Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Annex SFB

Studienfachbeschreibung (subject description, SFB) for Module studies (Bachelor) Mathematics

Responsible: Faculty of Mathematics and Computer Science — Examination regulations version: 2019
Responsible: Institute of Mathematics — Examination regulations version: 2019

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:

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

15-May-2019 (2019-36)

27-Jun-2019 (2019-41)

14-Nov-2019 (2019-52)

22-Jan-2020 (2020-13)

06-May-2020 (2020-39)

22-Jul-2020 (2020-57)

17-Dec-2020 (2020-110)

10-Mar-2021 (2021-17)

09-Jun-2021 (2021-58)

22-Dec-2021 (2021-85)

05-Jul-2022 (2022-52)

31-Jan-2023 (2022-86)

15-Jun-2023 (2023-58)

13-Dec-2023 (2023-107)

07-Aug-2024 (2024-82)

22-Jan-2025 (2025-1)

09-Jul-2025 (2025-75)

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)						

Summer Term 2019 (0 ECTS credits)								
10-M-SEM2-152-m01	**Supplementary Seminar Mathematics**							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (2)					
	Method of assessment		talk (60 to 120 minutes) Language of assessment: German and/or English					
Winter Term 2019 (0 ECTS credits)								
10-M-SEM2-152-m01	**Supplementary Seminar Mathematics**							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (2)					
	Method of assessment		talk (60 to 120 minutes) Language of assessment: German and/or English					
Summer Term 2020 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					
10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					
10-M-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					

Winter Term 2020 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					
10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					
10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					

Summer Term 2021 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					
10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					
10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					

10-M-SEM2-152-m01	**Supplementary Seminar Mathematics**							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (2)					
	Method of assessment		talk (60 to 120 minutes) Language of assessment: German and/or English					
Winter Term 2021 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English					
10-M-FAN-152-m01	**Introduction to Functional Analysis**							
	ECTS	9	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
	Referred to in LPO I		§ 22 II Nr. 3 f)					
10-M-FANP-152-m01	**Introduction to Functional Analysis for Mathematical Physics**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) oral examination of one candidate each (15 to 30 minutes) or b) oral examination in groups of 2 candidates (10 to 15 minutes each) Assessment will have reference to a topic in pure mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-field Gesamtüberblick Mathematische Methoden (Overview Mathematical Methods) or in module group Ergänzung Mathematik (Supplementary Topics in Mathematics). Language of assessment: German and/or English creditable for bonus					

10-M-ZTH-152-m01	**Introduction to Number Theory**							
	ECTS	9	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
10-M-ZTHP-152-m01	**Introduction to Number Theory for Mathematical Physics**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					
10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					
10-M-SEM2-152-m01	**Supplementary Seminar Mathematics**							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (2)					
	Method of assessment		talk (60 to 120 minutes) Language of assessment: German and/or English					

10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-SEM-152-m01	**Seminar Mathematics**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (2)					
	Method of assessment		talk (60 to 120 minutes) Language of assessment: German and/or English					
	Referred to in LPO I		§ 22 II Nr. 3 f)					
Summer Term 2022 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					

10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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						
10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V (4) + Ü (2)						
	Method of assessment	written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English						
Winter Term 2022 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V (4) + Ü (2)						
	Method of assessment	written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English						
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English						
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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						

10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					
10-M-SEM2-152-m01	**Supplementary Seminar Mathematics**							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (2)					
	Method of assessment		talk (60 to 120 minutes) Language of assessment: German and/or English					
10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-SEM-152-m01	**Seminar Mathematics**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (2)					
	Method of assessment		talk (60 to 120 minutes) Language of assessment: German and/or English					
	Referred to in LPO I		§ 22 II Nr. 3 f)					
Summer Term 2023 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					

10-M-ANA2-152-m01	**Analysis 2**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English					
10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-LNA2-152-m01	**Linear Algebra 2**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					

10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					
Winter Term 2023 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ANA2-152-m01	**Analysis 2**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					
10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					

10-M-DGL-152-m01	**Ordinary Differential Equations**							
	ECTS	9	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-LNA2-152-m01	**Linear Algebra 2**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-VAN-152-m01	**Advanced Analysis**							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					

Summer Term 2024 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ANA2-152-m01	**Analysis 2**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					
10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					
10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-LNA2-152-m01	**Linear Algebra 2**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
Winter Term 2024 (0 ECTS credits)								
10-M-ANA1-152-m01	**Analysis 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ANA2-152-m01	**Analysis 2**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-ASM-152-m01	**Reasoning and Writing in Mathematics**							
	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 20 pages) Language of assessment: German and/or English					
10-M-VHB1-152-m01	**E-Learning and Blended Learning Mathematics 1**							
	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					

10-M-VHB2-152-m01	**E-Learning and Blended Learning Mathematics 2**							
	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					
10-M-DGL-152-m01	**Ordinary Differential Equations**							
	ECTS	9	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					
10-M-GBM-152-m01	**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-LNA1-152-m01	**Linear Algebra 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					
10-M-LNA2-152-m01	**Linear Algebra 2**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English					

10-M-VAN-152-m01	**Advanced Analysis**							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus					