

Module Catalogue

for the Subject

Chemistry

as a Master's with 1 major with the degree "Master of Science" (120 ECTS credits)

Examination regulations version: 2018 Responsible: Faculty of Chemistry and Pharmacy

JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record 88|032|-|-|H|2018



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Learning Outcomes

German contents and learning outcome available but not translated yet.

Wissenschaftliche Befähigung

- Nach erfolgreichem Abschluss des Master-Studiums verfügen die Absolvent/innen über vertiefte Kenntnisse des wissenschaftlichen Arbeitens in der Forschung und Anwendung der Chemie. Sie haben sich dabei auf drei der angebotenen Schwerpunkte (Anorganische Chemie, Organische Chemie, Physikalische Chemie, Biochemie, Funktionsmaterialien, Homogenkatalyse, Medizinische Chemie, Supramolekulare Chemie oder Theoretische Chemie) spezialisiert, indem sie die diesen Schwerpunkten zugeordneten Module (Vorlesungen, Seminare und Praktika) absolviert haben. Sie besitzen neben den vertieften fachspezifischen Kenntnissen auch Abstraktionsvermögen, analytisches Denken, Problemlösungskompetenz und die Fähigkeit, komplexe Zusammenhänge zu strukturieren. Die Grundlagen hierfür werden in den o.g. Veranstaltungen vermittelt und mittels Klausuren, Kolloquien, Protokollen oder Referaten überprüft.
- Die Absolvent/innen besitzen nach Erlangung des Masters die Kompetenzen, ein gegebenes wissenschaftliches Problem planvoll und nach den Regeln der guten wissenschaftlichen Praxis zu bearbeiten, darunter unter anderem sich unter Zuhilfenahme der Kenntnisse in der Literaturrecherche in neue Aufgabengebiete einzuarbeiten und Veröffentlichungen in internationalen Journalen im Kontext der wissenschaftlichen Literatur kritisch einzuordnen und zu bewerten. Sie sind in der Lage, das erworbene Wissen selbständig anzuwenden und auf neue Aufgabenstellungen zu übertragen, Experimente auf Grundlage chemischer Methoden strukturiert und in vorgegebenem zeitlichem Rahmen durchzuführen und zu dokumentieren, die ermittelten Daten kritisch zu analysieren und die Ergebnisse schriftlich zusammenzufassen. Außerdem können Sie ihre selbständig durchgeführten Projekte vor einem Publikum darstellen und die gewählte Methodik in fachlicher Diskussion verteidigen. Vermittelt werden diese Fähigkeiten im Rahmen von Forschungspraktika und der Master-Arbeit. Das Erreichen der Ziele wird durch Praktikums-Protokolle, die Master-Thesis sowie die Präsentation der entsprechenden Ergebnisse überprüft.

Befähigung zur Aufnahme einer Erwerbstätigkeit

- Die Absolvent/innen besitzen Abstraktionsvermögen, Problemlösungskompetenz und die Fähigkeit, komplexe Zusammenhänge in analytischer Herangehensweise zu strukturieren. Die Grundlagen hierfür werden in Vorlesungen, Seminaren und Praktika der verschiedenen Disziplinen der Chemie vermittelt und mittels Klausuren, Kolloquien, Referaten oder Protokollen überprüft.
- Die Absolvent/innen sind in der Lage, ihr theoretisches Wissen in der Praxis anzuwenden und können mit den erlernten wissenschaftlichen Methoden auch unbekannte Probleme aus unterschiedlichen fachlichen Perspektiven analysieren und bearbeiten. Sie sind es dabei gewohnt, in einem Team aus Kommiliton/innen, Kolleg/innen und/oder Wissenschaftler/innen konstruktiv und zielorientiert zusammenzuarbeiten. Der Praxisbezug ist durch einen hohen Anteil an Laborpraktika - sowohl Kurspraktika als auch individuelle Forschungspraktika - und nicht zuletzt durch die Master-Arbeit gegeben. Der Erfolg wird durch Praktikumsprotokolle und die Master-Thesis überprüft.
- Als teilweise interdisziplinärer Studiengang fördert der Master-Studiengang Chemie, bei entsprechender Wahl der Schwerpunktkombination, von Beginn an fachübergreifendes Lernen, Denken und Verstehen. Ein Teil der Lehrveranstaltungen wird auf Englisch angeboten und fördert somit die Kommunikations-Kompetenz in dieser international anerkannten Wissenschafts-Sprache. Diese auf dem breiten Fundament der im Bachelor Chemie erworbenen Kompetenzen aufbauende, vertiefte und spezialisierte Wissensbasis und Methodenkompetenz sowie die eingeübte Teamfähigkeit und Weltoffenheit können die Absolvent/innen gewinnbringend in ihrer Berufspraxis einsetzen.

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Persönlichkeitsentwicklung

- Die Absolvent/innen sind bereit und in der Lage, Verantwortung für ihr Handeln und für andere zu übernehmen. Sie verfügen über die kommunikativen Fähigkeiten, komplexe Sachverhalte und Standpunkte im Team zu entwickeln, zielgruppengerecht darzustellen und reflektiert gegenüber abweichenden Positionen zu verteidigen und weiterzuentwickeln. Diese Fähigkeiten zur Übernahme von Verantwortung, Diskussionsbereitschaft und Teamfähigkeit sowie Eigenverantwortung und Selbständigkeit, erlernen und beweisen die Studierenden in erster Linie in den selbständig angefertigten Praktikums-Protokollen und der Abschlussarbeit, deren Bewertung zeigt, in welchem Umfang die Ziele erreicht wurden.
- Das Curriculum des Masters Chemie ermöglicht den Studierenden, ein Erasmus-Studium oder ein Laborpraktikum an einer ausländischen Universität durchzuführen. Der Prüfungsausschuss Chemie wacht dabei über die Einhaltung der wissenschaftlichen Standards und ein adäquates Projekt. Die Studierenden erwerben dadurch wertvolle persönliche Erfahrungen und erweitern ihren sprachlichen und kulturellen Horizont.
- Erst die durch Übung und Ermutigung erlangte Fähigkeit zu Kritik und Reflexion (inklusive Selbstreflexion und Selbstkritik) ermöglicht eigenständiges Denken und selbstbestimmtes Handeln, das vor sich selbst und anderen begründet ist und rational kommuniziert werden kann. Diese Kritikfähigkeit und Fähigkeit zur Selbstreflexion erlernen die Studierenden durch das Feedback der Lehrenden und Studierenden zu ihren Seminarvorträgen, die im Masterstudium vermehrt stattfinden.

Befähigung zum gesellschaftlichen Engagement

 Absolvent/innen des Master Chemie werden durch ihr Studium in die Lage versetzt, zu gesellschaftlich kritisch und kontrovers diskutierten Fragen zu chemischen Themen, wissenschaftlich fundiert und begründet Position zu beziehen. Sie sind sich darüber hinaus bei ihrer Arbeit ihrer ethischen Verantwortung gegenüber der Gesellschaft und der Umwelt bewusst und reflektieren ihr Handeln stets kritisch. Vor allem im Rahmen der individuellen, mehrwöchigen bis ganzsemestrigen Laborpraktika und der Abschlussarbeit setzen sich die Studierenden mit aktuellen Forschungsthemen selbständig und kritisch auseinander. Hierzu gehört auch die Reflexion möglicher Folgen der eigenen Arbeit für Umwelt und Gesellschaft sowie das Nachdenken über die damit zusammenhängenden ethischen Fragestellungen. Die Bewertungen der Praktikums-Protokolle und der Abschlussarbeit zeigen, in welchem Umfang die Ziele erreicht wurden.

Abbreviations used

Course types: \mathbf{E} = field trip, \mathbf{K} = colloquium, \mathbf{O} = conversatorium, \mathbf{P} = placement/lab course, \mathbf{R} = project, \mathbf{S} = seminar, \mathbf{T} = tutorial, $\ddot{\mathbf{U}}$ = exercise, \mathbf{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:

ASPO2015

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

07-Mar-2018 (2018-12)

17-Mar-2021 (2021-23)

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.

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 12 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



Compulsory Electives Focuses

(75 ECTS credits)

Students must take three focuses (focuses 1 through 3 pursuant to Section 3 Subsection 2 Sentence 2 FSB (subject-specific provisions)) worth 25 ECTS credits each; provisions on available combinations are set out in Section 3 Subsection 2 Sentence 8 FSB.

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| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Inorganic Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 14 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(20 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 15 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | Module title | | | | Abbreviation | |
|--|---|---|---|--|--|----------------|
| Advanc | ed Ino | rganic Chemistry | | | 08-ACM1-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| Manag | ing Dir | ector of the Institute of | Inorganic Chemistry | Institute of Inorgani | ic Chemistry | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 10 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | ; | | |
| 2 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| special | comp | liscusses advanced top ounds of the main grou ransition metals and co | p elements (MGEs), bo | | | |
| Intende | ed lear | ning outcomes | | | | |
| the che | emical | able to characterise and properties of transition n compounds. | | | | |
| | | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (3) + | S (3) | | | | | |
| | | Sessment (type, scope, lang ole for bonus) | uage — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| c) oral d) log (e) pres | examir approx entatio ge of a | nation of one candidate nation in groups of up to a. 20 pages) or n (approx. 30 minutes) assessment: German an places | o 3 candidates (approx | | didate) or | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 300 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master Supple Master Master Supple Master Master | 's teac menta 's degr 's teac menta 's degr 's teac | ee (1 major) Chemistry hing degree Gymnasiur ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasiur ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasiur ry course MINT Teacher | n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat Education PLUS, Elite (2024) n MINT Teacher Educat | Network Bavaria (EN ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 B) (2020) ork Bavaria (ENB) (20 | 020) |
| Master's w | ith 1 majo | r Chemistry (2018) | JMU Würzb reg. data rec | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | • exam. e - 2018 | page 16 / 437 |

| | e title | | | | Abbreviation |
|--|---|--|--|---|---|
| Inorganic Chemistry practical course for advanced | | | or advanced | | 08-ACPM-161-m01 |
| Module | e coord | inator | | Module offered by | |
| focus p | oint co | ordinator "Inorganic Che | emistry" | Institute of Inorganic Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | (not) s | successfully completed | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | Its | | • • | | |
| thods i tral ana | n inorg alysis a | anic chemistry. The focus | s will be on working u ents will be expected | under inert atmosphe to conduct their wo | synthesis and analytical me- eres, purification methods, spec- rk in the lab independently, write |
| Intend | ed lear | ning outcomes | | | |
| | | | | | ic chemistry in the lab and to in- ngs and deliver a presentation. |
| Course | S (type, r | number of weekly contact hours, l | language — if other than Gei | rman) | |
| P (24) Module | e taugh | t in: German or English | | | |
| | | Sessment (type, scope, langua ile for bonus) | age — if other than German, | examination offered — if no | t every semester, information on whether |
| | | tical course (approx. 20 ssessment: German and | | rox. 15 minutes) | |
| | | | | | |
| Allocat | ion of j | olaces | | | |
| Allocat | ion of _l | places | | | |
| | | ormation | | | |
| Additic | onal inf | | ation: block taught la | b course with appro> | . 40 working days. |
| Additic | onal inf | ormation | ation: block taught la | b course with approx | . 40 working days. |
| Additic Additic | onal inf | ormation | ation: block taught la | b course with appro> | . 40 working days. |
| Additic Additic | onal inf onal info oad | ormation ormation on module dura | ation: block taught la | b course with appro> | . 40 working days. |
| Additic Additic Worklo 300 h | onal inf onal info oad | ormation ormation on module dura | ation: block taught la | b course with approx | x. 40 working days. |
| Additic Additic Worklo 300 h Teachi | onal info onal info oad ng cycl | ormation ormation on module dura | | | 40 working days. |
| Additic Additic Worklo 300 h Teachi | onal info onal info oad ng cycl | ormation ormation on module dura e | | | <. 40 working days. |
| Additic Additic Worklo 300 h Teachi | onal info onal info oad ng cycl ed to in | ormation ormation on module dura e LPOI (examination regulation | | | 40 working days. |
| Additic Worklo 300 h Teachi Referre Modulo | onal info onal info pad ng cycl ed to in e appea | ormation ormation on module dura e LPOI (examination regulation ars in ee (1 major) Chemistry (2 | s for teaching-degree progra 016) | ammes) | |
| Additic Additic Worklo 300 h Teachi Referre Modulo Master Master | onal info onal info onal info onal ong cycl ed to in e appea 's degr 's teacl | ormation ormation on module dura e LPO I (examination regulation ars in ee (1 major) Chemistry (2 hing degree Gymnasium | s for teaching-degree progra 016) MINT Teacher Educat | ammes) ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) |
| Additic Worklo 300 h Teachi Referro Modulo Master Supple | onal info onal info ad ng cycl ed to in e appea 's degr 's teacl menta | ormation ormation on module dura e LPOI (examination regulation ars in ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E | s for teaching-degree progra 016) MINT Teacher Educat ducation PLUS, Elite | ammes) ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) |
| Additic Additic Worklo 300 h Teachi Referre Master Master Master Master Supple Master Supple | ed to in stad | ormation ormation on module dura e LPO I (examination regulation ars in ee (1 major) Chemistry (2 hing degree Gymnasium | s for teaching-degree progra 016) MINT Teacher Educat ducation PLUS, Elite 018) MINT Teacher Educat ducation PLUS, Elite | ammes) ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | ork Bavaria (ENB) (2016) B) (2016) ork Bavaria (ENB) (2020) |





Compulsory Electives

(5 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 18 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|--|--|--|---|-----------------------------|---|
| Bioinor | ganic | Chemistry | | | 08-ACM2-161-m01 |
| Module | e coord | inator | | Module offered by | <u> </u> |
| lecturer of seminar "Anorganische Aspekte de and Medizinischen Chemie" (Inorganic Aspect mistry and Medicinal Chemistry) | | | Institute of Inorgan | ic Chemistry | |
| ECTS | | od of grading | Only after succ. con | pl. of module(s) | |
| 5 | | rical grade | | | |
| Duratio | | Module level | Other prerequisites | | |
| 1 seme | | graduate | | | |
| Conten | | Sidudic | | | |
| This mo | odule i ds of Bl | | | | chemistry (BIC). It discusses the ns of BIC in the fields of diagnosis |
| Intende | ed lear | ning outcomes | | | |
| Studen | ts are a | | | | xplain the structure and effects medicine. |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | rman) | |
| Method module is | d of ass creditab | t in: German or English Sessment (type, scope, langua Ile for bonus) mination (approx. 45 to 9 | | examination offered — if no | ot every semester, information on whether |
| b) oral c) oral Langua | examir examin ge of a | nation of one candidate e ation in groups of up to ssessment: German and | ach (20 to 30 minute 3 candidates (15 to 30 | - | late) |
| Allocat | ion of j | Diaces | | | |
| | | | | | |
| Additio | natini | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | | | | | |
| Master Supple Master Master | 's teacl mentai 's degr 's degr | ee (1 major) Chemistry (2 hing degree Gymnasium I ry course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Biochemistry | MINT Teacher Educat ducation PLUS, Elite I 018) / (2019) | Network Bavaria (EN | B) (2016) |
| | | hing degree Gymnasium ry course MINT Teacher E | | | ork Bavaria (ENB) (2020) B) (2020) |

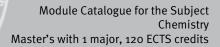
| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 19 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Solid e | le title | | | - | Abbreviation |
|---|---|---|---|---|--|
| Joilu S | state ch | emistry and inorganic | materials | | 08-ACM3-161-m01 |
| Modul | le coord | inator | | Module offered by | |
| lecture | er of ser | ninar "Festkörpercherr | nie and Anorganische | Institute of Inorganic Chemistry | |
| Materi als) | ialien" (| Solid State Chemistry | and Inorganic Materi- | | · |
| ECTS | Meth | od of grading | Only after succ. co | mpl. of module(s) | |
| 5 | nume | rical grade | | | |
| Durati | on | Module level | Other prerequisites | 5 | |
| 1 seme | ester | graduate | | | |
| Conter | nts | a | | | |
| This m | nodule r | provides an introductio | on to solid-state chemis | try. It focuses on the | structure, chemical and physical |
| | | | selected materials of so | | |
| Intend | led lear | ning outcomes | | | |
| | | | | | plain methods for solid-state |
| synthe | esis. The | ey can describe import | ant aspects of selected | materials regarding | the corresponding solids. |
| Course | es (type, r | number of weekly contact hou | rs, language — if other than Ge | erman) | |
| S (3) | | | | | |
| | | Sessment (type, scope, lan ole for bonus) | guage — if other than German, | examination offered — if no | t every semester, information on whether |
| e) pres Langua | sentatio | a. 20 pages) or n (approx. 30 minutes ssessment: German a places | | | |
| Additi | onal inf | | | | |
| | | ormation | | | |
| Workle | hen | ormation | | | |
| Workle | oad | ormation | | | |
| 150 h | oad ing cycl | | | | |
| 150 h | | | | | |
| 150 h Teachi | ing cycl | e | tions for teaching-degree progr | ammes) | |
| 150 h Teachi | ing cycl | e | tions for teaching-degree progr | ammes) | |
| 150 h Teachi Referre | ing cycl ed to in | e LPO I (examination regulat | tions for teaching-degree progr | ammes) | |
| 150 h Teachi Referre Modul | ing cycl ed to in le appea | e LPO I (examination regulat | | ammes) | |
| 150 h Teachi Referro Modul Master | ing cycl ed to in le appea r's degr | e LPOI (examination regulat ars in ee (1 major) Chemistry | r (2016) | | ork Bavaria (ENB) (2016) |
| 150 h Teachi Referro Modul Master Supple | ing cycl ed to in le appea r's degr r's teac ementa | e LPOI (examination regulat ars in ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache | r (2016) m MINT Teacher Educa r Education PLUS, Elite | tion PLUS, Elite Netw | |
| 150 h Teachi Referro Modul Master Supple Master | ing cycl ed to in le appea r's degr r's teac ementa r's degr | e LPOI (examination regulat ars in ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry | r (2016) m MINT Teacher Educa r Education PLUS, Elite r (2018) | tion PLUS, Elite Netw Network Bavaria (EN | B) (2016) |
| 150 h Teachi Referro Modul Master Supple Master Master | ed to in ed to in le appea r's degr r's teac ementa r's degr r's teac | e LPO I (examination regulat ars in ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry hing degree Gymnasiu | r (2016) m MINT Teacher Educat r Education PLUS, Elite r (2018) m MINT Teacher Educat | tion PLUS, Elite Netw Network Bavaria (EN tion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) |
| 150 h Teachi Referro Master Master Supple Master Supple | ing cycl ed to in ed to in r's degr r's teac ementa r's degr r's teac ementa | e LPOI (examination regulat ars in ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache | r (2016) m MINT Teacher Educat r Education PLUS, Elite r (2018) m MINT Teacher Educat r Education PLUS, Elite | tion PLUS, Elite Netw Network Bavaria (EN tion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) |
| 150 h Teachi Referro Modul Master Supple Master Supple Master Supple | ing cycl ed to in ed to in r's degr r's teac ementa r's degr r's teac ementa r's degr | e LPO I (examination regulat ars in ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry | r (2016) m MINT Teacher Educat r Education PLUS, Elite r (2018) m MINT Teacher Educat r Education PLUS, Elite r (2024) | tion PLUS, Elite Netw Network Bavaria (EN tion PLUS, Elite Netw Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (2020) B) (2020) |
| 150 h Teachi Referro Modul Master Master Supple Master Master Master Master | ing cycl ed to in e appea r's degr r's teac ementa r's degr r's teac ementa r's degr r's teac | e LPO I (examination regulat ars in ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry hing degree Gymnasiu | r (2016) m MINT Teacher Educat r Education PLUS, Elite r (2018) m MINT Teacher Educat r Education PLUS, Elite r (2024) m MINT Teacher Educat | tion PLUS, Elite Netw Network Bavaria (EN tion PLUS, Elite Netw Network Bavaria (EN tion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) B) (2020) ork Bavaria (ENB) (2025) |
| 150 h Teachi Referro Modul Master Master Supple Master Master Master Master | ing cycl ed to in e appea r's degr r's teac ementa r's degr r's teac ementa r's degr r's teac | e LPO I (examination regulat ars in ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry hing degree Gymnasiu | r (2016) m MINT Teacher Educat r Education PLUS, Elite r (2018) m MINT Teacher Educat r Education PLUS, Elite r (2024) | tion PLUS, Elite Netw Network Bavaria (EN tion PLUS, Elite Netw Network Bavaria (EN tion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) B) (2020) ork Bavaria (ENB) (2025) |

| Module title Abbreviation | | | | | |
|--|---|---|--|-----------------------------|--|
| Specia | l Topic | s in Inorganic Chemistry | | | 08-ACMS-211-m01 |
| Module | e coord | inator | | Module offered by | |
| Person | Person(s) responsible for the focus Inorganic Chemistry | | rganic Chemistry | Institute of Inorgan | ic Chemistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | r graduate | | | |
| Conten | ts | | | | |
| The mo | dule co | overs current and/or spec | cial topics in Inorgani | c Chemistry. | |
| Intende | ed lear | ning outcomes | | | |
| quired | knowle | | ic contexts, knows th | ne application areas | He/she is able to classify the ac- and can assess the relevance for |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (2) + | Ü (1) | | | | |
| | | Sessment (type, scope, langua ₎ le for bonus) | ge — if other than German, o | examination offered — if no | t every semester, information on whether |
| b) oral c) oral d) log (e) prese | examir examin approx entatio | mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | ach (20 to 30 minute 3 candidates (approx | | didate) or |
| Allocat | ion of J | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | | | | | |
| | | ee (1 major) Chemistry (20 | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 024) | | |

| lysis Module of lecturer of and dere ECTS | d organometallic chemistry | | | Abbreviation | |
|---|--|--|--|--|---------------|
| Module of lecturer of and dere | | and its application in h | omogeneous cata- | 08-HKM2-161-m01 | |
| lecturer of and dere | | | - | | |
| and dere | coordinator | | Module offered by | | |
| and dere | of the seminar "Spezielle Mo | etallorganische Chemie | Institute of Inorgani | c Chemistry | |
| | n Anwendung in der Homog | genkatalyse" | | | |
| 5 r | Method of grading | Only after succ. com | pl. of module(s) | | |
| | numerical grade | | | | |
| Duration | Module level | Other prerequisites | | | |
| 1 semest | er graduate | | | | |
| Contents | , - ; | | | | |
| This mod tions. | lule examines elementary o | rganic compounds of tra | ansition metals with | homogeneous catal | ytic applica- |
| Intended | l learning outcomes | | | | |
| | can describe and analyse t | he structure. reactivity | and analysis of elem | entary organic comp | ounds. They |
| | to characterise special subs | | | | |
| Courses | (type, number of weekly contact hou | rs, language — if other than Ger | man) | | |
| S (3) | | | | | |
| Module t | aught in: German or English | 1 | | | |
| | of assessment (type, scope, lang reditable for bonus) | guage — if other than German, e | examination offered — if no | t every semester, information | on on whether |
| a) writter | n examination (approx. 90 t | o 180 minutes) or | | | |
| b) oral ex | kamination of one candidate | e each (20 to 30 minute | | | |
| | (amination in groups of up t | o 3 candidates (approx. | 15 minutes per cano | lidate) or | |
| | pprox. 20 pages) or ntation (approx. 30 minutes) |) | | | |
| | e of assessment: German a | | | | |
| Allocatio | on of places | | | | |
| | | | | | |
| Addition | al information | | | | |
| | | | | | |
| Workloa | d | | | | |
| 150 h | u | | | | |
| - | | | | | |
| Teaching | | | | | |
| Teaching | to in LPO I (examination regulat | ions for teaching degree progra | | | |
| | | ions for teaching-degree progra | mmes) | | |
| | | | mmes) | | |
| Referred | appears in | | mmes) | | |
| Referred Module a | appears in degree (1 major) Chemistry | | mmes) | | |
| Referred Module a Master's Master's | degree (1 major) Chemistry teaching degree Gymnasiu | (2016) m MINT Teacher Educati | on PLUS, Elite Netwo | | 016) |
| Referred Module a Master's Master's Supplem | degree (1 major) Chemistry teaching degree Gymnasiu eentary course MINT Teache | (2016) m MINT Teacher Educati r Education PLUS, Elite I | on PLUS, Elite Netwo | | 016) |
| Referred Module a Master's Master's Supplem Master's | degree (1 major) Chemistry teaching degree Gymnasiu entary course MINT Teache degree (1 major) Chemistry | (2016) m MINT Teacher Educati r Education PLUS, Elite I (2018) | on PLUS, Elite Netwo Network Bavaria (EN | 3) (2016) | |
| Referred Master's Master's Supplem Master's Master's | degree (1 major) Chemistry teaching degree Gymnasiu eentary course MINT Teache degree (1 major) Chemistry teaching degree Gymnasiu | (2016) m MINT Teacher Educati r Education PLUS, Elite I (2018) m MINT Teacher Educati | on PLUS, Elite Netwo Network Bavaria (EN on PLUS, Elite Netwo | 3) (2016) ork Bavaria (ENB) (20 | |
| Referred Master's Master's Supplem Master's Master's Supplem | degree (1 major) Chemistry teaching degree Gymnasiu entary course MINT Teache degree (1 major) Chemistry teaching degree Gymnasiu entary course MINT Teache | (2016) m MINT Teacher Educati r Education PLUS, Elite I (2018) m MINT Teacher Educati r Education PLUS, Elite I | on PLUS, Elite Netwo Network Bavaria (EN on PLUS, Elite Netwo | 3) (2016) ork Bavaria (ENB) (20 | |
| Referred Master's Master's Supplem Master's Supplem Master's | degree (1 major) Chemistry teaching degree Gymnasiu eentary course MINT Teache degree (1 major) Chemistry teaching degree Gymnasiu | (2016) m MINT Teacher Educati r Education PLUS, Elite I (2018) m MINT Teacher Educati r Education PLUS, Elite I (2024) | on PLUS, Elite Netwo Network Bavaria (EN on PLUS, Elite Netwo Network Bavaria (EN | 3) (2016) ork Bavaria (ENB) (20 3) (2020) | 020) |
| Referred Master's Master's Master's Master's Supplem Master's Master's Master's | degree (1 major) Chemistry teaching degree Gymnasiu eentary course MINT Teacher degree (1 major) Chemistry teaching degree Gymnasiu eentary course MINT Teacher degree (1 major) Chemistry | (2016) m MINT Teacher Educati r Education PLUS, Elite I (2018) m MINT Teacher Educati r Education PLUS, Elite I (2024) m MINT Teacher Educati | on PLUS, Elite Netwo Network Bavaria (EN on PLUS, Elite Netwo Network Bavaria (EN on PLUS, Elite Netwo | 3) (2016) ork Bavaria (ENB) (20 3) (2020) ork Bavaria (ENB) (20 | 020) |





Organic Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 23 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(15 ECTS credits)

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|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | | |
|--|--|--|--------------------------------|---|-----------------------------|----------------|
| Moder | n Syntl | netic Methods | | | 08-OCM-SYNT-161- | m01 |
| Module | e coord | inator | | Module offered by | | |
| lecturer of the seminar | | | Institute of Organic | Chemistry | | |
| ECTS Method of grading | | | Only after succ. cor | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | 5 | | |
| 1 semester graduate | | | | | | |
| Conten | Its | | | | | |
| | | liscusses modern stere emistry and catalysis. | oselective synthesis m | nethods. It focuses or | n selected total synt | heses, orga- |
| Intend | ed lear | ning outcomes | | | | |
| | an expl | able to stereoselectivel ain total syntheses. Th | | | | |
| Course | S (type, i | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + Module | | t in: German or English | | | | |
| | | s essment (type, scope, lang ble for bonus) | guage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| d) log (e) pres Langua Allocat | (approx entatic age of a cion of | nation in groups of up to x. 20 pages) or on (approx. 30 minutes) assessment: German ar places formation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | , | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progr | ammes) | | |
| | | · · · · · · | | | | |
| Module appears in | | | | | | |
| Master's degree (1 major) Chemistry (2016) | | | | | | |
| Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Functional Materials (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Chemistry (2024) | | | | | | |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 (cord Master (120 ECTS) Chemi | | page 25 / 437 |

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 26 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | Module title Abbreviation | | | | | |
|--|--|--|------------------------------|-----------------------------|--|--|
| Advanc | ed Res | earch Project Organic Ch | nemistry | | 08-0CM-AKP1-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| head of | f the re | search group offering the | e module | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 10 | (not) s | successfully completed | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| | | ives students the opport f Organic Chemistry and | | | the research groups based at ytical methods. | |
| Intende | ed learı | ning outcomes | | | | |
| Studen | ts are a | | | s and analytical met | hods typically used by the rese- | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| P (20) Module | e taugh | t in: German or English | | | | |
| Method | d of ass | | ge — if other than German, o | examination offered — if no | t every semester, information on whether | |
| Log (ap | prox. 1 | 5 to 20 pages) and talk (a ssessment: German and, | | | | |
| Allocat | | | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 300 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | irs in | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 016) | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master Supple | Master's degree (1 major) chemistry (2010) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) | | | | | |
| Master | 's teach | ning degree Gymnasium I y course MINT Teacher E | MINT Teacher Educat | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 27 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 28 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|---|-----------------------------|---|--|-----------------------|--|
| Moder | 1 Aspec | ts of Natural Product Ch | emistry and Biologic | al Chemistry | 08-OCM-NAT-172-m01 |
| Module | e coord | inator | | Module offered | by |
| lecture | r of the | seminar | | Institute of Orga | anic Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | | |
| 5 | nume | rical grade | | | |
| Duratio | | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| of mac | romole | | | | nt engineering and characterisation alysis of biochemical processes, and |
| Intende | ed leari | ning outcomes | | | |
| Studen | ts have | e developed a knowledge | of molecular biology | and are able to | apply it to practical experiments. |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S /Madul | | atin Common or Fradiah | | | |
| | | ht in: German or English | | | |
| | | Sessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered – | if not every semester, information on whether |
| b) oral c) oral Langua | examin examin ge of a | nination (approx. 45 to 9 ation of one candidate e ation in groups of up to 3 ssessment: German and, | ach (20 to 30 minute 3 candidates (15 to 30 | • | ndidate) |
| Allocat | ion of p | olaces | | | |
| mistry) the san | : 20 pla ne num | aces. Places will be alloca | ated according to the , places will be alloca | number of subje | gree programme Biochemie (Bioche- ect semesters; among applicants with ting list will be maintained and pla- |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module appears in | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) | | | | | |
| Master | 's teach | | MINT Teacher Educati | | etwork Bavaria (ENB) (2020) (ENB) (2020) |

| Module title | | | | | Abbreviation | |
|--|--|---|--|---|-----------------------------|---------------|
| Organi | Organic Functional Materials | | | | 08-0CM-FM-161-mc | 01 |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of the | seminar "Organische F | unktionsmaterialien" | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | Contents | | | | | |
| sical ef | fects ir nents s | eals with specific topics organic molecular and uch as field effect trans | l polymeric semicondu | ctors as well as their | application in (opto |)electronic |
| Intende | ed lear | ning outcomes | | | | |
| explain | the sy ch as f | are able to explain func nthesis of these semico ield effect transistors, o | onductor materials as v | vell as their applicat | ion in (opto)electron | ic compon- |
| Course | S (type, r | umber of weekly contact hours | s, language — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | essment (type, scope, lang le for bonus) | uage — if other than German, e | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) oral (d) log (e) pres Langua | examir examin approx entatio ge of a | mination (approx. 90 to ation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | each (20 to 30 minute 3 candidates (approx. | - | didate) or | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module appears in | | | | | | |
| Master's degree (1 major) Chemistry (2016) | | | | | | |
| Master's degree (1 major) Functional Materials (2016) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| | | y course MINT Teacher | | | | 520) |
| | | ee (1 major) Functional | | | -, (2020) | |
| | | Chemistry (2018) | JMU Würzbu | rg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 30 / 437 |

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 31 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | Abbreviation | | | | |
|---|--|--|--|-----------------------------|--|
| Specia | l Topic | s in Organic Chemistry | | | 08-0CMS-211-m01 |
| Module coordinator | | | | Module offered by | |
| Person | ı(s) resp | oonsible for the focus Org | anic Chemistry | Institute of Organic | Chemistry |
| ECTS | Meth | od of grading | Only after succ. con | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conten | nts | | | | |
| The mo | odule c | overs current and/or spec | cial topics in Organic | Chemistry. | |
| Intend | ed lear | ning outcomes | | | |
| quired | knowle | | ic contexts, knows th | ne application areas | le/she is able to classify the ac- and can assess the relevance for |
| Course | es (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (2) + | Ü (1) | | | | |
| | | sessment (type, scope, langua ole for bonus) | ge — if other than German, o | examination offered — if no | t every semester, information on whether |
| b) oral c) oral d) log (e) pres | examir examin (approx entatio | mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 a. 20 pages) or on (approx. 30 minutes) assessment: German and, | ach (20 to 30 minute 3 candidates (approx | - | didate) or |
| Allocat | tion of _l | places | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teaching cycle | | | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | |
| Master | r's degr | ee (1 major) Chemistry (2 | 024) | | |

| Module title | | | Abbreviation | | | | |
|---|---------------------|--|---|---|-----------------------------|---------------|--|
| Organo | - and E | Biocatalysis | | | 08-HKM1-152-m01 | | |
| Module | e coord | inator | | Module offered by | | | |
| lecturer of the seminar "Organo- and Bi | | | Biokatalyse" | Faculty of Chemistr | y and Pharmacy | | |
| ECTS | Metho | od of grading | Only after succ. cor | Only after succ. compl. of module(s) | | | |
| 5 | nume | rical grade | | | | | |
| Duration Module level Other prerequisites | | | | | | | |
| 1 seme | ster | graduate | | | | | |
| Conten | ts | | | | | | |
| process | ses. Or plicatio | rovides students with o ganocatalysis: enantios on areas. Biocatalysis: e | selective implementati | on, principles, green | chemistry, substand | ce classes | |
| Intende | ed lear | ning outcomes | | | | | |
| scribe t | he stru | able to categorise organ Icture and applications ne effects of enzymes. | | | | | |
| Course | S (type, r | number of weekly contact hours | s, language — if other than Ge | rman) | | | |
| S (3) | | | | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether | |
| b) oral c) oral (| examir examin | mination (approx. 45 to nation of one candidate ation in groups of up to ssessment: German an | each (20 to 30 minute 3 candidates (15 to 30 | | late) | | |
| Allocat | ion of _l | olaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachir | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | ammes) | | | |
| | | | | | | | |
| Module | e appea | urs in | | | | | |
| Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) | | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Biochemistry (2017) | | | | | | | |
| Master's degree (1 major) Electremistry (2017) Master's degree (1 major) Chemistry (2018) | | | | | | | |
| Master's degree (1 major) Biochemistry (2019) | | | | | | | |
| Supple | mentai | ning degree Gymnasiun y course MINT Teacher ee (1 major) Chemistry | Education PLUS, Elite | | | 020) | |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | | page 33 / 437 | |



Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 34 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | |
|---|--------------------|--|--|--|--|
| Supramolecular Chemistry (Basics) | | | | | 08-SCM1-152-m01 |
| Module coordinator | | | | Module offered by | |
| lecturer | r of lect | ure "Organischen Chemi | e" | Faculty of Chemistry | y and Pharmacy |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | numei | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Conten | ts | | | | |
| actions nation (| betwe polyme | en molecules, molecular | recognition by recept rystals, self-assembl | tors, complexes, sup | ar chemistry. It focuses on inter- oramolecular polymers, coordi- synthetic ion channels and mo- |
| Intende | ed learr | ning outcomes | | | |
| field as describ | well as e the s | s to describe the formation | on, structure and poly s in aqueous media a | mers of coordinations well as to identify t | igh degree of expertise in the n compounds. They are able to the characteristics of synthetic |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (3) | | | | | |
| | | e ssment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral e | examin | nination (approx. 90 min ation of one candidate e ssessment: German and/ | ach (approx. 20 minu | tes) | |
| Allocati | ion of p | olaces | | | |
| | | | | | |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycle | 9 | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Biofabrication (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |

| Master's with 1 major Chemistry (2018) | |
|--|--|
|--|--|

| Module title | | | | | Abbreviation | | | |
|--|------------|--------------------------------------|---------------------|--|--------------|---------------|--|--|
| Bioorganic Chemistry 08-SCM3-152-m01 | | | | | | | | |
| Module coordinator | | | Module offered by | | | | | |
| lecture Chemis | | ture "Bioorganische Che | mie" (Bioorganic | Institute of Organic Chemistry | | | | |
| ECTS Method of grading | | Only after succ. compl. of module(s) | | | | | | |
| 5 | nume | rical grade | | | | | | |
| Duration | | Module level | Other prerequisites | 5 | | | | |
| 1 semester graduate | | | | | | | | |
| Contents | | | | | | | | |
| Bioorganic chemistry unites the central questions of organic chemistry, biochemistry, medicinal chemistry and spectroscopy with a focus on biomolecules. At the core of bioorganic chemistry is the synthesis and purposeful manipulation of biomolecules, such as nucleic acids, peptides, proteins, carbohydrates and lipids. This includes the framework of structure-function relationships and the fundamental understanding of biological mechanisms, to enable applications towards biomaterials, biosensing, bioimaging, clinical diagnostics and therapeutics. Key concepts covered in the course are nucleic acid chemistry, peptide chemistry, carbohydrate chemistry, bioorthogonal reactions, molecular diversity, solid-phase synthesis, molecular recognition and interactions (ligand-receptor interactions, signal transduction) Intended learning outcomes The students will have a molecular understanding of the structure and reactivity of biomolecules. The students of molecular interactions and recognition mechanisms. They can describe modern aspects of nucleic acids, proteins, carbohydrate chemistry and interactions, carbohydrate synthetic methods in bioorganic chemistry and can explain principles of molecular interactions. | | | | | | | | |
| drates a | and lip | ids. | | · | | | | |
| Courses (type, number of weekly contact hours, language – if other than German) S (3) | | | | | | | | |
| Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether | | | | | | | | |
| module is creditable for bonus) | | | | | | | | |
| a) written examination (approx. 45 to 90 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (15 to 30 minutes per candidate) 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) | | | | | | | | |
| | | | | | | | | |
| Module appears in | | | | | | | | |
| Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Functional Materials (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | | | |
| Master's wi | th 1 majoi | r Chemistry (2018) | | ırg ● generated 19-Apr-2025 ● ord Master (120 ECTS) Chemi | | page 36 / 437 | | |
| | | | | | | | | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)

Master's degree (1 major) Biochemistry (2017)

Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Master's degree (1 major) Functional Materials (2022)

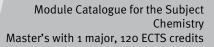
Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 37 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|----------------------------|--------------------|---|--|----------------------------|---------------------------|-----------------------|
| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | |
| Module | e coord | nator | | Module offered by | | |
| lecture | r of lect | ure "Computational Ch | emistry" | · · · · · · | l and Theoretical Ch | emistry |
| | | Only after succ. con | · · · | | , | |
| 5 | | ical grade | | .p. of | | |
| Duratio | <u> </u> | Module level | Other prerequisites | | | |
| 1 seme: | | graduate | | | | |
| Conten | | Sidduite | | | | |
| | | troduces students to t | he fundamental princir | ales of computations | al chemistry | |
| | | ing outcomes | | | at chemistry. | |
| | | | ratical principles of an | moutational chamics | m, and to annly math | ada in com |
| putatio | | ble to explain the theo mistry. | retical principles of co | mputational chemisi | ry and to apply metr | ioas in com- |
| • | | umber of weekly contact hours | if other than Gor | rman) | | |
| S (2) + | | and of weekly contact nours | | | | |
| | | occmont (han a series land | | | t | |
| | | essment (type, scope, lang e for bonus) | uage — II other than German, (| exammation offered — If no | every semester, informati | on on whether |
| | | nination (approx. 90 to | 180 minutes) or | | | |
| b) oral | examin | ation of one candidate | each (20 to 30 minute | | | |
| | | ation in groups of up to | 3 candidates (approx | . 15 minutes per can | didate) or | |
| | | 20 pages) or | | | | |
| | | n (approx. 30 minutes) ssessment: German an | d/or English | | | |
| Allocat | | | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| Auuitio | | mation | | | | |
| Worklo | | | | | | |
| | au | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | | | | | | |
| | | ee (1 major) Chemistry | | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | e (1 major) Computation | | 6) | | |
| | - | ee (1 major) Functional | | | orle Dougris (END) (- | or() |
| | | iing degree Gymnasiun y course MINT Teacher | | | | 010) |
| | | ee (1 major) Chemistry (| | | 6, (2010) | |
| | - | ee (1 major) Computatio | | 9) | | |
| | - | ee (1 major) Mathemati | | ~ ~ | | |
| Master | - | | - | | | |
| | 's teach | iing degree Gymnasiun | n MINT Teacher Educat | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) |
| Master' | | iing degree Gymnasiun y course MINT Teacher | | | | 020) |
| Master' Supple | mentar | | Education PLUS, Elite I | Network Bavaria (EN | | 020) |
| Master Supple Master | mentar 's degre | y course MINT Teacher | Education PLUS, Elite I onal Mathematics (202 | Network Bavaria (EN | B) (2020) | 020) page 38 / 437 |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 39 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



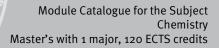


Physical Chemistry

(25 ECTS credits)

| | | r |
|--|--|---------------|
| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 40 / 437 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





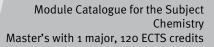
Compulsory Courses

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 41 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



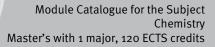
| Module | e title | | | - | Abbreviation | |
|--|--|---|--|--|-----------------------------|----------------|
| Laser S | Spectro | бсору | | | 08-PCM1a-161-m01 | |
| Module | e coord | nator | | Module offered by | | |
| lecture copy) | r of sen | ninar "Laserspektrosko | pie" (Laser Spectros- | | | emistry |
| ECTS | Metho | d of grading | Only after succ. cor | Only after succ. compl. of module(s) | | |
| 5 | numei | ical grade | | | | |
| Duratio | on | Module level | Other prerequisites | ; | | |
| 1 seme | ster | graduate | | | | |
| Conten | its | 0 | <u> </u> | | | |
| This mo | odule ir | troduces students to t spectroscopy. | he fundamental princi | ples of laser spectro | scopy. It discusses a | bsorption |
| Intende | ed learr | ing outcomes | | | | |
| oflase | r techno S (type, n | ble to explain the com plogy. They are able to umber of weekly contact hour | describe the principles | s of absorption and e | | |
| Module | e taugh | in: German or English | | | | |
| Metho | d of ass | essment (type, scope, lang | uage — if other than German, | examination offered — if no | t every semester, informati | ion on whether |
| module is | s creditab | e for bonus) | | | | |
| b) oral | examin | nination (approx. 90 m ation of one candidate ssessment: German an | each (approx. 20 min | utes) | | |
| Allocat | ion of p | laces | | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| | ng cycle | 9 | | | | |
| | <u> </u> | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progr | ammes) | | |
| | | | | ···/ | | |
| Module | annea | rs in | | | | |
| | | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computati | | .6) | | |
| Master | 's degre | ee (1 major) Functional | Materials (2016) | | | |
| | | ing degree Gymnasiur | n MINT Teacher Educat | | | 016) |
| Master Master | | | | Naturally Davianta (CN | | 010) |
| Master Master Supple | mentar | y course MINT Teacher | | Network Bavaria (EN | B) (2016) | 010) |
| Master Master Supple Master | ementar 's degre | y course MINT Teacher ee (1 major) Chemistry | (2018) | | B) (2016) | 010) |
| Master Master Supple Master Master | ementar 's degre 's degre | y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati | (2018) onal Mathematics (201 | | B) (2016) | 010) |
| Master Master Supple Master Master Master | ementar 's degre 's degre 's degre | y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati ee (1 major) Mathemati | (2018) onal Mathematics (201 cs (2019) | 9) | | |
| Master Master Supple Master Master Master Supple | ementar 's degre 's degre 's degre 's teach ementar | y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati | (2018) onal Mathematics (201 cs (2019) n MINT Teacher Educat Education PLUS, Elite | .9) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 | |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 43 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Advanc | e title | | | | Abbreviation | |
|--|--|---|--|--|---|----------------|
| Advanced Physical Chemistry (Lab) | | | | | 08-PCM1b-161-m01 | |
| Module | e coord | inator | | Module offered by | <u>.</u> | |
| | | ninar "Laserspektroskop | ie" (Laser Spectros- | | l and Theoretical Ch | emistry |
| ECTS | Meth | od of grading | Only after succ. cor | npl. of module(s) | | |
| 5 | (not) | successfully completed | | | | |
| Duratio |)n | Module level | Other prerequisites | i | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | ļ | | | |
| borator | ry. Afte | vives students the opport r a safety briefing, the st o take tests and write lat | udents autonomously | / conduct experimen | ts in the laboratory. | |
| Intende | ed lear | ning outcomes | | | | |
| | | e developed a high level to analyse the resulting | | - | thods in physical ch | iemistry. |
| Course | S (type, 1 | number of weekly contact hours, | language — if other than Ge | rman) | | |
| P (4) | | | | | | |
| | e taugh | t in: German or English | | | | |
| | | s essment (type, scope, langua | age — if other than German, | examination offered — if no | t every semester, informati | ion on whether |
| | ige of a | nd assessment of practi ssessment: German and | | 4 random examinat | ions) | - |
| | | | | | | |
| Additio | | | | | | |
| | | ormation | - | | | |
| | | ormation | ation, block taught la | h cource with approx | · ap working days | |
| Additio | nal inf | ormation ormation on module dur | ation: block taught la | b course with approx | . 20 working days. | |
| Additio Worklo | nal inf | | ation: block taught la | b course with appro> | . 20 working days. | |
| Additio Worklo 150 h | onal inf ad | ormation on module dur | ation: block taught la | b course with approx | k. 20 working days. | |
| | onal inf ad | ormation on module dur | ation: block taught la | b course with appro> | k. 20 working days. | |
| Additio Worklo 150 h | onal inf ad | ormation on module dur | ation: block taught la | b course with approx | k. 20 working days. | |
| Additio Worklo 150 h Teachii | onal inf oad ng cycl | ormation on module dur | | | k. 20 working days. | |
| Additio Worklo 150 h Teachii | onal inf oad ng cycl | ormation on module dur. e | | | k. 20 working days. | |
| Additio Worklo 150 h Teachin Referre | nal inf ad ng cycl ed to in | ormation on module dur e LPOI (examination regulation | | | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module | nal inf ad ng cycl ed to in | ormation on module dur e LPOI (examination regulation | is for teaching-degree progra | | k. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module Master | nal inf ad ng cycl ed to in e appea | ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 | is for teaching-degree progra | | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module Master Master | nal inf ad ng cycl ed to in e appea 's degr 's degr | ormation on module dur e LPOI (examination regulation | is for teaching-degree progra 2016) S (2016) | ammes) | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Master Master Master Master | nal inf ad ng cycl ed to in e appea 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic | s for teaching-degree progra 2016) s (2016) nal Mathematics (201 | ammes) 6) | | 016) |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Master | nal inf ad ng cycl ed to in 's degr 's degr 's degr 's teac | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Computation | s for teaching-degree progra (2016) s (2016) nal Mathematics (201 MINT Teacher Educat | ammes) 6) ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 016) |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master | ed to in s degr s degr 's degr 's degr 's teac menta 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 | eo16) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite e018) | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 | 016) |
| Additio Worklo 150 h Teachin Referre Master Master Master Supple Master Master Master | ed to in s degr s degr 's degr 's degr 's teac menta 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computation | eo16) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite e018) nal Mathematics (201 | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 | 016) |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master Master Master Master | ng cycl ng cycl ed to in 's degr 's degr 's teac menta 's degr 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Computation hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computation ee (1 major) Computation ee (1 major) Computation ee (1 major) Mathematic | eo16) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite eo18) nal Mathematics (201 s (2019) | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN 9) | ork Bavaria (ENB) (20 B) (2016) | |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master Master Master Master Master Master | nal inf ad ng cycl d to in d to in e appea 's degr 's degr 's teac menta 's degr 's degr 's degr 's degr 's degr | e LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Chemistry (2 ee (1 major) Computation ee (1 major) Mathematic hing degree Gymnasium | eo16) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite e018) nal Mathematics (201 s (2019) MINT Teacher Educat | ammes) (6) ion PLUS, Elite Network Bavaria (EN 9) ion PLUS, Elite Network | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master Master Master Master Supple | ed to in s degr 's degr 's degr 's teac menta 's degr 's degr 's teac menta | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Computation hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computation ee (1 major) Computation ee (1 major) Computation ee (1 major) Mathematic | s for teaching-degree progra 2016) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat ducation PLUS, Elite | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |



Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 45 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

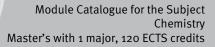
(15 ECTS credits)

| Mactor's with 1 major Chomistry (2018) | INIT Mürzburg | nago 16 / 127 |
|--|--|---------------|
| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 46 / 437 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--|---|---|---|---|--|----------|
| Statist | ical Me | chanics and Reaction | Dynamics | | 08-PCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | lodule offered by | |
| lecture mics) | er of sen | ninar "Chemische Dyna | amik" (Chemical Dyna- | - | l and Theoretical Chemistry | / |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ester | graduate | | | | |
| Conten | | 5144446 | | | | |
| clude t | he func | | statistical thermodynar | | namics. Topics to be covere tate theory, uni- and bimol | |
| Intend | ed lear | ning outcomes | | | | |
| | | | selected topics in stati damental principles of | | d reaction dynamics. They namics. | nave |
| Course | es (type, r | number of weekly contact hour | s, language — if other than Gei | rman) | | |
| S (2) + | Ü (1) | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, lang le for bonus) | guage — if other than German, | examination offered — if no | t every semester, information on wl | nether |
| | age of a | k. 30 minutes) ssessment: German ar blaces | nd/or English | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | oad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | 0.7 | 2 | | | | |
| | ed to in | LPOI (examination regulati | and for too ching degree progra | ummos) | | |
| Referre | | | | | | |
| Referre | | | | annies) | | |
| | | | ons for teaching-degree progra | | | |
| Module | | urs in | | | | |
| Module Master | r's degr | rrs in ee (1 major) Chemistry | (2016) | | | |
| Module Master Master | r's degr r's degr | irs in ee (1 major) Chemistry ee (1 major) Mathemati | (2016) ics (2016) | | | |
| Module Master Master Master | r's degr r's degr r's degr | trs in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computati | (2016) ics (2016) onal Mathematics (201 | | | |
| Module Master Master Master Master | r's degro r's degro r's degro r's degro | trs in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computati ee (1 major) Functional | (2016) ics (2016) onal Mathematics (201 Materials (2016) | 6) | ork Bavaria (ENB) (2016) | |
| Module Master Master Master Master | r's degr r's degr r's degr r's degr r's degr | ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computati ee (1 major) Functional ning degree Gymnasiur | (2016) ics (2016) onal Mathematics (201 Materials (2016) | 6) ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) B) (2016) | |
| Module Master Master Master Master Supple | r's degro r's degro r's degro r's degro r's teach ementai | ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computati ee (1 major) Functional ning degree Gymnasiur | (2016) ics (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite | 6) ion PLUS, Elite Netw | | |
| Module Master Master Master Master Supple Master | r's degri r's degri r's degri r's degri r's teach ementai | ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computati ee (1 major) Functional ning degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry | (2016) ics (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite | 6) ion PLUS, Elite Netw Network Bavaria (EN | | |
| Master Master Master Master Supple Master Master Master | r's degro r's degro r's degro r's degro r's teach ementai r's degro r's degro r's degro | ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computati ee (1 major) Functional ning degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati ee (1 major) Mathemati | (2016) ics (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite I (2018) onal Mathematics (201 ics (2019) | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) | | |
| Master Master Master Master Supple Master Master Master Master | r's degr r's degr r's degr r's teach ementar r's degr r's degr r's degr r's teach | ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computati ee (1 major) Functional ning degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati ee (1 major) Mathemati | (2016) ics (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite I (2018) onal Mathematics (201 ics (2019) n MINT Teacher Educat | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) | B) (2016) ork Bavaria (ENB) (2020) | 47 / 437 |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module title | | | | Abbreviation | | |
|--------------------|--|--|--|--|-----------------------------|---------------|
| Nanoso | ale Ma | terials | | | 08-PCM3-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of the | seminar "Nanoskalige | Materialien" | Institute of Physica | l and Theoretical Che | emistry |
| ECTS | Metho | od of grading | Only after succ. con | • | | |
| 5 | | rical grade | | • | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | 1 | | | |
| | | | | | | |
| | This module discusses advanced topics in nanoscale materials. It focuses on the structure, properties, fabricati- on, modern characterisation methods and application areas of nanoscale materials. | | | | | |
| Intende | ed lear | ning outcomes | | | | |
| | | able to characterise na noscale materials. | noscale materials. The | y are able to name ar | nalytical methods an | d applicati- |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + | | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) talk | examir (approx ige of a | k. 30 minutes) ssessment: German ar | e each (approx. 20 min | utes) or | | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | e appea | urs in | | | | |
| | | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| Master | 's degr | ee (1 major) Computati | onal Mathematics (201 | 6) | | |
| Master | 's degr | ee (1 major) Functional | Materials (2016) | | | |
| | | | n MINT Teacher Educat | | | 016) |
| | | • | Education PLUS, Elite | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry | | | | |
| | - | | onal Mathematics (201 | 9) | | |
| | - | ee (1 major) Mathemati | - | | and Davenia (END) (| |
| | | | n MINT Teacher Educat Education PLUS, Elite | | | J2U) |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 49 / 437 |



Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 50 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---------------------|---------------------|---|--------------------------------------|--------------------------------|-----------------------------|----------------|
| Ultrafa | st spec | troscopy and quantum | -control | | 08-PCM4-161-m01 | |
| Module | e coordi | inator | | Module offered by | | |
| lecture | r of the | seminar "Nanoskalige | Materialien" | | l and Theoretical Ch | emistrv |
| ECTS | r | od of grading | Only after succ. co | | | |
| | | | | | | |
| 5 | <u> </u> | rical grade | | , | | |
| Duratio | on | Module level | Other prerequisite | - | | |
| 1 seme | ster | graduate | Prior completion o | f modules o8-PCM1a | and o8-PCM1b recon | nmended. |
| Conten | ts | | | | | |
| | | iscusses advanced top ime-resolved laser spe | | | control. It focuses o | n ultrashort |
| Intend | ed learr | ing outcomes | | | | |
| plain tł princip | ne theo les and | ble to describe the ger ry of time-resolved lase applications of quantu umber of weekly contact hour | er spectroscopy and n um control. | ame experimental me | | |
| S (2) + Module | | t in: German or English | | | | |
| | | essment (type, scope, lang le for bonus) | uage — if other than German | n, examination offered — if no | ot every semester, informat | ion on whether |
| c) talk Langua | (approx ige of a | ation of one candidate . 30 minutes) ssessment: German an | | nutes) or | | |
| Allocat | ion of p | laces | | | | |
| | | | _ | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycle | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree prog | rammes) | | |
| | | | | | | |
| Module | e appea | rs in | | | | |
| | | | (2016) | | | |
| | - | ee (1 major) Chemistry ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Physics (20 | | | | |
| | - | ee (1 major) Nanostruct | | 5) | | |
| | - | ee (1 major) Computati | | | | |
| | - | ning degree Gymnasium | | | ork Bavaria (ENB) (2 | 016) |
| | | y course MINT Teacher | | | | · |
| | | ee (1 major) Chemistry | | | | |
| | - | ee (1 major) Computati | | 919) | | |
| Master | 's degre | ee (1 major) Mathemati | cs (2019) | | | |
| Master | 's degre | ee (1 major) Nanostruct | ure Technology (2020 | D) | | |
| Aaster's w | ith 1 maior | Chemistry (2018) | IMU Würz | burg • generated 19-Apr-2025 | • exam. | page 51 / 43 |
| | ., | | | ecord Master (120 ECTS) Chem | | |



Master's degree (1 major) Physics (2020) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Physics International (2020) Master's degree (1 major) Quantum Engineering (2020) Master's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Quantum Engineering (2024) Master's degree (1 major) Physics International (2024) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Physics International (2024) Master's degree (1 major) Computational Mathematics (2022)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 52 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---------------------|----------------------|---|---|------------------------------|-----------------------------|----------------|
| Physic | al Cher | nistry of Supramolecul | ar Assemblies | | 08-PCM5-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| | r of the | seminar "Physikalisch | e Chemie Supramole- | | l and Theoretical Ch | emistry |
| ECTS | Metho | od of grading | Only after succ. compl. of module(s) | | | |
| 5 | nume | rical grade | | - | | |
| Duratio | on | Module level | Other prerequisites | ; | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | 0 | Į. | | | |
| This mo | odule e | | ractions between mole as key applications of s | | | ysical-chemi- |
| Intende | ed lear | ning outcomes | | | | |
| in the f dern ap | ield. Th pplicati | ey can describe the fo ons of supramolecular | , • | hemical properties o | | |
| | | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + Module | • • | t in: German or English | | | | |
| Metho | d of ass | | guage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| c) talk | (approxige of a | x. 30 minutes) ssessment: German ar | e each (approx. 20 min nd/or English | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | | | | | | |
| | - | ee (1 major) Chemistry | | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | | onal Mathematics (201 | .6) | | |
| | - | ee (1 major) Functional | Materials (2016) n MINT Teacher Educat | ion DILIS Elita Natur | ork Bayaria (END) (a | 016) |
| | | | Education PLUS, Elite | | | 010) |
| | | ee (1 major) Chemistry | | | _, (2010) | |
| | - | | onal Mathematics (201 | .9) | | |
| | - | ee (1 major) Mathemati | | <i></i> | | |
| | - | - | n MINT Teacher Educat | ion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 020) |
| Master's w | ith 1 maio | r Chemistry (2018) | IMU Würzb | urg • generated 19-Apr-2025 | • exam. | page 53 / 437 |
| | ,0 | , , , , , | | cord Master (120 ECTS) Chemi | | |

UNIVERSITÄT WÜRZBURG

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Biofabrication (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 54 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| mouul | e title | | | | Abbreviation | |
|---|---|--|---|---|---|----------------|
| Physic | Physical Chemistry (Advanced Lab) | | | | 08-PCM6-161-m01 | |
| Modul | e coord | inator | | Module offered by | | |
| | | ikalische Chemie (Physi | cal Chemistrv) | | l and Theoretical Ch | emistrv |
| ECTS | <u> </u> | od of grading | Only after succ. con | · · · · · | | |
| 5 | | successfully completed | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | • | | |
| Conter | | graduate | 1- | | | |
| | | | | : | | |
| | | ives students the oppor f Physical Chemistry and | | | | s based at |
| Intend | ed learı | ning outcomes | | | | |
| | | e become proficient in th ey are able to analyse th | | | | |
| Course | es (type, n | umber of weekly contact hours, | language — if other than Ge | rman) | | |
| P (4) | | | | | | |
| | e taugh | t in: German or English | | | | |
| Metho | d of ass | s essment (type, scope, langu | age — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| | | le for bonus) | | | | |
| | | approx. 20 minutes) | | | | |
| | | ssessment: German and | /or English | | | |
| Allocat | tion of p | olaces | | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| Additio | onal info | ormation on module dur | ation: block taught la | b course with approx | . 20 working days. | |
| Worklo | oad | | | | | |
| 150 h | 1 | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| | | | | | | |
| Referre | ed to in | LPOI (examination regulatior | s for teaching-degree progra | ammes) | | |
| Referre | ed to in | | is for teaching-degree progra | ammes) | | |
| | | LPO I (examination regulation | is for teaching-degree progra | ammes) | | |
| Modul | e appea | LPO I (examination regulation | | ammes) | | |
| Modul Master | e appea r's degro | LPOI (examination regulation I rs in ee (1 major) Chemistry (2 | 2016) | ammes) | | |
| Modul Master Master | e appea r's degro r's degro | LPO I (examination regulation | 2016) s (2016) | | | |
| Modul Master Master Master | e appea r's degro r's degro r's degro | LPO I (examination regulation Irs in ee (1 major) Chemistry (2 ee (1 major) Mathematic | 2016) s (2016) nal Mathematics (201 | 6) | ork Bavaria (ENB) (20 | 016) |
| Modul Master Master Master | e appea r's degro r's degro r's degro r's teach | LPO I (examination regulation Irs in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat | 6) ion PLUS, Elite Netwo | | 016) |
| Modula Master Master Master Supple Master | e appea r's degro r's degro r's degro r's teach ementar r's degro | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation hing degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite 2018) | 6) ion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| Modula Master Master Master Supple Master Master | e appea r's degro r's degro r's degro r's teach ementar r's degro r's degro | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation ning degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computation | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite 2018) nal Mathematics (201 | 6) ion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| Modul Master Master Master Supple Master Master Master | e appea r's degro r's degro r's teach ementar r's degro r's degro r's degro | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation ning degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computation ee (1 major) Mathematic | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) | 6) ion PLUS, Elite Netwo Network Bavaria (EN 9) | B) (2016) | |
| Modul Master Master Master Master Master Master Master | e appea r's degro r's degro r's teach ementar r's degro r's degro r's degro r's degro | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation ing degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computation ee (1 major) Mathematic ing degree Gymnasium | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat | 6) ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 | |
| Module Master Master Master Master Master Master Master Supple | e appea r's degro r's degro r's teach ementar r's degro r's degro r's degro r's degro r's teach ementar | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation ning degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computation ee (1 major) Mathematic ning degree Gymnasium y course MINT Teacher E | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat ducation PLUS, Elite | 6) ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | |
| Modul Master Master Master Master Master Master Supple Master Supple | e appea r's degro r's degro r's teach ementar r's degro r's degro r's degro r's teach ementar r's degro | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation ning degree Gymnasium y course MINT Teacher E ee (1 major) Computation ee (1 major) Mathematic ning degree Gymnasium y course MINT Teacher E ee (1 major) Computation ee (1 major) Computation | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite nal Mathematics (202 | 6) ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | |
| Master Master Master Master Master Master Master Supple Master Master Master | e appea r's degre r's degre r's teach ementar r's degre r's degre r's degre r's teach ementar r's degre r's degre | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation ing degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Mathematic ning degree Gymnasium y course MINT Teacher E ee (1 major) Computation ee (1 major) Computation ee (1 major) Computation ee (1 major) Computation ee (1 major) Mathematic | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite nal Mathematics (202 s (2022) | 6) ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | |
| Modul Master Master Master Master Master Master Master Master Master Master | e appea r's degro r's degro r's teach ementar r's degro r's degro r's degro r's degro r's degro r's degro r's degro | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation ing degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computation ee (1 major) Mathematic ing degree Gymnasium y course MINT Teacher E ee (1 major) Computation ee (1 major) Computation ee (1 major) Computation ee (1 major) Mathematic ee (1 major) Mathematic ee (1 major) Chemistry (2 | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat ducation PLUS, Elite nal Mathematics (202 s (2022) 2024) | 6) ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo Network Bavaria (EN 22) | B) (2016) ork Bavaria (ENB) (20 | |
| Modul Master Master Master Master Master Master Master Master Master Master Master | e appea r's degro r's degro r's teach ementar r's degro r's degro r's degro r's degro r's degro r's degro r's degro r's degro | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computation ing degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Mathematic ning degree Gymnasium y course MINT Teacher E ee (1 major) Computation ee (1 major) Computation ee (1 major) Computation ee (1 major) Computation ee (1 major) Mathematic | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat ducation PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat ducation PLUS, Elite nal Mathematics (202 s (2022) 2024) nal Mathematics (202 | 6) ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo Network Bavaria (EN 22) | B) (2016) ork Bavaria (ENB) (20 B) (2020) | |



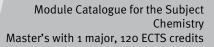
Master's degree (1 major) Mathematics (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 56 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|---|---------------------------------------|--|--|-----------------------------|--|
| Special | l Topic | s in Physical Chemistry | | | 08-PCMS-211-m01 |
| Module coordinator | | | | Module offered by | |
| Person | (s) resp | oonsible for the focus Phy | vsical Chemistry | Institute of Physica | l and Theoretical Chemistry |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| The mo | dule c | overs current and/or spec | cial topics in Physical | l Chemistry. | |
| Intende | ed lear | ning outcomes | | | |
| quired | knowle | | ic contexts, knows th | | He/she is able to classify the ac- and can assess the relevance for |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | rman) | |
| S (2) + | Ü (1) | | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, o | examination offered — if no | t every semester, information on whether |
| b) oral c) oral e d) log (a e) prese | examir examin approx entatio | mination (approx. 90 to 1 nation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and, | ach (20 to 30 minute 3 candidates (approx | | didate) or |
| Allocat | ion of _l | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | e | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 024) | | |

| Module | title | | | | Abbreviation | |
|--|--|---|---------------------------------|--|------------------------------|----------------|
| Basics | Basics and Applications of Quantum Chemistry | | | | 08-TCM2-161-m01 | |
| Module coordinator | | Module offered by | | | | |
| lecture | r of lect | ture "Computational Ch | emistry" | | l and Theoretical Ch | emistry |
| ECTS | | | Only after succ. con | · · · | | , |
| 5 | | rical grade | | ······································ | | |
| Duratio | | Module level | Other prerequisites | prenuisites | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | | | | |
| | | ntroduces students to t | ho fundamontal princi | alos of computations | al chomistry | |
| | | | | | at chemistry. | |
| | | ning outcomes | | | | |
| | | able to explain the theo emistry. | retical principles of co | mputational chemis | try and to apply meth | nods in com |
| Course | S (type, n | number of weekly contact hours | s, language — if other than Ger | rman) | | |
| S (2) + | Ü (2) | | | | | |
| | | Sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | ot every semester, informati | ion on whether |
| | | , | 190 minutos) or | | | |
| | | mination (approx. 90 to ation of one candidate | | s) or | | |
| c) oral (| examin | ation in groups of up to | | | didate) or | |
| | | . 20 pages) or | | | | |
| | | n (approx. 30 minutes) ssessment: German an | d /or English | | | |
| | | | | | | |
| Allocat | | JIdles | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry (| (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional | | | ark Davaria (END) (| |
| | | ning degree Gymnasium N course MINT Teacher | | | | 010) |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master's degree (1 major) Computational Mathematics (2019) | | | | | | |
| | - | ee (1 major) Mathemati | | ~ | | |
| | - | ning degree Gymnasium | - | ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 020) |
| | | y course MINT Teacher | | | B) (2020) | |
| Master | 's degr | ee (1 major) Computatio | onal Mathematics (202 | 2) | | |
| Master's wi | th 1 majoi | r Chemistry (2018) | | urg • generated 19-Apr-2025 | | page 58 / 437 |
| | | | reg. data rec | ord Master (120 ECTS) Chemi | e - 2018 | |



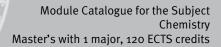
Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 59 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | Abbreviation | | | |
|--|-----------------------------|---|---|--|-----------------------------|---------------|
| Quantu | ım Dyn | amics | | | 08-TCM4-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecturer of lecture "Quantendynamik" | | I | Institute of Physical | l and Theoretical Che | emistry | |
| ECTS | Metho | od of grading | ding Only after succ. compl. of module(s) | | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Contents | | | | | | |
| | | ent Schrödinger equatio adiabatic states, non-ac | | | | theorem, |
| Intende | ed lear | ning outcomes | | | | |
| in mole | ecules. | possess knowledge abo Their insight into the m theoretical chemistry. | | | | |
| Course | S (type, r | number of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (2) + | Ü (2) | | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| c) oral d) log (e) pres | examin approx entatio | nation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | 9 3 candidates (approx | - | didate) or | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| Master's degree (1 major) Computational Mathematics (2016) | | | | | | |
| Master's degree (1 major) Functional Materials (2016) Master's teaching degree Companyium MINIT Teacher Education DLUS, Elite Natural, Deverie (END) (2016) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master's degree (1 major) Computational Mathematics (2019) | | | | | | |
| Master's degree (1 major) Mathematics (2019) | | | | | | |
| Master | 's teacl | ning degree Gymnasiun | n MINT Teacher Educat | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 60 / 437 |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)





Biochemistry (25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 62 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 63 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abb | | | | Abbreviation | |
|---|------------------------------|--|--|-----------------------------|--|
| Molecular Biology for Advanced Students | | | nts | | 08-BC-MOLMC-161-m01 |
| Module coordinator | | | | Module offered by | |
| holder | of the C | Chair of Biochemistry | _ | Chair of Biochemist | ry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | | | | | |
| Compri tional b | | | his module discusse | s advanced topics in | n molecular physiology and func- |
| Intende | ed learr | ning outcomes | | | |
| Studen | ts have | e developed a sound know | wledge of molecular | piology. | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| V (2) + | Ü (1) | | | | |
| | | essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| d) log (e) pres | approx entatio ge of a | ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | | 15 minutes per cano | didate) or |
| Allocal | | Jaces | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | 6 | | | |
| | 0.7 | - | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | e appea | irs in | | | |
| Master | 's degre | ee (1 major) Chemistry (2 | 016) | | |
| Master' Supple | 's teach mentar | ee (1 major) Functional M ning degree Gymnasium I y course MINT Teacher Ec ee (1 major) Chemistry (20 | MINT Teacher Educati ducation PLUS, Elite I | | |
| Supple Master | mentar 's degre | ning degree Gymnasium I y course MINT Teacher Ec ee (1 major) Functional M | ducation PLUS, Elite I aterials (2022) | | |
| master | saegre | ee (1 major) Functional M | aterials (2025) | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 64 / 437 |
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| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

Master's with 1 major Chemistry (2018)

| Module title | | | Abbreviation | | |
|--|---|---|--|--|---|
| Molecu | lar Bio | logy laboratory course | | | 08-BC-MOLP-172-m01 |
| Module coordinator | | | Module offered by | | |
| holder | of the (| Chair of Biochemistry | | Chair of Biochemist | try |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 10 | | rical grade | | | |
| Duratio | | Module level | Other prerequisites | | |
| 1 seme | | undergraduate | | | |
| Conten | | | | | |
| of macr | romole | | | | ngineering and characterisation is of biochemical processes, and |
| Intende | ed learı | ning outcomes | | | |
| Studen | ts have | e developed a knowledge | of molecular biology | and are able to app | ly it to practical experiments. |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| P (5) | | | | | |
| | | essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| e) preso f) pract not exc Langua Assess | entatio ical exa eed a r ge of a ment o | naximum of 4 hours) ssessment: German and, ffered: Once a year, winte | prox. 2 hours; time to | - , | er candidate) or according to subject area but will |
| Allocat | ion of p | olaces | | | |
| Selection exceed thirds of average respect lot. A w Chemie Master cated a sters, p me ava distribu allocate mesters | on proc the nu of place e grade cive appraiting l e (Chem 's degro ccordin laces v ilable. uted an ed acco s, place e availa | mber of available places es): current average grade , places will be allocated olicant; among applicants ist will be maintained an histry), Master's and MIN ee programme Chemie (C ng to the number of subje vill be allocated by lot. A 2. In case that there are p nong the students in the ording to the number of s es will be allocated by lot able. | places will be allocate of successfully com by lot. Quota 2 (one s with the same num d places re-allocated T-Lehramt PLUS Mast hemistry) (120 ECTS ect semesters. Among waiting list will be ma places left after proce Master's degree prog ubject semesters. Am | ated according to the pleted modules; am- third of places): num per of subject semes as they become ava er's: 6 places. Selec credits) will be consi gapplicants with the aintained and places dure 1 is finished co ramme MINT-Lehram nong applicants with | uld the number of applications e following quotas: Quota 1 (two ong applicants with the same nber of subject semesters of the sters, places will be allocated by ailable. tion process: 1. Applications of idered first: Places will be allo- e same number of subject seme- s re-allocated by lot as they beco- ompletely, theses places will be nt PLUS as follows: Places will be the same number of subject se- aces re-allocated by lot as they |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 300 h | | | | | |

| JMU Würzburg • generate | d 19-Apr-2025 • exam. |
|-----------------------------|-----------------------|
| reg. data record Master (12 | o ECTS) Chemie - 2018 |

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Teaching cycle

Referred to in LPO I (examination regulations for teaching-degree programmes)

Module appears in

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Bachelor's degree (1 major) Biochemistry (2022)

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 66 / 437 |
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| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 67 / 437 |
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| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|----------------------|-------------------|--|------------------------------|--------------------------|--|
| Practic | al cour | se "Molecular Machines | " for advanced stude | nts | 08-BC-VPMM-161-m01 |
| Module | e coord | linator | | Module offered by | y |
| holder | ofthe | Chair of Biochemistry | | Chair of Biochemi | stry |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | Į. | | |
| lar biol | ogy an | | mutagenesis, protein | expression and pu | ed methods and topics in molecu urification, RNA-protein and prote omplexes. |
| Intend | ed lear | ning outcomes | | | |
| Studen work. | ts are | able to explore a specific | research topic and d | eliver an oral prese | entation on the results of their |
| | S (type, 1 | number of weekly contact hours, | anguage — if other than Ger | rman) | |
| P (10) | | | | | |
| module is Log (ap | s creditat | ble for bonus) 20 pages) and talk (appro 15 sessment: German and | ox. 15 minutes) | examination offered — if | not every semester, information on whether |
| Allocat | - | | | | |
| | | | - | | |
| Additio | onal inf | ormation | - | | |
| Additio | nal inf | ormation on module dura | ation: block taught lal | b course with appre | ox. 40 working days. |
| Worklo | | | 5 | | , |
| 300 h | | | | | |
| Teachi | ng cvcl | e | | | |
| | 0 9 | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | 00 Progra | | |
| Module | e appe | ars in | | | |
| | | ee (1 major) Chemistry (2 | 016) | | |
| | - | | | ion PLUS, Elite Net | work Bavaria (ENB) (2016) |
| | | ry course MINT Teacher E | | Network Bavaria (E | NB) (2016) |
| | - | ee (1 major) Chemistry (2 | | | |
| | | , | | | work Bavaria (ENB) (2020) |
| Supple | menta | ry course MINT Teacher E | uucation PLUS, Ellte I | velwork Bavaria (E | ND) (2020) |

| Modul | e title | | | | Abbreviation |
|---|--|--|--|---|---|
| Practical course "Protein Degradation in Eukaryotes" for advanced students o8-BC-VPPD-161-mo1 | | | | | 08-BC-VPPD-161-m01 |
| Modul | e coord | inator | | Module offered by | |
| holder | ofthe | Chair of Biochemistry | | Chair of Biochemis | try |
| ECTS | Meth | od of grading | Only after succ. com | pl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Durati | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| This m karyot | - | vives students the opport | unity to explore a res | earch topic in the fie | eld of protein degradation in eu- |
| Intend | ed lear | ning outcomes | | | |
| Studer work. | nts are a | able to explore a specific | research topic and d | eliver an oral presen | tation on the results of their |
| Course | es (type, i | number of weekly contact hours, I | anguage — if other than Ger | man) | |
| P (10) | | | | | |
| module i Log (a | is creditat | sessment (type, scope, langua ole for bonus) 20 pages) and talk (appro 1958 ssment: German and | ox. 15 minutes) | examination offered — if no | ot every semester, information on whether |
| | tion of | | | | |
| | | | | | |
| Additi | onal inf | ormation | | | |
| | | ormation on module dura | tion: block taught lal | o course with approx | . 40 working days |
| Worklo | | | | | |
| 300 h | | | | | |
| - | ing cycl | e | | | |
| | | | | | |
| Referr | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Modul | e appea | ars in | | | |
| Master Supple Master Master | r's teac ementa r's degr r's teac | ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E | MINT Teacher Educati ducation PLUS, Elite I 018) MINT Teacher Educati | Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Master (120 ECTS) Chemie - 2018 | page 69 / 437 |
|--|--|---------------|
|--|--|---------------|

| Module | e title | | | | Abbreviation |
|-----------|--------------------|--|--------------------------------|----------------------------|--|
| Practic | al cour | se "RNA Biochemistry" | for advanced student | 5 | 08-BC-VPRB-161-m01 |
| Module | e coord | inator | | Module offered by | |
| holder | of the (| Chair of Biochemistry | | Chair of Biochemis | try |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Duratio | n | Module level | Other prerequisites | i | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| mes as | "mole | | itory mechanisms of et | | eld of RNA biochemistry. Riboso- synthesis. Gradient centrifugati |
| Intend | ed lear | ning outcomes | | | |
| work. T | hey are h the h | able to familiarise the | mselves with different | mechanisms of gen | ntation on the results of their eral and specific translation con appropriate and understandable |
| Course | S (type, r | umber of weekly contact hours | s, language — if other than Ge | rman) | |
| P (10) | | | | | |
| module is | s creditab | eessment (type, scope, lang le for bonus) o pages) and talk (app | | examination offered — if n | ot every semester, information on whether |
| | | ssessment: German an | | | |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| Additio | nal info | ormation on module du | ration: block taught la | b course with appro | x. 40 working days. |
| Workla | ad | | | | |
| 300 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progra | ammes) | |
| | | | | | |
| Module | e appea | irs in | | | |
| | | ee (1 major) Chemistry (| (2016) | | |
| | | ning degree Gymnasium y course MINT Teacher | | | rork Bavaria (ENB) (2016) IB) (2016) |
| Supple | | ee (1 major) Chemistry (| | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Master (120 ECTS) Chemie - 2018 | page 70 / 437 | |
|--|--|---------------|--|
|--|--|---------------|--|

| Module | e title | | | Abbreviation | | | |
|--|-------------------|-----------------------------------|------------------------------|-----------------------|--------------------|--|--|
| Practic | al cour | se "Structural Biology" f | S | 08-BC-VPSB-161-m01 | | | |
| Module coordinator | | | | Module offered by | | | |
| holder of the Chair of Biochemistry | | | | Chair of Biochemistry | | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | · | | |
| 10 | 1 | rical grade | o8-BC-MOLP | • | | | |
| | | Module level | Other prerequisites | | | | |
| 1 semester | | graduate | | | | | |
| Conten | ts | | Į | | | | |
| This module discusses cloning and the expression of protein constructs for crystallisation. It teaches students the fundamental principles and techniques of crystallisation and crystal optimisation as well as crystallographic data collection. | | | | | | | |
| Intend | ed lear | ning outcomes | | | | | |
| Students have developed an understanding of the method of selecting protein constructs for crystallisation. They master fundamental skills and techniques for protein crystallisation as well as data collection and proces- sing. | | | | | | | |
| Course | S (type, 1 | number of weekly contact hours, l | anguage — if other than Ge | rman) | | | |
| P (10) | | | | | | | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) | | | | | | | |
| Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English | | | | | | | |
| Allocat | ion of | places | | | | | |
| | | | | | | | |
| Additio | onal inf | ormation | | | | | |
| Additio | onal inf | ormation on module dura | tion: block taught la | b course with appro> | . 40 working days. | | |
| Worklo | ad | | | | | | |
| 300 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | ed to in | LPOI (examination regulation | s for teaching-degree progra | immes) | | | |
| | | | | | | | |
| Module | e appea | ars in | | | | | |
| Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 71 / 437 |
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| | reg. data record Master (120 ECTS) Chemie - 2018 | |
| | | |

| Module | title | | Abbreviation | | | | | |
|--|--|---|-----------------------------|---------------------|----|--|--|--|
| Special | Topics | s in Biochemistry | | 08-BCMS-211-m01 | | | | |
| Module | coord | inator | | Module offered by | | | | |
| Person | (s) resp | onsible for the focus Bio | chemistry | Chair of Biochemist | ry | | | |
| ECTS | Metho | d of grading Only after succ. compl. of module(s) | | | | | | |
| 5 | nume | rical grade | | | | | | |
| Duration | | Module level | Other prerequisites | | | | | |
| 1 semester | | graduate | | | | | | |
| Contents | | | | | | | | |
| The mo | dule co | overs current and/or spec | ial topics in Biochem | nistry. | | | | |
| Intende | ed leari | ning outcomes | | | | | | |
| The student has advanced knowledge of selected topics in Biochemistry. He/she is able to classify the acqui- red knowledge in the subject-specific contexts, knows the application areas and can assess the relevance for va- rious experimental syntheses as well as measurement and analysis methods. | | | | | | | | |
| Courses | S (type, n | umber of weekly contact hours, la | anguage — if other than Ger | man) | | | | |
| S (2) + I | Ü (1) | | | | | | | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for 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 | | | | | | | | |
| Allocati | ion of p | olaces | | | | | | |
| | | | | | | | | |
| Additio | nal inf | ormation | | | | | | |
| | | | | | | | | |
| Worklo | ad | | | | | | | |
| 150 h | | | | | | | | |
| Teaching cycle | | | | | | | | |
| | | | | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | | | | |
| | | | | | | | | |
| Module appears in | | | | | | | | |
| | Master's degree (1 major) Chemistry (2018) | | | | | | | |
| Master's degree (1 major) Chemistry (2024) | | | | | | | | |

| Module | e title | | | | Abbreviation |
|---|---|--|--|---|---|
| Bioinor | ganic (| Chemistry | | | 08-ACM2-161-m01 |
| Module | e coord | inator | | Module offered by | <u>.</u> |
| and Me | lecturer of seminar "Anorganische Aspekte der Biochem and Medizinischen Chemie" (Inorganic Aspects of Bioch mistry and Medicinal Chemistry) | | | Institute of Inorgan | ic Chemistry |
| ECTS | | od of grading | Only after succ. com | and of module(s) | |
| 5 | | rical grade | | | |
| Duratio | | Module level | Other prerequisites | | |
| | | | | | |
| 1 seme | | graduate | | | |
| This mo | odule i ds of Bl | | | | chemistry (BIC). It discusses the ns of BIC in the fields of diagnosis |
| Intende | ed lear | ning outcomes | | | |
| | | able to describe the princ us enzymes and describe | | | xplain the structure and effects medicine. |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | man) | |
| Method module is a) writt b) oral c) oral Langua | d of ass creditab en exal examir examin ge of a | le for bonus) mination (approx. 45 to g nation of one candidate e ation in groups of up to ssessment: German and | oo minutes) or each (20 to 30 minute 3 candidates (15 to 30 | s) or | ot every semester, information on whether date) |
| Allocat | ion of _l | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | e appea | ars in | | | |
| Master Supple Master Master Master | 's teacl mentai 's degr 's degr 's teacl | | MINT Teacher Educati ducation PLUS, Elite I 018) / (2019) MINT Teacher Educati | Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) |
| Suppla | mentai | y course MINT Teacher E | ducation PLUS. Elite I | Network Bavaria (EN | B) (2020) |

| Module title Abbreviation | | | | | | | | |
|---------------------------|---|--|---|--|-----------------------------|---------------|--|--|
| Organo | o- and E | Biocatalysis | | | 08-HKM1-152-m01 | | | |
| Module | Module coordinator | | | Module offered by | | | | |
| lecture | r of the | seminar "Organo- and | Biokatalyse" | Faculty of Chemistr | y and Pharmacy | | | |
| ECTS | Metho | od of grading | Only after succ. cor | Only after succ. compl. of module(s) | | | | |
| 5 | nume | rical grade | | | | | | |
| Duratio | n | Module level | Other prerequisites | i | | | | |
| 1 seme | ster | graduate | | | | | | |
| Conten | ts | | | | | | | |
| proces | ses. Or plicatio | provides students with or ganocatalysis: enantion on areas. Biocatalysis: e | elective implementati | on, principles, green | chemistry, substan | ce classes | | |
| Intende | ed lear | ning outcomes | | | | | | |
| scribe t | the stru | able to categorise orgar icture and applications ne effects of enzymes. | | | | | | |
| Course | S (type, r | number of weekly contact hours | , language — if other than Ge | rman) | | | | |
| S (3) | | | | | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether | | |
| b) oral c) oral | examir examin | mination (approx. 45 to nation of one candidate ation in groups of up to ssessment: German an | each (20 to 30 minute 3 candidates (15 to 30 | | late) | | | |
| Allocat | ion of _l | olaces | | | | | | |
| | | | | | | | | |
| Additio | nal inf | ormation | | | | | | |
| | | | | | | | | |
| Worklo | ad | | | | | | | |
| 150 h | | | | | | | | |
| Teachi | ng cycl | e | | | | | | |
| | | | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | ammes) | | | | |
| | | | | | | | | |
| Module | e appea | ars in | | | | | | |
| Master Master | Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) | | | | | | | |
| | Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | | |
| | Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Biochemistry (2017) | | | | | | | |
| | - | ee (1 major) Chemistry (| • • | | | | | |
| | | ee (1 major) Biochemist | | | | | | |
| Supple | menta | ning degree Gymnasiun ry course MINT Teacher ee (1 major) Chemistry (| Education PLUS, Elite | | | 020) | | |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 74 / 437 | | |



Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 75 / 437 |
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| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|----------------------------|------------------------------|---|--|----------------------------|--|
| Moder | 1 Aspec | ts of Natural Product Ch | emistry and Biologic | al Chemistry | 08-OCM-NAT-172-m01 |
| Module | e coord | inator | | Module offered by | , |
| lecture | r of the | seminar | | Institute of Organi | c Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| of mac | romole | | | | ngineering and characterisation sis of biochemical processes, and |
| Intende | ed lear | ning outcomes | | | |
| Studen | ts have | e developed a knowledge | of molecular biology | and are able to ap | ply it to practical experiments. |
| Course | S (type, r | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S | | | | | |
| - | | ht in: German or English | | | |
| | | s essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if r | not every semester, information on whether |
| b) oral c) oral | examir examin | nination (approx. 45 to 9 ation of one candidate e ation in groups of up to 3 ssessment: German and, | ach (20 to 30 minute 3 candidates (15 to 30 | - | date) |
| Allocat | ion of p | olaces | | | |
| mistry) the san | : 20 pla ne num | aces. Places will be alloca | ated according to the , places will be alloca | number of subject | e programme Biochemie (Bioche- semesters; among applicants with g list will be maintained and pla- |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | e appea | irs in | | | |
| Supple Master Master | mentai 's degr 's degr | y course MINT Teacher Ec ee (1 major) Chemistry (2 ee (1 major) Biochemistry | ducation PLUS, Elite I 018) 1 (2019) | Network Bavaria (EN | |
| | | ning degree Gymnasium I ry course MINT Teacher Eo | | | vork Bavaria (ENB) (2020) NB) (2020) |

| Module title | | | | | Abbreviation |
|---|--|---|--|--|---|
| Drug d | esign | | | | 08-MCM3-172-m01 |
| Modul | e coord | inator | | Module offered by | <u> </u> |
| | lecturers Pharmazeutische Chemie (Pharmaceutical Che- mistry) | | | Institute of Pharma | cy and Food Chemistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Durati | on | Module level | Other prerequisites | ; | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| This m | odule d | liscusses advanced topic | s in natural product | chemistry and biolog | gical chemistry. |
| | | ning outcomes | • | , | , , |
| | - | able to discuss advanced | topics in natural pro | oduct chemistry and | biological chemistry |
| | | number of weekly contact hours, I | · · · · · | · · · | |
| S (2) + | | | | | |
| • • • | • • | t in: German or English | | | |
| | | | ge — if other than German, | examination offered — if no | ot every semester, information on whether |
| | | le for bonus) | | | |
| | | (approx. 30 minutes) with | | | |
| | | ssessment: German and | /or English | | |
| | tion of _l | | | | |
| ted acc cinal C gree pr sters; a studer ber of | cording hemist rogram among its of th subject | to the same number of s ry) as their focus will be g ne Biochemie (Biochemi applicants with the same e Master's degree progra | ubject semesters; stu given preferential cor stry): Places will be a number of subject s mme MINT-Lehramt cants with the same | udents who have cho nsideration. 6 places illocated according to emesters, places wil PLUS: Places will be number of subject se | nemistry): Places will be alloca- osen Medizinische Chemie (Medi- for students of the Master's de- o the number of subject seme- Il be allocated by lot.2 places for allocated according to the num- emesters, places will be allocated ecome available. |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | oad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | ammes) | |
| | | | | | |
| Modul | e appea | ars in | | | |
| | | hing degree Gymnasium ry course MINT Teacher E | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 77 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | | |
|---|---|------------------------------|-----------------------------|--|--|--|
| Clinical-ana | lytical Chemistry | | | 08-PH-KAC-152-m01 | | |
| Module coor | dinator | | Module offered by | | | |
| lecturer of lecture "Klinisch-analytische Chemie" (Clinical | | | | cy and Food Chemistry | | |
| | al Chemistry) | | | | | |
| | hod of grading | Only after succ. con | npl. of module(s) | | | |
| | erical grade | | | | | |
| Duration | Module level | Other prerequisites | i | | | |
| 1 semester | graduate | | | | | |
| Contents | | | | | | |
| This module | discusses advanced topic | s in clinical analytica | l chemistry. | | | |
| Intended lea | rning outcomes | | | | | |
| Students hav | ve developed an advanced | knowledge of molec | ular biology. | | | |
| Courses (type | , number of weekly contact hours, l | anguage — if other than Ge | rman) | | | |
| V (3) | | | | | | |
| Method of a | ssessment (type, scope, langua | ge — if other than German, | examination offered — if no | t every semester, information on whether | | |
| module is credita | | | | | | |
| | nination (approx. 120 minu | | | | | |
| | assessment: German and, | or English | | | | |
| Allocation of | fplaces | | | | | |
| | | | | | | |
| Additional in | nformation | | | | | |
| | | | | | | |
| Workload | | | | | | |
| 150 h | | | | | | |
| Teaching cy | cle | | | | | |
| | | | | | | |
| Referred to i | n LPO I (examination regulations | s for teaching-degree progra | ummes) | | | |
| | | | | | | |
| Module app | ears in | | | | | |
| | gree (1 major) Biochemistry | (2015) | | | | |
| | gree (1 major) Chemistry (2 | | | | | |
| Master's tea | ching degree Gymnasium I | WINT Teacher Educat | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) | | |
| | ary course MINT Teacher E | | Network Bavaria (EN | B) (2016) | | |
| Master's degree (1 major) Biochemistry (2017) | | | | | | |
| | Master's degree (1 major) Chemistry (2018) | | | | | |
| | gree (1 major) Biochemistry ching degree Gymnasium I | | ion PLUS Elito Notwo | ork Bayaria (ENB) (2020) | | |
| | ary course MINT Teacher E | | | | | |
| | gree (1 major) Chemistry (2 | | | _, () | | |
| | ching degree Gymnasium I | • | ion PLUS, Elite Netwo | ork Bavaria (ENB) (2025) | | |
| | ary course MINT Teacher E | | | | | |
| Supplement | ary course with Treacher E | ucation PLUS, EIITe | ivelwork bavaria (EN | DJ (2025) | | |

| Module titl | 9 | | | Abbreviation |
|--|---|---|------------------------|--|
| Practical co | ourse of clinical-analytical (| Chemistry | | 08-PH-KACP-152-m01 |
| Module coo | rdinator | | Module offered by | <u> </u> |
| | ecture "Klinisch-analytisch | e Chemie" (Clinical | - | cy and Food Chemistry |
| | cal Chemistry) | e chenne (chinear | Institute of Finanna | cy and rood chemistry |
| ECTS Me | thod of grading | Only after succ. cor | npl. of module(s) | |
| 5 (no | t) successfully completed | | | |
| Duration | Module level | Other prerequisites | ; | |
| 1 semester | undergraduate | | | |
| Contents | | | | |
| This modul methods. | e covers practical topics in | clinical chemistry and | d clinical diagnostics | s as well as the related analytical |
| Intended le | arning outcomes | | | |
| Students h ments. | ave developed a knowledge | e of clinical analytical | chemistry and are a | ble to apply it to practical experi- |
| Courses (typ | e, number of weekly contact hours, | language — if other than Ge | rman) | |
| P (5) | | | | |
| module is cred | table for bonus) | | | ot every semester, information on whether |
| pages each |) and assessment of practic f assessment: German and | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| Allocation | of places | | | |
| | | | | |
| Additional | nformation | | | |
| | | | | |
| Workload | | | | |
| 150 h | | | | |
| Teaching c | /cle | | | |
| | | | | |
| Referred to | in LPO I (examination regulation | s for teaching-degree progra | ammes) | |
| | | | | |
| Module ap | bears in | | | |
| | gree (1 major) Biochemistry | - | | |
| Master's te Supplemer Master's de Master's de | gree (1 major) Chemistry (2 aching degree Gymnasium tary course MINT Teacher E gree (1 major) Biochemistry gree (1 major) Chemistry (2 gree (1 major) Biochemistry | MINT Teacher Educat ducation PLUS, Elite y (2017) 018) | | |
| Master's te | aching degree Gymnasium tary course MINT Teacher E | MINT Teacher Educat | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 79 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Functional Materials

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 80 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(20 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 81 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation |
|--|-------------|--|------------------------------|---------------------------------|--|
| Lab Co | urse M | aterial Science | | | 08-FMM-MP-161-m01 |
| Modul | e coord | inator | | Module offered by | |
| lecturers specialisation subject Funktionsmaterialien (F ctional Materials) | | onsmaterialien (Fun- | Chair of Chemical T | echnology of Material Synthesis | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) | successfully completed | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| Ten se | lected e | experiments in materials | science. | | |
| | | ning outcomes | | | |
| | - | | I proficiency in the pe | erformance of experi | ments in materials science. |
| | | number of weekly contact hours, l | · · · · | · · · · | |
| P (8) | Ja (type, I | initial of weekly contact nouls, t | anguage — II other than Gel | mally | |
| | d af - | · · · · · · · · · · · · · · · · · · · | | | |
| | | Sessment (type, scope, langua ole for bonus) | ge — If other than German, | examination offered — if no | ot every semester, information on whether |
| pages | each) a | nd assessment of practic | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| | | ssessment: German and, | /or English | | |
| Allocat | tion of | places | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Modul | e appea | ars in | | | |
| | | ee (1 major) Chemistry (2 | 016) | | |
| | - | hing degree Gymnasium | | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | | |
| | | | | | ork Bavaria (ENB) (2020) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2020) |
| | - | ee (1 major) Chemistry (2 | • | | |
| | | hing degree Gymnasium I | | | |
| NUMP | menta | ry course MINT Teacher E | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 82 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation | |
|----------------------|--|---|--|-----------------------------|--|--|
| Project | Work | | | | 08-FMM-PA-161-m01 | |
| Module | coord | inator | | Module offered by | | |
| head of | f the re | search group offering the | module | Chair of Chemical To | echnology of Material Synthesis | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | (not) s | successfully completed | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| | | ives students the opport findings. | unity to explore a res | earch topic under the | e guidance of a supervisor and to | |
| Intende | ed leari | ning outcomes | | | | |
| Studen | ts have | e developed an advanced | proficiency in the pe | erformance of experir | ments in materials science. | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| P (10) | | | | | | |
| module is Log (ap | creditab prox. 1 | s essment (type, scope, langua le for bonus) 5 pages) and talk (approx ssessment: German and | x. 15 minutes) | examination offered — if no | t every semester, information on whether | |
| Allocat | | | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | e | | | | |
| | <u> </u> | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| Module | appea | irs in | | | | |
| Master' Supple | s teach mentar | ee (1 major) Chemistry (2 ning degree Gymnasium I y course MINT Teacher Ec ee (1 major) Chemistry (2 | MINT Teacher Educati ducation PLUS, Elite I | | | |
| Supple Master | mentar s degre | ning degree Gymnasium I y course MINT Teacher Ec ee (1 major) Chemistry (2 ning degree Gymnasium I | ducation PLUS, Elite I 024) | Network Bavaria (ENI | B) (2020) | |
| | Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) | | | | | |

| Module title | | | Abbreviation | | | | |
|---|--|---|--|--|-----------------------------|---------------|--|
| Organi | c Funct | ional Materials | | | 08-0CM-FM-161-mc | 01 | |
| Module | e coord | inator | | Module offered by | | | |
| lecture | r of the | seminar "Organische F | unktionsmaterialien" | Institute of Organic | Chemistry | | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | | |
| 5 | nume | rical grade | | | | | |
| Duratio | n | Module level | Other prerequisites | | | | |
| 1 seme | ster | graduate | | | | | |
| Conten | | 0 | <u> </u> | | | | |
| The module deals with specific topics in organic functional materials. The focus is on fundamental (photo)phy- sical effects in organic molecular and polymeric semiconductors as well as their application in (opto)electronic components such as field effect transistors, organic light-emitting diodes, or organic solar cells as well as in non- linear optics. | | | | | | | |
| Intende | ed lear | ning outcomes | | | | | |
| explain | the sy ch as f | are able to explain fund nthesis of these semico ield effect transistors, o | onductor materials as v | vell as their applicat | ion in (opto)electron | ic compon- | |
| Course | S (type, r | umber of weekly contact hours | s, language — if other than Ger | man) | | | |
| S (3) | | | | | | | |
| | | essment (type, scope, lang le for bonus) | uage — if other than German, e | examination offered — if no | t every semester, informati | on on whether | |
| b) oral c) oral e d) log (a e) prese Langua | examir examin approx entatio ge of a | mination (approx. 90 to ation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | each (20 to 30 minute 3 candidates (approx. | - | didate) or | | |
| Allocat | ion of p | olaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachir | ıg cycl | e | | | | | |
| | | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | | |
| | | | | | | | |
| Module | e appea | irs in | | | | | |
| | - | ee (1 major) Chemistry | | | | | |
| | - | ee (1 major) Functional | | | | | |
| | | ning degree Gymnasiun | | | | 016) | |
| | | y course MINT Teacher ee (1 major) Chemistry (| | VELWOIK BAVAIIA (ENI | 5) (2016) | | |
| | - | ning degree Gymnasiun | | ion PLUS, Flite Netwo | ork Bavaria (FNR) (20 | 020) | |
| | | y course MINT Teacher | | | | , | |
| | | ee (1 major) Functional | | | , (, | | |
| | | Chemistry (2018) | JMU Würzbu | irg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 84 / 437 | |

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 85 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|--|--|--|--|--|---|
| Materia | al Scier | nce 1 (Basic introductio | on) | | 08-FU-MaWi1-152-m | 101 |
| Module | e coord | inator | | Module offered by | | |
| holder | | | nology of Material Syn- | | echnology of Materia | al Synthesis |
| thesis | | | Γ | | | |
| ECTS | <u> </u> | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | | | | |
| Conten | ts | | | | | |
| | - | nalysis, process engine ology, coating process | ering: mixing, comminues, sintering. | ution, agglomeration | , separation, drying, | conveying. |
| | | ning outcomes | | | | |
| chemic ques ar in hand | al proc nd can lling of | ess engineering. For a suggest ways of fabrica measurement data as | e knowledge about vari given objective they are ation, processing and to well as statistical and s well as practically dete | e able to weigh the p reatment of material systematic errors and | ros and cons of diffe s. Furthermore they a l posess extensive k | erent techni- areconfident nowledge |
| | | | s, language — if other than Ger | <u> </u> | | |
| V (3) + | | | | | | |
| | | | | | | |
| | | ;essment (type, scope, lang le for bonus) | guage — if other than German, e | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) oral e d) log (a e) prese | examin examin approx entatio | | e each (20 to 30 minute o 3 candidates (approx. | - | lidate) or | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| Additio | | | | | | |
| Warkla | | | | | | |
| Worklo | au | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | e | | | | |
| | | | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | mmes) | | |
| - | | | ons for teaching-degree progra | mmes) | | |
| Module | e appea | irs in | ons for teaching-degree progra | | | |
| Module Bachele Bachele | e appea or's de or's de | n rs in gree (1 major) Nanostru gree (1 major) Function | icture Technology (201 al Materials (2015) | | | |
| Module Bachelo Bachelo Master | e appea or's deg or's deg 's degre | a rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry | icture Technology (2019 al Materials (2015) (2016) | 5) | | |
| Module Bachelo Bachelo Master' Master' | e appea or's deg or's degre 's degre 's teach | r rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ning degree Gymnasiur | ucture Technology (2019 al Materials (2015) (2016) n MINT Teacher Educati | ;) on PLUS, Elite Netwo | | 016) |
| Module Bachelo Master' Master' Supple | e appea or's deg or's deg 's degre 's teach mentar | a rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher | icture Technology (2014 al Materials (2015) (2016) n MINT Teacher Educati Education PLUS, Elite I | ;) on PLUS, Elite Netwo | | |
| Module Bachelo Master' Master' Supple Master' | e appea or's deg or's degre 's degre 's teach mentar 's degre | a rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry | icture Technology (2019 al Materials (2015) (2016) n MINT Teacher Educati Education PLUS, Elite I (2018) | 5) on PLUS, Elite Netwo Network Bavaria (ENI | 3) (2016) | |
| Module Bacheld Master ¹ Master ¹ Supple Master ¹ | e appea or's deg or's degr 's degro 's teach mentar 's degro 's teach | gree (1 major) Nanostru gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry ning degree Gymnasiur | acture Technology (2019 al Materials (2015) (2016) n MINT Teacher Educati Education PLUS, Elite I (2018) n MINT Teacher Educati | 5) on PLUS, Elite Netwo Network Bavaria (ENI on PLUS, Elite Netwo | 3) (2016) ork Bavaria (ENB) (20 | |
| Module Bachelo Master' Master' Supple Master' Master' Supple | e appea or's deg 's degre 's teach mentar 's degre 's teach mentar | gree (1 major) Nanostru gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry ning degree Gymnasiur | acture Technology (2014 al Materials (2015) (2016) n MINT Teacher Educati Education PLUS, Elite I (2018) n MINT Teacher Educati Education PLUS, Elite I | 5) on PLUS, Elite Netwo Network Bavaria (ENI on PLUS, Elite Netwo | 3) (2016) ork Bavaria (ENB) (20 3) (2020) | |



Bachelor's degree (1 major) Nanostructure Technology (2020)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 87 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(5 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 88 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Materia | e title | | | | Abbreviation | |
|---|--|--|--|--|---|-----------------|
| | al Scie | nce 2 (The Material Gro | ups) | | 08-FU-MaWi2-152- | m01 |
| Module | e coord | linator | | Module offered by | <u> </u> | |
| | | Chair of Chemical Techr | nology of Material Syn- | - | echnology of Mater | ial Synthesis |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | | rical grade | | • | | |
| Duratio | • | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | | | | |
| Conten | | | | | | |
| and pro loys. Ce | opertie eramic | nd properties of the mains s; thermo-mechanical t s: oxidic and non-oxidio volymer materials: therm | reatment; Martensitic t structural ceramics; e | ransitions; ductility lectric and magnetic | and strength; form properties of funct | memory al- |
| Intende | ed lear | ning outcomes | | | | |
| | | e developed a knowled | | d properties of the r | nain material group | s and are able |
| | | knowledge to research | | rman) | | |
| | - | number of weekly contact hours | s, language — If other than Ge | iiidfi) | | |
| V (3) + l | | _ | | | | |
| | | sessment (type, scope, lang ble for bonus) | uage — if other than German, | examination offered — if no | ot every semester, informa | tion on whether |
| c) oral e d) log (a e) prese | examir approx entatic | nation of one candidate nation in groups of up to x. 20 pages) or on (approx. 30 minutes) assessment: German an | o 3 candidates (approx | - | didate) or | |
| Allocati | - | | | | | |
| | | | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| Additio | onal inf | ormation | | | | |
| | | ormation | | | | |
| Worklo | | ormation | | | | |
| Additio Worklo 150 h Teachir | ad | | | | | |
| Worklo 150 h | ad | | | | | |
| Worklo 150 h Teachir | ad ng cycl | e | ons for teaching-degree progra | ımmes) | | |
| Worklo 150 h Teachir | ad ng cycl | | ons for teaching-degree progra | ımmes) | | |
| Worklo 150 h Teachir Referre | ad ng cycl ed to in | e LPO I (examination regulation | ons for teaching-degree progra | ımmes) | | |
| Worklo 150 h Teachir Referre Module | ad ng cycl ed to in e appea | e LPO I (examination regulation | | | | |
| Worklo 150 h Teachir Referre Module Bachelo | ad ng cycl ed to in e appea or's de | e LPO I (examination regulation ars in | icture Technology (201 | | | |
| Worklo 150 h Teachir Referre Module Bacheld Master ¹ | ad ng cycl ed to in e appea or's de or's de r's degr | e LPO I (examination regulation ars in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry | icture Technology (201) al Materials (2015) (2016) | 5) | | |
| Worklo 150 h Teachir Referre Module Bachelo Bachelo Master' Master' | ad ng cycl ed to in e appea or's de or's de 's degr 's teac | e LPOI (examination regulation ars in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasium | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat | 5) ion PLUS, Elite Netw | | 2016) |
| Worklo 150 h Teachir Referre Module Bachelo Bachelo Master' Master' Supple | ad ng cycl ed to in e appea or's de or's de 's degr 's teac menta | e LPOI (examination regulation ars in gree (1 major) Nanostru gree (1 major) Function ree (1 major) Chemistry hing degree Gymnasiun ry course MINT Teacher | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite | 5) ion PLUS, Elite Netw | | 2016) |
| Worklo 150 h Teachir Referre Bachelo Bachelo Master' Master' Supple Master' | ad ng cycl ed to in e appea or's de or's de r's degr 's teac menta 's degr | e LPOI (examination regulation ars in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teacher ee (1 major) Chemistry | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite (2018) | 5) ion PLUS, Elite Netw Network Bavaria (EN | B) (2016) | |
| Worklo 150 h Teachir Referre Bachelo Bachelo Master' Master' Master' Master' | ad ng cycl ed to in e appea or's de or's de r's degr 's teac menta 's degr 's teac | e LPO I (examination regulation ars in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasium | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat | 5) ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2 | |
| Worklo 150 h Teachir Referre Module Bachelo Bachelo Master' Master' Master' Master' Supple | ad ng cycl ed to in e appea or's de or's de r's degr 's teac menta 's teac menta | e LPOI (examination regulation ars in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teacher ee (1 major) Chemistry | icture Technology (201) al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat Education PLUS, Elite | 5) ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (2 | |

Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Chemistry (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Bachelor's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 90 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--|---|--|---|--|---|--|
| Chemio | cally and | l bio-inspired Nanote | chnology for Material S | ynthesis | 08-FU-NT-152-m01 | |
| Module | e coordi | nator | | Module offered by | | |
| | progran Matrieria | | tionswerkstoffe (Func- | Chair of Chen | nical Technology of Material Synthe | |
| ECTS | Metho | d of grading | Only after succ. com | pl. of module | (s) | |
| 5 | numeri | cal grade | | | | |
| Duratio | · r | Module level | Other prerequisites | | | |
| 1 seme | ester | undergraduate | , , , | | | |
| Conten | | | | | | |
| ted ma | terials. I | | | | erisation and applications of the c of biomaterials, introduction to bio | |
| Intend | ed learn | ing outcomes | | | | |
| Studen | nts have | developed a sound ki | nowledge of sol-gel che | mistry and bio | mineralisation. | |
| Course | S (type, nu | Imber of weekly contact hour | rs, language — if other than Ger | rman) | | |
| V (4) | | | | | | |
| | d of ass | essment (type, scope, lang | guage — if other than German. | examination offered | ${\rm I}-{ m if}$ not every semester, information on whet | |
| | | e for bonus) | , | | ,, | |
| Langua | | i (approx. 30 minutes) sessment: German ar laces | | | | |
| | | | | | | |
| Additio | onal info | rmation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycle | | | | | |
| | | | | | | |
| Referre | ed to in l | .POI (examination regulati | ions for teaching-degree progra | mmes) | | |
| | | | | | | |
| | e appeai | rs in | | | | |
| Module | | | | | | |
| | or's deg | ree (1 major) Nanostru | ucture Technology (201 | 5) | | |
| Bachel Bachel | or's deg | ree (1 major) Function | al Materials (2015) | 5) | | |
| Bachel Bachel Master | or's deg 's degre | ree (1 major) Function e (1 major) Chemistry | al Materials (2015) (2016) | | | |
| Bachel Bachel Master Master | or's deg 's degre 's teach | ree (1 major) Function e (1 major) Chemistry ing degree Gymnasiur | al Materials (2015) (2016) m MINT Teacher Educati | ion PLUS, Elite | Network Bavaria (ENB) (2016) | |
| Bachel Bachel Master Master Supple | or's deg f's degre f's teach ementary | ree (1 major) Function e (1 major) Chemistry ing degree Gymnasiur v course MINT Teacher | al Materials (2015) (2016) m MINT Teacher Educati r Education PLUS, Elite I | ion PLUS, Elite | | |
| Bachel Bachel Master Master Supple Master | or's deg d's degre d's teach dementary d's degre | ree (1 major) Function e (1 major) Chemistry ing degree Gymnasiur course MINT Teacher e (1 major) Chemistry | al Materials (2015) (2016) m MINT Teacher Educati Education PLUS, Elite I (2018) | ion PLUS, Elite Network Bavar | ia (ENB) (2016) | |
| Bachel Bachel Master Master Supple Master Master | or's degre degre s teach ementary d's degre | ree (1 major) Function e (1 major) Chemistry ing degree Gymnasiur course MINT Teacher e (1 major) Chemistry ing degree Gymnasiur | al Materials (2015) (2016) n MINT Teacher Educati Education PLUS, Elite I (2018) n MINT Teacher Educati | ion PLUS, Elite Network Bavar ion PLUS, Elite | ia (ENB) (2016) Network Bavaria (ENB) (2020) | |
| Bachel Bachel Master Master Supple Master Supple | or's deg d's degre d's teach ementary d's degre d's teach ementary | ree (1 major) Function e (1 major) Chemistry ing degree Gymnasiur course MINT Teacher e (1 major) Chemistry ing degree Gymnasiur course MINT Teacher | al Materials (2015) (2016) m MINT Teacher Educati Education PLUS, Elite I (2018) m MINT Teacher Educati Education PLUS, Elite I | ion PLUS, Elite Network Bavar ion PLUS, Elite Network Bavar | ia (ENB) (2016) Network Bavaria (ENB) (2020) | |
| Bachel Bachel Master Master Supple Master Supple Bachel | or's deg degre d's teach ementary degre de | ree (1 major) Function e (1 major) Chemistry ing degree Gymnasiur course MINT Teacher e (1 major) Chemistry ing degree Gymnasiur course MINT Teacher | al Materials (2015) (2016) m MINT Teacher Educati Education PLUS, Elite I (2018) m MINT Teacher Educati Education PLUS, Elite I ucture Technology (202 | ion PLUS, Elite Network Bavar ion PLUS, Elite Network Bavar | ia (ENB) (2016) Network Bavaria (ENB) (2020) | |
| Bachel Bachel Master Supple Master Master Supple Bachel Bachel | or's degre degre steach ementary s's degre steach ementary or's deg or's deg | ree (1 major) Function e (1 major) Chemistry ing degree Gymnasiur course MINT Teacher e (1 major) Chemistry ing degree Gymnasiur course MINT Teacher ree (1 major) Nanostru | al Materials (2015) (2016) m MINT Teacher Educati Education PLUS, Elite I (2018) m MINT Teacher Educati Education PLUS, Elite I ucture Technology (2021) | ion PLUS, Elite Network Bavar ion PLUS, Elite Network Bavar | ia (ENB) (2016) Network Bavaria (ENB) (2020) ia (ENB) (2020) | |



Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 92 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

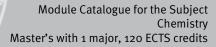
| Module title | | | Abbreviation | | | |
|---|--|---|---|--|--|------------------------------|
| Molecu | lar Ma | terials (Lecture) | | | 08-FU-MoMaV-152- | m01 |
| Module | coord | inator | | Module offered by | | |
| degree tional N | | mme coordinator Funkt als) | ionswerkstoffe (Func- | Chair of Chemical Technology of Material Synthesis | | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | undergraduate | | | | |
| Conten | ts | | | | | |
| Chemical bonds and molecular interactions, supramolecular chemistry, molecular materials, colloids, nanopar- ticles, thin films. | | | | | s, nanopar- | |
| Intende | ed learı | ning outcomes | | | | |
| cal prop teractio | perties ons and lves wi | e developed an understa of materials and their s I how they determine th ith a topic in the field, d | tructure. They know th e properties of molecu | e significance of var Ilar materials. They h | ious inter and intran nave learned how to | nolecular in- familiarise |
| Courses | S (type, n | umber of weekly contact hours | , language — if other than Ge | rman) | | |
| V (3) + 9 | S (1) | | | | | |
| | | essment (type, scope, langule for bonus) | age — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| tes) or o 20 page | c) oral (es) or e | mination (approx. 90 to examination in groups o) presentation (approx. ssessment: German and | of up to 3 candidates (30 minutes)] as well a | approx. 15 minutes p | oer candidate) or d) l | og (approx. |
| Allocati | ion of p | olaces | | | | |
| | | | _ | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ıg cycl | 8 | | | | |
| | | | _ | | | |
| Referre | d to in | LPO I (examination regulatio | ns for teaching-degree progra | mmes) | | |
| | | | | | | |
| | | | | <u>``</u> | | |
| Bacheld Master' Master' Supple Master' Supple | Module appears inBachelor's degree (1 major) Nanostructure Technology (2015)Bachelor's degree (1 major) Functional Materials (2015)Master's degree (1 major) Chemistry (2016)Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)Master's degree (1 major) Chemistry (2018)Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Bachelor's degree (1 major) Nanostructure Technology (2020) | | | | | |
| Master's wi | th 1 majoi | r Chemistry (2018) | | ırg ● generated 19-Apr-2025 ● ord Master (120 ECTS) Chemi | | page 93 / 437 |

Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Chemistry (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 94 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | _ | | | Abbreviation | |
|---|---------------------|----------------------------|--|-------------------------------|-----------------------------|---------------|
| Polymer Chemistry 1 (Lecture and Practical Course) | | | | 03-FU-PM1-152-mo: | L | |
| Module coordinator Module offere | | | Madula offered by | | | |
| | | | | Module offered by | | |
| nolder Dentist | | Chair of Functional Mat | erials in Medicine and | Faculty of Medicine | | |
| ECTS | Metho | od of grading | Only after succ. compl. of module(s) | | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | | | | |
| Conten | ts | | | | | |
| radical | polym | | e radical polymerisatic ation of polymers and p try, rheology. | | | |
| Intende | ed lear | ning outcomes | | | | |
| The stu | Idents | acquire fundamentals (| of polymer chemistry ar | nd the related metho | ds for their characte | risation. |
| | | · · | s, language — if other than Gei | | | |
| V (2) + | | | | • | | |
| | | accmant (tuna coona land | uage — if other than German, | avamination offered if no | t over competer informati | an an whathar |
| | | le for bonus) | juage — If other than German, | examination offered — if no | t every semester, informati | on on whether |
| Assess credita | ment o ble for | | | | | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | · | | | |
| Teachi | ng cycl | e | | | | |
| | | - | | | | |
| Deferre | d to in | | and for tooching the | | | |
| Referre | | LEVI (examination regulati | ons for teaching-degree progra | inines) | | |
| | | • | | | | |
| Module | | | | | | |
| | | gree (1 major) Function | | | | |
| | - | ee (1 major) Chemistry | | ion DILLC Elito Notur | arly Doveria (END) (a | |
| | | | n MINT Teacher Educat | | | J16) |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | | |
| | - | | n MINT Teacher Educat | ion PLUS. Elite Netwo | ork Bavaria (FNB) (20 | 020) |
| | | | | | | , |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Bachelor's degree (1 major) Functional Materials (2021) | | | | | | |
| | | ee (1 major) Chemistry | | | | |
| | | | n MINT Teacher Educat Education PLUS, Elite | | | 025) |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • | | page 95 / 437 |
| | | | reg. data rec | ord Master (120 ECTS) Chemi | e - 2018 | |





Bachelor's degree (1 major) Functional Materials (2025)

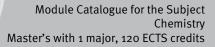
| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 96 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation | |
|--|--|---|--|--|--|---------------------------------------|
| Polyme | Polymers II 03-FU-PM2-161-m01 | | | | | 1 |
| Module | coord | inator | | Module offered by | | |
| holder o Dentisti | | Chair of Functional Mate | rials in Medicine and | Faculty of Medicine | | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | 1 | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | | | | | | |
| Deepend polymer synthesis methods, special polymers (block copolymers, co-polymerization techniques, com- plex polymer architectures), biodegradable polymers, polypeptoides, natural polymers. We will discuss the app- lication of the respective polymers: e.g as biomaterials, for electrospinning, for the production of hydrogels and their behavior on surfaces. | | | | | | |
| Intende | d learr | ning outcomes | | | | |
| differen als. Stu gain ins quence | it synth dents o sight in s / disa | equire advanced knowle netic routes with which can estimate if and how to the field of technical advantages that synthe concerns. | the different molecules fast a polymer degrac ly used polymers from | s can be prepared fro les under given circu nature. Each sectior | om different starting mstances. Furtherm a also points to poss | materi- lore, they sible conse- |
| Courses | 5 (type, n | umber of weekly contact hours | , language — if other than Ger | rman) | | |
| S (2) + ĺ | (1) ت | | | | | |
| | | s essment (type, scope, langu le for bonus) | age — if other than German, o | examination offered — if no | t every semester, informati | on on whether |
| b) oral e c) talk (| examin approx | nination (approx. 90 m ation of one candidate x. 30 minutes) ssessment: German an | each (approx. 20 mint | utes) or | | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachin | og cycl | A | | | | |
| | 15 cycl | • | _ | | | |
| Referre | d to in | LPO I (examination regulation | ns for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module appears in | | | | | | |
| Master' Master' Suppler Master' Master' | s degre s teach mentar s degre s teach | ee (1 major) Chemistry (ee (1 major) Functional A ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry (ning degree Gymnasium y course MINT Teacher | Materials (2016) MINT Teacher Educat Education PLUS, Elite I 2018) MINT Teacher Educat | Network Bavaria (ENI ion PLUS, Elite Netwo | 3) (2016) ork Bavaria (ENB) (20 | |
| Master's wit | th 1 major | Chemistry (2018) | | irg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 97 / 437 |

| Module | title | | | | Abbreviation |
|---|---|---|---|-----------------------------|--|
| Special | Topics | s in the Field of Functiona | ll Materials | | 08-FMMS-211-m01 |
| Module | coord | inator | | Module offered by | |
| Person | (s) resp | onsible for the focus Fun | ctional Materials | Chair of Chemical T | echnology of Material Synthesis |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| The mo | dule co | overs current and/or spec | cial topics in the field | of Functional Mater | ials. |
| Intende | ed leari | ning outcomes | | | |
| classify | The student has advanced knowledge of selected topics in the field of Functional Materials. He/she is able to classify the acquired knowledge in the subject-specific contexts, knows the application areas and can assess the relevance for various experimental syntheses, device preparations as well as measurement and analysis methods. | | | | |
| Courses | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (2) + | Ü (1) | | | | |
| | | e essment (type, scope, langua; le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral (c) oral e d) log (a e) prese | examin examin approx entatio | nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | ach (20 to 30 minute 3 candidates (approx. | - | didate) or |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | appea | in and the second se | | | |
| | - | ee (1 major) Chemistry (2 | | | |
| Master' | s degr | ee (1 major) Chemistry (2 | 024) | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 98 / 437 |
|--|--|---------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | Abbreviation | | | |
|--|--|--|--------------------------------|--|-----------------------------|---------------|
| Nanoso | ale Ma | terials | | | 08-PCM3-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of the | seminar "Nanoskalige | Materialien" | Institute of Physica | l and Theoretical Che | emistry |
| ECTS | 1 | od of grading | Only after succ. con | • | | |
| 5 | | rical grade | | • | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | 1 | | | |
| | | issues a duanced tor | vice in nanocealo mata | viale. It focusos on th | a structura proporti | oc fabricati |
| | This module discusses advanced topics in nanoscale materials. It focuses on the structure, properties, fabricati- on, modern characterisation methods and application areas of nanoscale materials. | | | | | |
| Intende | ed lear | ning outcomes | | | | |
| | | able to characterise na noscale materials. | noscale materials. They | y are able to name ar | nalytical methods an | d applicati- |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + | | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) talk | examir (approx ige of a | k. 30 minutes) ssessment: German ar | e each (approx. 20 mini | utes) or | | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | _ | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | e appea | urs in | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| Master | 's degr | ee (1 major) Computati | onal Mathematics (201 | 6) | | |
| Master's degree (1 major) Functional Materials (2016) | | | | | | |
| | Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master's degree (1 major) Computational Mathematics (2019) | | | | | | |
| Master's degree (1 major) Mathematics (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| | | | Education PLUS, Elite | | | J20J |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 99 / 437 |



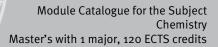
Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 100 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation | |
|--|--------------------|--|--|--|--|--|
| Supramolecular Chemistry (Basics) | | | | 08-SCM1-152-m01 | | |
| Module coordinator | | | | Module offered by | | |
| lecturer of lecture "Organischen Chemie" | | Faculty of Chemistry | y and Pharmacy | | | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | numei | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | ts | | | | | |
| actions nation p | betwe oolyme | en molecules, molecular | recognition by recept rystals, self-assembl | tors, complexes, sup | ar chemistry. It focuses on inter- oramolecular polymers, coordi- synthetic ion channels and mo- | |
| Intende | d learr | ning outcomes | | | | |
| field as describ | well as e the s | s to describe the formation | on, structure and poly s in aqueous media a | mers of coordinatio s well as to identify t | igh degree of expertise in the n compounds. They are able to the characteristics of synthetic | |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | e ssment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| b) oral e | examin | nination (approx. 90 min ation of one candidate e ssessment: German and/ | ach (approx. 20 minu | ites) | | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Workloa | ad | | | | | |
| 150 h | | | | | | |
| Teachin | ig cycle | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | appea | rs in | | | | |
| Module appears in Master's degree (1 major) Biofabrication (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |

| tle | dule ti | le | | | Abbreviation | |
|---|------------|--|----------------------------------|-----------------------------|------------------------------|---|
| Solid state chemistry and inorganic materials | | | | 08-ACM3-161-m01 | | |
| ord | dule c | ordinator | | Module offered by | <u> </u> | |
| | | seminar "Festkörpercher | nie and Anorganische | Institute of Inorgan | ic Chemistry | |
| | | n" (Solid State Chemistry | | | ic circinistry | |
| etho | S M | ethod of grading | Only after succ. co | mpl. of module(s) | | |
| ume | n | merical grade | | | | |
| | ation | Module level | Other prerequisites | 5 | | |
| r | meste | r graduate | | | | |
| | tents | · · · · · | | | | |
| | | le provides an introductio , synthesis methods and | | | structure, chemical a | and physical |
| learı | nded | earning outcomes | | | | |
| | | re able to describe the st | | | | |
| . The | thesis | They can describe impor | tant aspects of selected | materials regarding | the corresponding so | olids. |
| ype, n | rses (t | pe, number of weekly contact ho | urs, language — if other than Ge | erman) | | |
| |) | | | | | |
| | | assessment (type, scope, lar ditable for bonus) | nguage — if other than German, | examination offered — if no | t every semester, informatio | on on whether |
| of a | guage | ation (approx. 30 minutes of assessment: German a of places | | | | |
| l inf | itiona | information | | | | |
| | rkload | | | | | |
| | h | | | | | |
| cycl | ching | zycle | | | | |
| o in | erred 1 | o in LPO I (examination regula | ations for teaching-degree progr | ammes) | | |
| _ | | | | | | |
| | | pears in | | | | |
| - | | egree (1 major) Chemistry | , , , , | | | |
| | | eaching degree Gymnasiu ntary course MINT Teache | | | | 916) |
| | | egree (1 major) Chemistry | | INCLINUTE DAVAILA (EN | (2010) | |
| - | | eaching degree Gymnasiu | | tion PLUS, Elite Netw | ork Bavaria (ENB) (20 |)20) |
| | | ntary course MINT Teache | | | | |
| - | | egree (1 major) Chemistr | | | | |
| | | eaching degree Gymnasiu | | | | 925) |
| entar | pleme | ntary course MINT Teache | er Education PLUS, Elite | Network Bavaria (EN | B) (2025) | |
| majo | r's with : | major Chemistry (2018) | JMU Würzb | urg • generated 19-Apr-2025 | exam. | page 102 / 437 |
| majoi | r's with 1 | major Chemistry (2018) | | | | 9-Apr-2025 • exam. ECTS) Chemie - 2018 |





Homogeneous Catalysis

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 103 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(20 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 104 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | | |
|---|-------------------|--|--------------------------------|--|-----------------------------|----------------|
| Organo- and Biocatalysis | | | | 08-HKM1-152-m01 | | |
| Module coordinator | | | | Module offered by | | |
| lecture | r of the | seminar "Organo- and | Biokatalyse" | Faculty of Chemistry | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| This module provides students with deeper insights into topics in organic compounds and enzymes in catalytic processes. Organocatalysis: enantioselective implementation, principles, green chemistry, substance classes and application areas. Biocatalysis: effects of enzymes in view of different aspects, especially regarding organic synthesis. | | | | | | |
| Intende | ed lear | ning outcomes | | | | |
| Students are able to categorise organocatalysts and explain their effects and areas of application. They can de- scribe the structure and applications of enzymes in organic synthesis. They are able to mechanistically describe and analyse the effects of enzymes. | | | | | | |
| Course | S (type, r | umber of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (3) | | | | | | |
| | | s essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| a) written examination (approx. 45 to 90 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (15 to 30 minutes per candidate) Language of assessment: German and/or English | | | | | | |
| Allocat | ion of p | Diaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | 6 | | | | |
| | | | | | | |
| Referre | a to in | LPO I (examination regulati | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module appears in | | | | | | |
| Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Biochemistry (2017) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) | | | | | | |
| Master's wi | ith 1 majo | r Chemistry (2018) | | ırg ● generated 19-Apr-2025 ● ord Master (120 ECTS) Chemi | | page 105 / 437 |



Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 106 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | |
|---|---|--|-----------------------------|-----------------------------|----------------|
| Advanced organometallic chemistry and its application in homogeneous cata | | | | 08-HKM2-161-m01 | |
| lysis | - , | | • | | |
| Module coor | dinator | | Module offered by | e offered by | |
| lecturer of the seminar "Spezielle Metallorganische Chemie | | | | | |
| | nwendung in der Homog | | | | |
| ECTS Met | nod of grading | Only after succ. com | pl. of module(s) | | |
| 5 num | erical grade | | | | |
| Duration | Module level | Other prerequisites | tes | | |
| 1 semester | graduate | | | | |
| Contents | • | , | | | |
| This module tions. | examines elementary o | rganic compounds of tra | ansition metals with | homogeneous catal | ytic applica- |
| | rning outcomes | | | | |
| | | the structure reactivity | and analysis of alar | onton organic com | aunda Thau |
| | | the structure, reactivity a stance classes. They car | | | |
| | · · | rs, language — if other than Ger | | | |
| S (3) | , | | ··· | | |
| | ht in: German or English | 1 | | | |
| Method of a | ssessment (type, scope, lan | guage — if other than German, e | examination offered — if no | t every semester, informati | ion on whether |
| module is credit | able for bonus) | | | | |
| | amination (approx. 90 t | | | | |
| | | e each (20 to 30 minute :0 3 candidates (approx. | - | didata) ar | |
| | ination in groups of up t ix. 20 pages) or | o 3 candidates (approx. | 15 minutes per cano | uluale) of | |
| e) presentat | on (approx. 30 minutes | | | | |
| Language of | assessment: German a | nd/or English | | | |
| Allocation of | places | | | | |
| | | | | | |
| Additional in | formation | | | | |
| | | | | | |
| Workload | | | | | |
| 150 h | | | | | |
| Teaching cy | cle | | | | |
| | | | | | |
| Referred to i | n LPO I (examination regulat | ions for teaching-degree progra | mmes) | | |
| | | | | | |
| Module app | ears in | | | | |
| | gree (1 major) Chemistry | (2016) | | | |
| | | m MINT Teacher Educati | on PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| | | r Education PLUS, Elite I | Network Bavaria (EN | B) (2016) | |
| | ree (1 major) Chemistry | | | |) |
| | | m MINT Teacher Educati | | | 020) |
| | gree (1 major) Chemistry | r Education PLUS, Elite I | vetwork davaria (EN | D) (2020) | |
| - | | (| | | |
| | ching degree Gymnasiu | m MINT Teacher Educati | on PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 025) |
| Supplement | | m MINT Teacher Educati r Education PLUS, Elite I | | | 025) |
| | | r Education PLUS, Elite I | | B) (2025) | 025) |

| Module | e title | | | | Abbreviation | |
|---|---|--|--|-----------------------------|---|--|
| Practical course "Homogeneous catalysis in Inorganic Chemistry" | | | | mistry" | 08-HKM3AC-161-m01 | |
| Module coordinator | | | | Module offered by | ed by | |
| | lecturer of the seminar "Spezielle Metallorganische Chemie and deren Anwendung in der Homogenkatalyse" | | | Institute of Inorgan | ic Chemistry | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | | successfully completed | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | | | | |
| thods i and cry docum | n homo /stallog enting | ogeneous catalysis. The f raphy. Students will be e their findings and deliver | ocus will be on cataly xpected to conduct the second of t | st synthesis and ch | synthesis and analytical me- aracterisation, spectral analysis ndependently, write a lab report | |
| | | ning outcomes | | | | |
| | | | | | eneous catalysis in the lab and t dings and deliver a presentation | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | | |
| P (6) | | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| | | tical course (approx. 10 p ssessment: German and, | | ox. 15 minutes) | | |
| | ion of p | | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Workla | ad | | | | | |
| 150 h | | | | | | |
| - | ng cycl | | | | | |
| cacill | ing cycl | | | | | |
| Dofe | | | Contraction 1 | | | |
| Referre | | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| Module | e appea | urs in | | | | |
| | | ee (1 major) Chemistry (2 | 016) | | | |
| | - | ning degree Gymnasium I | | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) | |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (2 | | | arthe Devention (END) () | |
| | | ning degree Gymnasium I Ty course MINT Teacher Eo | | | | |
| | | ee (1 major) Chemistry (2 | | vetwork Davdild (EN | ע (2020) | |
| | - | | ~ - +/ | | | |
| | 's teacl | ning degree Gymnasium I | MINT Teacher Educati | on PLUS, Elite Netw | ork Bavaria (ENB) (2025) | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 108 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|------------------------------|--|---|-----------------------------|--|--|
| Practic | al cour | se "Homogeneous cataly | sis in Organic Chemi | istry" | 08-HKM3OC-161-m01 | |
| Module | e coord | inator | | Module offered by | ffered by | |
| lecturer of the seminar "Spezielle Metallorganische Chemie and deren Anwendung in der Homogenkatalyse" | | | | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. com | npl. of module(s) | | |
| 5 | (not) s | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | its | | | | | |
| thods i and cry docum | n homo /stallog enting | ogeneous catalysis. The f raphy. Students will be e their findings and deliver | ocus will be on cataly expected to conduct t | st synthesis and ch | synthesis and analytical me- aracterisation, spectral analysis independently, write a lab report | |
| | - | ning outcomes | | | | |
| | | | | | eneous catalysis in the lab and to dings and deliver a presentation. | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | rman) | | |
| P (6) | | | | | | |
| | | t in: German or English | | | | |
| | | eessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | ot every semester, information on whether | |
| | | tical course (approx. 10 p ssessment: German and, | | ox. 15 minutes) | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | · · · | | | |
| Module | e appea | irs in | | | | |
| | | ee (1 major) Chemistry (2 | 016) | | | |
| Master | 's teach | ning degree Gymnasium I | MINT Teacher Educati | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) | |
| | | y course MINT Teacher E | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (2 | | | ante Devenie (END) (- | |
| | | ning degree Gymnasium I ry course MINT Teacher Eo | | | ork Bavaria (ENB) (2020) B) (2020) | |
| | | ee (1 major) Chemistry (2 | | NELWOIN DAVAIIA (EN | | |
| | - | | ~ - +/ | | | |
| | 's teach | ning degree Gymnasium I | MINT Teacher Educati | ion PLUS, Elite Netw | ork Bavaria (ENB) (2025) | |





Compulsory Electives

(5 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 110 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | Abbreviation |
|---|---------------------------------------|---|--|-----------------------------|---|
| Advance | ed tran | sition metal chemistry | | | 08-HKM4-161-m01 |
| Module | coord | inator | | Module offered by | |
| lecturer | of the | seminar "Spezielle Über | gangsmetallchemie" | Institute of Inorgani | ic Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Content | ts | | | | |
| nation o | chemis | | | | of transition metals and coordi- discusses recent developments |
| Intende | d learn | ning outcomes | | | |
| | | ble to explain transition field. They can explain th | | | nonstrating a high degree of ex- chemistry. |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (3) | | | | | |
| | | e essment (type, scope, langua) le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral e c) oral e d) log (a e) prese | examin examin approx entatio | nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | ach (20 to 30 minute 3 candidates (approx. | - | didate) or |
| Allocati | ion of p | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachin | ig cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | | | | | |
| Master' Suppler Master' | s teach mentar s degre | ee (1 major) Chemistry (20 hing degree Gymnasium I y course MINT Teacher Ed ee (1 major) Chemistry (20 hing degree Gymnasium I | WINT Teacher Educati ducation PLUS, Elite I 018) | Network Bavaria (ENI | B) (2016) |
| Suppler | mentar | y course MINT Teacher Ed ee (1 major) Chemistry (24 | ducation PLUS, Elite I | | |
| | | ning degree Gymnasium I y course MINT Teacher Ec | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 111 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | , | | | Abbreviation | |
|---|--|---|---|----------------------------------|--|--|
| Specia | l Topics | in Homogeneous Cataly | vsis | | 08-HKMS-211-m01 | |
| Module | e coordi | nator | | Module offered by | | |
| Person sis | | | | Institute of Inorganic Chemistry | | |
| ECTS | Metho | d of grading | Only after succ. com | mpl. of module(s) | | |
| 5 | numer | ical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| The mo | dule co | overs current and/or spec | ial topics in Homoge | neous Catalysis. | | |
| Intend | ed learn | ing outcomes | | | | |
| the acc | quired k | | specific contexts, kn | ows the application | ysis. He/she is able to classify areas and can assess the rele- methods. | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| S (2) + | Ü (1) | | | | | |
| | | essment (type, scope, langua e for bonus) | ge — if other than German, e | examination offered — if no | ot every semester, information on whether | |
| b) oral c) oral d) log (e) pres | examin examin approx. entatio | nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and, | ach (20 to 30 minute 3 candidates (approx. | | didate) or | |
| Allocat | ion of p | laces | | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycle | 9 | | | | |
| | | | | | | |
| Referre | ed to in | LPOI (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | rs in | | | | |
| | • | ee (1 major) Chemistry (2 | | | | |
| Master | 's degre | ee (1 major) Chemistry (2 | 024) | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 112 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Statict | e title | | | | Abbreviation | |
|--|--|---|--|--|----------------------------|----------------|
| Statistical Mechanics and Reaction Dynamics 08-PCM2-16 | | | | | 08-PCM2-161-m01 | |
| Module | e coordi | nator | | Module offered by | | |
| lecture mics) | r of sem | ninar "Chemische Dyna | mik" (Chemical Dyna- | | l and Theoretical Ch | emistry |
| ECTS | Metho | od of grading | Only after succ. con | . compl. of module(s) | | |
| 5 | numer | rical grade | | | | |
| Duratio | · | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | | Sidduite | | | | |
| clude t | he fund | iscusses selected topic amental principles of s ell as charge and energ | statistical thermodynar | | | |
| Intend | ed learr | ing outcomes | | | | |
| | | become familiar with re able to apply the fun | | | | . They have |
| Course | S (type, n | umber of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + | Ü (1) | | | | | |
| Module | e taught | t in: German or English | | | | |
| | | essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| c) talk Langua | (approx | ation of one candidate . 30 minutes) ssessment: German an llaces | | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| | | | | | | |
| Workla | ad | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| 150 h | oad ng cycle | 2 | | | | |
| 150 h Teachi | ng cycle | | | | | |
| 150 h Teachi | ng cycle | e LPO I (examination regulation | ons for teaching-degree progra | ımmes) | | |
| 150 h Teachin Referre | ng cycle ed to in | LPOI (examination regulation | ons for teaching-degree progra | ımmes) | | |
| 150 h Teachin Referre | ng cycle | LPOI (examination regulation | ons for teaching-degree progra | ummes) | | |
| 150 h Teachin Referre Module Master | ng cycle ed to in e appea | LPOI (examination regulation rs in ee (1 major) Chemistry | (2016) | ımmes) | | |
| 150 h Teachin Referre Module Master Master | ng cycle ed to in e appea 's degre | LPO I (examination regulation rs in ee (1 major) Chemistry ee (1 major) Mathemati | (2016) cs (2016) | | | |
| 150 h Teachin Referre Module Master Master Master | ng cycle ed to in e appea 's degre 's degre | LPO I (examination regulation rs in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computatio | (2016) cs (2016) onal Mathematics (201 | | | |
| 150 h Teachin Referre Module Master Master Master Master | ng cyclo ed to in e appea 's degre 's degre 's degre 's degre | LPO I (examination regulation rs in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computatione ee (1 major) Functional | (2016) cs (2016) onal Mathematics (201 Materials (2016) | 6) | ork Bayaria (END) (a | 016) |
| 150 h Teachin Referre Master Master Master Master Master | ng cycle ed to in e appea 's degre 's degre 's degre 's teach | LPO I (examination regulation rs in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional ning degree Gymnasium | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat | 6) ion PLUS, Elite Netwo | | 016) |
| 150 h Teachin Referre Module Master Master Master Master Supple | ng cycle ed to in e appea 's degre 's degre 's degre 's degre 's teach mentar | LPO I (examination regulation rs in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional hing degree Gymnasium y course MINT Teacher | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite | 6) ion PLUS, Elite Netwo | | 016) |
| 150 h Teachin Referre Master Master Master Master Supple Master | ng cycle ed to in e appea 's degre 's degre 's degre 's teach ementar 's degre | LPO I (examination regulation rs in ee (1 major) Chemistry ee (1 major) Mathemation ee (1 major) Computation ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) | 6) ion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| 150 h Teachin Referre Module Master Master Master Supple Master Master Master | ed to in e appea 's degre 's degre 's degre 's teach mentar 's degre 's degre | LPO I (examination regulation rs in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional hing degree Gymnasium y course MINT Teacher | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 | 6) ion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| 150 h Teachi Referre Module Master Master Master Master Supple Master Master Master Master | e appea d to in e appea 's degre 's degre 's degre 's teach ementar 's degre 's degre 's degre 's degre | LPO I (examination regulation rs in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computation | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 cs (2019) | 6) ion PLUS, Elite Netwo Network Bavaria (EN 9) | B) (2016) | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

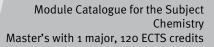
| Module | Module title Abbreviation | | | | | |
|--|---|---|--|---|-----------------------------------|----------------|
| Moder | n Syntl | netic Methods | | | 08-0CM-SYNT-161- | m01 |
| Module | e coord | linator | | Module offered by | | |
| lecture | r of the | e seminar | | Institute of Organic Chemistry | | |
| ECTS | Meth | od of grading | Only after succ. cor | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | 5 | | |
| 1 seme | ster | graduate | | | | |
| Conten | Its | | | | | |
| | | liscusses modern stere emistry and catalysis. | oselective synthesis m | ethods. It focuses o | n selected total synt | heses, orga- |
| Intend | ed lear | ning outcomes | | | | |
| | an expl | able to stereoselectivel ain total syntheses. Th | | | | |
| | | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + Module | | t in: German or English | | | | |
| | | sessment (type, scope, lang ble for bonus) | guage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| d) log (e) pres Langua Allocat | (approx entatic age of a cion of | nation in groups of up to x. 20 pages) or on (approx. 30 minutes) assessment: German ar places |) | | , | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progr | ammes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master Master Supple Master Master Supple Master | 's degr 's teac ementa 's degr 's teac ementa 's degr | ee (1 major) Chemistry ee (1 major) Functional hing degree Gymnasiur ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasiur ry course MINT Teacher ee (1 major) Functional ree (1 major) Chemistry | Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat Education PLUS, Elite Materials (2022) | Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2 | |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | | page 115 / 437 |



Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 116 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| | e title | | | | Abbreviation | |
|--|--|---|--|--|------------------------------------|----------------|
| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | L | |
| lecture | r of lec | ture "Computational Ch | emistry" | Institute of Physical and Theoretical Chemistry | | |
| ECTS | 1 | od of grading | Only after succ. com | · · · · | | , |
| 5 | 1 | rical grade | | <u>, , , , , , , , , , , , , , , , , , , </u> | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | | 0 | 1 | | | |
| | | ntroduces students to th | ne fundamental princir | oles of computationa | al chemistry. | |
| | | ning outcomes | <u> </u> | | | |
| | - | able to explain the theo | retical principles of co | mputational chemist | try and to apply met | hods in com- |
| | | emistry. | | | ing and to apply meth | |
| Course | S (type, r | number of weekly contact hours | , language — if other than Ger | rman) | | |
| S (2) + | Ü (2) | | | | | |
| Metho | d of ass | sessment (type, scope, langu | age — if other than German, e | examination offered — if no | t every semester, informati | ion on whether |
| | | le for bonus) | | | | |
| | | mination (approx. 90 to | | ` | | |
| | | ation of one candidate ation in groups of up to | | | didate) or | |
| | | . 20 pages) or | 3 candidates (approx. | . 15 minutes per can | | |
| | | n (approx. 30 minutes) | | | | |
| Langua | age of a | ssessment: German an | d/or English | | | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPOI (examination regulation | ns for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | urs in | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | |
| | - | | | | | |
| Master's degree (1 major) Mathematics (2016) | | | | | | |
| | 's degr | Master's degree (1 major) Computational Mathematics (2016) Master's degree (1 major) Functional Materials (2016) | | | | |
| Master | - | | | 6) | | |
| Master Master | 's degr | | Materials (2016) | | ork Bavaria (ENB) (20 | 016) |
| Master Master Master Supple | 's degr 's teacl menta | ee (1 major) Functional ning degree Gymnasium y course MINT Teacher | Materials (2016) 1 MINT Teacher Educati Education PLUS, Elite I | ion PLUS, Elite Netwo | | 016) |
| Master Master Master Supple Master | 's degr 's teacl menta 's degr | ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry (| Materials (2016) 1 MINT Teacher Educati Education PLUS, Elite I 2018) | ion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| Master Master Master Supple Master Master | 's degr 's teacl mentai 's degr 's degr | ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio | Materials (2016) 1 MINT Teacher Educati Education PLUS, Elite I 2018) 10 Mathematics (201 | ion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| Master Master Supple Master Master Master | 's degr 's teacl mentai 's degr 's degr 's degr | ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio ee (1 major) Mathematio | Materials (2016) MINT Teacher Educati Education PLUS, Elite I 2018) mal Mathematics (201 55 (2019) | ion PLUS, Elite Netwo Network Bavaria (EN 9) | B) (2016) | |
| Master Master Supple Master Master Master Master | 's degr 's teacl mentai 's degr 's degr 's degr 's teacl | ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio ee (1 major) Mathematio ning degree Gymnasium | Materials (2016) MINT Teacher Educati Education PLUS, Elite I 2018) Mal Mathematics (201 cs (2019) MINT Teacher Educati | ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 | |
| Master Master Supple Master Master Master Supple | 's degr 's teacl mentar 's degr 's degr 's degr 's teacl mentar | ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio ee (1 major) Mathematio ning degree Gymnasium y course MINT Teacher | Materials (2016) MINT Teacher Educati Education PLUS, Elite I 2018) mal Mathematics (201 cs (2019) MINT Teacher Educati Education PLUS, Elite I | ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | |
| Master Master Supple Master Master Master Supple | 's degr 's teacl mentar 's degr 's degr 's degr 's teacl mentar | ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio ee (1 major) Mathematio ning degree Gymnasium | Materials (2016) MINT Teacher Educati Education PLUS, Elite I 2018) mal Mathematics (201 cs (2019) MINT Teacher Educati Education PLUS, Elite I | ion PLUS, Elite Netwo Network Bavaria (EN 9) ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | |

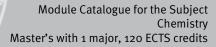


Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 118 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|-------------------|-------------------|------------------------------|---|--|-----------------------------|----------------|
| Polyme | er Chen | nistry 1 (Lecture and Pr | actical Course) | | 03-FU-PM1-152-mo | L |
| Module | | instar | | Madula offered by | | |
| | | | | Module offered by | | |
| nolder Dentist | | Chair of Functional Mat | erials in Medicine and | Faculty of Medicine | | |
| ECTS | Metho | od of grading | Only after succ. con | mpl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | | | | |
| Conten | ts | 0 | , | | | |
| radical | polym | | e radical polymerisatic ition of polymers and p ry, rheology. | | | |
| Intende | ed lear | ning outcomes | | | | |
| The stu | dents a | acquire fundamentals o | of polymer chemistry ar | nd the related metho | ds for their characte | risation. |
| | | • | s, language — if other than Gei | | | |
| V (2) + | | | | | | |
| | | accmont (type coope long | uage — if other than German, | avamination offered if no | t over competer informati | an an whathar |
| | | le for bonus) | uage — If other than German, | examination offered — if no | t every semester, informati | on on whether |
| Assess credita | ment o ble for | | | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | 3 0,00 | - | | | | |
| Deferre | d to in | | and for tooching the | ummac) | | |
| Referre | | LEVI (examination regulation | ons for teaching-degree progra | unines) | | |
| | | • | | | | |
| Module | | | | | | |
| | | gree (1 major) Function | | | | |
| | - | ee (1 major) Chemistry | | ion DULIC Elito Notur | arly Doveria (END) (a. | |
| | | | n MINT Teacher Educat Education PLUS, Elite | | | 010) |
| | | ee (1 major) Chemistry | | NELWOIN DAVAIIA (EIN | U) (2010) | |
| | - | | n MINT Teacher Educat | ion PLUS. Elite Netwo | ork Bavaria (FNB) (20 | 020) |
| | | | Education PLUS, Elite | | | / |
| | | gree (1 major) Function | | × × | , | |
| | | ee (1 major) Chemistry | | | | |
| | | | n MINT Teacher Educat Education PLUS, Elite | | | 025) |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 119 / 437 |
| | | | ieg. uald iec | Si a musici (120 ECIS) Clielili | 2010 | |





Bachelor's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 120 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Medicinal Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | page 121 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 122 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | |
|---|--|--|--|--|--|
| Practical cour | se medicinal chemistry | | | 08-MCM1-161-m01 | |
| Module coord | inator | | Module offered by | | |
| · · · · · · · · · · · · · · · · · · · | lecturers Pharmazeutische Chemie (Pharmaceutical Che- mistry) | | - · · · | cy and Food Chemistry | |
| ECTS Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 10 (not) | successfully completed | | | | |
| Duration | Module level | Other prerequisites | i | | |
| 1 semester | graduate | | | | |
| Contents | | | | | |
| Selected met | nods and topics in medic | inal chemistry (synth | esis, testing, analysi | s, theory, pharmacokinetics). | |
| Intended lear | ning outcomes | | | | |
| Students have | e developed a knowledge | of medicinal chemis | stry and are able to a | pply it to practical experiments. | |
| Courses (type, i | number of weekly contact hours, l | anguage — if other than Ge | rman) | | |
| P (10) Module taugh | t in: German or English | | | | |
| Method of as module is creditat | | ge — if other than German, | examination offered — if no | t every semester, information on whether | |
| pages each) a pages) | nd assessment of practions and assessment: German and | cal assignments (2 to | | minutes each, log approx. 5 to 10 ions) as well as report (30 to 50 | |
| | _ | | | | |
| Additional inf | ormation | | | | |
| Workload | | | | | |
| 300 h | | | | | |
| Teaching cycl | e | | | | |
| | | | | | |
| Referred to in | LPO I (examination regulation | s for teaching-degree progra | ammes) | | |
| | | | | | |
| Module appea | ars in | | | | |
| Master's teac Supplementa Master's degr Master's teac Supplementa | ee (1 major) Chemistry (2 hing degree Gymnasium I ry course MINT Teacher E ee (1 major) Chemistry (2 hing degree Gymnasium I ry course MINT Teacher E | MINT Teacher Educat ducation PLUS, Elite o18) MINT Teacher Educat ducation PLUS, Elite | Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (2020) | |
| Master's teac | ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E | MINT Teacher Educat | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 123 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Drug de | | | | | Abbreviation |
|---|--|---|--|---|--|
| Drug design | | | | | 08-MCM3-172-m01 |
| Module | coord | inator | | Module offered by | |
| lecturers Pharmazeutische Chemie (Pharmaceutical Chemistry) | | | armaceutical Che- | Institute of Pharma | cy and Food Chemistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | numei | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Conten | ts | | | | |
| This mo | dule d | iscusses advanced topic | s in natural product (| chemistry and biolog | gical chemistry. |
| | | ing outcomes | | , . | , |
| | | ble to discuss advanced | topics in natural pro | duct chemistry and | biological chemistry |
| | | umber of weekly contact hours, l | · · · | | |
| S (2) + 1 | | and of weekly contact hours, t | | | |
| • • | | t in: German or English | | | |
| | | | ge — if other than German. | examination offered — if no | ot every semester, information on whether |
| | | le for bonus) | | | · · |
| | | approx. 30 minutes) with | | | |
| Langua | ge of a | ssessment: German and, | /or English | | |
| Allocati | ion of p | olaces | | | |
| ted accordinal Ch gree pro- sters; a student ber of s | ording nemistr ogramn mong a ts of the ubject | to the same number of s y) as their focus will be g ne Biochemie (Biochemis applicants with the same e Master's degree progra | ubject semesters; stu given preferential con stry): Places will be a number of subject s mme MINT-Lehramt I cants with the same | udents who have cho isideration. 6 places llocated according to emesters, places wil PLUS: Places will be number of subject se | nemistry): Places will be alloca- osen Medizinische Chemie (Medi- for students of the Master's de- o the number of subject seme- l be allocated by lot.2 places for allocated according to the num- emesters, places will be allocated ecome available. |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | 9 | | | |
| | | | | | |
| Referre | d to in | LPOI (examination regulations | s for teaching-degree progra | ummes) | |
| | | × • | | | |
| Module | appea | rs in | | | |
| Suppler Master' Master' | mentar s degre s degre | ning degree Gymnasium I y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Biochemistry ning degree Gymnasium I | ducation PLUS, Elite 018) 1 (2019) | Network Bavaria (EN | |
| | | y course MINT Teacher E | | | |





Compulsory Courses

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | page 125 / 437 |
|--|--|----------------|
| , , , , , , | reg. data record Master (120 ECTS) Chemie - 2018 | 1 0 57 157 |

| Module | e title | | | | Abbreviation | |
|--------------------------------------|-------------------------------|--|---|-----------------------------|-----------------------------|----------------|
| Pharmaceutical/Medicinal Chemistry 1 | | | | | 08-MCM2a-161-mo | 1 |
| Module | e coord | inator | | Module offered by | | |
| lecture mistry) | rs Phar | mazeutische Chemie (P | harmaceutical Che- | Institute of Pharma | cy and Food Chemis | itry |
| ECTS | Metho | od of grading | Only after succ. co | mpl. of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | PS | | |
| 1 seme | | graduate | | - | | |
| Conten | | Sidduite | 1 | | | |
| structu in the r drug de | re-activ nodule evelopr | Irugs by field of indicati vity relationships; moleo ; drug analysis; drug sy nent: discussion of spe | cular effect mechanisi nthesis; biotransform | ns; pharmacological | principles of the dru | ugs discussed |
| | | ning outcomes | | | | |
| | | e developed a knowledg | | · · · · · | | |
| | S (type, r | number of weekly contact hours | , language — if other than Ge | erman) | | |
| V (3) | | | | | | |
| | | sessment (type, scope, langu le for bonus) | uage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| e) pres Langua | entatio ge of a | . 20 pages) or n (approx. 30 minutes) ssessment: German an | d/or English | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulatio | ns for teaching-degree progr | ammes) | | |
| | | | | | | |
| Module | e appea | urs in | | | | |
| Master | 's degr | ee (1 major) Chemistry (| 2016) | | | |
| | | ning degree Gymnasium | | | | 016) |
| | | y course MINT Teacher | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (| | | | aaa) |
| | | ning degree Gymnasium Y course MINT Teacher | | | | 020) |
| | | ee (1 major) Chemistry (| | INCLINUTE DAVAILA (EN | D) (2020) | |
| Master | 's teacl | ning degree Gymnasium y course MINT Teacher | MINT Teacher Educa | | | 025) |
| Saphie | mental | , sourse mint reacher | | | | |
| ∕laster's wi | ith 1 maio | r Chemistry (2018) | JMU Würzb | urg • generated 19-Apr-2025 | • exam. | page 126 / 437 |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 126 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Pharma | e title | | | | Abbreviation | |
|---|---|---|---|--|--|----------------|
| Pharmaceutical/Medicinal Chemistry 2 | | | | | 08-MCM2b-161-m0 | 1 |
| Module | e coord | inator | | Module offered by | | |
| | rs Phar | mazeutische Chemie (F | Pharmaceutical Che- | · · · | cy and Food Chemis | try |
| ECTS | 1 | od of grading | Only after succ. cor | ly after succ. compl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | 5 | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | 0 | l | | | |
| structu in the r drug de | re-activ nodule evelopr | lrugs by field of indicat vity relationships; mole ; drug analysis; drug sy nent: discussion of spe | cular effect mechanisr nthesis; biotransform | ns; pharmacological | principles of the dru | igs discussed |
| Intend | ed lear | ning outcomes | | | | |
| Studen | its have | e developed a knowled | ge of pharmaceutical/I | medicinal chemistry. | | |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| V (3) | | | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | ion on whether |
| e) pres | entatio age of a | . 20 pages) or n (approx. 30 minutes) ssessment: German an blaces | d/or English | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | au | | | | | |
| Worklo 150 h | | | | | | |
| Worklo 150 h Teachin | | e | | | | |
| 150 h Teachi i | ng cycl | | | | | |
| 150 h Teachi i | ng cycl | e LPOI (examination regulation | ons for teaching-degree progra | ammes) | | |
| 150 h Teachi i | ng cycl ed to in | LPOI (examination regulation | ons for teaching-degree progra | ammes) | | |
| 150 h Teachin Referre Module | ng cycl ed to in e appea | LPOI (examination regulation | | ammes) | | |
| 150 h Teachin Referre Module Master Supple | ng cycl ed to in e appea 's degr 's teacl ementa | LPOI (examination regulation ars in ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teacher | (2016) n MINT Teacher Educat Education PLUS, Elite | ion PLUS, Elite Netw | | 016) |
| 150 h Teachin Referre Master Master Supple Master Supple Master Supple | ng cycl ed to in e appea 's degr 's teacl menta 's teac 's teac 's teac 's teac 's teac | LPO I (examination regulation ars in ee (1 major) Chemistry hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry | (2016) n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat Education PLUS, Elite (2024) | ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 B) (2020) | 020) |
| 150 h Teachin Referre Master Master Master Supple Master Supple Master Master Master | ng cycl ed to in e appea 's degr 's teacl menta 's degr 's teacl menta 's teac 's teac | LPO I (examination regulation ars in ee (1 major) Chemistry hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasium ry course MINT Teacher | (2016) n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat Education PLUS, Elite (2024) n MINT Teacher Educat | ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (20 B) (2020) ork Bavaria (ENB) (20 | 020) |

| Module ti | tle | | | Abbreviation |
|---|---|--|-----------------------------|---|
| Special Topics in Medicinal Chemistry 08-MCMS-211-m01 | | | | |
| Module co | oordinator | | Module offered by | |
| Person(s) responsible for the focus Medical Chemistry | | dical Chemistry | Institute of Pharma | cy and Food Chemistry |
| ECTS M | ethod of grading | Only after succ. con | compl. of module(s) | |
| 5 ni | umerical grade | | | |
| Duration | Module level | Other prerequisites | S | |
| 1 semeste | er graduate | | | |
| Contents | | | | |
| The modu | le covers current and/or spec | cial topics in Medicin | al Chemistry. | |
| Intended | learning outcomes | | | |
| acquired l | | cific contexts, knows | the application area | . He/she is able to classify the as and can assess the relevance ods. |
| Courses (t | ype, number of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (2) + Ü (| (1) | | | |
| | f assessment (type, scope, langua editable for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral exa c) oral exa d) log (ap) e) present | examination (approx. 90 to 1 amination of one candidate e amination in groups of up to 3 prox. 20 pages) or tation (approx. 30 minutes) of assessment: German and, | ach (20 to 30 minute 3 candidates (approx | - | didate) or |
| Allocation | n of places | | | |
| | | | | |
| Additiona | l information | | | |
| | | | | |
| Workload | | | | |
| 150 h | | | | |
| Teaching | cycle | | | |
| | | | | |
| Referred t | to in LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | |
| Module a | | | | |
| | degree (1 major) Chemistry (2 | | | |
| Master's d | degree (1 major) Chemistry (2 | 024) | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 128 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|--|--|--|--|---|--|
| Mass-S | Mass-Spectrometry and Proteomics 08-MBC-MSP-161-m01 | | | | | |
| Module coordinator Module offered by | | | | | | |
| holder | ofthe | Chair of Biochemistry | | Chair of Biochemistry | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | Its | ~ | | | | |
| sation so prov as well of quar N15 lab ficatior ces stu to a rar yeast. wards, to iden Intende Studen have le ty purif spectro | technic vides a as the ntitativo pelling, ns. The dents the age of p They wi studer tify spe earned ication pometry | ques as well as the open introduction to CID ar analysis of mass spec- e proteomics with a spec- iTRAQ) and provides a seminar covers the fur to different software par problems. In the lab co- construction software par oroblems. In the lab co- construction software par problems. In the lab co- construction software par ended the software particle how to use proteomic co- of protein complexes ar | nolecules. Topics to be rating principles of TOF and ETD fragmentation te crometric data (protein ecial focus on different n insight into the mass damental principles of ckages and gives them urse, students will use E to separate that com G/MS to analyse the pe ers and post-translation al foundations of mass lata analysis software to and have learned the st DS-PAGE and in-gel dig trometer. | c, Orbitrap and other echniques, peptide a databases, FDR, GO stable isotope quan spectrometric analys the analysis of mass the opportunity to in affinity purification t plex and will proteol otides thus obtained al modifications. | mass analysers. The ind protein separation terms, etc.). It gives tification methods (essis of post-translation s spectrometric data independently develor o isolate a protein conduct a conduct a conduct a conduct a conduct a conduct a conduct and become proficient in preparation of samp | e lecture al- on methods an overview e.g. SILAC, onal modi- . It introdu- op solutions omplex from he gel. After- data analysis lysis. They n the affini- les for mass |
| Course | S (type, 1 | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| V (2) + Module | | P (2) t in: German or English | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| b) log (c) oral d) oral e) pres Langua | 20 to 3 examir examir entatio age of a | nation in groups of up t n (20 to 40 minutes) ssessment: German ar | each (20 to 30 minute o 3 candidates (15 to 30 | o minutes per candic | | |
| Allocat | ion of | places | | | | |
| 67 plac | ces. | | | | | |
| Additio | onal inf | ormation | | | | |
| Worklo 150 h | ad | | | | | |
| Teachi | ng cvcl | e | | | | |
| | 0.95 | | | | | |
| Master's w | ith 1 majo | r Chemistry (2018) | | ırg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 129 / 437 |

Referred to in LPO I (examination regulations for teaching-degree programmes)

Module appears in

Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's degree (1 major) Chemistry (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 130 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



Supramolecular Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 131 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 132 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation |
|---|--|--|--|--|--|
| Supramolecular Chemistry (Basics) | | | | | 08-SCM1-152-m01 |
| Module coordinator | | | | Module offered by | |
| lecturer | of lect | ure "Organischen Chemi | e" | Faculty of Chemistry | y and Pharmacy |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | numei | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Conten | ts | | | | |
| actions nation (| betwe oolyme | en molecules, molecular | recognition by recept rystals, self-assembl | tors, complexes, sup | ar chemistry. It focuses on inter- oramolecular polymers, coordi- synthetic ion channels and mo- |
| Intende | d learr | ning outcomes | | | |
| field as describ | well as e the s | s to describe the formation | on, structure and poly in aqueous media a | mers of coordinations well as to identify t | igh degree of expertise in the n compounds. They are able to he characteristics of synthetic |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (3) | | | | | |
| | | essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral e | examin | nination (approx. 90 min ation of one candidate e ssessment: German and, | ach (approx. 20 minu | ites) | |
| Allocati | ion of p | olaces | | | |
| | | | | | |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ig cycle | 9 | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | appea | rs in | | | |
| Master' Master' Suppler Master' Master' | s degre s teach mentar s degre s teach | ee (1 major) Biofabricatio ee (1 major) Chemistry (20 ning degree Gymnasium I y course MINT Teacher Ec ee (1 major) Chemistry (20 ning degree Gymnasium I y course MINT Teacher Ec | 016) MINT Teacher Educati ducation PLUS, Elite N 018) MINT Teacher Educati | Network Bavaria (ENI on PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (2020) |

| Master's with 1 | major Chemistry (2018) |
|-----------------|------------------------|
|-----------------|------------------------|

| Module | e title | | | | Abbreviation |
|--|---|--|--|---|---|
| Supran | nolecul | ar Chemistry (Practical C | Course) | | 08-SCM2-161-m01 |
| Module | e coord | inator | | Module offered by | |
| | | ture "Supramolekularen kalische Chemie)" | Chemie (Organische | Faculty of Chemistr | y and Pharmacy |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) s | successfully completed | 08-SCM1 | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | • • | | |
| mistry. | They w | | host-guest complexe | | ents in supramolecular che- d nanoparticles and use advan- |
| Intende | ed lear | ning outcomes | | | |
| | | able to perform synthese hem. They are able to pro | | | roscopic methods to analyse and hem microscopically. |
| Course | S (type, r | number of weekly contact hours, | anguage — if other than Gei | man) | |
| P (6) Module | e taugh | t in: German or English | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether |
| pages e | each) a | chtestate (pre and post- nd assessment of practions ssessment: German and | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| Allocat | ion of _l | olaces | | | |
| | | | - | | |
| Additio | nal inf | ormation | - | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cvcl | e | | | |
| | | | | | |
| Referre | d to in | LPOI (examination regulation | s for teaching-degree progra | mmes) | |
| | | | 00 | / | |
| Module | e appea | ars in | | | |
| Master Master Supple Master Master | 's degr 's teacl menta 's degr 's teacl | ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E | MINT Teacher Educat ducation PLUS, Elite 018) MINT Teacher Educat | Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) |





Compulsory Electives

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | page 135 / 437 |
|--|--|----------------|
| muster s with I major enemistry (2010) | | puse 155/45/ |
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

| Module title Abbreviation | | | | | Abbreviation | |
|---|---|--|--|---|--|--|
| Bioorga | anic Ch | emistry | | | 08-SCM3-152-m01 | |
| Module | | | | Module offered by | | |
| lecturer Chemis | | ure "Bioorganische Che | nie" (Bioorganic | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | ts | | | | | |
| spectro manipu the fran to enab Key con thogona ceptor i Intende The stu obtain l | scopy s ilation nework ole appl acepts o al react interact ed learr dents v knowle tions a | emistry unites the centra with a focus on biomolec of biomolecules, such as of structure-function rel lications towards biomat covered in the course are tions, molecular diversity tions, signal transduction ning outcomes will have a molecular une dge of modern synthetic nd recognition mechanis | cules. At the core of b s nucleic acids, peptic ationships and the fu- terials, biosensing, bi e nucleic acid chemis y, solid-phase synthe n) derstanding of the str methods in bioorgar | ioorganic chemistry des, proteins, carboh indamental understa oimaging, clinical di try, peptide chemistr sis, molecular recogn ucture and reactivity ic chemistry and car | is the synthesis and hydrates and lipids. anding of biological n agnostics and thera y, carbohydrate che hition and interactio of biomolecules. The explain principles of | purposeful This includes mechanisms, peutics. mistry, bioor- ns (ligand-re- e students of molecular |
| | | umber of weekly contact hours, | language — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | essment (type, scope, langua le for bonus) | age — if other than German, o | examination offered — if no | t every semester, informati | on on whether |
| b) oral e c) oral e | examin examin | nination (approx. 45 to g ation of one candidate e ation in groups of up to g ssessment: German and | each (20 to 30 minute 3 candidates (15 to 30 | | ate) | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | appea | rs in | | | | |
| Master' Master' | s degre s degre | ee (1 major) Biochemistr ee (1 major) Chemistry (2 ee (1 major) Functional N ning degree Gymnasium | 016) laterials (2016) | on PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| Master's wi | th 1 major | Chemistry (2018) | | rg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 136 / 437 |
| | | | 105. 444 100 | | | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)

Master's degree (1 major) Biochemistry (2017)

Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Master's degree (1 major) Functional Materials (2022)

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 137 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation |
|----------------|-------------|---|-------------------------------|-----------------------------|---|
| Suprar | molecu | lar Chemistry (Advanced | Lab) | | 08-SCM4-161-m01 |
| Modul | e coord | inator | | Module offered by | |
| | | ture "Supramolekularen ikalische Chemie)" | Chemie (Organische | Institute of Organic | Chemistry |
| ECTS | Meth | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | (not) | successfully completed | 08-SCM2 | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| thods i | in supra | | udents will be expect | | synthesis and analytical me- vork in the lab independently, do |
| Intend | ed lear | ning outcomes | | | |
| | | able to use advanced syr eir findings. They are abl | | | olecular chemistry in the lab and gs. |
| Course | es (type, 1 | number of weekly contact hours, | language — if other than Ger | man) | |
| P (6) Modul | e taugh | t in: German or English | | | |
| | | s essment (type, scope, langua ble for bonus) | age — if other than German, e | examination offered — if no | t every semester, information on whether |
| • | | (approx. 20 minutes) Issessment: German and | /or English | | |
| Allocat | tion of | places | | | |
| Additio | onal inf | ormation | | | |
| | | ormation on module dura | ation: block taught lal | o course with approx | 20 working days |
| Worklo | | | | | |
| 150 h | | | | | |
| - | ng cycl | e | | | |
| | | • | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | is for reaching-degree progra | | |
| Modul | e appea | ars in | | | |
| | | ee (1 major) Chemistry (2 | .016) | | |
| | - | hing degree Gymnasium | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (2016) |
| • • | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | | |
| | | hing degree Gymnasium | | | |
| Supple | menta | ry course MINT Teacher E | HULLER DILLC FREE | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 138 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|---------------------------------------|--|--|--------------------------------|--|--|
| Specia | l Topics | s in Supramolecular Cher | mistry | | 08-SCMS-211-m01 | |
| Module coordinator | | | | Module offered by | <u>I</u> | |
| Person(s) responsible for the focus Supramolecular Che- mistry | | | pramolecular Che- | Institute of Organic Chemistry | | |
| ECTS | Metho | od of grading | Only after succ. con | mpl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| The mo | dule co | overs current and/or spec | cial topics in Supram | olecular Chemistry. | | |
| Intende | ed learr | ning outcomes | | | | |
| fy the a | cquire | | ct-specific contexts, | knows the application | mistry. He/she is able to classi- on areas and can assess the rele- methods. | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | rman) | | |
| S (2) + | Ü (1) | | | | | |
| | | s essment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether | |
| b) oral c) oral d) log (e) pres | examin examin approx entatio | nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and | ach (20 to 30 minute 3 candidates (approx | - | didate) or | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| | - | ee (1 major) Chemistry (2 | | | | |
| Master | 's degre | ee (1 major) Chemistry (2 | 024) | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 139 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1000 357 157 |

| Dhucic | e title | | | | Abbreviation | |
|---|---|---|--|--|-----------------------------|-----------------|
| Physical Chemistry of Supramolecular Assemblies | | | | | 08-PCM5-161-m01 | |
| Module coordinator | | | | Module offered by | <u> </u> | |
| lecturer of the seminar "Physikalische Chemie Supramole- kularer Strukturen" | | | | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | 1 | od of grading | Only after succ. compl. of module(s) | | | |
| 5 | numerical grade | | | | | |
| Duratio | | Module level | Other prerequisites | i | | |
| 1 seme | | graduate | | | | |
| Conten | | gladuate | | | | |
| This mo cal pro | odule e perties | xamines the basic inter of aggregates as well a | | | | iysical-chemi |
| Intend | ed lear | ning outcomes | | | | |
| in the f dern ap Course | ield. Th oplicati s (type, r | able to explain the basi ney can describe the for ons of supramolecular number of weekly contact hours | mation and physical-c chemistry. | hemical properties o | | |
| S (2) + Module | • • | t in: German or English | | | | |
| Metho | d of ass | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | ot every semester, informat | tion on whether |
| c) talk | (approx age of a | nation of one candidate <. 30 minutes) ssessment: German an places | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | Ulliation | | | | |
| | | ormation | | | | |
| Worklo | ad | | | | | |
| Worklo | ad | | | | | |
| Worklo 150 h | | | | | | |
| Worklo | | | | | | |
| Worklo 150 h Teachi | ng cycl | e | nc for toaching dogree process | ammes) | | |
| Worklo 150 h Teachi | ng cycl | | ons for teaching-degree progra | ammes) | | |
| Worklo 150 h Teachin Referre | ng cycl ed to in | e LPO I (examination regulation | ons for teaching-degree progra | ammes) | | |
| Worklo 150 h Teachin Referre Modulo | ng cycl ed to in e appea | e LPOI (examination regulation re | | ammes) | | |
| Worklo 150 h Teachin Referre Modulo Master | ng cycl ed to in e appea | e LPO I (examination regulation ars in ee (1 major) Chemistry (| (2016) | ammes) | | |
| Worklo 150 h Teachin Referre Modulo Master Master | ng cycl ed to in e appea 's degr 's degr | e LPO I (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemati | (2016) cs (2016) | | | |
| Worklo 150 h Teachin Referre Module Master Master Master | ng cycl ed to in e appea 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemati ee (1 major) Computation | (2016) cs (2016) onal Mathematics (201 | | | |
| Worklo 150 h Teachin Referre Module Master Master Master Master | ng cycl ed to in e appea 's degr 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional | (2016) cs (2016) onal Mathematics (201 Materials (2016) | .6) | ork Bavaria (ENB) (2 | 2016) |
| Worklo 150 h Teachi Teachi Referre Modulo Master Master Master Master Master Master | ng cycl ed to in e appea 's degr 's degr 's degr 's degr 's teac | e LPOI (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemati ee (1 major) Computation | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat | .6) :ion PLUS, Elite Netw | | .016) |
| Worklo 150 h Teachin Referre Master Master Master Master Master Master Supple | ng cycl ed to in e appea 's degr 's degr 's degr 's degr 's teac ementa | e LPO I (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional hing degree Gymnasiun | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite | .6) :ion PLUS, Elite Netw | | :016) |
| Worklo 150 h Teachin Referre Master Master Master Master Master Supple Master | ng cycl ed to in e appea 's degr 's degr 's degr 's degr 's teac ementa | e LPOI (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemation ee (1 major) Mathemation ee (1 major) Functional hing degree Gymnasium ry course MINT Teacher | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) | .6) :ion PLUS, Elite Netw Network Bavaria (EN | | :016) |
| Worklo 150 h Teachi Teachi Referre Are Modulo Master Master Master Master Supple Master | ng cycl ed to in e appea 's degr 's degr 's degr 's teacl ementa 's degr 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathematic ee (1 major) Computation ee (1 major) Functional hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry (| (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 cs (2019) | 16) tion PLUS, Elite Netw Network Bavaria (EN 19) | B) (2016) | |

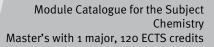
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Biofabrication (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 141 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|--|--|--|---|---|--|
| Bioinor | ganic (| Chemistry | | | 08-ACM2-161-m01 | |
| Module coordinator | | | | Module offered by | ered by | |
| lecturer of seminar "Anorganische Aspe and Medizinischen Chemie" (Inorganic mistry and Medicinal Chemistry) | | | | Institute of Inorganic Chemistry | | |
| ECTS | | od of grading | Only after succ. com | nnl of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| | | | | | | |
| Conten | | graduate | | | | |
| This mo | odule i ds of Bl | | | | chemistry (BIC). It discusses the ns of BIC in the fields of diagnosis | |
| Intende | ed lear | ning outcomes | | | | |
| | | able to describe the princ us enzymes and describe | | | xplain the structure and effects medicine. | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | man) | | |
| Method module is a) writt b) oral c) oral Langua | d of ass creditab en exal examir examin ge of a | le for bonus) mination (approx. 45 to g nation of one candidate e ation in groups of up to ssessment: German and | oo minutes) or each (20 to 30 minute 3 candidates (15 to 30 | s) or | ot every semester, information on whether date) | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | _ | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | - | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | | | | | | |
| Master Supple Master Master Master | 's teacl mentai 's degr 's degr 's teacl | y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Biochemistry ning degree Gymnasium | MINT Teacher Educati ducation PLUS, Elite I 018) y (2019) MINT Teacher Educati | Network Bavaria (EN ion PLUS, Elite Netw | ork Bavaria (ENB) (2020) | |
| C 1 | mentai | y course MINT Teacher E | ducation PLUS Flite | Network Bayaria (FN | P (2020) | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 142 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Basics | e title | | | | Abbreviation | | |
|--|--|--|---|--|-----------------------------|---------------|--|
| | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | | |
| Module coordinator | | | | Module offered by | | | |
| lecturer of lecture "Computational Chemistry" | | | | l and Theoretical Cho | emistry | | |
| ECTS | | | | | | | |
| 5 | 1 | rical grade | | | | | |
| - | uration Module level Other prerequisites | | | | | | |
| 1 semester graduate | | | | | | | |
| Conten | | 3.44440 | | | | | |
| | | ntroduces students to t | ne fundamental princir | oles of computationa | al chemistry. | | |
| | | ning outcomes | | | a chemistry. | | |
| | - | able to explain the theo | retical principles of co | mnutational chemist | ry and to apply meth | nods in com- | |
| | | emistry. | | | ing and to apply meth | | |
| | | umber of weekly contact hours | , language — if other than Ger | man) | | | |
| S (2) + | | | | | | | |
| | | Sessment (type, scope, lang | uage — if other than German, e | examination offered — if no | t every semester, informati | on on whether | |
| | | le for bonus) | | | | | |
| | | mination (approx. 90 to | | 、 、 | | | |
| | | ation of one candidate ation in groups of up to | | | didata) ar | | |
| | | . 20 pages) or | 3 canuluates (applox. | 15 minutes per cano | liuale) oi | | |
| | | n (approx. 30 minutes) | | | | | |
| | | ssessment: German an | d/or English | | | | |
| Allocat | ion of p | olaces | | | | | |
| | | | | | | | |
| Additic | onal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ns for teaching-degree progra | mmes) | | | |
| | | | | , | | | |
| Module | e appea | urs in | | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | | |
| | - | ee (1 major) Mathemati | | | | | |
| | - | ee (1 major) Computatio | | 6) | | | |
| Master's degree (1 major) Functional Materials (2016) | | | | | | | |
| muster | Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| | | Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | |
| Master Supple | Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master Supple Master | - | | | | | | |
| Master Supple Master Master | 's degr | ee (1 major) Computatio | onal Mathematics (201 | 9) | | | |
| Master Supple Master Master Master | 's degr 's degr | ee (1 major) Computatio ee (1 major) Mathemati | onal Mathematics (201) cs (2019) | - | | , | |
| Master Supple Master Master Master Master | 's degr 's degr 's teacl | ee (1 major) Computatio ee (1 major) Mathematio ning degree Gymnasium | onal Mathematics (201) cs (2019) n MINT Teacher Educati | ion PLUS, Elite Netwo | | 020) | |
| Master Supple Master Master Master Supple | 's degr 's degr 's teach mentai | ee (1 major) Computatio ee (1 major) Mathematio ning degree Gymnasium y course MINT Teacher | onal Mathematics (201 cs (2019) n MINT Teacher Educati Education PLUS, Elite I | ion PLUS, Elite Netwo Network Bavaria (EN | | 020) | |
| Master Supple Master Master Master Supple | 's degr 's degr 's teach mentai | ee (1 major) Computatio ee (1 major) Mathematio ning degree Gymnasium | onal Mathematics (201 cs (2019) n MINT Teacher Educati Education PLUS, Elite I | ion PLUS, Elite Netwo Network Bavaria (EN | | 020) | |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 144 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

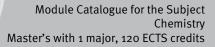
| Module title | | | | | Abbreviation | |
|---|---------------------------------------|---|---|-------------------------------|-----------------------------|---|
| Organi | c Funct | ional Materials | | | 08-0CM-FM-161-mc | 01 |
| Module | coord | inator | | Module offered by | | |
| lecture | r of the | seminar "Organische F | unktionsmaterialien" | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 numerical grade | | | | | | |
| Duration Module level Other prerequisites | | | | | | |
| 1 seme | ster | graduate | | | | |
| Contents | | | | | | |
| sical ef | fects ir nents s | eals with specific topics organic molecular and uch as field effect trans | polymeric semicondu | ctors as well as their | application in (opto |)electronic |
| Intende | ed lear | ning outcomes | | | | |
| explain | the sy ch as f | are able to explain fund nthesis of these semico ield effect transistors, c | onductor materials as v | vell as their applicat | ion in (opto)electron | ic compon- |
| Course | S (type, r | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | s essment (type, scope, lang le for bonus) | uage — if other than German, o | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) oral e d) log (a e) prese | examir examin approx entatio | nination (approx. 90 to ation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ıg cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | appea | irs in | | | | |
| | | ee (1 major) Chemistry (| (2016) | | | |
| | - | ee (1 major) Functional | | | | |
| | | ning degree Gymnasium | | | | 016) |
| | | y course MINT Teacher | | Network Bavaria (ENI | B) (2016) | |
| | - | ee (1 major) Chemistry (| | | | |
| | | ning degree Gymnasium | | | | 020) |
| | | y course MINT Teacher ee (1 major) Functional | | vetwork Bavaria (ENI | 5) (2020) | |
| | | Chemistry (2018) | | Irg • generated 19-Apr-2025 • | exam. | page 145 / 437 |
| | | | | ord Master (120 ECTS) Chemi | | , |

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 146 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | |
|------------------------------|--|---|--|--|-----------------------------|----------------|
| Nanoso | ale Ma | terials | | | 08-PCM3-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of the | seminar "Nanoskalige | Materialien" | Institute of Physical and Theoretical Chemistry | | |
| ECTS | Metho | od of grading | Only after succ. con | • | | |
| 5 | | rical grade | | • | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidudite | | | | |
| | | | | | | |
| | This module discusses advanced topics in nanoscale materials. It focuses on the structure, properties, fabricati- on, modern characterisation methods and application areas of nanoscale materials. | | | | | |
| Intende | ed lear | ning outcomes | | | | |
| | | able to characterise na noscale materials. | noscale materials. They | y are able to name ar | nalytical methods an | d applicati- |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + | Ü (1) | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) talk Langua | a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) talk (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus | | | | | |
| Allocat | ion of j | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | annea | urs in | | | | |
| | | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | | onal Mathematics (201 | 6) | | |
| | - | ee (1 major) Functional | | | | |
| | - | | n MINT Teacher Educat | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| Supple | menta | y course MINT Teacher | Education PLUS, Elite | Network Bavaria (EN | B) (2016) | |
| Master | 's degr | ee (1 major) Chemistry | (2018) | | | |
| | - | | onal Mathematics (201 | 9) | | |
| | - | ee (1 major) Mathemati | - | | | , I |
| | | | n MINT Teacher Educat Education PLUS, Elite | | | 520) |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 147 / 437 |



Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 148 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Theoretical Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 149 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



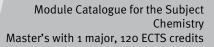


Compulsory Courses

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 150 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | | |
|---|--|---|---|-----------------------------|----------------------------|----------------|--|
| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | | |
| Module | e coord | inator | | Module offered by | | | |
| lecturer of lecture "Computational Chemistry" | | | Institute of Physical and Theoretical Chemistry | | | | |
| | | | Only after succ. com | · · · · · | | , | |
| 5 | 1 | rical grade | | | | | |
| Duratio | · | Module level | Other prerequisites | | | | |
| 1 seme | ster | graduate | | | | | |
| Conten | ts | 5 | L. | | | | |
| This mo | odule ir | ntroduces students to t | ne fundamental princip | oles of computationa | ll chemistry. | | |
| | | ning outcomes | | | , | | |
| | | able to explain the theo | retical principles of co | mputational chemist | ry and to apply met | nods in com- | |
| putatio | | • | | | | | |
| Course | S (type, n | umber of weekly contact hours | , language — if other than Ger | rman) | | | |
| S (2) + | Ü (2) | | | | | | |
| | | essment (type, scope, lang | uage — if other than German, e | examination offered — if no | t every semester, informat | ion on whether | |
| | | le for bonus) | | | | | |
| | | mination (approx. 90 to ation of one candidate | | s) or | | | |
| | | ation in groups of up to | | | didate) or | | |
| | | . 20 pages) or | | | | | |
| | | n (approx. 30 minutes) ssessment: German an | d /or English | | | | |
| Allocat | | | | | | | |
| AllULAL | | Jaces | | | | | |
| Additio | nal inf | ormation | | | | | |
| Auditio | | | | | | | |
| Worklo | | | | | | | |
| | au | | | | | | |
| 150 h Teachi i | | • | | | | | |
| | ing Lycu | 5 | | | | | |
| | d to in | | | | | | |
| Referre | | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | | |
| Module | 3 30000 | are in | | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | | |
| | - | ee (1 major) Mathemati | | | | | |
| | - | ee (1 major) Computatio | | 6) | | | |
| | - | ee (1 major) Functional | | -, | | | |
| | - | ning degree Gymnasium | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) | |
| Supple | mentar | y course MINT Teacher | Education PLUS, Elite I | Network Bavaria (EN | B) (2016) | | |
| | - | ee (1 major) Chemistry (| | | | | |
| | - | ee (1 major) Computatio | | 9) | | | |
| Master's degree (1 major) Mathematics (2019) | | | | | | | |
| | Master's degree (1 major) Mathematics (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| Master | | | | | | 020) | |
| Master Supple | mentar | y course MINT Teacher | Education PLUS, Elite I | Network Bavaria (EN | | 020) | |
| Master Supple Master | mentar 's degre | | Education PLUS, Elite I | Network Bavaria (EN | | 020) | |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 152 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| | e title | | | _ | Abbreviation | |
|--|---|---|---|--|-----------------------------------|-----------------|
| Numeri | ical Me | thods and Programmin | g | | 08-TCM3-161-m01 | |
| Module | e coord | linator | | Module offered by | | |
| lecture | ecturer of lecture "Programmieren in Theoretischer Che- nie" | | | Institute of Physical and Theoretical Chemistry | | |
| ECTS Method of grading Only after succ. compl. of module(s) | | | | | | |
| 5 | | umerical grade | | | | |
| Duratio | | Module level | Other prerequisites | 5 | | |
| 1 seme | | graduate | | - | | |
| | | giaduale | | | | |
| | odule p | provides an introduction ation areas. | to the fundamentals | of programming in th | neoretical chemistry | and discus- |
| Intend | ed lear | ning outcomes | | | | |
| as well | as to r | able to explain and use name its application are | as. | | lly used in theoretica | al chemistry |
| | _ | number of weekly contact hours | , language — if other than Ge | erman) | | |
| S (2) + | Ú (2) | | | | | |
| | | Sessment (type, scope, langu ble for bonus) | uage — if other than German, | examination offered — if n | ot every semester, informat | tion on whether |
| | | x. 20 pages) or on (approx, 30 minutes) | | 5 1 | didate) or | |
| e) pres Langua | entations of a | on (approx. 30 minutes) assessment: German an | d/or English | | | |
| e) pres Langua Allocat | entation age of a cion of | on (approx. 30 minutes) issessment: German an places | d/or English | | | |
| e) pres Langua Allocat | entation age of a cion of | on (approx. 30 minutes) assessment: German an | d/or English | | | |
| e) pres Langua Allocat Additio | entation age of a tion of p | on (approx. 30 minutes) issessment: German an places | d/or English | | | |
| e) pres Langua Allocat Additio Worklo | entation age of a tion of p | on (approx. 30 minutes) issessment: German an places | d/or English | | | |
| e) pres Langua Allocat Additio Worklo 150 h | entation age of a tion of p onal inf | on (approx. 30 minutes) issessment: German and places formation | d/or English | | | |
| e) pres Langua Allocat | entation age of a tion of p onal inf | on (approx. 30 minutes) issessment: German and places formation | d/or English | | | |
| e) pres Langua Allocat Additio 150 h Teachin | entatic age of a tion of onal inf pad | on (approx. 30 minutes) assessment: German and places formation | | | | |
| e) pres Langua Allocat Additio Worklo 150 h Teachin | entatic age of a tion of onal inf pad | on (approx. 30 minutes) issessment: German and places formation | | | | |
| e) pres Langua Allocat Additio 150 h Teachin Referre | entation age of a ion of p onal inf pad ng cycl ed to in | on (approx. 30 minutes) assessment: German and places formation e LPOI (examination regulation | | | | |
| e) pres Langua Allocat Additio Worklo 150 h Teachin Referre Module | entatic age of a ion of p onal inf pad ng cycl ed to in e appea | on (approx. 30 minutes) assessment: German and places formation e LPO I (examination regulation ars in | ns for teaching-degree progr | | | |
| e) pres Langua Allocat Additio Worklo 150 h Teachin Referre Module | entatic age of a ion of p onal inf oad ng cycl ed to in e appea | on (approx. 30 minutes) assessment: German and places formation e LPOI (examination regulation | ins for teaching-degree progr 2016) | | | |
| e) pres Langua Allocat Additio 150 h Teachin Referre Module Master Master | entatic age of a ion of p onal inf onal inf oad ed to in e appea 's degr 's degr | on (approx. 30 minutes) assessment: German and places formation ee LPOI (examination regulation ars in ee (1 major) Chemistry (| ns for teaching-degree progr 2016) CS (2016) | ammes) | | |
| e) pres Langua Allocat Additio Teachin Referre Module Master Master Master | entatic age of a ion of p onal inf oad ad ed to in e appea 's degr 's degr 's degr | e (1 major) Kathematic | ns for teaching-degree progr 2016) CS (2016) Dral Mathematics (202 | ammes) | | |
| e) pres Langua Allocat Additio Worklo 150 h Teachin Referre Master Master Master Master Master Master | entatic age of a ion of p onal inf oad ed to in e appea d's degr d's degr d's degr d's teac | e (1 major) Computation ee (1 major) Functional hing degree Gymnasium | ns for teaching-degree progr 2016) cs (2016) mal Mathematics (2017) Materials (2016) o MINT Teacher Educat | ammes) 16) tion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 016) |
| e) pres Langua Allocat Additio Worklo 150 h Teachin Referre Master Master Master Master Master Supple | entatic age of a ion of p onal inf onal inf oad ed to in e appea 's degr 's degr 's degr 's teac ementa | e (1 major) Chemistry (ee (1 major) Chemistry (ee (1 major) Chemistry (ee (1 major) Chemistry (ee (1 major) Functional (hing degree Gymnasium ry course MINT Teacher | 2016) cs (2016) cs (2016) mal Mathematics (2020) Materials (2016) n MINT Teacher Educat Education PLUS, Elite | ammes) 16) tion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 016) |
| e) pres Langua Allocat Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master | entatic age of a ion of p onal inf onal info onal info is degr 's degr 's degr 's degr | e (1 major) Chemistry (e (1 major) Functional hing degree Gymnasium ry course MINT Teacher e (1 major) Chemistry (| ns for teaching-degree progr 2016) cs (2016) onal Mathematics (2016) o MINT Teacher Educat Education PLUS, Elite 2018) | ammes) 16) tion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (2 | 016) |
| e) pres Langua Allocat Additio Worklo 150 h Teachin Referre Master Master Master Master Master Supple Master Master Master | entatic age of a ion of p onal inf onal | e (1 major) Chemistry (e (1 major) Chemistry (e (1 major) Chemistry (e (1 major) Chemistry (e (1 major) Computatione e (1 major) Functional hing degree Gymnasium ry course MINT Teacher e (1 major) Chemistry (e (1 major) Chemistry (e (1 major) Chemistry (e (1 major) Computatione e (1 major) Chemistry (e (1 major) Computatione | ns for teaching-degree progr 2016) cs (2016) onal Mathematics (202 Materials (2016) n MINT Teacher Educat Education PLUS, Elite 2018) onal Mathematics (202 | ammes) 16) tion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (2 | 016) |
| e) pres Langua Allocat Additio Worklo 150 h Teachin Referre Master Master Master Master Master Supple Master Master Master Master Master Master Master Master Master | entatic age of a ion of p onal inf onal | e (1 major) Chemistry (e (1 major) Functional hing degree Gymnasium ry course MINT Teacher e (1 major) Chemistry (| 2016) cs (2016) cs (2016) mal Mathematics (2017) Materials (2016) MINT Teacher Educat Education PLUS, Elite 2018) mal Mathematics (2017) | ammes) 16) tion PLUS, Elite Netw Network Bavaria (EN 19) | ork Bavaria (ENB) (2 B) (2016) | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module | e title | | | | Abbreviation | |
|---------------------|----------------------------------|--|--------------------------------|--|-----------------------------|----------------|
| Quantu | Quantum Dynamics 08-TCM4-161-m01 | | | | | |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of lec | ture "Quantendynamik' | I | Institute of Physical | l and Theoretical Che | emistry |
| ECTS | 1 | od of grading | Only after succ. con | · · · · | | |
| 5 | nume | rical grade | | · · · · · · · · · · · · · · · · · · · | | |
| Duratio | on . | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Contents | | | | | | |
| | | ent Schrödinger equatio adiabatic states, non-ac | | | | theorem, |
| Intende | ed lear | ning outcomes | | | | |
| in mole | ecules. | possess knowledge abo Their insight into the m theoretical chemistry. | | | | |
| Course | S (type, r | number of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (2) + | Ü (2) | | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| d) log (e) pres | approx entatio | ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | | . 15 minutes per cano | didate) or | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional | | | | |
| | | hing degree Gymnasiun ry course MINT Teacher | | | | J16) |
| | | ee (1 major) Chemistry | | Network Davaria (Livi | D) (2010) | |
| | - | ee (1 major) Computatio | | 9) | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ning degree Gymnasiun | - | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) |
| Master's w | ith 1 majo | r Chemistry (2018) | | ırg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 155 / 437 |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)



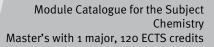


Compulsory Electives

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 157 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|------------|---|--|---------------------------------|--|-----------------------------|----------------|
| Selecte | ed Topi | cs in Theoretical Chem | istry | | 08-TCM1-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of lect | ture "Theoretische Che | mie" | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | · · · · · · · · · · · · · · · · · · · | | |
| Duratio | • | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | | 0 |] | | | |
| | This module introduces students to the fundamental principles of theoretical chemistry. | | | | | |
| | | ning outcomes | <u> </u> | | | |
| | - | - | thematical and physica | al principles underly | ing the quantum che | emical and |
| | | amical approaches of the | | at principies underty | | .inicat and |
| | | | s, language — if other than Gei | rman) | | |
| S (2) + | | - - | | | | |
| | | essment (type, scope, lang | guage — if other than German, | examination offered — if no | t every semester, informati | ion on whether |
| | | le for bonus) | ,, | | ···· , ··· , · · ·· | |
| a) writt | en exai | mination (approx. 90 to | 0 180 minutes) or | | | |
| | | | e each (20 to 30 minute | | | |
| | | ation in groups of up to . 20 pages) or | o 3 candidates (approx | . 15 minutes per can | didate) or | |
| | | n (approx. 30 minutes) | | | | |
| | | ssessment: German ar | | | | |
| | ion of p | | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| | ng cycl | 6 | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | immes) | | |
| | <u></u> | | | | | |
| Module | e appea | ors in | | | | |
| | | ee (1 major) Chemistry | (2016) | | | |
| | • | ee (1 major) Mathemati | | | | |
| | - | • | onal Mathematics (201 | 6) | | |
| | - | ee (1 major) Functional | | - / | | |
| | - | • | n MINT Teacher Educat | ion PLUS. Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| | | | Education PLUS, Elite | | | , |
| | | ee (1 major) Chemistry | | | | |
| Master | 's degr | ee (1 major) Computati | onal Mathematics (201 | 9) | | |
| Master | 's degr | ee (1 major) Mathemati | ics (2019) | | | |
| | | | n MINT Teacher Educat | | | 020) |
| | | • | Education PLUS, Elite | | B) (2020) | |
| Master | 's degr | ee (1 major) Computati | onal Mathematics (202 | 2) | | |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 158 / 437 |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 159 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

| Module | e title | | | | Abbreviation | |
|--|--------------------|--|--------------------------------|---------------------------------------|------------------------------|---------------|
| Theore | tical Cł | nemistry - Project cours | e quantum chemistry | | 08-TCAP1-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| head of | f the re | search group offering th | ne module | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | | | • | | , | |
| 5 | | successfully completed | | - · · · · | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | • | | |
| | | glauuale | | | | |
| Conten | | • • • • • | | | °.1 1 | 1 1 1 |
| the Inst | titute o | ives students the oppo f Theoretical Chemistry ntum chemistry. | | | | |
| Intended learning outcomes | | | | | | |
| | | e learned some of the m | ethods typically used | in theoretical chemi | stry and, in particula | r. in quan- |
| | | . They are able to expla | | | | , 1 |
| Courses (type, number of weekly contact hours, language — if other than German) | | | | | | |
| P (5) | | | | | | |
| | d of ass | essment (type, scope, langu | Jage — if other than German | examination offered — if no | ot every semester, informati | on on whether |
| | | le for bonus) | | | | en en miether |
| present | tation (| approx. 30 minutes) | | | | |
| | | ssessment: German an | d/or English | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| Additio | nal info | ormation on module du | ration: block taught la | b course with approx | . 20 working days. | |
| Worklo | | | | | | |
| 150 h | | | | | | |
| Teachi | | • | | | | |
| reaciiii | ig tyti | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progr | ammes) | | |
| | | | | | | |
| Module | e appea | irs in | | | | |
| | - | ee (1 major) Chemistry (| | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | | ork Bouaria (END) (- | o16) |
| | | ning degree Gymnasium Ty course MINT Teacher | | | | 010) |
| | | ee (1 major) Chemistry (| | Network Davana (EN | | |
| | - | ee (1 major) Computatio | | 19) | | |
| | - | ee (1 major) Mathemati | | 2 · | | |
| | - | ning degree Gymnasium | - | tion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 020) |
| | | y course MINT Teacher | | | B) (2020) | |
| Mactor | - | ee (1 major) Computatio | | 22) | | |
| | | a (, maaiau) Mathausati | (222) | | | |
| Master | - | ee (1 major) Mathemati | | | | |
| Master Master | 's degr | ee (1 major) Chemistry (| 2024) | 2 () | | |
| Master Master Master | 's degr 's degr | | 2024) onal Mathematics (202 | 24) burg • generated 19-Apr-2025 • | | |



Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 161 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|----------------------------|---------------------|---|------------------------------|-------------------------------------|------------------------------|----------------|
| Theore | tical Cl | nemistry - Project cours | e quantum dynamics | | 08-TCAP2-161-m01 | |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| head o | f the re | search group offering th | ne module | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | 1 | od of grading | Only after succ. co | · · · · | | |
| 5 | 1 | successfully completed | | | | |
| J Duratio | | Module level | Other prerequisite | c | | |
| 1 seme | | graduate | | 5 | | |
| | | glauuale | | | | |
| Conten | | • • • • • | | | C.1 1 | |
| the Ins | titute o | ives students the oppo f Theoretical Chemistry ntum dynamics. | | | | |
| Intended learning outcomes | | | | | | |
| | - | e learned some of the m | ethods typically used | l in theoretical chemi | strv and, in particula | r. in quan- |
| | | . They are able to expla | | | | |
| Course | S (type, r | number of weekly contact hours | , language — if other than G | erman) | | |
| P (5) | | | | | | |
| - | d of as | Sessment (type, scope, lang | uage — if other than German | . examination offered — if no | ot every semester, informati | ion on whether |
| | | le for bonus) | | , | ,,,,,, | |
| presen | tation (| (approx. 30 minutes) | | | | |
| | | ssessment: German an | d/or English | | | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| Additio | onal inf | ormation on module du | ration: block taught la | ab course with approx | x. 20 working days. | |
| Worklo | | | | | 0,0,0,0 | |
| 150 h | | | | | | |
| Teachi | | 0 | | | | |
| reaciii | ing cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree prog | rammes) | | |
| | | | | | | |
| | e appea | | | | | |
| | - | ee (1 major) Chemistry (| | | | |
| | - | ee (1 major) Mathemati | | () | | |
| | - | ee (1 major) Computatio hing degree Gymnasium | | | ork Bayaria (ENR) (a | 016) |
| | | ry course MINT Teacher | | | | 010) |
| | | ee (1 major) Chemistry (| | | 2, (2010) | |
| | - | ee (1 major) Computatio | | 19) | | |
| | - | ee (1 major) Mathemati | | - | | |
| | | ning degree Gymnasium | | | | 020) |
| | | ry course MINT Teacher | | | B) (2020) | |
| | - | ee (1 major) Computatio | | 22) | | |
| Master | - | ee (1 major) Mathemati ee (1 major) Chemistry (| | | | |
| Macto | 's aegr | uu ii maiori (homistri l | -1(1)(1)(1) | | | |
| | - | | - | 24) | | |
| Master | 's degr | ee (1 major) Computatio | onal Mathematics (20 | 24) burg • generated 19-Apr-2025 | | |



Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 163 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation |
|--|---|--|--|-----------------------------|--|
| Specia | Special Topics in Theoretical Chemistry | | | 08-TCMS-211-m01 | |
| Module | Module coordinator | | | Module offered by | |
| Person | (s) resp | oonsible for the focus The | eoretical Chemistry | Institute of Physical | l and Theoretical Chemistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | on | Module level | Other prerequisites | i i | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| The mo | dule co | overs current and/or spec | cial topics in Theoreti | ical Chemistry. | |
| Intend | ed lear | ning outcomes | | | |
| acquire | ed knov | | cific contexts, knows | the application area | y. He/she is able to classify the as and is proficient in the requi- oretical Chemistry. |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Gei | rman) | |
| S (2) + | Ü (1) | | | | |
| | | sessment (type, scope, langua ıle for bonus) | ge — if other than German, | examination offered — if no | t every semester, information on whether |
| b) oral c) oral d) log (e) pres | examir examin approx entatio | mination (approx. 90 to 1 nation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and, | ach (20 to 30 minute 3 candidates (approx | | didate) or |
| Allocat | ion of _l | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teaching cycle | | | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module | e appea | ars in | | | |
| | - | ee (1 major) Chemistry (2 | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 024) | | |

| Drug de | | | | | Abbreviation | |
|---|------------------------------|---|--|-----------------------------|---|--|
| Drug design | | | | | 08-MCM3-172-m01 | |
| Module coordinator | | | | Module offered by | red by | |
| lecturer mistry) | rs Phar | mazeutische Chemie (Ph | armaceutical Che- | Institute of Pharma | cy and Food Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | numei | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | ts | | | | | |
| This mo | dule d | iscusses advanced topic | s in natural product (| chemistry and biolog | gical chemistry. | |
| | | ing outcomes | | , . | , | |
| | | ble to discuss advanced | topics in natural pro | duct chemistry and | biological chemistry | |
| | | umber of weekly contact hours, l | · · · | | | |
| S (2) + 1 | | and of weekly contact hours, t | | | | |
| • • | | t in: German or English | | | | |
| | | | ge — if other than German. | examination offered — if no | ot every semester, information on whether | |
| | | le for bonus) | | | · · | |
| | | approx. 30 minutes) with | | | | |
| Langua | ge of a | ssessment: German and, | /or English | | | |
| Allocati | ion of p | olaces | | | | |
| 22 places. 16 places for students of the Master's degree programme Chemie (Chemistry): Places will be alloca- ted according to the same number of subject semesters; students who have chosen Medizinische Chemie (Medi- cinal Chemistry) as their focus will be given preferential consideration. 6 places for students of the Master's de- gree programme Biochemie (Biochemistry): Places will be allocated according to the number of subject seme- sters; among applicants with the same number of subject semesters, places will be allocated by lot.2 places for students of the Master's degree programme MINT-Lehramt PLUS: Places will be allocated according to the num- ber of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot ; a waiting list will be maintained and places re-allocated by lot as they become available. | | | | | osen Medizinische Chemie (Medi- for students of the Master's de- o the number of subject seme- l be allocated by lot.2 places for allocated according to the num- emesters, places will be allocated | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPOI (examination regulations | s for teaching-degree progra | ummes) | | |
| | | × • | | | | |
| Module | appea | rs in | | | | |
| Suppler Master' Master' | mentar s degre s degre | ning degree Gymnasium I y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Biochemistry ning degree Gymnasium I | ducation PLUS, Elite 018) 1 (2019) | Network Bavaria (EN | | |
| | | y course MINT Teacher E | | | | |



Additional qualifications

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | page 166 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



Subfield Additional qualifications Compulsory Electives Focuses

(5 ECTS credits)

In the sub-area "Zusätzliche Kompetenzen aus den Schwerpunkten" ("Additional Skills from the Focus Area"), students may use a module of their choice from the Focus area that they are not using in the area of mandatory electives 1.

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 167 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

Master's with 1 major Chemistry (2018)

| Module | e title | | | | Abbreviation |
|--|---|--|---|---|---|
| Molecu | lar Bio | logy laboratory course | | | 08-BC-MOLP-172-m01 |
| Module | e coord | inator | | Module offered by | |
| holder | of the (| Chair of Biochemistry | - | Chair of Biochemist | ry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 10 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | undergraduate | | | |
| Conten | ts | | | | |
| of macr moderr | romole n imagi | cular complexes, modern ng techniques. | | | gineering and characterisation s of biochemical processes, and |
| Intende | ed learn | ning outcomes | | | |
| Studen | ts have | e developed a knowledge | of molecular biology | and are able to app | ly it to practical experiments. |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| P (5) | | | | | |
| | | essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| c) oral e d) oral e e) prese f) pract not exc Langua Assess | examin examin entatio ical exa eed a r ge of a ment o | naximum of 4 hours) ssessment: German and, ffered: Once a year, wint | 3 candidates (approx pprox. 2 hours; time to /or English | . 15 to 20 minutes pe | er candidate) or according to subject area but will |
| Allocat | ion of p | olaces | | | |
| Selection exceed thirds of average respect lot. A w Chemie Master cated a sters, p me ava distribu allocate mesters | on proc the nu of place e grade tive appraiting l e (Chem 's degra ccordin laces v ilable. uted an ed acco s, place e availa | mber of available places es): current average grade , places will be allocated olicant; among applicant ist will be maintained an histry), Master's and MIN ee programme Chemie (C ng to the number of subje vill be allocated by lot. A 2. In case that there are p nong the students in the ording to the number of s es will be allocated by lot able. | , places will be allocate of successfully com by lot. Quota 2 (one s with the same num d places re-allocated T-Lehramt PLUS Mast chemistry) (120 ECTS ect semesters. Among waiting list will be ma places left after proce Master's degree prog ubject semesters. Am | ted according to the pleted modules; and third of places): num per of subject semes as they become ava er's: 6 places. Select credits) will be consi gapplicants with the aintained and places dure 1 is finished co ramme MINT-Lehram ong applicants with | uld the number of applications following quotas: Quota 1 (two ong applicants with the same nber of subject semesters of the sters, places will be allocated by nilable. tion process: 1. Applications of dered first: Places will be allo- e same number of subject seme- s re-allocated by lot as they beco- mpletely, theses places will be the same number of subject se- the same number of subject se- |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 300 h | | | | | |

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Teaching cycle

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Bachelor's degree (1 major) Biochemistry (2022)

