

Subdivided Module Catalogue
for the Subject

Didactics in Chemistry (Primary School)

as Didaktikfach
with the degree "Erste Staatsprüfung für das Lehramt an
Grundschulen"

Examination regulations version: 2015
Responsible: Faculty of Chemistry and Pharmacy

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

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Notes

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 the 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 (2015-128)

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.

The subject is divided into

Abbreviation	Module title	ECTS credits	Method of grading	page
Compulsory Courses (10 ECTS credits)				
Successful completion of modules worth no less than 10 ECTS credits in each subject selected as Didaktikfach (subject studied with a focus on teaching methodology) (mandatory courses) is a prerequisite for admission to the Erste Staatsprüfung (First State Examination) in the subject Didaktik der Grundschule (Didactics for Grundschule). In addition, modules worth another 5 ECTS credits must be successfully completed in one of the subjects selected as Didaktikfach (mandatory electives).				
o8-FD1-DF-LAGM-152-m01	Introduction into Teaching Chemistry for Elementary, Secondary and Middle School (Major Subject)	5	NUM	9
o8-FD2-LAGM-152-m01	Teaching Chemical Practice for Elementary and Secondary School	5	NUM	10
Compulsory Electives (5 ECTS credits)				
o8-FD3-DF-LAGM-152-m01	Designing Chemistry Classes for Elementary and Secondary School	5	NUM	11
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".				
Extra Skills Teaching Chemistry at the German Grundschule (Freier Bereich (general as well as subject-specific electives) -- subject specific)				
o8-AC1-152-m01	Principles of Inorganic Chemistry	8	NUM	6
o8-OC1-LAGMR-152-m01	Organic Chemistry 1 (teaching degree for secondary schools)	6	NUM	22
o8-OC2-VL-152-m01	Organic Chemistry 2	6	NUM	24
o8-PC-LAGMR-152-m01	Physical Chemistry (teaching degree for secondary schools)	6	NUM	26
o3-TR-152-m01	Toxicology and legal studies	3	NUM	4
o8-FD-LLL-152-m01	Chemistry SchoolLabs	2	B/NB	13
o8-FD-MS-152-m01	Microscale Experiments in Chemistry Teaching	2	B/NB	21
o8-FD-ASL-152-m01	Out-Of-School Education	2	B/NB	12
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 Grundschule may write this thesis in the subject Didaktik der Grundschule (Didactics of Grundschule), 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.				
o8-Ch-HA-DF-GS-152-m01	Final Thesis according to § 29 LPO I in Chemistry for Elementary School Teachers	10	NUM	8

Module title		Abbreviation
Toxicology and legal studies		03-TR-152-m01
Module coordinator		Module offered by
lecturer of lecture "Toxikologie und Rechtskunde"		Faculty of Medicine
ECTS	Method of grading	Only after succ. compl. of module(s)
3	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Basics of legal regulations for chemists (handling and transportation of hazardous materials), fundamentals of toxicology.		
Intended learning outcomes		
The students master the basics of legal regulations for chemists (handling and transport of hazardous substances) as well as the fundamentals of toxicology.		
Courses (type, number of weekly contact hours, language — if other than German)		
V (1) + V (1)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
written examination (approx. 90 minutes)		
Allocation of places		
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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		
Workload		
90 h		
Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)		
Module appears in		
Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) Bachelor's degree (1 major) Food Chemistry (2015) First state examination for the teaching degree Grundschule Chemistry (2015) First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015) First state examination for the teaching degree Realschule Chemistry (2015) First state examination for the teaching degree Gymnasium Chemistry (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2015) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) Master's degree (1 major) Chemistry (2016) Bachelor's degree (1 major) Food Chemistry (2016) Bachelor's degree (1 major) Biochemistry (2017) Bachelor's degree (1 major) Chemistry (2017)		

Master's degree (1 major) Chemistry (2018)
Bachelor's degree (1 major) Food Chemistry (2019)
First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))
Bachelor's degree (1 major) Food Chemistry (2021)
Bachelor's degree (1 major) Biochemistry (2022)
Master's degree (1 major) Chemistry (2024)
Bachelor's degree (1 major) Food Chemistry (2025)

Module title		Abbreviation
Principles of Inorganic Chemistry		o8-AC1-152-m01
Module coordinator		Module offered by
lecturer of lecture "Experimentalchemie" (Experimental Chemistry)		Institute of Inorganic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
8	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
The module provides an overview of the fundamental knowledge of chemistry. Emphasis is placed on the material and particle level, metals, acid-base reactions, the periodic table, chemical equilibrium and complexometry. In addition, the module introduces fundamental concepts of chemistry and teaches the basics of inorganic chemistry.		
Intended learning outcomes		
The student understands the principles of the periodic table and can obtain information from it. He/she is proficient in basic models of the structure of matter and can describe them properly. He/she can depict chemical reactions using typical chemical formula language and interpret them by identifying the type of reaction. The students know how the most important quantitative and qualitative analytical methods work and their areas of application.		
Courses (type, number of weekly contact hours, language — if other than German)		
V (4) + V (2)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
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		
Allocation of places		
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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		
Workload		
240 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 42 I Nr. 1 and § 22 II Nr. 1 h) § 62 I Nr. 1		
Module appears in		
Bachelor's degree (1 major) Biochemistry (2015) Bachelor's degree (1 major) Chemistry (2015) First state examination for the teaching degree Grundschule Chemistry (2015) First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015) First state examination for the teaching degree Realschule Chemistry (2015)		
LA Grundschulen Didactics in Chemistry (Primary School) (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data record Lehramt Grundschulen (Didaktikfach) Chemie - 2015	page 6 / 26

First state examination for the teaching degree Gymnasium Chemistry (2015)
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015)
First state examination for the teaching degree Mittelschule Chemistry (2015)
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015)
Bachelor's degree (1 major) Biochemistry (2017)
Bachelor's degree (1 major) Chemistry (2017)
First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))
Bachelor's degree (1 major) Food Chemistry (2021)
Bachelor's degree (1 major) Biochemistry (2022)
Bachelor's degree (1 major) Food Chemistry (2025)

Module title			Abbreviation
Final Thesis according to § 29 LPO I in Chemistry for Elementary School Teachers			o8-Ch-HA-DF-GS-152-mo1
Module coordinator		Module offered by	
head of the research group offering the module		Faculty of Chemistry and Pharmacy	
ECTS	Method of grading	Only after succ. compl. of module(s)	
10	numerical grade	--	
Duration	Module level	Other prerequisites	
1 semester	undergraduate	--	
Contents			
Adhering to the principles of good scientific practice, students will independently research and write on a topic in chemistry or chemistry didactics they have agreed upon with an authorised examiner in accordance with the provisions of Section 29 LPO (examination regulations for teaching degree programmes).			
Intended learning outcomes			
To pass this module, students will be expected to: - be able to independently write an academic paper (define and analyse a problem, conduct a literature search, refer to relevant theories, interpret data, draw logical conclusions, and offer approaches to the solution of said problem). - be able to work to deadlines. - be able to prepare an appropriate written account of the results of their work.			
Courses (type, number of weekly contact hours, language — if other than German)			
No courses assigned to module			
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)			
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)			
Allocation of places			
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Additional information			
--			
Workload			
300 h			
Teaching cycle			
--			
Referred to in LPO I (examination regulations for teaching-degree programmes)			
§ 29			
Module appears in			
First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015)			

Module title			Abbreviation
Introduction into Teaching Chemistry for Elementary, Secondary and Middle School (Major Subject)			o8-FD1-DF-LAGM-152-mo1
Module coordinator		Module offered by	
holder of the Professorship of Didactics of Chemistry		Institute of Inorganic Chemistry	
ECTS	Method of grading	Only after succ. compl. of module(s)	
5	numerical grade	--	
Duration	Module level	Other prerequisites	
1 semester	unknown	--	
Contents			
No information on contents available.			
Intended learning outcomes			
No information on learning outcomes available.			
Courses (type, number of weekly contact hours, language — if other than German)			
V (2) + S (2)			
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)			
a) written examination (approx. 90 minutes) and b) presentation (approx. 20 minutes) with practical examination (supervision of pupils)			
Language of assessment: German and/or English			
Allocation of places			
--			
Additional information			
--			
Workload			
150 h			
Teaching cycle			
--			
Referred to in LPO I (examination regulations for teaching-degree programmes)			
§ 36 I Nr. 7			
§ 38 I Nr. 1			
Module appears in			
First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015)			
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015)			
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015)			
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))			
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))			

Module title		Abbreviation
Teaching Chemical Practice for Elementary and Secondary School		o8-FD2-LAGM-152-m01
Module coordinator		Module offered by
holder of the Professorship of Didactics of Chemistry		Institute of Inorganic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--
Duration	Module level	Other prerequisites
2 semester	unknown	--
Contents		
No information on contents available.		
Intended learning outcomes		
No information on learning outcomes available.		
Courses (type, number of weekly contact hours, language — if other than German)		
S (2) + S (2)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
a) presentation with practical examination (approx. 30 minutes) and b) presentation (approx. 20 minutes) Language of assessment: German and/or English		
Allocation of places		
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Additional information		
--		
Workload		
150 h		
Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 38 I Nr. 1 § 42 I Nr. 4 and § 36 I Nr. 7		
Module appears in		
First state examination for the teaching degree Grundschule Chemistry (2015) First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2015) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))		

Module title		Abbreviation
Designing Chemistry Classes for Elementary and Secondary School		o8-FD3-DF-LAGM-152-m01
Module coordinator		Module offered by
holder of the Professorship of Didactics of Chemistry		Institute of Inorganic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--
Duration	Module level	Other prerequisites
2 semester	unknown	--
Contents		
No information on contents available.		
Intended learning outcomes		
No information on learning outcomes available.		
Courses (type, number of weekly contact hours, language — if other than German)		
S (2) + S (2)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
a) written examination (approx. 45 minutes) and b) presentation (approx. 20 minutes) Language of assessment: German and/or English		
Allocation of places		
--		
Additional information		
--		
Workload		
150 h		
Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 36 I Nr. 7 § 38 I Nr. 1		
Module appears in		
First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))		

Module title		Abbreviation
Out-Of-School Education		o8-FD-ASL-152-mo1
Module coordinator		Module offered by
holder of the Professorship of Didactics of Chemistry		Institute of Inorganic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
2	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	unknown	--
Contents		
No information on contents available.		
Intended learning outcomes		
No information on learning outcomes available.		
Courses (type, number of weekly contact hours, language — if other than German)		
S (2)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
project: presentation of a project (approx. 30 minutes)		
Language of assessment: German and/or English		
Allocation of places		
--		
Additional information		
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Workload		
60 h		
Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 22 II Nr. 1 h)		
§ 22 II Nr. 2 f)		
§ 22 II Nr. 3 f)		
Module appears in		
First state examination for the teaching degree Grundschule Chemistry (2015)		
First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015)		
First state examination for the teaching degree Realschule Chemistry (2015)		
First state examination for the teaching degree Gymnasium Chemistry (2015)		
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015)		
First state examination for the teaching degree Mittelschule Chemistry (2015)		
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015)		
First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))		
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))		
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))		

Module title		Abbreviation
Chemistry SchoolLabs		o8-FD-LLL-152-m01
Module coordinator		Module offered by
holder of the Professorship of Didactics of Chemistry		Institute of Inorganic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
2	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	unknown	--
Contents		
No information on contents available.		
Intended learning outcomes		
No information on learning outcomes available.		
Courses (type, number of weekly contact hours, language — if other than German)		
P (3)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
practical assignment (successful supervision of 2 sessions in learn-teach-lab, approx. 4 to 6 hours each) Language of assessment: German and/or English		
Allocation of places		
--		
Additional information		
--		
Workload		
60 h		
Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)		
Module appears in		
First state examination for the teaching degree Grundschule English (2009) First state examination for the teaching degree Grundschule Biology (2009) First state examination for the teaching degree Grundschule Chemistry (2009) First state examination for the teaching degree Grundschule Geography (2009) First state examination for the teaching degree Grundschule Protestant Theology (2009) First state examination for the teaching degree Grundschule German (2009) First state examination for the teaching degree Grundschule History (2009) First state examination for the teaching degree Grundschule History (2015) First state examination for the teaching degree Grundschule Catholic Theology (2009) First state examination for the teaching degree Grundschule Mathematics (2009) First state examination for the teaching degree Grundschule Music (2009) First state examination for the teaching degree Grundschule Physics (2009) First state examination for the teaching degree Grundschule Social Science (2009) First state examination for the teaching degree Grundschule Science of Sport (2009) First state examination for the teaching degree Hauptschule English (2009) First state examination for the teaching degree Hauptschule Biology (2009)		
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First state examination for the teaching degree Hauptschule Chemistry (2009)
 First state examination for the teaching degree Hauptschule Geography (2009)
 First state examination for the teaching degree Hauptschule Protestant Theology (2009)
 First state examination for the teaching degree Hauptschule German (2009)
 First state examination for the teaching degree Hauptschule History (2009)
 First state examination for the teaching degree Hauptschule Catholic Theology (2009)
 First state examination for the teaching degree Hauptschule Mathematics (2009)
 First state examination for the teaching degree Hauptschule Music (2009)
 First state examination for the teaching degree Hauptschule Physics (2009)
 First state examination for the teaching degree Hauptschule Social Science (2009)
 First state examination for the teaching degree Hauptschule Science of Sport (2009)
 First state examination for the teaching degree Realschule English (2009)
 First state examination for the teaching degree Realschule Biology (2009)
 First state examination for the teaching degree Realschule Chemistry (2009)
 First state examination for the teaching degree Realschule Geography (2009)
 First state examination for the teaching degree Realschule Protestant Theology (2009)
 First state examination for the teaching degree Realschule French Studies (2009)
 First state examination for the teaching degree Realschule German (2009)
 First state examination for the teaching degree Realschule History (2009)
 First state examination for the teaching degree Realschule Computer Science (2012)
 First state examination for the teaching degree Realschule Catholic Theology (2009)
 First state examination for the teaching degree Realschule Mathematics (2009)
 First state examination for the teaching degree Realschule Music (2009)
 First state examination for the teaching degree Realschule Physics (2009)
 First state examination for the teaching degree Realschule Science of Sport (2009)
 First state examination for the teaching degree Gymnasium English (2009)
 First state examination for the teaching degree Gymnasium Biology (2009)
 First state examination for the teaching degree Gymnasium Chemistry (2009)
 First state examination for the teaching degree Gymnasium Geography (2009)
 First state examination for the teaching degree Gymnasium French Studies (2009)
 First state examination for the teaching degree Gymnasium German (2009)
 First state examination for the teaching degree Gymnasium History (2009)
 First state examination for the teaching degree Gymnasium Greek Philology (2009)
 First state examination for the teaching degree Gymnasium Computer Science (2009)
 First state examination for the teaching degree Gymnasium Italian Studies (2009)
 First state examination for the teaching degree Gymnasium Catholic Theology (2009)
 First state examination for the teaching degree Gymnasium Latin Philology (2009)
 First state examination for the teaching degree Gymnasium Mathematics (2012)
 First state examination for the teaching degree Gymnasium Mathematics (2009)
 First state examination for the teaching degree Gymnasium Music (2009)
 First state examination for the teaching degree Gymnasium Physics (2009)
 First state examination for the teaching degree Gymnasium Russian (2009)
 First state examination for the teaching degree Gymnasium Social Science (2009)
 First state examination for the teaching degree Gymnasium Spanish Studies (2009)
 First state examination for the teaching degree Gymnasium Science of Sport (2009)
 First state examination for the teaching degree Gymnasium Music Education, Advanced Studies (2009)
 First state examination for the teaching degree Sonderpädagogik Pedagogy of Secondary Education (2009)
 First state examination for the teaching degree Sonderpädagogik Pedagogy of Primary Education (2009)
 First state examination for the teaching degree Sonderpädagogik Teaching at the German Mittelschule (2013)
 First state examination for the teaching degree Mittelschule English (2013)
 First state examination for the teaching degree Mittelschule Biology (2013)
 First state examination for the teaching degree Mittelschule Chemistry (2013)
 First state examination for the teaching degree Mittelschule Geography (2013)

First state examination for the teaching degree Mittelschule Protestant Theology (2013)
 First state examination for the teaching degree Mittelschule German (2013)
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 First state examination for the teaching degree Grundschule Geography (2015)
 First state examination for the teaching degree Grundschule German (2015)
 First state examination for the teaching degree Grundschule Catholic Theology (2015)
 First state examination for the teaching degree Grundschule Mathematics (2015)
 First state examination for the teaching degree Grundschule Pedagogy of Primary Education (2015)
 First state examination for the teaching degree Grundschule Physics (2015)
 First state examination for the teaching degree Grundschule Social Science (2015)
 First state examination for the teaching degree Grundschule Didactics in English (Primary School) (2015)
 First state examination for the teaching degree Grundschule Didactics in Biology (Primary School) (2015)
 First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015)
 First state examination for the teaching degree Grundschule Didactics in Geography (Primary School) (2015)
 First state examination for the teaching degree Grundschule Didactics in German (Primary School) (2015)
 First state examination for the teaching degree Grundschule Didactics in History (Primary School) (2015)
 First state examination for the teaching degree Grundschule Didactics in Catholic Theology (Primary School) (2015)
 First state examination for the teaching degree Grundschule Art Education in Primary School (2015)
 First state examination for the teaching degree Grundschule Didactics in Science of Sport (Primary School) (2015)
 First state examination for the teaching degree Grundschule Didactics in Mathematics (Primary School) (2015)
 First state examination for the teaching degree Grundschule Music Education in Primary School (2015)
 First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)
 First state examination for the teaching degree Grundschule Didactics in Social Science (Primary School) (2015)
 First state examination for the teaching degree Grundschule Science of Sport (2015)
 First state examination for the teaching degree Realschule English (2015)
 First state examination for the teaching degree Realschule Biology (2015)
 First state examination for the teaching degree Realschule Chemistry (2015)
 First state examination for the teaching degree Realschule Geography (2015)
 First state examination for the teaching degree Realschule Protestant Theology (2015)
 First state examination for the teaching degree Realschule French Studies (2015)
 First state examination for the teaching degree Realschule German (2015)
 First state examination for the teaching degree Realschule History (2015)
 First state examination for the teaching degree Realschule Computer Science (2015)
 First state examination for the teaching degree Realschule Catholic Theology (2015)
 First state examination for the teaching degree Realschule Mathematics (2015)
 First state examination for the teaching degree Realschule Physics (2015)
 First state examination for the teaching degree Realschule Science of Sport (2015)
 First state examination for the teaching degree Gymnasium English (2015)
 First state examination for the teaching degree Gymnasium Biology (2015)
 First state examination for the teaching degree Gymnasium Chemistry (2015)
 First state examination for the teaching degree Gymnasium Geography (2015)
 First state examination for the teaching degree Gymnasium French Studies (2015)
 First state examination for the teaching degree Gymnasium German (2015)
 First state examination for the teaching degree Gymnasium History (2015)

First state examination for the teaching degree Gymnasium Greek Philology (2015)
 First state examination for the teaching degree Gymnasium Computer Science (2015)
 First state examination for the teaching degree Gymnasium Italian Studies (2015)
 First state examination for the teaching degree Gymnasium Catholic Theology (2015)
 First state examination for the teaching degree Gymnasium Latin Philology (2015)
 First state examination for the teaching degree Gymnasium Mathematics (2015)
 First state examination for the teaching degree Gymnasium Physics (2015)
 First state examination for the teaching degree Gymnasium Russian (2015)
 First state examination for the teaching degree Gymnasium Social Science (2015)
 First state examination for the teaching degree Gymnasium Spanish Studies (2015)
 First state examination for the teaching degree Gymnasium Science of Sport (2015)
 First state examination for the teaching degree Sonderpädagogik Pedagogy of Primary Education (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in German (Primary School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Catholic Theology (Primary School) (2015)
 First state examination for the teaching degree Sonderpädagogik Art Education in Primary School (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Science of Sport (Primary School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2015)
 First state examination for the teaching degree Sonderpädagogik Music Education in Primary School (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in English (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Ergonomics (Teaching at the German Mittelschule) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Geography (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Protestant Theology (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in German (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in History (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Catholic Theology (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Art Education in Middle School (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Science of Sport (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Music Education in Middle School (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Social Science (Middle School) (2015)
 First state examination for the teaching degree Sonderpädagogik Teaching at the German Mittelschule (2015)
 First state examination for the teaching degree Mittelschule English (2015)
 First state examination for the teaching degree Mittelschule Biology (2015)
 First state examination for the teaching degree Mittelschule Chemistry (2015)
 First state examination for the teaching degree Mittelschule Geography (2015)
 First state examination for the teaching degree Mittelschule Protestant Theology (2015)
 First state examination for the teaching degree Mittelschule German (2015)
 First state examination for the teaching degree Mittelschule History (2015)
 First state examination for the teaching degree Mittelschule Catholic Theology (2015)
 First state examination for the teaching degree Mittelschule Mathematics (2015)
 First state examination for the teaching degree Mittelschule Physics (2015)

First state examination for the teaching degree Mittelschule Social Science (2015)
 First state examination for the teaching degree Mittelschule Didactics in English (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Ergonomics (Teaching at the German Mittelschule) (2015)
 First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Didactics in Geography (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Didactics in Protestant Theology (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Didactics in German (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Didactics in History (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Didactics in Catholic Theology (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Art Education in Middle School (2015)
 First state examination for the teaching degree Mittelschule Didactics in Science of Sport (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Music Education in Middle School (2015)
 First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Didactics in Social Science (Middle School) (2015)
 First state examination for the teaching degree Mittelschule Science of Sport (2015)
 First state examination for the teaching degree Mittelschule Teaching at the German Mittelschule (2015)
 First state examination for the teaching degree Grundschule Protestant Theology (2015)
 First state examination for the teaching degree Grundschule Music (2015)
 First state examination for the teaching degree Grundschule Didactics in Protestant Theology (Primary School) (2015)
 First state examination for the teaching degree Realschule Music (2015)
 First state examination for the teaching degree Gymnasium Music (2015)
 First state examination for the teaching degree Gymnasium Music Education, Advanced Studies (2015)
 First state examination for the teaching degree Sonderpädagogik Didactics in Protestant Theology (Primary School) (2015)
 First state examination for the teaching degree Mittelschule Music (2015)
 First state examination for the teaching degree Gymnasium French Studies (2016)
 First state examination for the teaching degree Gymnasium Italian Studies (2016)
 First state examination for the teaching degree Gymnasium Spanish Studies (2016)
 First state examination for the teaching degree Realschule French Studies (2016)
 First state examination for the teaching degree Grundschule English (2016)
 First state examination for the teaching degree Grundschule Didactics in English (Primary School) (2016)
 First state examination for the teaching degree Realschule English (2016)
 First state examination for the teaching degree Gymnasium English (2016)
 First state examination for the teaching degree Mittelschule English (2016)
 First state examination for the teaching degree Mittelschule Didactics in English (Middle School) (2016)
 First state examination for the teaching degree Sonderpädagogik Didactics in English (Middle School) (2016)
 First state examination for the teaching degree Gymnasium Greek Philology (2018)
 First state examination for the teaching degree Grundschule Physics (2018)
 First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018)
 First state examination for the teaching degree Realschule Physics (2018)
 First state examination for the teaching degree Gymnasium Physics (2018)
 First state examination for the teaching degree Mittelschule Physics (2018)
 First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018)
 First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018)
 First state examination for the teaching degree Gymnasium Mathematics (2019)
 First state examination for the teaching degree Mittelschule Biology (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Biology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Biology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule German (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in German (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule English (2020 (Prüfungsordnungsversion 2016))

First state examination for the teaching degree Mittelschule Didactics in English (Middle School) (2020 (Prüfungsordnungsversion 2016))

First state examination for the teaching degree Mittelschule Protestant Theology (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Protestant Theology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Geography (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Geography (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule History (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in History (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Catholic Theology (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Catholic Theology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Mathematics (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Art Education in Middle School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Science of Sport (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Didactics in Science of Sport (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Music (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Music Education in Middle School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Mittelschule Teaching at the German Mittelschule (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in English (Middle School) (2020 (Prüfungsordnungsversion 2016))

First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Geography (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Protestant Theology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in German (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in History (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Catholic Theology (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Art Education in Middle School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Science of Sport (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Middle School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Music Education in Middle School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Teaching at the German Mittelschule (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Art Education in Primary School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Music Education in Primary School (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Science of Sport (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in German (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Mathematics (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Pedagogy of Primary Education (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Protestant Theology (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Sonderpädagogik Didactics in Catholic Theology (Primary School) (2020 (Prüfungsordnungsversion 2015))

First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020)

First state examination for the teaching degree Grundschule Physics (2020)

First state examination for the teaching degree Gymnasium Physics (2020)

First state examination for the teaching degree Realschule Physics (2020)

First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020)

First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020)

First state examination for the teaching degree Mittelschule Physics (2020)

First state examination for the teaching degree Grundschule Political and Social Studies (2020)

First state examination for the teaching degree Grundschule Didactics in Political and Social Studies (Primary School) (2020)

First state examination for the teaching degree Sonderpädagogik MS-Didaktik Career and Economics (2020)

First state examination for the teaching degree Sonderpädagogik Didactics in Political and Social Studies (Secondary School) (2020)

First state examination for the teaching degree Mittelschule MS-Didaktik Career and Economics (2020)

First state examination for the teaching degree Mittelschule Didactics in Political and Social Studies (Secondary School) (2020)

First state examination for the teaching degree Mittelschule Political and Social Studies (2020)

First state examination for the teaching degree Gymnasium Political and Social Studies (2020)

First state examination for the teaching degree Grundschule History (2021)

First state examination for the teaching degree Gymnasium History (2021)

First state examination for the teaching degree Realschule History (2021)

First state examination for the teaching degree Mittelschule History (2021)

First state examination for the teaching degree Grundschule Pedagogy of Primary Education (2021)

First state examination for the teaching degree Gymnasium English (2021)

First state examination for the teaching degree Gymnasium Philosophy and Ethics (2021)

First state examination for the teaching degree Sonderpädagogik Pedagogy of Primary Education (2021)

First state examination for the teaching degree Gymnasium Philosophy and Ethics (2022)
 First state examination for the teaching degree Gymnasium Russian (2023)
 First state examination for the teaching degree Gymnasium Mathematics (2023)
 First state examination for the teaching degree Gymnasium English (2023)
 First state examination for the teaching degree Realschule English (2023)
 First state examination for the teaching degree Grundschule English (2023)
 First state examination for the teaching degree Grundschule Didactics in English (Primary School) (2023)
 First state examination for the teaching degree Mittelschule English (2023)
 First state examination for the teaching degree Mittelschule Didactics in English (Middle School) (2023)
 First state examination for the teaching degree Sonderpädagogik Didactics in English (Middle School) (2023)
 First state examination for the teaching degree Gymnasium Geography (2023)
 First state examination for the teaching degree Realschule Geography (2023)
 First state examination for the teaching degree Grundschule Geography (2023)
 First state examination for the teaching degree Mittelschule Geography (2023)
 First state examination for the teaching degree Grundschule German (2024)
 First state examination for the teaching degree Gymnasium German (2024)
 First state examination for the teaching degree Realschule German (2024)
 First state examination for the teaching degree Sonderpädagogik Didactics in German (Middle School) (2024)
 First state examination for the teaching degree Mittelschule Didactics in German (Middle School) (2024)
 First state examination for the teaching degree Grundschule Didactics in German (Primary School) (2024)
 First state examination for the teaching degree Sonderpädagogik Didactics in German (Primary School) (2024)
 First state examination for the teaching degree Mittelschule German (2024)
 First state examination for the teaching degree Grundschule Music Education in Primary School (2024)
 First state examination for the teaching degree Sonderpädagogik Music Education in Primary School (2024)
 First state examination for the teaching degree Mittelschule Music Education in Middle School (2024)
 First state examination for the teaching degree Sonderpädagogik Music Education in Middle School (2024)
 First state examination for the teaching degree Gymnasium Latin Philology (2024)
 First state examination for the teaching degree Gymnasium English (2024)
 First state examination for the teaching degree Mittelschule MS-Didaktik Career and Economics (2024)
 First state examination for the teaching degree Sonderpädagogik MS-Didaktik Career and Economics (2024)
 First state examination for the teaching degree Grundschule History (2024)
 First state examination for the teaching degree Gymnasium History (2024)
 First state examination for the teaching degree Realschule History (2024)
 First state examination for the teaching degree Mittelschule History (2024)
 First state examination for the teaching degree Mittelschule Didactics in History (Middle School) (2024)
 First state examination for the teaching degree Sonderpädagogik Didactics in History (Middle School) (2024)
 First state examination for the teaching degree Grundschule Didactics in History (Primary School) (2024)
 First state examination for the teaching degree Gymnasium Greek Philology (2024)
 First state examination for the teaching degree Grundschule Art Education in Primary School (2024)
 First state examination for the teaching degree Sonderpädagogik Art Education in Primary School (2024)
 First state examination for the teaching degree Sonderpädagogik Art Education in Middle School (2024)
 First state examination for the teaching degree Mittelschule Art Education in Middle School (2024)

Module title		Abbreviation
Microscale Experiments in Chemistry Teaching		o8-FD-MS-152-m01
Module coordinator		Module offered by
holder of the Professorship of Didactics of Chemistry		Institute of Inorganic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
2	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	unknown	--
Contents		
No information on contents available.		
Intended learning outcomes		
No information on learning outcomes available.		
Courses (type, number of weekly contact hours, language — if other than German)		
S (2)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
project: presentation of a project (approx. 30 minutes)		
Language of assessment: German and/or English		
Allocation of places		
--		
Additional information		
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Workload		
60 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 22 II Nr. 1 h)		
§ 22 II Nr. 2 f)		
§ 22 II Nr. 3 f)		
Module appears in		
First state examination for the teaching degree Grundschule Chemistry (2015)		
First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015)		
First state examination for the teaching degree Realschule Chemistry (2015)		
First state examination for the teaching degree Gymnasium Chemistry (2015)		
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015)		
First state examination for the teaching degree Mittelschule Chemistry (2015)		
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015)		
First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))		
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))		
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))		

