



## **Annex SFB**

# Studienfachbeschreibung (subject description, SFB) for the subject Mathematics as vertieft studiertes Fach (studied with a focus on the scientific discipline) with the degree "Erste Staatsprüfung für das Lehramt an Gymnasien"

## Responsible: Institute of Mathematics

Examination regulations version: 2012

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, $\mathbf{U}$ = exercise, $\mathbf{V}$ = lecture
	Term: <b>SS</b> = summer semester, <b>WS</b> = winter semester
	Methods of grading: <b>NUM</b> = numerical grade, <b>B/NB</b> = (not) successfully completed
	Regulations: <b>(L)ASPO</b> = general academic and examination regulations (for teaching-degree programmes), <b>FSB</b> = subject-specific provisions, <b>SFB</b> = list of modules
	Other: $A = $ thesis, $LV = $ course(s), $PL = $ assessment(s), $TN = $ participants, $VL = $ prerequisite(s)
Conventions for the modules in this SFB:	Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not cre- ditable for bonus.
Information on assessment procedures:	Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the me- 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:

#### LASPO2009

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

### 13-Mar-2013 (2012-172)

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	n Module title									
	ECTS		Duration	(in semesters)	Method of grading		Module level			
	Courses		To be sp	o 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	ssessme	ent							
	Only after su completion of		Il if applica	able						
	Other prereq	uisites	if applica	if applicable						
	Participants on of places		ocati- if applica	able						
	Additional in	formati	on if application	if applicable						
	Referred to i	n LPO I	if applica	able (examination r	egulations for teaching	g-degree programmes)				

L-122-m01	Algebr	ra and G	eometry f	or Teaching Degre	Mathematics (German Gy	mnasium)						
	ECTS	15	Duratio	n 2 semester	Method of grading	numerical grade	Modul level	undergraduate				
	Course			<ul> <li>10-M-ALG-L tact hours</li> <li>10-M-AGL-F</li> </ul>	<ul> <li>nis module has 4 components; information on courses listed separately for each component.</li> <li>10-M-ALG-L-122, 10-M-DGE-L-122, and 10-M-PGE-L-122: V + Ü (no information on language and number of we tact hours available)</li> <li>10-M-AGL-P-122: M (no information on language and number of weekly contact hours available)</li> </ul>							
	Metho	d of ass	essment	components 10- <i>M</i> Assessment in me bra for Students F tialgeometrie für I sium), and in moc on to Projective G • 6 ECTS cree • written exa ced by an o dates (app as subject (Prüfungste • Language O • Additional turer will in be conside admission effect. Stud ster. For as Assessment in mo gebra and Geome • 3 ECTS cree • oral examin in module = • Language O • Only after s	ALG-L and 10-M-ALG-P and dule component 10-M-ALG rsuing a Teaching Degree shramt Gymnasium (Introd the component 10-M-PGE-L ometry for Students Pursu ts, pass / fail nination (approx. 90 to 18c al examination of one can bx. 30 minutes). The modu f the oral examination cov- lmodul) and this examina assessment: German; Eng- rerequisites: To qualify for form students about the re- ed a declaration of will to so assessment over the cou- ents who meet all prerequi essment at a later date, stu dule component 10-M-AGL by for Students Pursuing a ts, numerical grading ation of one candidate eac o-M-ALG-L and in the modu assessment: German; Eng- accessful completion of m	-L-122: Einführung in d Gymnasium), in module uction to Differential Ge -122: Einführung in die ing a Teaching Degree ( o minutes). If announce didate each (approx. 2 ile component will also ering several modules ( tion is passed. glish if agreed upon wit admission to assessm spective details at the l seek admission to assess urse of the semester, th sites will be admitted to udents will have to obta -P-122: Prüfung Algebra Teaching Degree Gymn ch (approx. 30 minutes) ule component selected glish if agreed upon wit odule components: Mo	wo assessment component ie Algebra für Lehramt Gy e component 10-M-DGE-I eometry for Students Pur Projektive Geometrie für Gymnasium): d by the lecturer, the writ o minutes) or an oral exa b be considered successf (separate module component h examiner(s) tent, students must meet beginning of the course. essment. If students have e lecturer will put their re- basessment in the currer ain the qualification for a a und Geometrie für Lehr- asium) ). Assessment will have r d by students. h examiner(s) odule component 10-M-A	rmnasium (Introduction to Alge- -122: Einführung in die Differen- suing a Teaching Degree Gymna- ' Lehramt Gymnasium (Introducti- ten examination may be repla- mination in groups of 2 candi- ully completed if it is selected nent for assessment purposes certain prerequisites. The lec- Registration for the course will e obtained the qualification for registration for assessment into ent or in the subsequent seme- dmission to assessment anew. amt Gymnasium (Assessment Al- eference to the topics covered GL-P can only be taken by stu-				
	other	orerequi	sites		assed the written examina n, additional prerequisites			115.				
		ed to in		<u> </u>	atik Lineare Algebra, Algeb							

LA Gymnasien Mathematics (2012)	JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record L5 105 - - H 2012	page 3 / 20

