Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject
Emerging Educational Technologies for Science Technology Engineering Mathematics STEM (EET4STEM)
with the degree "Zertifikatsprogramm als Zusatzstudium" (30 ECTS credits)

Responsible: Faculty of Biology	Examination regulations version: 2026
Responsible: Faculty of Chemistry and Pharmacy	Examination regulations version: 2026
Responsible: Faculty of Mathematics and Computer Science	Examination regulations version: 2026
Responsible: Faculty of Physics and Astronomy	Examination regulations version: 2026

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:

ASPO2015

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

17-Dec-2025 (2025-156)

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)					

Compulsory Courses (55 ECTS credits)							

Digital Foundations of Emerging Educational Technologies (30 ECTS credits)

10-I=EI-NEET-262-m01	**Introduction to Informatics for EET4STEM**						
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V (4) + Ü (2) Module taught in: German and/or English				
	Method of assessment		Written examination (approx. 60 to 120 minutes) Language of assessment: German and/or English creditable for bonus				

10-I=PEET1-262-m01	**Programming for Emerging Educational Technologies 1**						
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		Ü (2) Module taught in: German and/or English				
	Method of assessment		portfolio (approx. 30 pages in total) Language of assessment: German and/or English creditable for bonus				

10-I=PEET2-262-m01	**Programming for Emerging Educational Technologies 2**						
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		Ü (2) Module taught in: German and/or English				
	Method of assessment		portfolio (approx. 30 pages in total) Language of assessment: German and/or English creditable for bonus				

10-HCI=WOT-262-m01	**Web and Online Technologies**						
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V/S (2) + Ü (1) Module taught in: German and/or English				
	Method of assessment		a) written examination (approx. 60 to 90 minutes) or b) project work: report (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus				

10-I-MCS-242-m01	**Introduction into Human-Computer Interaction**						
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (1)					
	Method of assessment		a) written examination (approx. 120 minutes) or b) presentation (30 to 60 minutes) or c) oral examination of one candidate each (30 to 60 minutes) Language of assessment: German and/or English creditable for bonus					
	Referred to in LPO I		§ 22 II Nr. 3 b)					

Emerging Educational Technologies (25 ECTS credits)

19-EET=E-LET1-262-m01	**Educational Technologies Development Lab 1**						
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	
	Courses		V/S (2) + Ü (1) Module taught in: German and/or English					
	Method of assessment		a) report (approx. 30 pages) or b) portfolio (approx. 30 pages in total) Language of assessment: German and/or English creditable for bonus					

19-EET=E-LET2-262-m01	**Educational Technologies Development Lab 2**						
	ECTS	20	Duration	2 semester	Method of grading	numerical grade	Modul level	
	Courses		V/S (4) + Ü (6) Module taught in: German and/or English					
	Method of assessment		portfolio (approx. 500 hours in total) Language of assessment: German and/or English creditable for bonus					

Compulsory Electives Subject didactics (10 ECTS credits)

Subject didactics Biology (0 or 10 ECTS credits)

07-GY-FD-BIO-1-152-m01	**Didactics in Biology I: Basics**						
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + S (3)					
	Method of assessment		written examination (approx. 60 minutes) creditable for bonus					
	Referred to in LPO I		§ 61 I Nr. 8					

07-GY-FD-BIO-2-152-m01	**Didactics Biology II: Special Didactics**						
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (2) + S (2)				
	Method of assessment		portfolio (approx. 30 hours) creditable for bonus				
	Referred to in LPO I		§ 61 I Nr. 8				

Subject didactics Chemistry (0 or 10 ECTS credits)							

08-FD1-LAGY-152-m01	**Introduction into Teaching Chemistry for High School**						
	ECTS	5	Duration	2 semester	Method of grading	numerical grade	Modul level	unknown
	Courses		V (2) + S (2)				
	Method of assessment		a) written examination (approx. 90 minutes) and b) presentation (approx. 20 minutes) Language of assessment: German and/or English				
	Referred to in LPO I		§ 62 I Nr. 6				

