Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Didactics in Chemistry (Middle School) as Didaktikfach with the Degree

Responsible: Faculty of Chemistry and Pharmacy

Examination regulations version: 2013

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)):

25-Sep-2014 (2014-55)

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 (20 ECTS credits)
Successful completion of modules worth 20 ECTS credits in each subject selected as Didaktikfach (subject studied with a focus on teaching methodology) is a prerequisite for admission to the Erste Staatsprüfung (First State Examination) in the subject Didaktiken einer Fächergruppe der Mittelschule (Didactics of a Group of Subjects of Mittelschule).

08-FD-ExUnt-092-m01	**Experiments in Chemical Education**						
	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-ExUnt-1-092: Ü (no information on SWS (weekly contact hours) and course language available) • 08-FD-ExUnt-2-092: 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-FD-ExUnt-1-092:** Experiments in Chemical Teaching at Primary and Secondary Public Schools • 4 ECTS, Method of grading: numerical grade • presentation with demonstration (approx. 30 minutes) • Language of assessment: German or English **Assessment in module component 08-FD-ExUnt-2-092:** Planning of Teaching Units • 1 ECTS, Method of grading: numerical grade • presentation (approx. 20 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					

08-FD-Ch-BM-Did-092-m01	**Chemistry Education: Educational Theory and Models of Teaching Concepts**							
	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-Einf-1-092: V (no information on SWS (weekly contact hours) and course language available) • 08-FD-Ch-BM-Did-2-092: 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-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 **Assessment in module component 08-FD-Ch-BM-Did-2-092:** Generation and Utilization of learning Aids • 2 ECTS, Method of grading: (not) successfully completed • presentation (approx. 20 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-SchulUms-Did-092-m01	**Concepts of Teaching Chemistry**							
	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-SchulUms-1-092: S (no information on SWS (weekly contact hours) and course language available) • 08-FD-SchulUms-Did-2-092: 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-FD-SchulUms-1-092:** Technical Contents and Practicabilities in Schools • 3 ECTS, Method of grading: numerical grade • Testat (exam, approx. 20 minutes) • Language of assessment: German or English **Assessment in module component 08-FD-SchulUms-Did-2-092:** Theoretical Basics of School-Chemistry • 2 ECTS, Method of grading: numerical grade • written examination (approx. 45 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					

08-FD-HS-Did-092-m01	**Social Forms in Chemistry Learning and Extracurricular Sites**							
	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-HS-Did-1-092: S (no information on SWS (weekly contact hours) and course language available) • 08-FD-HS-Did-2-092: Ü (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-HS-Did-1-092:** Social Forms in Chemistry Learning at Comprehensive Schools • 3 ECTS, Method of grading: numerical grade • presentation (approx. 45 minutes) • Language of assessment: German or English **Assessment in module component 08-FD-HS-Did-2-092:** Extracurricular Sites • 2 ECTS, Method of grading: (not) successfully completed • presentation of a field trip to out-of-classroom learning environments (approx. 45 minutes) • Language of assessment: German or English						
	Referred to in LPO I	§ 38 (1) 1. Didaktik der Hauptschule Chemie § 38 (1) 1. Didaktik der Mittelschule Chemie						
Freier Bereich (general as well as subject-specific electives) (0-15 ECTS credits) 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".								
Subject-specific Extra Skills (Freier Bereich (general as well as subject-specific electives) -- subject specific)								
08-PC-GHR-102-m01	**Physical 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	written examination (approx. 60 minutes)						
	Referred to in LPO I	§ 42 (1) 1. Chemie "Allgemeine und Anorganische Chemie" und "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-OC-Prakt-GHR-092-m01	**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 (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		§ 42 (1) 2. Chemie "Organische und Bioorganische Chemie"					
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-Ch-GH-ÜiV-092-m01	**Exercises in Experimental Presentation**							
	ECTS	6	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		This module comprises 3 module components. Information on courses will be listed separately for each module component. • 08-Ch-LA-ÜiV-1-092: Ü (no information on SWS (weekly contact hours) and course language available) • 08-Ch-LA-ÜiV-2-092: Ü (no information on SWS (weekly contact hours) and course language available) • 08-Ch-GH-ÜiV-3-092: Ü (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-Ch-LA-ÜiV-1-092:** Exercises in Experimental Presentation (Inorganic Chemistry) • 2 ECTS, Method of grading: (not) successfully completed • talk with demonstrations (approx. 45 minutes) • Assessment offered: once a year, winter semester • Language of assessment: German or English **Assessment in module component 08-Ch-LA-ÜiV-2-092:** Exercises in Experimental Presentation (Organic Chemistry) • 2 ECTS, Method of grading: (not) successfully completed • talk with demonstrations (approx. 45 minutes) • Assessment offered: once a year, winter semester • Language of assessment: German or English **Assessment in module component 08-Ch-GH-ÜiV-3-092:** Exercises in Experimental Presentation (Physical Chemistry) for Primary School and Secondary Public School Teachers • 2 ECTS, Method of grading: (not) successfully completed • talk with demonstrations (approx. 45 minutes) • Assessment offered: once a year, winter semester • Language of assessment: German or English					
	Referred to in LPO I		§ 42 (1) 3. Chemie "Übungen im Vortragen mit Demonstrationen"					

08-OC1-GHR-092-m01	**Organic Chemistry 1 (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		§ 42 (1) 2. Chemie "Organische und Bioorganische Chemie"					
08-OC2-GHR-092-m01	**Organic Chemistry 2 (teaching degree for secondary schools)**							
	ECTS	7	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		§ 42 (1) 2. Chemie "Organische und Bioorganische Chemie"					
08-BC-GHR-092-m01	**Biochemistry (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: 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).					
	Referred to in LPO I		§ 42 (1) 2. Chemie "Organische und Bioorganische Chemie"					
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 rowspan="4">08-FD-WPF-PVGS-HS-092-m01</td><td colspan="8">Preparation of Exams (Primary and Secondary Public Scholl Teachers)</td></tr>
<tr><td>ECTS</td><td>2</td><td>Duration</td><td>1 semester</td><td>Method of grading</td><td>numerical grade</td><td>Modul level</td><td>undergraduate</td></tr>
<tr><td colspan="3">Courses</td><td colspan="5">S (no information on SWS (weekly contact hours) and course language available)</td></tr>
<tr><td colspan="3">Method of assessment</td><td colspan="5">written examination (approx. 30 minutes)</td></tr>
<tr><td rowspan="4">08-FD-WPF-LLL-092-m01</td><td colspan="8">Extracurricular Sites</td></tr>
<tr><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 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 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>
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08-AC1-LA-102-mo1	**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"					

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 Mittelschule may write this thesis in the subject Didaktik einer Fächergruppe der Mittelschule (Didactics of a Group of Subjects of Mittelschule), in the subject 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.