10-M-ANL-122-m01	Analysi	s for Te	eaching De	egree	Mathematics (Germ	nan Gymnasium)		1			
[	ECTS	18	Duration	า	2 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Courses			•	10-M-ANA-1-122: V 10-M-ANA-2-122: V 10-M-ANL-P-122: N	/ + Ü (no information / + Ü (no information / (no information on S	on SWS (weekly contact hours) on SWS (weekly contact hours) SWS (weekly contact hours) and	and course lang and course lang l course languag	guage available) ge available)		
	Method	l of ass	essment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.						
				•	8 ECTS, Method of written examinatic by an oral examin approx. 30 minute as subject of the c (Prüfungsteilmodu Language of asses Other prerequisite students about th a declaration of w assessment over t dents who meet a assessment at a la <b>sment in module c</b> 8 ECTS, Method of written examinatic by an oral examin approx. 30 minute as subject of the c (Prüfungsteilmodu	f grading: (not) succes on (approx. 90 to 180 r lation of one candida es). Module will also b oral examination cover (a)) and this examination ssment: German, Engles: Certain prerequisit re respective details a will to seek admission the course of the sen all prerequisites will b ater date, students win <b>omponent 10-M-ANA-</b> f grading: (not) succes on (approx. 90 to 180 r lation of one candida es). Module will also b oral examination cover (a)) and this examination	ninutes); if announced by the lead te each (approx. 20 minutes) of be considered successfully com- ring several modules (separate ion was passed. lish if agreed upon with the exa- es must be met to qualify for adr at the beginning of the course. to assessment. If students have nester, the lecturer will put the be admitted to assessment in th Il have to obtain the qualification <b>2-122:</b> Analysis 2 Analysis 2 ssfully completed ninutes); if announced by the lead te each (approx. 20 minutes) of be considered successfully com- ring several modules (separate ion was passed.	or an oral exami pleted if the mo module compo miner mission to asses Registration for ve obtained the ir registration for he current or in on for admission cturer, the writte or an oral exami pleted if the mo module compo	nation in groups (groups of 2, odule component was selected nent for assessment purposes assment. The lecturer will inform the course will be considered qualification for admission to or assessment into effect. Stu- the subsequent semester. For n to assessment anew.		
				Asses nasiu	Other prerequisite students about th a declaration of w assessment over a dents who meet a assessment at a la <b>ssment in module co</b> m) 2 ECTS, Method of oral examination modules 10-M-AN	es: Certain prerequisit re respective details a vill to seek admission the course of the sen all prerequisites will b ater date, students wi <b>omponent 10-M-ANL-</b> f grading: numerical g of one candidate eac A-1 and 10-M-ANA-2		mission to asses Registration for ve obtained the ir registration for ne current or in on for admission for Teaching De ssment will have	the course will be considered qualification for admission to or assessment into effect. Stu- the subsequent semester. For n to assessment anew. gree Mathematics (German Gym-		
	other p	rerequi	sites	By wa	y of exception, add	litional prerequisites	are listed in the section on asse	essments.			
	Referre	d to in l	LPO I	§73 (	1) 1. Mathematik Ar	nalysis		·			
LA Gymnasien Mathemati	CS (2012)						JMU Würzburg • generated 26-Aug-20	024 • exam. reg. data r	ecord L5 105 - - H 2012 page 4 / 20		

ECTS 16 Duration	n 2 semester	Method of grading numerical grade	Modul level	undergraduate
ECTS 16 Duration Courses Method of assessment	This module has 5 comp 10-M-DIM-L-122, 1 number of weekly 10-M-ASL-P-122: M This module has the follo ponents 10-M-ASL-P and Assessment in module c tion to Discrete Mathematik (Numerical Mathematics dents Pursuing a Teachin 7 ECTS credits (10 written examination ced by an oral examination	-M-STO-L-122: 6 ECTS credits), pass / fail on (approx. 90 to 180 minutes). If announced by th amination of one candidate each (approx. 20 minu	D-L-122: V + Ü (no kly contact hours dule, students mu sment componer rete Mathematik inasium), in modu nt 10-M-NUM2-L- astik für Lehramt ( e lecturer, the wri tes) or an oral exa	o information on language and available) Ist pass the two assessment com- its. für Lehramt Gymnasium (Introduc- ile component 10-M-NUM1-L-122: 122: Numerische Mathematik 2 Gymnasium (Stochastics for Stu- tten examination may be repla- amination in groups of 2 candi-
	as subject of the o (Prüfungsteilmodu Language of asses Additional prereq turer will inform s be considered a d admission to asse effect. Students w ster. For assessme <b>Assessment in module o</b> (Assessment Applied Ma 3 ECTS credits, nu oral examination in module 10-M-S Language of asses Only after success	minutes). The module component will also be co oral examination covering several modules (separa al)) and this examination is passed. ssment: German; English if agreed upon with exan uisites: To qualify for admission to assessment, st tudents about the respective details at the beginn leclaration of will to seek admission to assessmer essment over the course of the semester, the lectur the meet all prerequisites will be admitted to asses ent at a later date, students will have to obtain the <b>omponent 10-M-ASL-P-122:</b> Prüfung Angewandte at thematics and Stochastics for Students Pursuing merical grading of one candidate each (approx. 30 minutes). Asse TO-L and in the module component selected by stu ssment: German; English if agreed upon with exan sful completion of module components: Module of the written examination in one of the other four m	ite module compo- niner(s) udents must mee ing of the course. t. If students hav rer will put their r ssment in the curr qualification for a Mathematik und S a Teaching Degree ssment will have idents. niner(s) omponent 10-M-A	onent for assessment purposes t certain prerequisites. The lec- Registration for the course will e obtained the qualification for egistration for assessment into ent or in the subsequent seme- dmission to assessment anew. Stochastik für Lehramt Gymnasium e Gymnasium) reference to the topics covered
other prerequisites	By way of exception, add	litional prerequisites are listed in the section on a	ssessments.	
Referred to in LPO I	§ 73 (1) 3. Mathematik S § 73 (1) 5. Mathematik A			

LA Gymnasien Mathematics (2012)	JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record L5 105 - - H 2012	page 5 / 20

