

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Mathematics as Unterrichtsfach with the degree "Erste Staatsprüfung für das Lehramt an Realschulen"

Responsible: Faculty of Mathematics and Computer Science
Responsible: Institute of Mathematics

Examination regulations version: 2015
Examination regulations version: 2015

Abbreviations used: Course types: **E** = field trip, **K** = colloquium, **O** = conversatorium, **P** = placement/lab course, **R** = project, **S** = seminar, **T** = tutorial, **Ü** = exercise, **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 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 creditable 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 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 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:

LASPO2015

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 specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y					
	Method of assessment							
	Only after successful completion of		if applicable					
	Other prerequisites		if applicable					
	Participants and allocation of places		if applicable					
	Additional information		if applicable					
	Referred to in LPO I		if applicable (examination regulations for teaching-degree programmes)					

Scientific Discipline (60 ECTS credits)								
Cumpulsory Courses (60 ECTS credits)								
10-M-ELZT-152-mo1	Elementary Number Theory							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		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 LPO I		§ 51 I Nr. 3					
10-M-EL-GE-152-mo1	Elementary Geometry							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		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 LPO I		§ 51 I Nr. 3					
10-M-ELST-152-mo1	Elementary Stochastics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (1)					
	Method of assessment		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 LPO I		§ 51 I Nr. 3					
10-M-GRLA-152-mo1	Basic Linear Analysis							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		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 I Nr. 2					

10-M-GRAN-152-mo1	Basic Analysis							
	ECTS	12	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2) + V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 to 120 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 I Nr. 1					
10-M-AN-GE-152-mo1	Analytic Geometry							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		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 I Nr. 2					
10-M-GRDG-152-mo1	Basic Differential Equations							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (2)					
	Method of assessment		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 I Nr. 1					
10-M-M4R-152-mo1	Consolidation of Mathematics (German Realschule)							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (2)					
	Method of assessment		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 special branch of science without assignment					

10-M-M3GM-R-152-m01	Review Course Mathematics (German Grundschule/Mittelschule/Realschule)							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	Ü (4)						
	Method of assessment	a) talk (approx. 45 minutes) or b) project (10 to 15 pages)						
	Referred to in LPO I	§ 51 special branch of science without assignment						
Teaching (12 ECTS credits)								
Compulsory Courses (12 ECTS credits)								
10-M-DGMR1-152-m01	Didactics of Mathematics - Geometry (German Mittelschule/Realschule)							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (2)						
	Method of assessment	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 I Nr. 4						
10-M-DGMR2-152-m01	Didactics of Mathematics - Stochastics and Algebra (German Mittelschule/Realschule)							
	ECTS	7	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (1) + V (2) + Ü (2)						
	Method of assessment	a) oral examination of one candidate each (approx. 30 minutes) or b) oral examination in groups (groups of 2 candidates, approx. 15 minutes per candidate) or c) written examination (60 to 120 minutes)						
	Referred to in LPO I	§ 51 I Nr. 4						
Paper (4 ECTS credits) Students studying for a teaching degree Realschule 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 programmes).								
10-M-SFD-PRS-152-m01	Practical Training in Classroom Teaching including Theory (German Realschule)							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (0) + S (2)						
	Method of assessment	a) presentation (30 to 45 minutes) with position paper (1 to 2 pages) or b) term paper (10 to 15 pages) 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.						
	Referred to in LPO I	§ 34 I 1 Nr. 4						

Freier Bereich (general as well as subject-specific electives) (0-15 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

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

10-M-DCMU-152-mo1	Computers in Mathematical Teaching							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V (2)						
	Method of assessment	project (10 to 15 pages) Assessment offered: Every two years, winter semester						
	Referred to in LPO I	§ 22 II Nr. 2 f § 22 II Nr. 1 h § 22 II Nr. 3 f)						
10-M-DMRS-152-mo1	Methodology of Teaching in Mathematics (German Realschule)							
	ECTS	3	Duration	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						
	Referred to in LPO I	§ 22 II Nr. 2 f						
10-M-DV-HB-152-mo1	E-Learning and Blended Learning in Mathematical Teaching (virtual Course)							
	ECTS	3	Duration	1 semester	Method of grading	(not) 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, winter semester						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
10-M-VHBA-ri-152-mo1	Basics in Arithmetics (virtual course)							
	ECTS	2	Duration	1 semester	Method of grading	(not) 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, winter semester						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						

