replaced by an oral examination				
				date).	of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate)							
					creditable for bonus							
	Referre	d to in	LPO I	§ 51   Nr. 4								
10-M-DGMR2-152-	Didactics of Mathematics - Stochastics and Algebra (German Mittelschule/Realschule)											
mo1	ECTS 7 Duration			1	2 semester	Method of grading numerical grade	Modul level	undergraduate				
	Courses			V (2) -	$V(2) + \ddot{U}(1) + V(2) + \ddot{U}(2)$							
	Method of assessment  Referred to in LPO I			a) oral examination of one candidate each (approx. 30 minutes) or								
				b) oral examination in groups (groups of 2, approx. 15 minutes per candidate) or c) written examination (60 to 120 minutes)  § 51   Nr. 4								
Freier Bereich (con					<u> </u>	'C and ital						
Freier Bereich (gen	erat as v	well as s	subject-sp	Jecific	electives) (0-15 ECT	5 credits)						
<b>Mathematics</b> (Freier Bereich (ger	neral as v	well as	subject-sp	ecific	electives) subject	specific)						
10-M-DCMU-152-	Compu	ters in	Mathema	tical Te	eaching							
mo1	ECTS	3	Duratio	1	1 semester	Method of grading (not) successfully completed	Modul level	undergraduate				
	Course	:S		V (2)	V (2)							
	Method	Method of assessment			project (10 to 15 pages) Assessment offered: Every two years, winter semester							
	Referre	d to in	LPO I		l Nr. 2 f)		-					
				§ 22    Nr. 1 h)								
				§ 22 l	§ 22 II Nr. 3 f)							

10-M-DMRS-152-	Method	dology	of Teachi	ng in Math	nematics (Germar	n Realschule)			-		
mo1	ECTS	3	Duratio	1 19	semester	Method of grading	(not) successfully completed	Modul level	undergraduate		
	Course	S		S (2)							
	Method	d of ass	essment		pprox. 45 minute						
					b) term paper (5 to 10 pages) or						
				c) project (10 to 15 pages) Assessment offered: Every two years, winter semester							
	Poforro	d to in I	PO I		3 22 Il Nr. 2 f)						
10-M-DV-						Teaching (virtual Co	ursa)				
HB-152-mo1		3	Duratio		semester		(not) successfully completed	Modul level	undergraduate		
	Course		Daratio	Ü (2)	Jenrester	Method of glading	(not) successibility completed	Modulitevel	undergraduate		
	Course	3			ourse type: eLearning, mostly Virtuelle Hochschule Bayern (vhb)						
	Method	d of ass	essment	project (v	web-based, 15 to	20 hours)		1			
				Assessm	Assessment offered: Once a year, winter semester						
	Referre	d to in l	-PO I	§ 22    Ni							
					§ 22    Nr. 2 f) § 22    Nr. 3 f)						
10-M-VHBA-	Pacies	in Arith	motics (v	irtual cou	_			"			
ri-152-mo1	ECTS	2	Duratio		semester	Mothod of grading	(not) successfully completed	Modul level	undergraduate		
5=	Course		Duratio	Ü (2)	Semester	Method of grading	(not) successibility completed	Modulitevel	undergraduate		
	Course	5			ype: eLearning, m	ostly Virtuelle Hochs	schule Bayern (vhb)		_		
	Method of assessment			project (web-based, 15 to 20 hours) Assessment offered: Once a year, winter semester							
<u> </u>	Poforro	d to in L	PO I	§ 22 II Nr		a year, willter sellie	Stei	1	-		
	Kelene	u to iii i	_1 0 1	§ 22 II Ni	,						
				§ 22    Nr							
10-M-VHBGeo-152-	Basics	in Scho	ol Geome	try (virtua	al course)			,			
mo1	ECTS	2	Duratio	1 19	semester	Method of grading	(not) successfully completed	Modul level	undergraduate		
	Course	S		Ü (2)							
						ostly Virtuelle Hochs	schule Bayern (vhb)	,			
	Method of assessment			project (web-based, 15 to 20 hours) Assessment offered: Once a year, summer semester							
	Referred to in LPO I			§ 22 II Nr		, , , , , , , , , , , , , , , , , , , ,		1			
				§ 22 II Nr							
			-	§ 22 II Nr	r. 3 f)						

10-M-VH-	Stocha	stics in	Sekunda	rstufe	(virtual course)				<del></del>		
BSto-152-mo1	ECTS	2	Duratio	n	1 semester	Method of grading (not) succ	essfully completed	Modul level	undergraduate		
	Course	!S		Ü (2) Cours	Ü (2) Course type: eLearning, mostly Virtuelle Hochschule Bayern (vhb)						
	Method	d of ass	essment		project (web-based, 15 to 20 hours) Assessment offered: Once a year, winter semester						
	Referre	ed to in I	LPO I	§ 22 l	§ 22    Nr. 1 h) § 22    Nr. 2 f) § 22    Nr. 3 f)						
10-M-VHBM10-152-	Mathe	matics i	n grade 1	o (virtu	al course)						
mo1	ECTS	2	Duratio	1	1 semester	Method of grading (not) succ	essfully completed	Modul level	undergraduate		
	Course	!S		Ü (2) Cours							
	Method	d of ass	essment		roject (web-based, 15 to 20 hours) ssessment offered: Once a year, summer semester						
	Referre	ed to in I	LPO I	§ 22    Nr. 1 h) § 22    Nr. 2 f) § 22    Nr. 3 f)							
10-M-DGMS-152-	Didactics of Elementary School Mathematics for Teachers at German Mittelschule and Special Education										
mo1	ECTS 2 Duratio			1 semester Method of grading (not) successfully completed Modul level undergraduate							
	Courses			S (2)							
	Method of assessment			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							
	Referre	ed to in I	LPO I		Nr. 2 f)   Nr. 1 h)						
10-M-GBM-152-	Basic N	Notions	and Meth	ods of Mathematical Reasoning							
mo1	ECTS	2	Duratio		1 semester	Method of grading (not) succ	essfully completed	Modul level	undergraduate		
	Courses			V (1) + Ü (1)							
	Method of assessment				project (10 to 15 pages) Language of assessment: German and/or English						
	Additio	onal Info	rmation	Addit	onal information on	module duration: block taught	prior to the beginni	ng of the lectur	e period.		
	Referred to in LPO I				Nr. 1 h)   Nr. 2 f)						