Courses	sment	This module comprises 10-M-DGL-L-122: 10-M-FTH-L-122: 10-M-DFL-P-122: Assessment in this mod	Method of grading numerical grade 3 module components. Information on courses will V + Ü (no information on SWS (weekly contact hours) V + Ü (no information on SWS (weekly contact hours) M (no information on SWS (weekly contact hours) ar	s) and course lang	
	sment	<ul> <li>10-M-DGL-L-122:</li> <li>10-M-FTH-L-122:</li> <li>10-M-DFL-P-122:</li> </ul> Assessment in this modes.	V + Ü (no information on SWS (weekly contact hours) V + Ü (no information on SWS (weekly contact hours) M (no information on SWS (weekly contact hours) ar	s) and course lang	
Method of asses			lula an un utana de a anna an an da tu de a tu dividu al un	nd course languag	uage available)
		stated otherwise, succe	lule comprises the assessments in the individual mo ssful completion of the module will require success		
		<ul> <li>man Gymnasium) Ordin</li> <li>6 ECTS, Method of</li> <li>written examinati</li> <li>by an oral exami</li> <li>approx. 30 minut</li> <li>as subject of the</li> <li>(Prüfungsteilmod)</li> <li>Language of assee</li> <li>Other prerequisit</li> <li>students about the</li> <li>a declaration of wassessment over</li> <li>dents who meet</li> <li>assessment in module of</li> <li>written examinati</li> <li>by an oral exami</li> <li>approx. 30 minut</li> <li>as subject of the</li> <li>(Prüfungsteilmod)</li> <li>6 ECTS, Method of</li> <li>written examinati</li> <li>by an oral exami</li> <li>approx. 30 minut</li> <li>as subject of the</li> <li>(Prüfungsteilmod)</li> <li>Language of assee</li> <li>Other prerequisit</li> <li>students about the</li> <li>a declaration of wassessment over</li> <li>dents who meet</li> <li>as subject of the</li> <li>(Prüfungsteilmod)</li> <li>Language of assee</li> <li>Other prerequisit</li> <li>students about the</li> <li>a declaration of wassessment over</li> <li>dents who meet</li> <li>assessment in module of wassessment at a second the</li> <li>a declaration of wassessment at a second the</li> <li>begree Mathematics (Go)</li> <li>a call a cond the second the</li> <li>a condition the second the</li> </ul>	of grading: numerical grade of one candidate each (approx. 30 minutes); ass GL-L and 10-M-FTH-L essment: German, English if agreed upon with the ex	ematics (German ecturer, the writte or an oral exami mpleted if the mo te module compo caminer dmission to assesse e. Registration for ave obtained the peir registration for the current or in tion for admission x Analysis for Tea thematics (Germa ecturer, the writte or an oral exami mpleted if the mo te module compo caminer dmission to assesse e. Registration for ave obtained the peir registration for ave obtained the peir registration for ave obtained the peir registration for ave obtained the module compo the current or in tion for admission tial Equa-tions ar essment will have	Gymnasium) en examination can be replaced nation in groups (groups of 2, odule component was selected nent for assessment purposes assment. The lecturer will inform the course will be considered qualification for admission to or assessment into effect. Stu- the subsequent semester. For n to assessment anew. ching Degree Mathematics (Ger- an Gymnasium) en examination can be replaced nation in groups (groups of 2, odule component was selected nent for assessment purposes assment. The lecturer will inform the course will be considered qualification for admission to or assessment into effect. Stu- the subsequent semester. For n to assessment anew. nd Complex Analysis for Teaching e reference to the contents of
LA Gymnasien Mathematics (2012)		one of the other t	JMU Würzburg • generated 26-Aug wo module components is a prerequisite for partici-	2024 • exam. reg. data r Dation in module	ecord L5 105 - - H 2012 page 6 / 20 Component 10-M-DFL-P.
other prerequisit	es		ditional prerequisites are listed in the section on as		·
Referred to in LP		§ 73 (1) 1. Mathematik A	<u> </u>		

ECTS	18	Duratio	n	2 semester	Method of grading	numerical grade	Modul level	undergraduate
Course			This r	nodule comprises 10-M-LNA-1-122: ' 10-M-LNA-2-122: '	3 module components. V + Ü (no information or V + Ü (no information or		e listed separate and course lang and course lang	ely for each module component. uage available) guage available)
Metho	d of as	sessment	state	d otherwise, succe	ssful completion of the	ssments in the individual moc module will require successfu	Il completion of	
			Asse	8 ECTS, Method of written examinati by an oral exami approx. 30 minut as subject of the (Prüfungsteilmood Language of asse Other prerequisit students about t a declaration of v assessment over dents who meet assessment at a ssment in module	of grading: (not) success on (approx. 90 to 180 mi nation of one candidate es). Module will also be oral examination coveri lul)) and this examination essment: German, Englis es: Certain prerequisites the respective details at will to seek admission t the course of the seme all prerequisites will be later date, students will component 10-M-LNA-2	nutes); if announced by the le e each (approx. 20 minutes) of considered successfully com ng several modules (separate on was passed. Sh if agreed upon with the exa s must be met to qualify for add the beginning of the course. o assessment. If students have ester, the lecturer will put the admitted to assessment in th have to obtain the qualification <b>-122:</b> Linear Algebra 2 Linear A	cturer, the writte or an oral exami opleted if the mo module compo miner Registration for ve obtained the ir registration for he current or in on for admission	n examination can be replaced nation in groups (groups of 2, odule component was selected nent for assessment purposes assment. The lecturer will inform the course will be considered qualification for admission to or assessment into effect. Stu- the subsequent semester. For n to assessment anew.
			•	written examinati by an oral exami approx. 30 minut as subject of the (Prüfungsteilmod Language of asse Other prerequisit students about t a declaration of v assessment over dents who meet	nation of one candidate es). Module will also be oral examination coveri lul)) and this examination essment: German, Englis es: Certain prerequisites the respective details at will to seek admission to the course of the seme all prerequisites will be	nutes); if announced by the le e each (approx. 20 minutes) of considered successfully com ng several modules (separate on was passed. sh if agreed upon with the exa s must be met to qualify for ad the beginning of the course. o assessment. If students have ester, the lecturer will put the	or an oral exami apleted if the mo module compo mission to asses Registration for ve obtained the ir registration fo he current or in	n examination can be replaced nation in groups (groups of 2, odule component was selected nent for assessment purposes ssment. The lecturer will inform the course will be considered qualification for admission to or assessment into effect. Stu- the subsequent semester. For n to assessment anew.
				ssment in module aasium) 2 ECTS, Method of oral examination modules 10-M-LN Language of asse Only after succes	of grading: numerical gra of one candidate each IA-1 and 10-M-LNA-2 essment: German, Englis soful completion of mod	<b>122:</b> Examination in Linear Ala ade (approx. 30 minutes); asses a fi fagreed upon with the exa	gebra for Teachi ssment will have miner completion of t	ng Degree Mathematics (Germa e reference to the contents of he written examination in any