Module title		Abbreviation
Organic Chemistry 1 (teaching degree for secondary schools)		o8-OC1-LAGMR-152-m01
Module coordinator		Module offered by
holder of the Professorship of Organic Chemistry		Institute of Organic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
6	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
This module provides students with an overview of the fundamental principles of organic chemistry. It examines the bonding situation of carbon and introduces students to the nomenclature of simple and moderately complex organic compounds. The module also discusses the fundamental principles of stereochemistry, substitution, addition and elimination reactions as well as synthesis planning.		
Intended learning outcomes		
Students know important categories of substances in organic chemistry. They are able to use different systems of nomenclature to determine simple substance names. Students are able to analyse the stereochemistry of molecules. They are able to describe and formulate some of the most important reactions in organic chemistry. For that purpose, they can analyse and categorise the characteristic reaction conditions and can use them for simple syntheses.		
Courses (type, number of weekly contact hours, language — if other than German)		
V (3) + Ü (1)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
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		
Allocation of places		
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Additional information		
--		
Workload		
180 h		
Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 42 I Nr. 2 and § 22 II Nr. 1 h)		
Module appears in		
First state examination for the teaching degree Grundschule Chemistry (2015) First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015) First state examination for the teaching degree Realschule Chemistry (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2015) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))		

First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))

Module title		Abbreviation
Organic Chemistry 2		o8-OC2-VL-152-m01
Module coordinator		Module offered by
holder of the Chair of Physically Organic Chemistry		Institute of Organic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
6	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
This module introduces students to the rules of aromaticity and discusses specific reactions of aromatics. Using the example of carbonyl compounds, it extends the students' knowledge of substitution, elimination and addition reactions to complex reaction mechanisms. The course also focuses on oxidation and reduction reactions as well as rearrangement.		
Intended learning outcomes		
Students have become familiar with the criteria for aromaticity. They can analyse the varying reactivity of carbonyl compounds. They are able to describe specific reactions of carbonyls and aromatics. For that purpose, they can plan and formulate multi-stage syntheses with complex reaction mechanisms and can transfer them to unknown reactions.		
Courses (type, number of weekly contact hours, language — if other than German)		
V (3) + Ü (1)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
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		
Allocation of places		
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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		
Workload		
180 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 42 I Nr. 2 and § 22 II Nr. 1 h) § 62 I Nr. 2		
Module appears in		
Bachelor's degree (1 major) Functional Materials (2015) First state examination for the teaching degree Grundschule Chemistry (2015) First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015) First state examination for the teaching degree Realschule Chemistry (2015) First state examination for the teaching degree Gymnasium Chemistry (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2015)		
LA Grundschulen Didactics in Chemistry (Primary School) (2015)	JMU Würzburg • generated 18-Apr-2025 • exam. reg. data record Lehramt Grundschulen (Didaktikfach) Chemie - 2015	page 24 / 26

First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015)
First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015))
First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))
First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))
Bachelor's degree (1 major) Food Chemistry (2021)
Bachelor's degree (1 major) Food Chemistry (2025)

Module title		Abbreviation
Physical Chemistry (teaching degree for secondary schools)		o8-PC-LAGMR-152-m01
Module coordinator		Module offered by
lecturer of lecture "Thermodynamik, Kinetik, Elektrochemie für Studierende der Biologie, Lebensmittelchemie and des Lehramtes Chemie GHR"		Institute of Physical and Theoretical Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
6	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
This module discusses the fundamental principles of thermodynamics, kinetics and electrochemistry.		
Intended learning outcomes		
Students have become familiar with the fundamental principles of thermodynamics, kinetics and electrochemistry. They are able to understand and explain fundamental processes in nature and engineering.		
Courses (type, number of weekly contact hours, language — if other than German)		
V (2) + Ü (1) + V (1) + Ü (1)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)		
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		
Allocation of places		
--		
Additional information		
--		
Workload		
180 h		
Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 42 I Nr. 1 and § 22 II Nr. 1 h)		
Module appears in		
First state examination for the teaching degree Grundschule Chemistry (2015) First state examination for the teaching degree Grundschule Didactics in Chemistry (Primary School) (2015) First state examination for the teaching degree Realschule Chemistry (2015) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2015) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) First state examination for the teaching degree Mittelschule Chemistry (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015)) First state examination for the teaching degree Sonderpädagogik Didactics in Chemistry (Middle School) (2020 (Prüfungsordnungsversion 2015))		