10-M-VHBGeo-152-mo1	Basics in School Geometry (virtual course)							
	ECTS	2	Duration	1 semester	Method of grading	(not) 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						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
10-M-VH-BSto-152-mo1	Stochastics in Sekundarstufe I (virtual course)							
	ECTS	2	Duration	1 semester	Method of grading	(not) 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, winter semester						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
10-M-VHBM10-152-mo1	Mathematics in grade 10 (virtual course)							
	ECTS	2	Duration	1 semester	Method of grading	(not) 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						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
10-M-DGMS-152-mo1	Didactics of Elementary School Mathematics for Teachers at German Mittelschule and Special Education							
	ECTS	2	Duration	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						
	Referred to in LPO I	§ 22 II Nr. 2 f § 22 II Nr. 1 h						

10-M-GBM-152-mo1	Basic Notions and Methods of Mathematical Reasoning							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V (1) + Ü (1)						
	Method of assessment	project (10 to 15 pages) Language of assessment: German and/or English						
	Additional Information	Additional information on module duration: block taught prior to the beginning of the lecture period.						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f)						
10-M-PRM1-152-mo1	Introduction to Hands-on Mathematics							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (2)						
	Method of assessment	project (10 to 15 pages) Assessment offered: Every two years, winter semester						
	Referred to in LPO I	§ 22 II Nr. 2 f § 22 II Nr. 3 f)						
	10-M-PRM2-152-mo1	Practical Course Hands-on Mathematics						
ECTS		3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
Courses		P (2)						
Method of assessment		project: drawing up a project plan (5 to 10 pages) and practical implementation with pupils Assessment offered: Every two years, summer semester						
Referred to in LPO I		§ 22 II Nr. 2 f § 22 II Nr. 3 f)						
10-M-VHBDG-152-mo1		Didactics of Geometry (virtual course)						
	ECTS	2	Duration	1 semester	Method of grading	(not) 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						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
	10-M-VHBDA-152-mo1	Didactics of Algebra (virtual course)						
ECTS		2	Duration	1 semester	Method of grading	(not) 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, winter semester						
Referred to in LPO I		§ 22 II Nr. 1 h),§ 22 II Nr. 2 f) § 22 II Nr. 3 f)						

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10-M-VH-BEx-152-mo1	Exam Tutorial Didactics of Mathematics (virtual course)							
	ECTS	2	Duration	1 semester	Method of grading	(not) 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, winter semester						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
10-M-VHBMa1-152-mo1	Mathematics 1 (virtual course)							
	ECTS	2	Duration	1 semester	Method of grading	(not) 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: Every two years, winter semester						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
10-M-VHBMa2-152-mo1	Mathematics 2 (virtual course)							
	ECTS	2	Duration	1 semester	Method of grading	(not) 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: Every two years, summer semester						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
10-M-SCH-152-mo1	School Mathematics from a Higher Perspective							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V (2) + Ü (2)						
	Method of assessment	a) talk (approx. 45 minutes) or b) term paper (10 to 15 pages) or c) project (15 to 25 hours) Assessment offered: In the semester in which the course is offered and in the subsequent semester Language of assessment: German and/or English						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
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 Realschule may write this thesis in one of the subjects 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.

10-M-HMRS-152-m01	Thesis in Mathematics (German Realschule)							
	ECTS	10	Duration		Method of grading	numerical grade	Modul level	undergraduate
	Courses		No courses assigned to module					
	Method of assessment		Hausarbeit (thesis) pursuant to Section 29 LPO I (examination regulations for teaching-degree programmes) (250 to 300 hours) Language of assessment: German; exceptions pursuant to Section 29 Subsection 4 LPO I (examination regulations for teaching-degree programmes)					
	Referred to in LPO I		§ 29					