10-M-MDA-122-	Introduction into math	ematical thinking and working						
m01	ECTS 4 Duratio	n 1 semester Method of grading (not) successfully completed Modul level undergraduate						
	Courses	<ul> <li>This module comprises 2 module components. Information on courses will be listed separately for each module component.</li> <li>10-M-MDA-1-122: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>10-M-MDA-2-122: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> </ul>						
	Method of assessment	Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.						
		<ul> <li>Assessment in module component 10-M-MDA-1-122: Basic Notions and Methods of Mathematical Reasoning Basic Notions and Methods of Mathematical Reasoning <ul> <li>2 ECTS, Method of grading: (not) successfully completed</li> <li>project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)</li> <li>Language of assessment: German, English if agreed upon with the examiner</li> <li>Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.</li> </ul> </li> </ul>						
		<ul> <li>atics</li> <li>2 ECTS, Method of grading: (not) successfully completed</li> <li>project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)</li> <li>Language of assessment: German, English if agreed upon with the examiner</li> <li>Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.</li> </ul>						
	other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.						
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik						

10-M-VAL-122-m01	Advance	d Anal	ysis for T	eachir	g Degree Mathem	atics (German Gy	mnasium)					
	ECTS	3	Duratior	ı	1 semester	Method of grad	ling (not) success	fully completed	Modul level	undergraduate		
	Courses		·	V (no information on SWS (weekly contact hours) and course language available)								
	Method	of asse	essment		project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course) Language of assessment: German, English if agreed upon with the examiner							
	other pre	erequis	ites	tive d on to the le sessn	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- ton to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew.							
	Referred	to in L	PO I	§73 (	1) 1. Mathematik A	nalysis						
10-M-ZTL-122-m01	Introduction into Number Theory for Teaching Degree Mathematics (German Gymnasium)											
	ECTS	4	Duratior	۱	1 semester	Method of grad	ling (not) success	fully completed	Modul level	undergraduate		
	Courses			V (no	information on SW	'S (weekly contac	t hours) and course	e language availa	able)			
	Method	of asse	essment	project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course) Language of assessment: German, English if agreed upon with the examiner								
	other prerequisites			Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew.								
	Referred	to in L	POI	§73 (	1) 2. Mathematik L	ineare Algebra, A	gebra und Elemen	te der Zahlenthe	orie			
Teaching (10 ECTS of	redits)											
10-M-D1GY-122-	Didactic	s of Ma	athematic	s: Alg	ebra (German Gym	nasium)						
mo1	ECTS	3	Duratior	า	1 semester	Method of grad	ding numerical gra	ade	Modul level	undergraduate		
	Courses			V + Ü	(no information on	SWS (weekly cor	itact hours) and co	urse language a	vailable)			
	Method of assessment			a) written examination (approx. 60 to 180 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups of up to 3 candidates (groups of 2: approx. 30 minutes, groups of 3: approx. 45 minutes) or d) written elaboration (approx. 5 to 10 pages) or e) project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)								
	other prerequisites			Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew.								
				<u>mean</u>		assessment and	vv.					

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10-M-DGYG-122-	Didactics of Mathematic	cs: Geometry (German	Gymnasium)								
m01	ECTS 3 Duration	n 1 semester	Method of grading numerical grade	Modul level	undergraduate						
	Courses	V + Ü (no information	on SWS (weekly contact hours) and course langua	ge available)							
	Method of assessment	oral examination in gr ten elaboration (appr	a) written examination (approx. 60 to 180 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups of up to 3 candidates (groups of 2: approx. 30 minutes, groups of 3: approx. 45 minutes) or d) written elaboration (approx. 5 to 10 pages) or e) project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)								
	other prerequisites	tive details at the beg on to assessment. If s the lecturer will put th sessment in the curre	must be met to qualify for admission to assessmer inning of the course. Registration for the course wi students have obtained the qualification for admiss heir registration for assessment into effect. Student nt or in the subsequent semester. For assessment to assessment anew.	ll be considered a de sion to assessment c s who meet all prere	eclaration of will to seek admissi- over the course of the semester, equisites will be admitted to as-						
	Referred to in LPO I	§ 73 (1) 6. Mathemati	k Didaktik								
10-M-DG-	Didactics of Mathematics: Analysis (German Gymnasium)										
YA-122-m01	ECTS 4 Duration	n 1 semester	Method of grading (not) successfully comple	eted Modul level	undergraduate						
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)									
	Method of assessment	a) written examination (approx. 60 to 180 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups of up to 3 candidates (groups of 2: approx. 30 minutes, groups of 3: approx. 45 minutes) or d) written elaboration (approx. 5 to 10 pages) or e) project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)									
	other prerequisites	tive details at the beg on to assessment. If s the lecturer will put th sessment in the curre	must be met to qualify for admission to assessmer inning of the course. Registration for the course wi students have obtained the qualification for admiss heir registration for assessment into effect. Student nt or in the subsequent semester. For assessment to assessment anew.	ll be considered a de sion to assessment c s who meet all prere	eclaration of will to seek admissi- over the course of the semester, equisites will be admitted to as-						
	Referred to in LPO I	73 (1) 6. Mathematik Didaktik									