10-M-PRM1-152-	Introdu	ction to	Hands-o	n Math	nematics						
mo1	ECTS	3	Duratio	1	1 semester	Method of grading (n	not) successfully completed	Modul level	undergraduate		
	Courses			S (2)							
	Method	d of asse	essment		project (10 to 15 pages) Assessment offered: Every two years, winter semester						
	Referre	d to in L	.PO I		22    Nr. 2 f) 22    Nr. 3 f)						
10-M-PRM2-152-	Practic	al Cours	e Hands-	on Ma	thematics						
mo1	ECTS	3	Duratio	1	1 semester	Method of grading (n	ot) successfully completed	Modul level	undergraduate		
	Course	S		P (2)							
	Method	d of asse	essment			ject plan (5 to 10 pages) y two years, summer se	and practical implementation	on with pupils			
	Referre	d to in L	PO I		22    Nr. 2 f) 22    Nr. 3 f)						
10-M-VHBDG-152-	Didactics of Geometry (virtual course)										
mo1	ECTS	ECTS 2 Duratio			1 semester	Method of grading (n	ot) successfully completed	Modul level	undergraduate		
	Courses			Ü (2) Course type: eLearning, mostly Virtuelle Hochschule Bayern (vhb)							
	Method of assessment			project (web-based, 15 to 20 hours) Assessment offered: Once a year, summer semester							
	Referre	d to in L	PO I	§ 22 l	§ 22    Nr. 1 h) § 22    Nr. 2 f) § 22    Nr. 3 f)						
10-M-VHBDA-152-	Didacti	cs of Al	gebra (vii	tual co	tual course)						
mo1	ECTS	2	Duratio	1	1 semester	Method of grading (n	ot) successfully completed	Modul level	undergraduate		
	Courses			Ü (2) Cours	Ü (2) Course type: eLearning, mostly Virtuelle Hochschule Bayern (vhb)						
	Method of assessment				project (web-based, 15 to 20 hours) Assessment offered: Once a year, winter semester						
	Referred to in LPO I				3 22    Nr. 1 h), § 22    Nr. 2 f) 3 22    Nr. 3 f)						

10-M-VH-	Exam	Tutorial	Didactics	of Mat	hematics (virtual co	ourse)						
BEx-152-mo1	ECTS	2	Duration	1	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate			
	Cours	ses		Ü (2)								
				Course type: eLearning, mostly Virtuelle Hochschule Bayern (vhb)								
	Meth	od of ass	essment	project (web-based, 15 to 20 hours) Assessment offered: Once a year, winter semester								
	Refer	red to in	I PO I		§ 22 II Nr. 1 h)							
	KCICI	ica to iii			§ 22    Nr. 1							
				_	§ 22 II Nr. 3 f)							
10-M-VHBMa1-152-			ι (virtual c									
mo1	ECTS	2	Duration		1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate			
	Cours	ses		Ü (2) Cours	e type: eLearning, n	nostly Virtuelle Hochs	schule Bayern (vhb)					
	Meth	od of ass	essment		ct (web-based, 15 to sment offered: Ever	20 hours) y two years, winter se	emester					
	Refer	red to in	LPO I		§ 22 II Nr. 1 h)							
					§ 22 II Nr. 2 f)							
	§ 22    Nr. 3 f)  Mathematics 2 (virtual course)											
10-M- VHBMa2-152-mo1	ECTS		Duration									
	Courses			Ü (2)								
	Cours			Course type: eLearning, mostly Virtuelle Hochschule Bayern (vhb)								
	Meth	od of ass	essment	project (web-based, 15 to 20 hours) Assessment offered: Every two years, summer semester								
	Refer	red to in	LPO I	§ 22 II Nr. 1 h)								
				§ 22    Nr. 2 f) § 22    Nr. 3 f)								
10-M-SCH-152-m01	Scho	ol Mathe	matics fro	m a Higher Perspective								
10 M 3CH 132 MO1	ECTS		Duration		1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate			
	Cours		Buration		+ Ü (2)	memod or Sidding	(not) successivity completed	modul tevel	and and a second a			
			essment	a) talk (approx. 45 minutes) or								
		Method of assessifient			b) term paper (10 to 15 pages) or							
					c) project work (15 to 25 hours)							
				Asses	Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester							
	Refer	red to in	LPO I		§ 22 II Nr. 1 h)							
	Kelenea to III El O I			§ 22 l	§ 22    Nr. 2 f)							
				§ 22 l	§ 22    Nr. 3 f)							