

Annex SFB

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

Responsible: Faculty of Chemistry and Pharmacy

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)):

o8-Sep-2015 (2015-127)

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 (6o ECTS credits)								
Compulsory Courses (6o ECTS credits)								
o8-AC1-152-mo1	Principles of Inorganic Chemistry							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + V (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh					
	Referred to in LPO I		§ 42 I Nr. 1 and § 22 II Nr. 1 h) § 62 I Nr. 1					
o8-AC-KAC-152-mo1	Concepts of Inorganic Chemistry							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (1) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
	Referred to in LPO I		§ 42 I Nr. 1 § 62 I Nr. 1					
	o8-ACP1-LA-152-mo1	Inorganic and Analytical Chemistry (lab) (teaching degree)						
ECTS		7	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
Courses		P (12)						
Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, summer semester						
Referred to in LPO I		§ 42 I Nr. 1 § 62 I Nr. 1						

o8-AS-HG-152-mo1	Inorganic Chemistry of the Main Group Elements							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English						
	Referred to in LPO I	§ 42 I Nr. 1						
o8-OC1- LAGMR-152-mo1	Organic Chemistry 1 (teaching degree for secondary schools)							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (3) + Ü (1)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English						
	Referred to in LPO I	§ 42 I Nr. 2 and § 22 II Nr. 1 h)						
o8-OC2-VL-152- mo1	Organic Chemistry 2							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (3) + Ü (1)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English						
	Additional Information	according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. 1 2nd letter b) of annex 1 to the APOLmCh and No. 2 of annex 2 to the APOLmCh						
	Referred to in LPO I	§ 42 I Nr. 2 and § 22 II Nr. 1 h) § 62 I Nr. 2						

o8-OCP-LAGMR-152-mo1	Organic Chemistry - laboratory course (teaching degree for secondary schools)							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (7)						
	Method of assessment	Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, summer semester						
	Modules successfully completed	o8-OC1-LAGMR						
	Referred to in LPO I	§ 42 I Nr. 2						
o8-PC-LAGMR-152-mo1	Physical Chemistry (teaching degree for secondary schools)							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (1) + V (1) + Ü (1)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English						
	Referred to in LPO I	§ 42 I Nr. 1 and § 22 II Nr. 1 h)						
o8-PCP-LA-152-mo1	Physical Chemistry lab (teaching degree)							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (3)						
	Method of assessment	Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, winter semester						
	Referred to in LPO I	§ 42 I Nr. 1 § 62 I Nr. 1						
o8-BC1-152-mo1	Biochemistry 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (1)						
	Method of assessment	written examination (approx. 60 to 90 minutes)						
	Additional Information	according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. II 2nd letter e) and No. II 1st letter c) of annex 1 to the APOLmCh and No. 3 of annex 3 to the APOLmCh						
	Referred to in LPO I	§ 42 I Nr. 2 § 62 I Nr. 2						

o8-ÜiVmD- LAGMR-152-mo1	Exercises in Experimental Presentation (teaching degree for secondary schools)							
	ECTS	6	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	Ü (3) + Ü (3) + Ü (3)						
	Method of assessment	One talk each in the fields of inorganic, organic and physical chemistry including demonstrations (approx. 45 minutes each) Language of assessment: German and/or English Assessment offered: Once a year, winter semester						
	Modules successfully completed	o8-OCP-LAGMR						
	Referred to in LPO I	§ 42 I Nr. 3						
Teaching (12 ECTS credits)								
Compulsory Courses (12 ECTS credits)								
o8-FD1- LAGMR-152-mo1	Introduction into Teaching Chemistry for Elementary, Secondary and Middle School							
	ECTS	4	Duration	1 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	§ 42 I Nr. 4						
o8-FD2-LARS-152- mo1	Teaching Chemical Practice for Middle 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) presentation (approx. 20 minutes) Language of assessment: German and/or English						
	Referred to in LPO I	§ 42 I Nr. 4						
o8-FD3-LARS-152- mo1	Grade 7/8/9 in Middle School							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	unknown
	Courses	S (2)						
	Method of assessment	presentation (approx. 45 minutes) Language of assessment: German and/or English						
	Referred to in LPO I	§ 42 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 Sub-section 1 No. 4 LPO I (examination regulations for teaching-degree programmes). The obligatory accompanying tutorial is offered by the respective subject. The ECTS cre-								

credits obtained are counted in the subject Erziehungswissenschaften pursuant to Section 10 Subsection 3 LASPO (general academic and examination regulations for teaching-degree programmes).