Freier Bereich (general as well as subject-specific electives) 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 (Freier Bereich (ger	ieral as v	vell as s	ubject-sp	oecific	electives) subject	specific)					
10-M-D3GY-092-	Didacti	cs of Ma	athematio	:s: Ana	: Analytic Geometry/Stochastics (German Gymnasium)						
m01	ECTS 3 Duration		า	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate			
	Courses			V (no	information on SWS	(weekly contact hour	s) and course language availa	ble)			
	Method of assessment			amina fied a	) written examination (approx. 60 minutes) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral ex- mination in groups (groups of 3, approx. 30 minutes) or d) written elaboration (approx. 5 to 10 pages) or e) project (as speci- ied at the beginning of the course) Assessment offered: every two years, summer semester						
10-M-DCMU-092-	Compu	ters in N	<b>Nathema</b>	tical Te	aching						
m01	ECTS	3	Duration	า	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate		
	Courses			V (no	information on SWS	(weekly contact hour	s) and course language availa	ble)			
	Methoo	l of asse	essment			ture of time to be spe y two years, summer s	cified by the lecturer at the be semester	ginning of the c	ourse)		
10-M-DV-	Advanced Didactics of Mathematics (German Gymnasium)										
GY-092-m01	ECTS 2 Duratio		Duration	า	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate		
	Course	S		S (no information on SWS (weekly contact hours) and course language available)							
	Methoo	d of asse	essment	talk (approx. 60 minutes) Assessment offered: once a year, summer semester							
10-M-PRM-122-	Hands-on Mathematics										
m01	ECTS	6	Duration	า	2 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Course	S		P + S	P + S (no information on SWS (weekly contact hours) and course language available)						
	Methoo	l of asse	essment	projeo (type	project and implementation thereof: drawing up a project plan (approx. 10 pages) and practical implementation with pupils (type and expenditure of time to be specified by the lecturer at the beginning of the course)						
10-M-PRA-122-m01	Hands-	on Semi	inar Math	nemati	cs						
	ECTS	3	Duration	1	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate		
	Course	S		S (no	information on SWS	(weekly contact hour	s) and course language availa	ble)			
	Method	d of asse	essment	projec	ct: drawing up a proj	ect plan (approx. 10 p	ages)				

10-M-MKG-122-	Mathe	matics i	n Culture	and Society						
m01	ECTS	8	Duration	n 2 semester	Method of grading	(not) successfully completed	Modul level	undergraduate		
	Course	is		<ul> <li>This module has 4 components; information on courses listed separately for each component.</li> <li>10-M-GES-1-122, 10-M-MSC-1-122, and 10-M-SCH-1-122: V + Ü (no information on language and number of weekly contact hours available)</li> <li>10-M-PRO-1-122: S (no information on language and number of weekly contact hours available)</li> </ul>						
	Metho	d of asso	essment	This module has the for assessment component	<b>U</b>	omponents. To pass the modu	le as a whole st	udents must pass two of the four		
				from the History of Ma and <b>in module compon</b> Perspective) :	omponent 10-M-MSC-1-122: Ma chulmathematik vom höheren S ture of time to be specified by t ster in which the course is offe- ish if agreed upon with examin admission to assessment, stuc pective details at the beginning eek admission to assessment. se of the semester, the lecture ites will be admitted to assess dents will have to obtain the qu 1-122: Proseminar Mathematik	assessment, students must meet certain prerequisites. The lec- is at the beginning of the course. Registration for the course will in to assessment. If students have obtained the qualification for bester, the lecturer will put their registration for assessment into limitted to assessment in the current or in the subsequent seme- ve to obtain the qualification for admission to assessment anew. ninar Mathematik (Proseminar Mathematics)				
				<ul> <li>Language of ass Additional prevent turer will inform be considered a admission to ass effect. Students</li> </ul>	sessment: German; Eng equisites: To qualify for a students about the res a declaration of will to s ssessment over the cour s who meet all prerequis	pective details at the beginning eek admission to assessment. se of the semester, the lecture ites will be admitted to assessi	ner(s) dents must mee g of the course. If students have r will put their re ment in the curre	ubsequent semester. t certain prerequisites. The lec- Registration for the course will e obtained the qualification for egistration for assessment into ent or in the subsequent seme- dmission to assessment anew.		
	other p	orerequi	sites			are listed in the section on asse				
	Additic	onal Info	ormation	Additional information on module duration: 1 to 2 semesters.						

10-M-SCH-122-	School Mathematics fro	om a Higher Perspective							
m01	ECTS 4 Duratio	n 2 semester Method of grading (not) successfully completed Modul level undergraduate							
	Courses	/ + Ü (no information on SWS (weekly contact hours) and course language available)							
	Method of assessment	<ul> <li>t project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course) Assessment offered: in the semester in which the course is offered and in the subsequent semester Language of assessment: German, English if agreed upon with the examiner</li> <li>Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.</li> </ul>							
	other prerequisites								
	Additional Information	Additional information on module duration: 1 to 2 semesters.							
10-M-SEM-122-	Seminar Mathematics								
m01	ECTS 5 Duratio								
	Courses	S (no information on SWS (weekly contact hours) and course language available)							
	Method of assessment	talk (approx. 60 to 180 minutes) Language of assessment: German, English if agreed upon with the examiner							
	other prerequisites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew.							
10-M-COM-122-	Computational Mathem	atics							
m01	ECTS 4 Duratio								
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)							
	Method of assessment								
	other prerequisites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew.							

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10-M-PRG-122-m01	Progra	gramming course for students of Mathematics and other subjects									
	ECTS	3	Duration	1	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate		
	Courses			P (no	information on SWS	(weekly contact hou	rs) and course language availal	ble)			
	Metho	d of asso		the co	urse)	-	type and expenditure of time to greed upon with the examiner	be specified by	y the lecturer at the beginning of		
	other prerequisites			tive do on to the le sessm	etails at the beginnin assessment. If stude cturer will put their r	ng of the course. Reg ents have obtained th egistration for asses in the subsequent s	istration for the course will be one qualification for admission t sment into effect. Students who	considered a de o assessment o o meet all prere	form students about the respec- eclaration of will to seek admissi- ver the course of the semester, quisites will be admitted to as- ents will have to obtain the quali-		

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I I	ECTS	8	Duratio	1 2 semester Method of grading (not) successfully completed Modul level undergraduate
(	Course	S		<ul> <li>This module has 3 components; information on courses listed separately for each component.</li> <li>10-M-GAN-1-122: V + Ü (no information on language and number of weekly contact hours available)</li> <li>10-M-FAN-1-122: V + Ü (no information on language and number of weekly contact hours available)</li> <li>10-M-ORS-1-122: V + Ü (no information on language and number of weekly contact hours available)</li> <li>10-M-ORS-1-122: V + Ü (no information on language and number of weekly contact hours available)</li> <li>10-M-ORS-1-122: V + Ü (no information on language and number of weekly contact hours available)</li> <li>This module has the following 3 assessment components. To pass the module as a whole students must pass one of the three</li> </ul>
<sup>'</sup>	method	1 01 855	sessment	assessment components.
				<ul> <li>Assessment component to module component 10-M-GAN-1-122: Geometrische Analysis</li> <li>8 ECTS credits, method of grading: (not) successfully completed</li> <li>written examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed if the module component was selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination was passed.</li> <li>Language of assessment: English, German if agreed upon with the examiner</li> <li>Other prerequisites: Admission prerequisite to assessment: successful completion of approx. 50% of exercises. Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment in the current or in the subsequent semester. For assessment at a later date, students have to obtain the qualification for admission to assessment new.</li> </ul> Assessment component to module component 10-M-FAN-1-122: Einführung in die Funktionalanalysis <ul> <li>8 ECTS credits, method of grading: (not) successfully completed</li> <li>written examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination on the subsected by the oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed <ul> <li>written examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination or or eradiste each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Mod</li></ul></li></ul>
				<ul> <li>8 ECTS credits, method of grading: (not) successfully completed</li> <li>written examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed if the module component was selected as subject of the oral examination covering several modules (separate module component for assessment purposes</li> </ul>
ematics	s (2012)			<ul> <li>Unified and the analysis of the course is generated 26-Aug-2024 • exam. reg. data record L5/105/-/-[H 2012 page 15 / 20</li> <li>Language of assessment: English, German n agreed upon with the examiner</li> <li>Other prerequisites: Admission prerequisite to assessment: successful completion of approx. 50% of exercises. Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the</li> </ul>

10-M-Tu-	Exercis	e tutor	or proof-r	eading	g in Mathematics					
Ko-092-m01	ECTS	5	Duratio	n	1 semester	Method of grading (not) successfull	y completed	Modul level	undergraduate	
	Course	S		Ä (no	information on SWS	(weekly contact hours) and course lar	nguage availa	ible)		
	Methoo	d of ass	essment		ng and correcting a eginning of the cour	tivities to be assessed by supervising se	lecturers or e	xercise supervi	sors as specified by supervisors at	
	other p	orerequi	sites		al qualification requipants.	ired; please direct application to teach	ning coordina	tor Mathematik	(Mathematics), he/she will select	
10-M-DV-	E-Learr	ning and	Blended	Learn	ing in Mathematics	at school				
HB-092-m01	ECTS	3	Duratio	n	1 semester	Method of grading (not) successfull	y completed	Modul level	undergraduate	
	Course	S		Ü (no	information on SWS	(weekly contact hours) and course lar	nguage availa	ible)		
	Method	d of ass	essment	web-ł	based project assign	ments and tests (length/expenditure of	of time to be a	announced at th	ne beginning of the course)	
				on to the le sessn ficatio matic (onlin This r succe	assessment. If stud cturer will put their nent in the current of on for admission to s are always incorp re) added in bracket egistration for the e ssfully completed,	ng of the course. Registration for the c ents have obtained the qualification for registration for assessment into effect. r in the subsequent semester. For asse assessment anew. Courses offered on orated into a module with an exercise. s. Registration for the exercise must al kercise will be considered a declaration he lecturer will put the registration for	or admission t Students wh essment at a l line by Virtuel The respectiv ways be mad n of will to see	to assessment of o meet all prere later date, stude le Hochschule I re modules can e via SB@Home ek admission to	over the course of the semester, equisites will be admitted to as- ents will have to obtain the quali- Bayern (vhb) in the field of mathe- be identified by the word virtuell e at the beginning of the course. o assessment. If the exercise was	
10-M-VHBMa1-122-	Mathe	matics 1	(virtual o	ourse)						
m01	ECTS	2	Duratio	n	1 semester	Method of grading (not) successfull	y completed	Modul level	undergraduate	
	Course	S		Ü (no	Ü (no information on SWS (weekly contact hours) and course language available)					
	Method	d of ass	essment		web-based project assignments and tests (length/expenditure of time to be announced at the beginning of the course)					
	other prerequisites			tive d on to the le sessn ficatio matic (onlin This r	etails at the beginn assessment. If stud cturer will put their nent in the current of on for admission to s are always incorp e) added in bracket egistration for the e	It be met to qualify for admission to as ng of the course. Registration for the c ents have obtained the qualification for registration for assessment into effect. r in the subsequent semester. For asse assessment anew. Courses offered onl orated into a module with an exercise. s. Registration for the exercise must al exercise will be considered a declaration he lecturer will put the registration for	ourse will be or admission to Students wh essment at a l line by Virtuel The respectiv ways be mad n of will to see	considered a de to assessment o o meet all prere later date, stude le Hochschule I re modules can e via SB@Home ek admission to	eclaration of will to seek admissi- over the course of the semester, equisites will be admitted to as- ents will have to obtain the quali- Bayern (vhb) in the field of mathe- be identified by the word virtuell e at the beginning of the course.	