08-FD2-LAGY-152-m01	**Teaching Chemical Practice for High School**						
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	unknown
	Courses		S (2) + S (2)				
	Method of assessment		a) written examination (approx. 60 minutes) and b) portfolio (approx. 15 pages) Language of assessment: German and/or English				
	Referred to in LPO I		§ 62 I Nr. 6				

Subject didactics Computer Science (0 or 10 ECTS credits)							

10-I-DDI1-152-m01	**Computer Science Education 1 (incl. Practical Course in the Application of Computer Science Systems form an Educational Point of View)**						
	ECTS	6	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2) + P (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		§ 49 I Nr. 2 § 69 I Nr. 2				

10-I-DDI2-GY-152-m01	**Computer Science Education 2**						
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		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		§ 69 I Nr. 2, § 69 I Nr. 1 c): Rechnerarchitektur				

Subject didactics Mathematics (0 or 10 ECTS credits)

10-M-DGY1-232-m01	**Didactics of Mathematics: Algebra and Analysis (German Gymnasium)**						
	ECTS	6	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2) + V (2) + Ü (2)				
	Method of assessment		written examination (approx. 60 minutes) and written exercises (approx. 10 exercise sheets with approx. 3 exercises each from the didactics of algebra and approx. 10 exercise sheets with approx. 3 exercises each from the didactics of analysis) Language of assessment: German and/or English creditable for bonus				
	Referred to in LPO I		§ 73 I Nr. 6				
10-M-DGY2-191-m01	**Didactics of Mathematics: Geometry (German Gymnasium)**						
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2)				
	Method of assessment		a) written examination (60 to 120 minutes) or b) oral examination of one candidate each (approx. 30 minutes) or c) oral examination in groups (groups of 2 or 3, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus				
	Referred to in LPO I		§ 73 I Nr. 6				

Subject didactics Physics (0 or 10 ECTS credits)							
11-L-PD-172-m01	**Physics Teaching Concepts**						
	ECTS	5	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + V (2) + Ü (1)				
	Method of assessment		a) written examination (approx. 60 minutes) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups (groups of 2, approx. 15 minutes per candidate) or d) term paper (approx. 8 pages) Language of assessment: German and/or English				
	Referred to in LPO I		§ 36 I Nr. 7 § 38 I Nr. 1 § 53 I Nr. 2 § 77 I Nr. 2				
11-L-PDS-152-m01	**Physics Teaching Concepts Seminar**						
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (2)				
	Method of assessment		a) written examination (approx. 45 minutes) or b) oral examination of one candidate each (approx. 10 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate) or d) term paper (approx. 8 pages) Language of assessment: German and/or English				
	Referred to in LPO I		§ 77 I Nr. 2				
11-L-L3S-GY-152-m01	**Student Lab Preparation Course (Physics) German Gymnasium**						
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (2)				
	Method of assessment		a) written examination (approx. 45 minutes) or b) oral examination of one candidate each (approx. 10 minutes) or c) oral examination in groups (groups of 2, approx. 10 minutes per candidate) or d) term paper (approx. 8 pages) Language of assessment: German and/or English				
	Referred to in LPO I		§ 77 I Nr. 2				

Compulsory Electives Profession-specific key competencies (5 ECTS credits)						
19-EET-SK1-262-m01	**Key Competencies EET4STEM 1**					
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	
	Courses		V/S (2) + Ü (1) Module taught in: German and/or English			
	Method of assessment		a) written examination (approx. 60 to 90 minutes) or b) project work: report (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus			
19-EET-SK2-262-m01	**Key Competencies EET4STEM 2**					
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	
	Courses		V/S (2) + Ü (1) Module taught in: German and/or English			
	Method of assessment		a) written examination (approx. 60 to 90 minutes) or b) project work: report (approx. 20 pages) with presentation (30 to 45 minutes) and subsequent discussion on the topic or c) oral examination of one candidate each (approx. 20 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus			