Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Chemistry as vertieft studiertes Fach (studied with a focus on the scientific discipline)

with the degree "Erste Staatsprüfung für das Lehramt an Gymnasien"

Responsible: Faculty of Chemistry and Pharmacy

Examination regulations version: 2009

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:

LASPO2009

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

12-Jan-2012 (2011-105)

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)								
Compulsory Courses (92 ECTS credits)								
08-AC1-LA-102-m01	**Inorganic Chemistry 1 (teaching degree)**							
	ECTS	20	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	This module comprises 3 module components. Information on courses will be listed separately for each module component. • 08-AC1-1-102: V + V + Ü (no information on SWS (weekly contact hours) and course language available) • 08-AC1-LA-2-102: P (no information on SWS (weekly contact hours) and course language available) • 08-AC1-LA-3-102: V (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. **Assessment in module component 08-AC1-1-102:** Principles of Inorganic Chemistry Principles of Inorganic Chemistry Principles of Inorganic Chemistry • 10 ECTS, Method of grading: numerical grade • a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) • Language of assessment: German or English • Other prerequisites: Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence). **Assessment in module component 08-AC1-LA-2-102:** Inorganic and Analytical Chemistry (lab) (teaching degree) • 7 ECTS, Method of grading: (not) successfully completed • pre/post-experiment examination talks (Vor-/Nachtestate, approx. 15 minutes each), log (approx. 5 to 10 pages) • Assessment offered: once a year, summer semester • Language of assessment: German or English **Assessment in module component 08-AC1-LA-3-102:** Inorganic Chemistry 1 (accompanying lecture) (teaching degree) • 3 ECTS, Method of grading: numerical grade • a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) • Language of assessment: German or English						
	other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.						
	Referred to in LPO I	§ 42 (1) 1. Chemie "Allgemeine und Anorganische Chemie" und "Physikalische und Analytische Chemie" § 62 (1) 1. Chemie "Allgemeine und Anorganische Chemie"; "Physikalische und Analytische Chemie"						

08-AC2-LAGY-102-m01	**Inorganic Chemistry of the Elements (teaching degree for secondary schools)**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	Referred to in LPO I		§ 62 (1) 1. Chemie "Allgemeine und Anorganische Chemie"; "Physikalische und Analytische Chemie"					
08-AS1-LAGY-102-m01	**Chemistry of the elements**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	Modules successfully completed		08-AC1 (module component 08-AC1-4 only) and 08-OC3 (module component 08-OC3-2 only)					
	Referred to in LPO I		§ 62 (1) 1. Chemie "Allgemeine und Anorganische Chemie"; "Physikalische und Analytische Chemie"					
08-OC1-092-m01	**Organic Chemistry 1**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
	Referred to in LPO I		§ 62 (1) 2. Chemie "Organische und Bioorganische Chemie"					
08-OC2-LAGY-102-m01	**Organic Chemistry 2 (teaching degree for secondary schools)**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
	Referred to in LPO I		§ 62 (1) 2. Chemie "Organische und Bioorganische Chemie"					

08-OC-Prakt-LAGY-092-m01	**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 (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		pre/post-experiment examination talks (Vor-/Nachtestate, approx. 15 minutes each), log (approx. 5 to 10 pages) Assessment offered: once a year, summer semester Language of assessment: German or English					
	Referred to in LPO I		§ 62 (1) 2. Chemie "Organische und Bioorganische Chemie"					
08-OC4-LAGY-102-m01	**Organic Chemistry 4 - advanced course**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	Modules successfully completed		08-OC1 or 08-OC1-GHR					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
	Referred to in LPO I		§ 62 (1) 2. Chemie "Organische und Bioorganische Chemie"					
08-OC-Spec-LAGY-092-m01	**Practical spectroscopy 1 (teaching degree for secondary schools)**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	Referred to in LPO I		§ 62 (1) 2. Chemie "Organische und Bioorganische Chemie"					
08-PC-TKE-LAGY-092-m01	**Thermodynamics, Kinetics, Electrochemistry**							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
	Referred to in LPO I		§ 62 (1) 1. Chemie "Allgemeine und Anorganische Chemie"; "Physikalische und Analytische Chemie"					