o8-Ch-SBPrakt-LARS-152-m01	Internship at Middle Schools							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	unknown
	Courses	P (0) + S (2)						
	Method of assessment	term paper (written elaboration of teaching practice, approx. 8 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)
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".

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

o8-AC-Spec-152-m01	Practical spectroscopy 2							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) 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)						

o8-OC-Spec-152-m01	Practical spectroscopy 1							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 62 I Nr. 2						
o8-AC-FK-152-m01	Solid State Chemistry							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 62 I Nr. 1						
o8-AC-ELO-152-m01	Elemental Organic Chemistry							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (1)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) 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)						

o8-OC3-152-m01	Organic Chemistry 3							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) 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)					
o8-OC4-152-m01	Organic Chemistry 4							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
	Referred to in LPO I		§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 62 I Nr. 2					
o8-TC-152-m01	Quantum Chemistry							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (1)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Referred to in LPO I		§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)					

o8-PC-SBL1-152-mo1	Symmetry, chemical bonding and light - Part 1							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (3) + Ü (2)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) 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)						
o3-TR-152-mo1	Toxicology and legal studies							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1) + V (1)						
	Method of assessment	written examination (approx. 90 minutes)						
	Additional Information	according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. II 2nd letter g) and i) and No. II 1st letter d) of annex 1 to the APOLmCh and No. 5 and 6 of annex 3 to the APOLmCh						
o8-PVAC-152-mo1	Training for Exams in Inorganic Chemistry							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (2)						
	Method of assessment	2 to 4 short talks on selected assignments (approx. 10 minutes each) 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)						
o8-PVOC-152-mo1	Training for Exams in Organic Chemistry							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (2)						
	Method of assessment	4 to 8 short talks on selected assignments (approx. 10 minutes each) 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)						

o8-FD-PV- LAGMRS-152-mo1	Training for Exams in Chemistry Teaching for Elementary, Secondary and Middle School Teachers							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	unknown
	Courses	S (2)						
	Method of assessment	talk on 3 selected assignments (approx. 30 minutes each) Language of assessment: German and/or English						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f)						
o8-FD-WA-152-mo1	Instructions for Scientific Research							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	unknown
	Courses	S (2)						
	Method of assessment	presentation (approx. 30 minutes) 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)						
o8-FD-LLL-152-mo1	Chemistry SchoolLabs							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	unknown
	Courses	P (3)						
	Method of assessment	practical assignment (successful supervision of 2 sessions in learn-teach-lab, approx. 4 to 6 hours each) 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)						
o8-FD-CAS-152- mo1	Collecting Data with CASSY System							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	unknown
	Courses	S (2)						
	Method of assessment	presentation of a project (approx. 30 minutes) Language of assessment: German and/or English						
	Referred to in LPO I	§ 22 II Nr. 2 f) § 22 II Nr. 3 f) § 22 II Nr. 1 h)						
o8-FD-MS-152-mo1	Microscale Experiments in Chemistry Teaching							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	unknown
	Courses	S (2)						
	Method of assessment	project: presentation of a project (approx. 30 minutes) 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)						

o8-FD-ASL-152-m01	Out-Of-School Education							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	unknown
	Courses		S (2)					
	Method of assessment		project: presentation of a project (approx. 30 minutes) 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.								
o8-Ch-HA-RS-152-m01	Final Thesis according to § 29 LPO I in Chemistry for Middle School Teachers							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	unknown
	Courses		No courses assigned to module					
	Method of assessment		Hausarbeit (thesis) pursuant to Section 29 LPO I (examination regulations for teaching-degree programmes) (30 to 50 pages) 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					