

Subdivided Module Catalogue for the Module studies (Bachelor) **Chemistry**

Examination regulations version: 2019
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:

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

15-May-2019 (2019-36)

27-Jun-2019 (2019-41)

14-Nov-2019 (2019-52)

22-Jan-2020 (2020-13)

06-May-2019 (2020-39)

22-Jul-2020 (2020-57)

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 | | Method of grading | page |
|-------------------------|---|---|-------------------|------|
| Summer Term 2019 | | | | |
| o8-OP-152-m01 | Advanced chemical practical course | 5 | B/NB | 9 |
| Winter Term 2019 | | | | |
| o8-OP-152-m01 | Advanced chemical practical course | 5 | B/NB | 9 |
| Summer Term 2020 | | | | |
| o8-AC-NF-152-m01 | Introduction to Inorganic Chemistry for Students of Biology, Medicine and Dentistry | 3 | NUM | 11 |
| o8-AS1-152-m01 | Inorganic Chemistry of the Elements | 6 | NUM | 7 |
| o8-BC1-152-m01 | Biochemistry 1 | 5 | NUM | 6 |
| o8-OC1-152-m01 | Organic Chemistry 1 | 5 | NUM | 8 |
| o8-OC-NF-152-m01 | Organic Chemistry for students of medicine, biomedicine, dental medicine and natural sciences | 3 | NUM | 10 |
| o8-OP-152-m01 | Advanced chemical practical course | 5 | B/NB | 9 |
| Winter Term 2020 | | | | |
| o8-AC-NF-152-m01 | Introduction to Inorganic Chemistry for Students of Biology, Medicine and Dentistry | 3 | NUM | 11 |
| o8-AC1-152-m01 | Principles of Inorganic Chemistry | 8 | NUM | 5 |
| o8-OC-NF-152-m01 | Organic Chemistry for students of medicine, biomedicine, dental medicine and natural sciences | 3 | NUM | 10 |
| o8-OP-152-m01 | Advanced chemical practical course | 5 | B/NB | 9 |

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|--|--------------------------|---|
| 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 | | |
| Basics of general and anorganic chemistry. | | |
| Intended learning outcomes | | |
| German intended learning outcomes available but not translated yet. | | |
| Kenntnis der Grundlagen der Allgemeinen und Anorganischen Chemie | | |
| 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 | | |
| -- | | |
| 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 | | |

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|--|--------------------------|---|
| Module title | | Abbreviation |
| Biochemistry 1 | | o8-BC1-152-m01 |
| Module coordinator | | Module offered by |
| holder of the Chair of Biochemistry | | Chair of Biochemistry |
| ECTS | Method of grading | Only after succ. compl. of module(s) |
| 5 | numerical grade | -- |
| Duration | Module level | Other prerequisites |
| 1 semester | undergraduate | -- |
| Contents | | |
| <p>The module imparts the basic knowledge of biochemistry by lectures and tutorials. Main topics of the module Biochemistry 1 are particularly the biochemistry of proteins (amino acids, peptide bond, primary, secondary, tertiary and quaternary structure), catalytic strategies and enzyme kinetics, carbohydrate metabolism (glycolysis, gluconeogenesis, citric acid cycle, cellular respiration, photosynthesis), fatty acid metabolism (beta-oxidation, fatty acid synthesis), nucleotide metabolism, urea cycle and metabolism of amino acids. Additionally the modul conveyes basic knowledge about the structure of DNA and the basics of passing and transformation of genetic information (central dogma).</p> | | |
| Intended learning outcomes | | |
| <p>The student has basic knowledge in the covered subject areas of biochemistry. He/She is able to describe the basic biochemical processes in cellular systems.</p> | | |
| Courses (type, number of weekly contact hours, language — if other than German) | | |
| V (2) + 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) | | |
| written examination (approx. 60 to 90 minutes) | | |
| Allocation of places | | |
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| Additional information | | |
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| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
| § 42 Nr. 2 § 62 Nr. 2 | | |

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| Module title | | Abbreviation |
| Inorganic Chemistry of the Elements | | o8-AS1-152-m01 |
| Module coordinator | | Module offered by |
| lecturer of lecture "Chemie der Hauptgruppenelemente" (Chemistry of Main-group Elements) | | Institute of Inorganic Chemistry |
| ECTS | Method of grading | Only after succ. compl. of module(s) |
| 6 | numerical grade | -- |
| Duration | Module level | Other prerequisites |
| 1 semester | undergraduate | -- |
| Contents | | |
| German contents available but not translated yet. | | |
| Das Modul vermittelt vertiefendes Wissen über das Periodensystem und ausgewählte Elemente. Schwerpunkte sind Bindungsverhältnisse, Trends im Periodensystem, Darstellung und Struktur von Elementen. Das Modul führt zudem in die Elementorganische, Koordinations- und Komplexchemie ein. | | |
| Intended learning outcomes | | |
| German intended learning outcomes available but not translated yet. | | |
| Der/Die Studierende kann Hauptgruppenelemente und Übergangsmetall-Elemente hinsichtlich Struktur, Reaktivität und Herstellung charakterisieren. Er/Sie ist in der Lage, die Koordination der Atome zu erkennen und zu benennen. Zudem kann er/sie das Periodensystem als grundlegendes Werkzeug in der Chemie verwenden. | | |
| Courses (type, number of weekly contact hours, language — if other than German) | | |
| V (2) + 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 | | |
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| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
| § 62 I Nr. 1 | | |