10-M-	Mathen	natics a	2 (virtual o	course)	)								
VHBMa2-122-m01	ECTS	2	Duration	ı	1 semester	Method o	ofgrading	(not) succ	essfully co	ompleted	Mod	ul level	undergraduate
	Courses	5		Ü (no	information on S	NS (weekly c	ontact hou	rs) and cou	urse langu	lage avail	able)		
	Method	of ass	essment	web-based project assignments and tests (length/expenditure of time to be announced at the beginning of the course)									
	other pi	rerequi	sites	tive de on to the le sessm fication matica (onlin This re	etails at the begin assessment. If str cturer will put the nent in the curren on for admission t s are always inco e) added in brack egistration for the	ning of the c udents have of ir registration t or in the sul o assessmen porated into ets. Registra exercise will	ourse. Reg obtained th for asses osequent s t anew. Co a module tion for the be consid	istration fo ne qualifica sment into semester. Fo ourses offer with an exe e exercise n ered a decl	or the cour ation for a effect. Str or assess red online ercise. The nust alway laration o	rse will be dmission udents wh ment at a by Virtue e respection ys be made f will to se	e consid to asse ho meet later da elle Hoch ve mode de via S eek adm	ered a de ssment o all prerec ate, stude nschule B ules can b B@Home nission to	form students about the respect claration of will to seek admiss ver the course of the semester, quisites will be admitted to as- ints will have to obtain the qual cayern (vhb) in the field of math- be identified by the word virtuel at the beginning of the course. assessment. If the exercise was end of the course.
10-M-VHBBr-122-	Start-up	p Tutor	ial Mathe	matics	1 (virtual course)	1							
m01	ECTS	2	Duration	ı	1 semester	Method o	ofgrading	(not) succ	essfully co	ompleted	Mod	ul level	undergraduate
	Courses	5		Ü (no	information on S	NS (weekly c	ontact hou	rs) and cou	urse langu	lage avail	able)		•
	Method	ofass	essment	web-b	web-based project assignments and tests (length/expenditure of time to be announced at the beginning of the course)								
				tive details at the beginning of the course. Registration for the course will be considered a declaration of on to assessment. If students have obtained the qualification for admission to assessment over the cou the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will sessment in the current or in the subsequent semester. For assessment at a later date, students will hav fication for admission to assessment anew. Courses offered online by Virtuelle Hochschule Bayern (vhb) matics are always incorporated into a module with an exercise. The respective modules can be identified (online) added in brackets. Registration for the exercise must always be made via SB@Home at the begi This registration for the exercise will be considered a declaration of will to seek admission to assessmen successfully completed, the lecturer will put the registration for assessment into effect at the end of the						ver the course of the semester, quisites will be admitted to as- ints will have to obtain the qual ayern (vhb) in the field of math- be identified by the word virtuel at the beginning of the course. assessment. If the exercise was			
10-M-VH-	Exam Ti	utorial	Didactics	of Mat	hematics (virtual	course)							
BEx-122-m01	ECTS	2	Duration		1 semester			(not) succ	-			ul level	undergraduate
	Courses	5			information on S								
	Method	of ass	essment			-							e beginning of the course)
	other prerequisites			tive de on to the le sessm fication matica (onlin This re	etails at the begin assessment. If st cturer will put the nent in the curren on for admission t s are always inco e) added in brack egistration for the	ning of the c udents have of ir registration t or in the sul o assessmen porated into ets. Registra exercise will	ourse. Reg obtained th o for asses osequent s t anew. Co a module tion for the be consid	istration fo ne qualifica sment into semester. Fo ourses offer with an exe e exercise n ered a decl	or the cour ation for a effect. Str or assess red online ercise. The nust alway laration o	rse will be dmission udents wh ment at a by Virtue respection ys be made f will to se	e consid to asse ho meet later da elle Hoch ve mode de via S eek adm	ered a de ssment o all prerec ate, stude nschule B ules can b B@Home nission to	form students about the respect claration of will to seek admiss ver the course of the semester, quisites will be admitted to as- ints will have to obtain the qual cayern (vhb) in the field of math- be identified by the word virtuel at the beginning of the course. assessment. If the exercise was end of the course.
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<b>Basics in Arith</b>	metics (vi	irtual course)							
ECTS 2	Duratior	n 1 semester Method of grading (not) successfully completed Modul level undergraduate							
Courses		Ü (no information on SWS (weekly contact hours) and course language available)							
Method of ass	essment	web-based project assignments and tests (length/expenditure of time to be announced at the beginning of the course)							
other prerequi	sites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew. Courses offered online by Virtuelle Hochschule Bayern (vhb) in the field of mathe- matics are always incorporated into a module with an exercise. The respective modules can be identified by the word virtuell (online) added in brackets. Registration for the exercise must always be made via SB@Home at the beginning of the course. This registration for the exercise will be considered a declaration of will to seek admission to assessment. If the exercise was successfully completed, the lecturer will put the registration for assessment into effect at the end of the course.							
Basics in Scho	ool Geome	try (virtual course)							
ECTS 2	Duration	n 1 semester Method of grading (not) successfully completed Modul level undergraduate							
Courses		Ü (no information on SWS (weekly contact hours) and course language available)							
Method of ass	essment	web-based project assignments and tests (length/expenditure of time to be announced at the beginning of the course)							
		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew. Courses offered online by Virtuelle Hochschule Bayern (vhb) in the field of mathe- matics are always incorporated into a module with an exercise. The respective modules can be identified by the word virtuell (online) added in brackets. Registration for the exercise must always be made via SB@Home at the beginning of the course. This registration for the exercise will be considered a declaration of will to seek admission to assessment. If the exercise was successfully completed, the lecturer will put the registration for assessment into effect at the end of the course.							
Stochastics in	Sekunda	rstufe I (virtual course)							
ECTS 2	Duration								
Courses		Ü (no information on SWS (weekly contact hours) and course language available)							
Method of ass	essment	web-based project assignments and tests (length/expenditure of time to be announced at the beginning of the course)							
other prerequi	sites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew. Courses offered online by Virtuelle Hochschule Bayern (vhb) in the field of mathe- matics are always incorporated into a module with an exercise. The respective modules can be identified by the word virtuell (online) added in brackets. Registration for the exercise must always be made via SB@Home at the beginning of the course. This registration for the exercise will be considered a declaration of will to seek admission to assessment. If the exercise was successfully completed, the lecturer will put the registration for assessment into effect at the end of the course.							
	ECTS 2 Courses Method of ass other prerequi Basics in Scho ECTS 2 Courses Method of ass other prerequi Stochastics in ECTS 2 Courses Method of ass	Courses         Method of assessment         other prerequisites         Basics in School Geome         ECTS       2         Method of assessment         Courses         Method of assessment         other prerequisites         Method of assessment         other prerequisites         Stochastics in Sekundar         ECTS       2         Duration         Other prerequisites							