08-PC-QMS-LAGY-092-m01	**Principles of quantum mechanics and spectroscopy**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
	Referred to in LPO I		§ 62 (1) 1. Chemie "Allgemeine und Anorganische Chemie"; "Physikalische und Analytische Chemie"					
08-PC-Prakt-LAGY-092-m01	**Physical Chemistry lab (teaching degree for secondary schools)**							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		pre/post-experiment examination talks (Vor-/Nachtestate, approx. 15 minutes each), log (approx. 5 to 10 pages) Assessment offered: once a year, winter semester Language of assessment: German or English					
	Modules successfully completed		08-PC-TKE-LAGY					
	Referred to in LPO I		§ 62 (1) 1. Chemie "Allgemeine und Anorganische Chemie"; "Physikalische und Analytische Chemie"					
08-For-sch-LAGY-092-m01	**Practical Research Course for Grammar School Teachers**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written thesis (approx. 20 pages) Language of assessment: German or English					
	Referred to in LPO I		§ 62 (1) 4. Chemie "Forschungsorientiertes Laborpraktikum"					
08-PC-VKM-LA-102-m01	**Basic Mathematics (teaching degree)**							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		exercises (4 work sheets) Language of assessment: German or English					
08-PH-Prakt-LAGY-092-m01	**Physics lab (teaching degree for secondary schools)**							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		pre/post-experiment examination talks (Vor-/Nachtestate, approx. 15 minutes each), log (approx. 5 to 10 pages) Language of assessment: German or English					
	Referred to in LPO I		§ 62 (1) 3. Chemie "Physik"					

08-BC-LAGY-092-m01	**Biochemistry (teaching degree for secondary schools)**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
	Referred to in LPO I		§ 62 (1) 2. Chemie "Organische und Bioorganische Chemie"					
08-Ch-Gy-ÜiV-092-m01	**Exercises in Experimental Presentation, Intermediate School**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		one talk each in the fields of inorganic, organic and physical chemistry including demonstrations (approx. 45 minutes each) Assessment offered: once a year, winter semester Language of assessment: German or English					
	Referred to in LPO I		§ 62 (1) 5. Chemie "Übungen im Vortragen mit Demonstrationen"					
Teaching (10 ECTS credits)								
08-FD-Gru-G-092-m01	**Introduction in Planning and Methods**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module comprises 2 module components. Information on courses will be listed separately for each module component. • 08-FD-Gru-RSGy-2-092: S (no information on SWS (weekly contact hours) and course language available) • 08-FD-Einf-1-092: V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. **Assessment in module component 08-FD-Gru-RSGy-2-092:** Basics of Planning and Organization of Chemistry Education • 2 ECTS, Method of grading: (not) successfully completed • Testat (exam, approx. 20 minutes) • Language of assessment: German or English **Assessment in module component 08-FD-Einf-1-092:** Introduction in Chemistry Education • 3 ECTS, Method of grading: numerical grade • written examination (approx. 90 minutes) • Language of assessment: German or English					
	Referred to in LPO I		§ 36 (1) 7. Didaktik der Grundschule Chemie § 38 (1) 1. Didaktik der Hauptschule Chemie § 38 (1) 1. Didaktik der Mittelschule Chemie § 42 Chemie Fachdidaktik § 62 (1) 6. Chemie Didaktik					

08-FD-CEx-092-m01	**Chemistry Education, Part II**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 60 minutes)						
	Participants and allocation of places	Number of places: 25. Places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot.						
	Referred to in LPO I	§ 42 Chemie Fachdidaktik § 62 (1) 6. Chemie Didaktik						
08-FD-Sin-Ko-092-m01	**Chemistry Education, Part III**							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	Testat (exam, approx. 20 minutes) Language of assessment: German or English						
	Referred to in LPO I	§ 62 (1) 6. Chemie Didaktik						
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)								
08-AC2-PS-LA-102-m01	**Practical spectroscopy 2 (teaching degree for secondary schools)**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English						

08-AC3-LA-102-m01	**Elemental Organic Chemistry (teaching degree for secondary schools)**							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English					
	Modules successfully completed		08-AC1 (module component 08-AC1-4 only) and 08-OC3 (module component 08-OC3-2 only)					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
08-TC-LA-092-m01	**Theoretical Models in Chemistry (teaching degree for secondary schools)**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
08-PC-ESS-092-m01	**Electronic structure and spectroscopy**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					

08-OC3-LA-102-m01	**Organic Chemistry 3 (teaching degree for secondary schools)**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German or English					
	Modules successfully completed		08-OC1 or 08-OC1-GHR					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
08-PC3-092-m01	**Physical and Theoretical Chemistry 3: Symmetry and Quantum Chemistry**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü + V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
08-PC4-092-m01	**Physical Chemistry 4: Statistical Thermodynamics**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)					
	other prerequisites		Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).					
03-TR-072-m01	**Toxicology and legal studies**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 minutes)					

08-FBC2-PV-101-m01	**Preparation of Exams Chemistry**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	This module comprises 2 module components. Information on courses will be listed separately for each module component. • 08-FBC2-PV-1-101: S (no information on SWS (weekly contact hours) and course language available) • 08-FBC2-PV-2-101: S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. **Assessment in module component 08-FBC2-PV-1-101:** Preparation of Exams Inorganic Chemistry • 2 ECTS, Method of grading: (not) successfully completed • successful participation in the form of short presentations on selected assignments • Assessment offered: once a year, summer semester • Language of assessment: German or English **Assessment in module component 08-FBC2-PV-2-101:** Preparation of Exams Organic Chemistry • 3 ECTS, Method of grading: (not) successfully completed • successful participation in the form of short presentations on selected assignments • Assessment offered: once a year, summer semester • Language of assessment: German or English						
	Modules successfully completed	08-OC2-GHR and 08-OC-Prakt-GHR or 08-OC2-LAGY and 08-OC-Prakt-LAGY						
Teaching (Freier Bereich (general as well as subject-specific electives) -- subject specific)								
08-FD-WPF-WA-092-m01	**Guidance in Self-reliant Scientific Work**							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	presentation (approx. 30 minutes) Language of assessment: German or English						

<table>
<tr><td>08-FD-WPF-LLL-092-m01</td><td colspan="8">Extracurricular Sites</td></tr>
<tr><td></td><td>ECTS</td><td>4</td><td>Duration</td><td>1 semester</td><td>Method of grading</td><td>(not) successfully completed</td><td>Modul level</td><td>undergraduate</td></tr>
<tr><td></td><td colspan="3">Courses</td><td colspan="5">This module comprises 2 module components. Information on courses will be listed separately for each module component.
• 08-FD-WPF-LLL-1-092: S (no information on SWS (weekly contact hours) and course language available)
• 08-FD-WPF-LLL-2-092: P (no information on SWS (weekly contact hours) and course language available)</td></tr>
<tr><td></td><td colspan="3">Method of assessment</td><td colspan="5">Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 08-FD-WPF-LLL-1-092: Opportunities of Extracurricular Sites
• 2 ECTS, Method of grading: (not) successfully completed
• presentation of a project (approx. 30 minutes)
• Language of assessment: German or English
Assessment in module component 08-FD-WPF-LLL-2-092: School Lab
• 2 ECTS, Method of grading: (not) successfully completed
• successful supervision of experiments in learn-teach-lab
• Language of assessment: German or English</td></tr>
<tr><td>08-FBC1-092-m01</td><td colspan="8">Instruction of pupils in making chemical experiments</td></tr>
<tr><td></td><td>ECTS</td><td>5</td><td>Duration</td><td>1 semester</td><td>Method of grading</td><td>(not) successfully completed</td><td>Modul level</td><td>undergraduate</td></tr>
<tr><td></td><td colspan="3">Courses</td><td colspan="5">P (no information on SWS (weekly contact hours) and course language available)</td></tr>
<tr><td></td><td colspan="3">Method of assessment</td><td colspan="5">assessment of practical performance and final report (approx. 8 pages)</td></tr>
<tr><td></td><td colspan="3">Participants and allocation of places</td><td colspan="5">Number of places: 30. Places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot.</td></tr>
<tr><td>08-FD-WP-102-m01</td><td colspan="8">W- and P-Courses in Secondary Classes of Gymnasium</td></tr>
<tr><td></td><td>ECTS</td><td>3</td><td>Duration</td><td>1 semester</td><td>Method of grading</td><td>(not) successfully completed</td><td>Modul level</td><td>undergraduate</td></tr>
<tr><td></td><td colspan="3">Courses</td><td colspan="5">S + P (no information on SWS (weekly contact hours) and course language available)</td></tr>
<tr><td></td><td colspan="3">Method of assessment</td><td colspan="5">written elaboration (approx. 10 to 15 pages) and presentation (approx. 30 minutes)
Language of assessment: German or English</td></tr>
<tr><td></td><td colspan="3">other prerequisites</td><td colspan="5">Admission prerequisite to assessment: regular participation in practical exercise (sitting in on classes at a Gymnasium).</td></tr>
<tr><td></td><td colspan="3">Participants and allocation of places</td><td colspan="5">Number of places: 12. Places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot.</td></tr>
<tr><td colspan="9">Thesis (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 Gymnasium may write this thesis in one of the subjects they selected as vertieft studiertes Fach (subject studied with a focus on the scientific dis-</td></tr>
</table>

cipline) 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.

08-Ch-HA-GY-092-m01	**Admission work (Chemistry for Grammar School Teachers)**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		no courses assigned					
	Method of assessment		written thesis (Zulassungsarbeit, approx. 40 pages) Language of assessment: German, exceptions in accordance with Section 29 LPO I (examination regulations for teaching degree programmes)					
	Modules successfully completed		Where applicable, specific modules/module components as specified by supervisor.					
	other prerequisites		Depending on their choice of topic, students who are writing their Hausarbeit (thesis) according 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 08-Forsch-LAGY directly before completing module 08-Ch-HA-GY.					