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| Module title | | Abbreviation |
| Organic Chemistry 1 | | o8-OC1-152-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) |
| 5 | numerical grade | -- |
| Duration | Module level | Other prerequisites |
| 1 semester | undergraduate | -- |
| Contents | | |
| German contents available but not translated yet. | | |
| Das Modul bietet einen Überblick über die elementaren Grundkenntnisse der organischen Chemie. Dazu wird die Bindungssituation am Kohlenstoff betrachtet und in die Nomenklatur einfacher und mäßig komplexer organischer Verbindungen eingeführt. Es werden Grundlagen der Stereochemie, Substitutions-, Additions- und Eliminierungsreaktionen sowie der Syntheseplanung vermittelt. | | |
| Intended learning outcomes | | |
| German intended learning outcomes available but not translated yet. | | |
| Die Studierenden kennen die grundlegenden Stoffklassen der organischen Chemie. Er/Sie ist in der Lage, mit unterschiedlichen Nomenklatorsystemen einfache Substanznamen zu ermitteln. Die Studierenden können die Stereochemie von Molekülen analysieren. Die Studierenden sind in der Lage, grundlegende organisch-chemische Reaktionen zu beschreiben und formulieren. Hierfür kann er/sie die charakteristischen Reaktionsbedingungen analysieren und kategorisieren sowie diese für einfache Synthesen gezielt nutzen. | | |
| 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 | | |
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| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
| § 62 I Nr. 2 | | |

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|---|------------------------------|---|
| Module title | | Abbreviation |
| Advanced chemical practical course | | o8-OP-152-m01 |
| 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) |
| 5 | (not) successfully completed | -- |
| Duration | Module level | Other prerequisites |
| | undergraduate | -- |
| Contents | | |
| German contents available but not translated yet. | | |
| Das Modul bietet die Möglichkeit sich mit Hilfe der für den jeweiligen Fachbereich üblichen wissenschaftlichen Arbeitstechniken und Methoden vertieft in ein Forschungsthema einzuarbeiten. | | |
| Intended learning outcomes | | |
| The student is able to deeply acquaint himself/herself with a specific research topic, and to process and to present the results in a written report or a talk. | | |
| Courses (type, number of weekly contact hours, language — if other than German) | | |
| P (10) | | |
| 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) talk (approx. 15 minutes) or b) log (approx. 10 to 20 pages) Language of assessment: German and/or English | | |
| Allocation of places | | |
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| Additional information | | |
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| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
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|--|--------------------------|---|
| Module title | | Abbreviation |
| Organic Chemistry for students of medicine, biomedicine, dental medicine and natural sciences | | o8-OC-NF-152-m01 |
| Module coordinator | | Module offered by |
| lecturer of lecture "Organische Chemie für Studierende der Medizin, Biomedizin, Zahnmedizin, Ingenieur- and Naturwissenschaften" | | Institute of Organic Chemistry |
| ECTS | Method of grading | Only after succ. compl. of module(s) |
| 3 | numerical grade | -- |
| Duration | Module level | Other prerequisites |
| 1 semester | undergraduate | -- |
| Contents | | |
| This module will provide students with an overview of organic chemistry. | | |
| Intended learning outcomes | | |
| German intended learning outcomes available but not translated yet. | | |
| Der/Die Studierende verfügt über grundlegendes Wissen im Bereich der Organischen Chemie. | | |
| Courses (type, number of weekly contact hours, language — if other than German) | | |
| 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) | | |
| written examination (approx. 60 minutes) Language of assessment: German and/or English | | |
| Allocation of places | | |
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| Additional information | | |
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| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
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| | | |
|--|--------------------------|---|
| Module title | | Abbreviation |
| Introduction to Inorganic Chemistry for Students of Biology, Medicine and Dentistry | | o8-AC-NF-152-m01 |
| Module coordinator | | Module offered by |
| lecturer of lecture "Allgemeine and Anorganische Chemie für Studierende der Medizin, Zahnmedizin and Biologie" (General and Inorganic Chemistry for Students of Medicine, Dentistry and Biology) | | Institute of Inorganic Chemistry |
| ECTS | Method of grading | Only after succ. compl. of module(s) |
| 3 | numerical grade | -- |
| Duration | Module level | Other prerequisites |
| 1 semester | undergraduate | -- |
| Contents | | |
| This module will provide students with an overview of anorganic chemistry. Furthermore, in a lab course it introduces on the basics techniques of anorganic chemistry. | | |
| Intended learning outcomes | | |
| German intended learning outcomes available but not translated yet. | | |
| Der/Die Studierende verfügt über grundlegendes Wissen im Bereich der Anorganischen Chemie. Der/Die Studierende ist in der Lage, grundlegende chemische Fragestellungen zu identifizieren und kann diese experimentell lösen. | | |
| Courses (type, number of weekly contact hours, language — if other than German) | | |
| 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) | | |
| written examination (approx. 60 minutes) Language of assessment: German and/or English | | |
| Allocation of places | | |
| -- | | |
| Additional information | | |
| -- | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
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