

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: **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)								
Area 1 (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)								
Area 1 (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, approx. 15 minutes per candidate) or c) written examination (60 to 120 minutes)						
	Referred to in LPO I	§ 51 I Nr. 4						
Freier Bereich (general as well as subject-specific electives) (0-15 ECTS credits)								
Mathematics (Freier Bereich (general as well as subject-specific electives) -- subject specific)								
10-M-DCMU-152-m01	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-m01	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-m01	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-m01	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-m01	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)						

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 work (15 to 25 hours) Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered and in the subsequent semester						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						