

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Chemistry with the degree "Erweiterungsprüfung für das Lehramt an Gymnasien" (ECTS credits)

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 (2015-126)

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 (92 ECTS credits)								
Area 1 (92 ECTS credits)								
o8-AC1-152-m01	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-m01	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-m01	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-AS1-152-m01	Inorganic Chemistry of the Elements							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + 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	§ 62 I Nr. 1						
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-OC1-152-m01	Organic Chemistry 1						
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. 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 b) of annex 1 to the APOLmCh and No. 2 of annex 2 to the APOLmCh						
Referred to in LPO I		§ 62 I Nr. 2						

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-LAGY-152-mo1	Organic Chemistry - laboratory course (teaching degree for secondary schools)							
	ECTS	6	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (9)						
	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						
	Referred to in LPO I	§ 62 I Nr. 2						
o8-OC4-152-mo1	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-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-PC-TKE-152-m01	Thermodynamics, Kinetics, Electrochemistry							
	ECTS	9	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) 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	§ 62 I Nr. 1						
o8-PC-MBS-152-m01	Molecular structure and spectroscopy							
	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 creditable for bonus						
	Referred to in LPO I	§ 62 I Nr. 1						

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-PHP-LAGY-152-mo1	Physics lab (teaching degree for secondary schools)							
	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, summer semester						
	Modules successfully completed	o8-PCP-LA						
Referred to in LPO I	§ 62 I Nr. 3							
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-Forsch-LAGY-152-mo1	Practical Research Course for Grammar School Teachers							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (16)						
	Method of assessment	Log (approx. 20 pages) Language of assessment: German and/or English						
	other prerequisites	Depending on their choice of topic, students who are writing their Hausarbeit (thesis) pursuant to Section 29 LPO I (examination regulations for teaching-degree programmes) in the vertieft studiertes Fach (subject studied with a focus on the scientific discipline) Chemie (Chemistry) are highly recommended to complete module o8-Forsch-LAGY directly before completing module o8-Ch-HA-GY.						
	Additional Information	Additional information on module duration: block placement / block taught practical course with a duration of 30 days.						
Referred to in LPO I	§ 62 I Nr. 4							

o8-ÜiVmD-LAGY-152-mo1	Exercises in Experimental Presentation, Intermediate School							
	ECTS	5	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-LAGY and o8-PCP-LA						
	Referred to in LPO I	§ 62 I Nr. 5						
Teaching (10 ECTS credits)								
Area 1 (10 ECTS credits)								
o8-FD1-LAGY-152-mo1	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						
o8-FD2-LAGY-152-mo1	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						
Freier Bereich (general as well as subject-specific electives) (0-15 ECTS credits)								
Chemistry (Freier Bereich (general as well as subject-specific electives) -- subject specific)								
o8-AC-Spec-152-mo1	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-AC-ELO-152-mo1	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-mo1	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-TC-152-mo1	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-PC-EKM-152-mo1	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
	Basic Mathematics							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V (1) + Ü (1)						
	Method of assessment	written exercises (approx. 20) Language of assessment: German and/or English						
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-m01	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-LAGY-152-m01	Training for Exams in Chemistry Teaching for High 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. 3 f)						
o8-FD-WA-152-m01	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-m01	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-m01	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-mo1	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)					
o8-FD-WP-152-mo1	W- and P-Seminars in High Schools							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	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. 3 f)					