10-M-	Computer and Mathema	atics (virtual course)									
VHBCom-122-mo1	ECTS 2 Duration	n 1 semester Method of grading (not) successfully completed Modul level undergraduate									
	Courses	Ü (no information on SWS (weekly contact hours) and course language available)									
	Method of assessment	web-based project assignments and tests (length/expenditure of time to be announced at the beginning of the course)									
	other prerequisites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- ive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, he lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- essment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- ication for admission to assessment anew. Courses offered online by Virtuelle Hochschule Bayern (vhb) in the field of mathe- natics are always incorporated into a module with an exercise. The respective modules can be identified by the word virtuell online) added in brackets. Registration for the exercise must always be made via SB@Home at the beginning of the course. This registration for the exercise will be considered a declaration of will to seek admission to assessment. If the exercise was successfully completed, the lecturer will put the registration for assessment into effect at the end of the course.									
10-M-	Mathematics in Class 10 (virtual course)										
VHBM10-122-m01	ECTS 2 Duration	n 1 semester Method of grading (not) successfully completed Modul level undergraduate									
	Courses	Ü (no information on SWS (weekly contact hours) and course language available)									
	Method of assessment	web-based project assignments and tests (length/expenditure of time to be announced at the beginning of the course)									
	other prerequisites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respec- tive details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admissi- on to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to as- sessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the quali- fication for admission to assessment anew. Courses offered online by Virtuelle Hochschule Bayern (vhb) in the field of mathe- matics are always incorporated into a module with an exercise. The respective modules can be identified by the word virtuell (online) added in brackets. Registration for the exercise must always be made via SB@Home at the beginning of the course. This registration for the exercise will be considered a declaration of will to seek admission to assessment. If the exercise was successfully completed, the lecturer will put the registration for assessment into effect at the end of the course.									

#### Thesis (10 ECTS credits)

Preparation of a written Hausarbeit (thesis) in accordance with the provisions of Section 29 LPO I (examination regulations for teaching-degree programmes) is a prerequisite for teaching degree students to be admitted to the Erste Staatsprüfung (First State Examination). In accordance with the provisions of Section 29 LPO I, students studying for a teaching degree Gymnasium may write this thesis in one of the subjects they selected as vertieft studiertes Fach (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.

10-M-HM-	Thesis in Mathematics (teaching degree at German Gymnasium)									
GY-092-m01	ECTS 10 Duratio		1	1 semester	Method of grading	numerical grade	Modul level	undergraduate		
	Course	S		no courses assigned						
				written thesis (approx. 250 to 300 hours total) Language of assessment: German, exceptions in accordance with Section 29 Subsection 4 LPO I (examination regulations for teaching degree programmes)						
	Modules successfully completed			Where applicable, specific modules/module components as specified by supervisor.						
	Additional Information			Additional information on module duration: 1 to 2 semesters.						

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