Master's degree (1 major) Chemistry (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 169 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | | |
|---|--|---|---|--|-----------------------------|----------------|
| Organo | - and E | Biocatalysis | | | 08-HKM1-152-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of the | seminar "Organo- and | Biokatalyse" | Faculty of Chemistry | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| process and ap | This module provides students with deeper insights into topics in organic compounds and enzymes in catalytic processes. Organocatalysis: enantioselective implementation, principles, green chemistry, substance classes and application areas. Biocatalysis: effects of enzymes in view of different aspects, especially regarding organic synthesis. | | | | | |
| Intende | ed lear | ning outcomes | | | | |
| scribe t | he stru | able to categorise organ acture and applications ne effects of enzymes. | | | | |
| Course | S (type, r | umber of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (3) | | | | | | |
| | | s essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) oral e | examir examin | nination (approx. 45 to ation of one candidate ation in groups of up to ssessment: German an | each (20 to 30 minute 3 candidates (15 to 30 | | ate) | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ıg cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | irs in | | | | |
| Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Biochemistry (2017) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) | | | | | | |
| Master's wi | th 1 majo | Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 170 / 437 |



| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 171 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Drug de | | | | | Abbreviation |
|---|--|---|--|---|--|
| Drug design 08-MCM3-172-m01 | | | | | 08-MCM3-172-m01 |
| Module | coord | inator | | Module offered by | <u> </u> |
| lecturers Pharmazeutische Chemie (Pharmaceutical Che- mistry) | | | armaceutical Che- | Institute of Pharma | cy and Food Chemistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | numei | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Contents | | | | | |
| This mo | dule d | iscusses advanced topic | s in natural product (| chemistry and biolog | gical chemistry. |
| | | ing outcomes | | , . | , |
| | | ble to discuss advanced | topics in natural pro | duct chemistry and | biological chemistry |
| | | umber of weekly contact hours, l | · · · | | |
| S (2) + 1 | | and of weekly contact hours, t | | | |
| • • | | t in: German or English | | | |
| | | | ge — if other than German. | examination offered — if no | ot every semester, information on whether |
| | | le for bonus) | | | · · |
| | | approx. 30 minutes) with | | | |
| Langua | ge of a | ssessment: German and, | /or English | | |
| Allocati | ion of p | olaces | | | |
| ted accordinal Ch gree pro- sters; a student ber of s | ording nemistr ogramn mong a ts of the ubject | to the same number of s y) as their focus will be g ne Biochemie (Biochemis applicants with the same e Master's degree progra | ubject semesters; stu given preferential con stry): Places will be a number of subject s mme MINT-Lehramt I cants with the same | udents who have cho isideration. 6 places llocated according to emesters, places wil PLUS: Places will be number of subject se | nemistry): Places will be alloca- osen Medizinische Chemie (Medi- for students of the Master's de- o the number of subject seme- l be allocated by lot.2 places for allocated according to the num- emesters, places will be allocated ecome available. |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | 9 | | | |
| | | | | | |
| Referre | d to in | LPOI (examination regulations | s for teaching-degree progra | ummes) | |
| | | × • | | | |
| Module | appea | rs in | | | |
| Suppler Master' Master' | mentar s degre s degre | ning degree Gymnasium I y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Biochemistry ning degree Gymnasium I | ducation PLUS, Elite 018) 1 (2019) | Network Bavaria (EN | |
| | | y course MINT Teacher E | | | |

| Modul | e title | | | - | Abbreviation |
|----------|---------------------------|--|------------------------------|-----------------------------|--|
| Clinica | l-analy | rtical Chemistry | | | 08-PH-KAC-152-m01 |
| Modul | e coord | linator | | Module offered by | |
| | | ture "Klinisch-analytische | e Chemie" (Clinical | | cy and Food Chemistry |
| and Ar | and Analytical Chemistry) | | | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | | rical grade | | | |
| Durati | on | Module level | Other prerequisites | 5 | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| This m | odule d | liscusses advanced topic | s in clinical analytica | al chemistry. | |
| Intend | ed lear | ning outcomes | | | |
| Studer | nts hav | e developed an advanced | knowledge of molec | cular biology. | |
| Course | es (type, i | number of weekly contact hours, l | anguage — if other than Ge | rman) | |
| V (3) | | | | | |
| Metho | d of as | sessment (type, scope, langua | ge — if other than German, | examination offered — if no | t every semester, information on whether |
| module i | is creditat | ble for bonus) | | | |
| | | nation (approx. 120 minu | | | |
| | | ssessment: German and, | /or English | | |
| Alloca | tion of | places | | | |
| | | | | | |
| Additi | onal inf | ormation | - | | |
| | | | | | |
| Workle | oad | | | | |
| 150 h | | | | | |
| Teachi | ing cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPOI (examination regulation | s for teaching-degree progra | ammes) | |
| | | | - | | |
| Modul | e appea | ars in | | | |
| Maste | r's degr | ee (1 major) Biochemistry | / (2015) | | |
| | - | ee (1 major) Chemistry (2 | | | |
| | | hing degree Gymnasium | | | |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Biochemistry | | | |
| | - | ee (1 major) Chemistry (2 ee (1 major) Biochemistry | | | |
| | - | hing degree Gymnasium l | - | ion PLUS, Flite Netwo | ork Bavaria (FNB) (2020) |
| | | ry course MINT Teacher E | | | |
| | | ee (1 major) Chemistry (2 | | × × | , |
| Maste | r's teac | hing degree Gymnasium | MINT Teacher Educat | | |
| Supple | ementa | ry course MINT Teacher E | ducation PLUS, Elite | Network Bavaria (EN | B) (2025) |

| Module titl | 9 | | | Abbreviation |
|--|---|---|------------------------|--|
| Practical co | ourse of clinical-analytical (| Chemistry | | 08-PH-KACP-152-m01 |
| Module coo | rdinator | | Module offered by | <u> </u> |
| | ecture "Klinisch-analytisch | e Chemie" (Clinical | - | cy and Food Chemistry |
| | and Analytical Chemistry) | | Institute of Finanna | cy and rood chemistry |
| ECTS Me | thod of grading | Only after succ. cor | npl. of module(s) | |
| 5 (no | t) successfully completed | | | |
| Duration | Module level | Other prerequisites | ; | |
| 1 semester | undergraduate | | | |
| Contents | | | | |
| This modul methods. | e covers practical topics in | clinical chemistry and | d clinical diagnostics | s as well as the related analytical |
| Intended le | arning outcomes | | | |
| Students h ments. | ave developed a knowledge | e of clinical analytical | chemistry and are a | ble to apply it to practical experi- |
| Courses (typ | e, number of weekly contact hours, | language — if other than Ge | rman) | |
| P (5) | | | | |
| module is cred | table for bonus) | | | ot every semester, information on whether |
| pages each |) and assessment of practic f assessment: German and | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| Allocation | of places | | | |
| | | | | |
| Additional | nformation | | | |
| | | | | |
| Workload | | | | |
| 150 h | | | | |
| Teaching c | /cle | | | |
| | | | | |
| Referred to | in LPO I (examination regulation | s for teaching-degree progra | ammes) | |
| | | | | |
| Module ap | bears in | | | |
| | gree (1 major) Biochemistry | - | | |
| Master's te Supplemer Master's de Master's de | gree (1 major) Chemistry (2 aching degree Gymnasium tary course MINT Teacher E gree (1 major) Biochemistry gree (1 major) Chemistry (2 gree (1 major) Biochemistry | MINT Teacher Educat ducation PLUS, Elite y (2017) 018) | | |
| Master's te | aching degree Gymnasium tary course MINT Teacher E | MINT Teacher Educat | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 174 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | | |
|---|---|--|---|--|-----------------------------|----------------|
| Bioorga | anic Ch | emistry | | | 08-SCM3-152-m01 | |
| Module | | | | Module offered by | | |
| lecturer Chemis | | ure "Bioorganische Che | nie" (Bioorganic | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | numer | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | ts | | | | | |
| spectro manipu the fran to enab Key con thogona ceptor i Intende The stu obtain l | Bioorganic chemistry unites the central questions of organic chemistry, biochemistry, medicinal chemistry and spectroscopy with a focus on biomolecules. At the core of bioorganic chemistry is the synthesis and purposeful manipulation of biomolecules, such as nucleic acids, peptides, proteins, carbohydrates and lipids. This includes the framework of structure-function relationships and the fundamental understanding of biological mechanisms, to enable applications towards biomaterials, biosensing, bioimaging, clinical diagnostics and therapeutics. Key concepts covered in the course are nucleic acid chemistry, peptide chemistry, carbohydrate chemistry, bioorthogonal reactions, molecular diversity, solid-phase synthesis, molecular recognition and interactions (ligand-receptor interactions, signal transduction) Intended learning outcomes The students will have a molecular understanding of the structure and reactivity of biomolecules. The students obtain knowledge of modern synthetic methods in bioorganic chemistry and can explain principles of molecular interactions, and recognition mechanisms. They can describe modern aspects of nucleic acids, proteins, carbohyd- | | | | | |
| | | umber of weekly contact hours, | language — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | essment (type, scope, langua le for bonus) | age — if other than German, o | examination offered — if no | t every semester, informati | on on whether |
| b) oral e c) oral e | examin examin | nination (approx. 45 to g ation of one candidate e ation in groups of up to g ssessment: German and | each (20 to 30 minute 3 candidates (15 to 30 | | ate) | |
| Allocati | ion of p | laces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycle | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | | | | | | |
| Master' Master' | s degre s degre | ee (1 major) Biochemistr ee (1 major) Chemistry (2 ee (1 major) Functional N ning degree Gymnasium | 016) laterials (2016) | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| Master's wi | th 1 major | Chemistry (2018) | | irg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 175 / 437 |
| | | | reg. data fec | ord Master (120 ECTS) Chemi | - 2010 | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)

Master's degree (1 major) Biochemistry (2017)

Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Master's degree (1 major) Functional Materials (2022)

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 176 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation | |
|---|--|--|--|--|--|--|
| Supramolecular Chemistry (Basics) | | | | 08-SCM1-152-m01 | | |
| Module coordinator | | | | Module offered by | | |
| lecturer | of lect | ure "Organischen Chemi | e" | Faculty of Chemistry | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | numei | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | Contents | | | | | |
| actions nation (| betwe oolyme | en molecules, molecular | recognition by recept rystals, self-assembl | tors, complexes, sup | ar chemistry. It focuses on inter- oramolecular polymers, coordi- synthetic ion channels and mo- | |
| Intende | d learr | ning outcomes | | | | |
| field as describ | well as e the s | s to describe the formation | on, structure and poly in aqueous media a | mers of coordinations well as to identify t | igh degree of expertise in the n compounds. They are able to he characteristics of synthetic | |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| b) oral e | examin | nination (approx. 90 min ation of one candidate e ssessment: German and, | ach (approx. 20 minu | ites) | | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ig cycle | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | appea | rs in | | | | |
| Master' Master' Suppler Master' Master' | Module appears in Master's degree (1 major) Biofabrication (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | B) (2016) ork Bavaria (ENB) (2020) | |

| Master's with | major Chemistry (2018) |
|---------------|------------------------|
|---------------|------------------------|

| Module title | | | | Abbreviation | | |
|---|--|--|--|--|--|------------------------------|
| Molecu | lar Ma | terials (Lecture) | | | 08-FU-MoMaV-152- | m01 |
| Module | coord | inator | | Module offered by | | |
| degree tional N | | mme coordinator Funkt als) | ionswerkstoffe (Func- | Chair of Chemical T | echnology of Materi | al Synthesis |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | undergraduate | | | | |
| Conten | ts | | | | | |
| Chemical bonds and molecular interactions, supramolecular chemistry, molecular materials, colloids, nanopar- ticles, thin films. | | | | | | |
| Intende | ed leari | ning outcomes | | | | |
| cal prop teractio | perties ons anc lves wi | e developed an understa of materials and their s I how they determine th th a topic in the field, d | tructure. They know th e properties of molecu | e significance of var Ilar materials. They h | ious inter and intran have learned how to | nolecular in- familiarise |
| | | umber of weekly contact hours | , language — if other than Ger | man) | | |
| V (3) + 9 | | | _ | | | |
| | | s essment (type, scope, langu le for bonus) | age — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| tes) or o 20 page | c) oral (es) or e | mination (approx. 90 to examination in groups o) presentation (approx. ssessment: German and | of up to 3 candidates (a 30 minutes)] as well a | approx. 15 minutes p | er candidate) or d) l | og (approx. |
| Allocati | ion of p | olaces | | | | |
| | | | _ | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ıg cycl | 9 | | | | |
| | | | _ | | | |
| Referre | d to in | LPO I (examination regulatio | ns for teaching-degree progra | mmes) | | |
| | | | | | | |
| | | | | <u> </u> | | |
| Bachelo Master' Master' Supple Master' Master' Supple Bachelo | Module appears inBachelor's degree (1 major) Nanostructure Technology (2015)Bachelor's degree (1 major) Functional Materials (2015)Master's degree (1 major) Chemistry (2016)Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)Master's degree (1 major) Chemistry (2018)Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Bachelor's degree (1 major) Nanostructure Technology (2020) | | | | | |
| Master's wi | th 1 majoı | Chemistry (2018) | | ırg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 178 / 437 |

Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Chemistry (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 179 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | | |
|--------------------|-------------------|---|---|-----------------------------|------------------------------|----------------|--|
| Chemic | ally an | d bio-inspired Nanoted | chnology for Material S | Synthesis | 08-FU-NT-152-m01 | | |
| Module | e coord | inator | | Module offered by | | | |
| degree tional N | | mme coordinator Funk als) | tionswerkstoffe (Func- | | echnology of Materi | al Synthesis | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | | |
| 5 | nume | rical grade | | | | | |
| Duratio | n | Module level | Other prerequisites | | | | |
| 1 seme | ster | undergraduate | | | | | |
| Conten | | andergraduate | | | | | |
| ted mat | terials. | | n sol-gel chemistry as s s of biomineralisation, | | | | |
| Intende | ed learı | ning outcomes | | | | | |
| Studen | ts have | e developed a sound kr | nowledge of sol-gel che | mistry and biomine | ralisation. | | |
| Course | S (type, n | umber of weekly contact hour | s, language — if other than Gei | rman) | | | |
| V (4) | | | | | | | |
| | d of ass | essment (type, scope, lang | uage — if other than German, | examination offered — if no | ot every semester, informati | ion on whether | |
| | | le for bonus) | | | | | |
| | ge of a | n (approx. 30 minutes) ssessment: German an Jlaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | | | | | |
| Worklo | | | | | | | |
| 150 h | au | | | | | | |
| Teachi | | 9 | | | | | |
| | -3 -y -t | • | | | | | |
| Referre | d to in | IPOI (avamination regulati | ons for teaching-degree progra | mmec) | | | |
| | | | | uuuues) | | | |
| Modula | | rc in | | | | | |
| Module | | | Icture Technology (201 | -) | | | |
| | | gree (1 major) Nanostru gree (1 major) Function | •, • | 5/ | | | |
| | | ee (1 major) Chemistry | | | | | |
| | - | | n MINT Teacher Educat | ion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 016) | |
| | | , | Education PLUS, Elite | | | | |
| | - | ee (1 major) Chemistry | | | | | |
| | | | n MINT Teacher Educat | | | 020) | |
| | | • | Education PLUS, Elite | | B) (2020) | | |
| | | | cture Technology (202 | 0) | | | |
| васпею | or's de | gree (1 major) Quantum | i iechnology (2021) | | | | |
| Master's wi | ith 1 majoi | Chemistry (2018) | | Irg • generated 19-Apr-2025 | | page 180 / 437 | |
| | | | reg. data rec | ord Master (120 ECTS) Chem | ie - 2018 | | |



Master's degree (1 major) Chemistry (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 181 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | Abbrevia | ation |
|---------------------|---------------------|--|---|---|--|
| Materia | al Scier | nce 1 (Basic introductio | on) | o8-FU-M | aWi1-152-m01 |
| Module | e coord | inator | | Module offered by | |
| | | | nology of Material Syn- | Chair of Chemical Technolog | y of Material Synthesis |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | 1 | rical grade | | , , | |
| Duratio | • | Module level | Other prerequisites | | |
| 1 seme | | undergraduate | | | |
| Conten | | undergraduate | | | |
| Uncerta | ainty ar | nalysis, process engine | | ution, agglomeration, separat | ion, drying, conveying. |
| | | ning outcomes | | | |
| ques a in hanc | nd can dling of | suggest ways of fabric measurement data as | ation, processing and to well as statistical and s | e able to weigh the pros and c reatment of materials. Further systematic errors and posess rmining characteristic materi | more they areconfiden extensive knowledge |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ger | man) | |
| V (3) + | Ü (1) | | | | |
| | | Sessment (type, scope, lang Ile for bonus) | guage — if other than German, e | examination offered — if not every seme | ester, information on whether |
| d) log (e) pres | approx entatio | ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German ar | | 15 minutes per candidate) or | |
| Allocat | ion of _l | olaces | | | |
| | 1 | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulati | ons for teaching-degree progra | mmes) | |
| | | (examination regulation | | | |
| Module | e appea | ars in | | | |
| | | | ucture Technology (201 | ;) | |
| | | gree (1 major) Function | | <i></i> | |
| | | ee (1 major) Chemistry | | | |
| Master | 's teacl | hing degree Gymnasiur | n MINT Teacher Educati | on PLUS, Elite Network Bavar | ia (ENB) (2016) |
| | | | | Network Bavaria (ENB) (2016) | |
| | - | ee (1 major) Chemistry | | | |
| Mactor | 's teacl | hing degree Gymnasiur | n MINT Teacher Educati | on PLUS, Elite Network Bavar | . () () |
| | | | | | |
| Supple | menta | | Education PLUS, Elite I | Network Bavaria (ENB) (2020) rg • generated 19-Apr-2025 • exam. | |



Bachelor's degree (1 major) Nanostructure Technology (2020)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 183 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

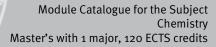
| Module | e title | | | | Abbreviation | |
|---------------------|---------------------|--|---|--|---|-----------------|
| Materia | al Scier | ice 2 (The Material Gro | oups) | | 08-FU-MaWi2-152- | m01 |
| Module | e coordi | inator | | Module offered by | | |
| | | | nology of Material Syn- | Chair of Chemical T | echnology of Mater | ial Synthesis |
| ECTS | Metho | od of grading | Only after succ. con | ıpl. of module(s) | | |
| 5 | | rical grade | | · · · · | | |
| Duratio | ı | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | | | | |
| Conten | | | | | | |
| and pro loys. Ce | operties eramics | ; thermo-mechanical t : oxidic and non-oxidi | in material groups. Met reatment; Martensitic t c structural ceramics; e noplasts, duromers, ela | ransitions; ductility a lectric and magnetic | and strength; form properties of funct | memory al- |
| Intende | ed learr | ing outcomes | | | | |
| | | developed a knowled nowledge to research | ge of the fabrication an problems. | d properties of the n | nain material group | s and are able |
| | | | s, language — if other than Ger | man) | | |
| V (3) + | | | | | | |
| | | essment (type, scope, lang le for bonus) | guage — if other than German, o | examination offered — if no | t every semester, informa | tion on whether |
| d) log (e) pres | approx entatio | ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German ar | | 15 minutes per cano | didate) or | |
| Allocat | ion of p | laces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulati | ons for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | rs in | | | | |
| Bachel | or's deg | gree (1 major) Nanostru | ucture Technology (201 | 5) | | |
| | - | gree (1 major) Function | | | | |
| | - | ee (1 major) Chemistry | | | | |
| Supple | mentar | , | n MINT Teacher Educat Education PLUS, Elite I (2018) | | | 2016) |
| Supple | mentar | y course MINT Teacher | n MINT Teacher Educat Education PLUS, Elite I | Network Bavaria (EN | | 2020) |
| Bachel | or's deg | gree (1 major) Nanostru | cture Technology (202 | 0) | | |
| | th 1 mair | Chemistry (2018) | | irg • generated 19-Apr-2025 • | ovam | page 184 / 437 |

Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Chemistry (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Bachelor's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 185 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | |
|----------------------------|--|--------------------------------|-------------------------------|-----------------------------|----------------|
| Polymer Che | mistry 1 (Lecture and Pr | actical Course) | | 03-FU-PM1-152-mo1 | L |
| Module coor | dinator | | Module offered by | | |
| holder of the Dentistry | Chair of Functional Mat | erials in Medicine and | Faculty of Medicine | | |
| | nod of grading | Only after succ. con | pl. of module(s) | | |
| 5 num | erical grade | | | | |
| Duration | Module level | Other prerequisites | | | |
| 1 semester | undergraduate | | | | |
| Contents | undergraduate | l | | | |
| radical polyn | ds of polymerisation: fre nerisations; characterisa alysis, mass spectrome | ation of polymers and p | | | |
| Intended lea | rning outcomes | | | | |
| The students | acquire fundamentals | of polymer chemistry ar | nd the related metho | ds for their characte | risation. |
| | number of weekly contact hour | | | | |
| V (2) + P (2) | | | | | |
| | coccmont (time assess land | if a the set have Common | | t | |
| module is credita | SSESSMENT (type, scope, lang able for bonus) | guage — If other than German, | examination offered — if no | t every semester, informati | ion on whether |
| Assessment creditable fo | | | | | |
| Allocation of | places | | | | |
| | | | | | |
| Additional in | formation | | | | |
| | | | | | |
| Workload | | | | | |
| 150 h | | | | | |
| Teaching cyc | le | | | | |
| | | | | | |
| Referred to i | n LPO I (examination regulati | ons for teaching-degree progra | mmes) | | |
| | | | | | |
| Module appe | ears in | | | | |
| | egree (1 major) Function | al Materials (2015) | | | |
| | ree (1 major) Chemistry | | | | |
| | ching degree Gymnasiur | | ion PLUS. Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| | ary course MINT Teacher | | | | , |
| | ree (1 major) Chemistry | | | | |
| - | ching degree Gymnasiur | | ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 020) |
| | ary course MINT Teacher | | Network Bavaria (EN | B) (2020) | |
| | egree (1 major) Function | | | | |
| - | ree (1 major) Chemistry | | | | `` |
| | ching degree Gymnasiur ary course MINT Teacher | | | | 025) |
| Master's with 1 mai | or Chemistry (2018) | JMU Würzbı | Irg • generated 19-Apr-2025 • | exam. | page 186 / 437 |
| | | | ord Master (120 ECTS) Chemi | | |



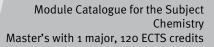


Bachelor's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 187 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



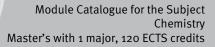
| | e title | | | | Abbreviation | |
|--|--|---|--|---|------------------------------------|----------------|
| Laser S | Spectros | бсору | | | 08-PCM1a-161-m01 | |
| Module | e coordi | nator | | Module offered by | | |
| lecture copy) | r of sem | ninar "Laserspektrosko | opie" (Laser Spectros- | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | Metho | d of grading | Only after succ. cor | npl. of module(s) | | |
| 5 | numer | ical grade | | | | |
| Duratio | on | Module level | Other prerequisites | 5 | | |
| 1 seme | ster | graduate | | | | |
| Conten | | 0 | 1 | | | |
| This mo | odule in | troduces students to t spectroscopy. | the fundamental princi | ples of laser spectros | scopy. It discusses a | bsorption |
| Intend | ed learn | ing outcomes | | | | |
| oflase | r techno S (type, n | ology. They are able to | ponents and operating describe the principles s, language — if other than Ge | s of absorption and e | | |
| Module | e taught | in: German or English | <u> </u> | | | |
| | | | guage — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| | | e for bonus) | | | | |
| b) oral | examin | nination (approx. 90 m ation of one candidate ssessment: German ar | e each (approx. 20 min | utes) | | |
| Allocat | ion of p | laces | | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| | ng cycle | a | | | | |
| | | - | | | | |
| Poforro | d to in | IPOL (avamination regulati | ons for teaching-degree progra | ammac) | | |
| | | | ons for teaching-degree progra | annines <i>)</i> | | |
| - | 20000 | rs in | | | | |
| Module | | ee (1 major) Chemistry | (2016) | | | |
| Module | JUCSIE | | (2010) | | | |
| Master | 's degre | | ics (2016) | | | |
| Master Master | - | ee (1 major) Mathemat | | 16) | | |
| Master Master Master | 's degre | ee (1 major) Mathemat | onal Mathematics (201 | 16) | | |
| Master Master Master Master | 's degre 's degre | ee (1 major) Mathemat ee (1 major) Computati ee (1 major) Functional | onal Mathematics (201 | | ork Bavaria (ENB) (20 | 016) |
| Master Master Master Master Master Supple | 's degre 's degre 's teach mentar | ee (1 major) Mathemat ee (1 major) Computati ee (1 major) Functional ing degree Gymnasiur y course MINT Teacher | onal Mathematics (201 Materials (2016) n MINT Teacher Educat r Education PLUS, Elite | tion PLUS, Elite Netwo | | 016) |
| Master Master Master Master Master Supple Master | 's degre 's degre 's teach mentar 's degre | ee (1 major) Mathemat ee (1 major) Computati ee (1 major) Functional ing degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry | onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) | tion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| Master Master Master Master Supple Master Master | 's degre 's degre 's teach mentar 's degre | ee (1 major) Mathemat ee (1 major) Computati ee (1 major) Functional ing degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati | onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 | tion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| Master Master Master Master Supple Master Master Master | 's degre 's degre 's teach ementar 's degre 's degre | ee (1 major) Mathemat ee (1 major) Computati ee (1 major) Functional ing degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati ee (1 major) Mathemat | onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 ics (2019) | tion PLUS, Elite Netwo Network Bavaria (EN 19) | B) (2016) | |
| Master Master Master Master Supple Master Master Master Supple | 's degre 's degre 's teach mentar 's degre 's degre 's degre 's teach mentar | ee (1 major) Mathemati ee (1 major) Computati ee (1 major) Functional ing degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati ee (1 major) Mathemati ing degree Gymnasiur y course MINT Teacher | onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 | tion PLUS, Elite Netwo Network Bavaria (EN 19) tion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 189 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

| Module | e title | | | | Abbreviation | |
|--|--|--|--|--|---|----------------|
| Advanc | ced Phy | vsical Chemistry (Lab) | | | 08-PCM1b-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture copy) | r of ser | ninar "Laserspektroskor | oie" (Laser Spectros- | · · · · · | l and Theoretical Ch | emistry |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | (not) | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | 6 | | |
| 1 seme | | graduate | | | | |
| Conten | | <u> </u> | | | | |
| borato | ry. Afte | ives students the oppo r a safety briefing, the st o take tests and write la | udents autonomously | y conduct experimen | | |
| Intend | ed lear | ning outcomes | | | | |
| | | e developed a high level to analyse the resulting | | - | thods in physical ch | iemistry. |
| Course | S (type, 1 | number of weekly contact hours | language — if other than Ge | rman) | | |
| P (4) | | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, langu le for bonus) | age — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| pages | each) a | chtestate (pre and post and assessment of pract assessment: German and | ical performance (2 to | | | oprox. 5 to 10 |
| Allocat | ion of | places | - | | | |
| | | | - | | | |
| Additio | onal inf | ormation | | | | |
| Additio | onal inf | ormation on module du | ation: block taught la | b course with appro> | . 20 working days. | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ns for teaching-degree progra | ammes) | | |
| Referre | ed to in | LPO I (examination regulatio | ns for teaching-degree progra | ammes) | | |
| | | | ns for teaching-degree progra | ammes) | | |
| Module | e appea | ars in | | ammes) | | |
| Module Master | e appe a 's degr | ars in ee (1 major) Chemistry (| 2016) | ammes) | | |
| Module Master Master | e appea 's degr 's degr | ars in ee (1 major) Chemistry (ee (1 major) Mathematic | 2016) S (2016) | | | |
| Module Master Master Master | e appea 's degr 's degr 's degr | ars in ee (1 major) Chemistry (| 2016) s (2016) nal Mathematics (201 | .6) | ork Bavaria (ENB) (20 | 016) |
| Module Master Master Master Master | e appea ''s degr ''s degr ''s degr ''s teac | ars in ee (1 major) Chemistry (ee (1 major) Mathematic ee (1 major) Computatio | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat | .6) ion PLUS, Elite Netwo | | 016) |
| Module Master Master Master Supple | e appe a 's degr 's degr 's degr 's teac ementa | ars in ee (1 major) Chemistry (ee (1 major) Mathematio ee (1 major) Computatio hing degree Gymnasium | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite | .6) ion PLUS, Elite Netwo | | 016) |
| Module Master Master Master Supple Master Master | e appea ''s degr ''s degr ''s teac ementa ''s degr ''s degr | ars in ee (1 major) Chemistry (ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher I ee (1 major) Chemistry (ee (1 major) Computatio | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 | .6) ion PLUS, Elite Netwo Network Bavaria (EN | | 016) |
| Master Master Master Master Supple Master Master Master | e appea ''s degr ''s degr ''s teac ementa ''s degr ''s degr | ee (1 major) Chemistry (ee (1 major) Chemistry (ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio ee (1 major) Mathematic | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) | .6) ion PLUS, Elite Netwo Network Bavaria (EN .9) | B) (2016) | |
| Master Master Master Master Master Master Master Master | e appea d's degr d's degr d's teac ementa d's degr d's degr d's degr d's teac | ars in ee (1 major) Chemistry (ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio ee (1 major) Mathematic hing degree Gymnasium | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat | .6) ion PLUS, Elite Netwo Network Bavaria (EN .9) ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 | |
| Master Master Master Master Master Master Master Supple | e appea 's degr 's degr 's teac ementa 's degr 's degr 's degr 's teac ementa | ee (1 major) Chemistry (ee (1 major) Chemistry (ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio ee (1 major) Mathematic | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite | .6) ion PLUS, Elite Netwo Network Bavaria (EN .9) ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | |
| Master Master Master Supple Master Master Master Supple Master | e appea 's degr 's degr 's teac ementa 's degr 's degr 's teac ementa 's degr | ars in ee (1 major) Chemistry (ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computatio ee (1 major) Mathematic hing degree Gymnasium ry course MINT Teacher | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite nal Mathematics (202 | .6) ion PLUS, Elite Netwo Network Bavaria (EN .9) ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (24 B) (2020) | |



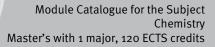
Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 191 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation | |
|------------------|---------------------|--|---|-------------------------------|----------------------------|-----------------|
| Statist | ical Me | chanics and Reaction | Dynamics | | 08-PCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| lecture mics) | r of sen | ninar "Chemische Dyna | amik" (Chemical Dyna- | Institute of Physica | l and Theoretical Cł | nemistry |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ester | graduate | | | | |
| Conter | nts | 0 | | | | |
| clude t | he fund | | ics in statistical mechar statistical thermodynar rgy transfer. | | | |
| Intend | ed lear | ning outcomes | | | | |
| | | | selected topics in stati ndamental principles of | | | s. They have |
| Course | S (type, r | number of weekly contact hou | rs, language — if other than Gei | rman) | | |
| S (2) + | Ü (1) | | | | | |
| Module | e taugh | t in: German or English | 1 | | | |
| | | sessment (type, scope, lan le for bonus) | guage — if other than German, | examination offered — if no | ot every semester, informa | tion on whether |
| c) talk | (approx age of a | k. 30 minutes) ssessment: German al | e each (approx. 20 mini nd/or English | ites) or | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | ρ | | | | |
| | | | | | | |
| Poforra | ad to in | | ions for tooching doors | (mmac) | | |
| | | LE VI (examination regulat | ions for teaching-degree progra | iiiiiiles) | | |
| | | • | | | | |
| Modul | | | (() | | | |
| | - | ee (1 major) Chemistry | | | | |
| | - | ee (1 major) Mathemat ee (1 major) Computati | ional Mathematics (201 | 6) | | |
| | - | ee (1 major) Functional | | ~, | | |
| | - | - | m MINT Teacher Educat | ion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 2016) |
| | | | r Education PLUS, Elite | | | |
| | | ee (1 major) Chemistry | | | | |
| Master | 's degr | ee (1 major) Computati | ional Mathematics (201 | 9) | | |
| | - | ee (1 major) Mathemat hing degree Gymnasiu | | ion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 2020) |
| | | | | | | 2020) |
| Master's w | ith 1 maio | r Chemistry (2018) | | urg • generated 19-Apr-2025 • | | page 192 / 437 |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module title | | | | | Abbreviation | |
|---|-------------------------------|--|---|---|-----------------------------|----------------|
| Nanoscale Materials | | | | | 08-PCM3-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecturer of the seminar "Nanoskalige Ma | | Materialien" | Institute of Physica | l and Theoretical Ch | emistry | |
| ECTS Method of grading Only after su | | | Only after succ. con | • | | |
| 5 | | rical grade | | • | | |
| Duration Module level Other prerequisites | | | | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | 1 | | | |
| | | icourses advanced to | ias in nanoscalo moto | viale. It focuses on th | a atruatura nranarti | ac fabricati |
| | | | oics in nanoscale mater s and application area | | | es, labricati- |
| Intende | ed lear | ning outcomes | | | | |
| | | able to characterise na noscale materials. | noscale materials. They | y are able to name ar | nalytical methods an | d applicati- |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + | Ü (1) | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | s essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | ion on whether |
| b) oral c) talk | examir (approx ige of a | k. 30 minutes) ssessment: German ar | e each (approx. 20 mini | utes) or | | |
| Allocat | ion of j | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | i | | | |
| Teachi | ng cycl | e | | | | |
| | is cyci | | | | | |
| Doforro | d to in | | | | | |
| Referre | | LFUT (examination regulation | ons for teaching-degree progra | ammes) | | |
| | | • | | | | |
| Module | | | | | | |
| | - | ee (1 major) Chemistry | | | | |
| | - | ee (1 major) Mathemat | | () | | |
| | - | ee (1 major) Computati ee (1 major) Functional | onal Mathematics (201 Materials (2016) | 0) | | |
| | - | - | n MINT Teacher Educat | ion PLUS Elite Netwo | ork Bayaria (ENB) (20 | 016) |
| | | | Education PLUS, Elite | | | 010) |
| | | ee (1 major) Chemistry | | (| _, (, | |
| | - | | onal Mathematics (201 | 9) | | |
| | - | ee (1 major) Mathemat | | ~ · | | |
| Master | 's teacl | ning degree Gymnasiur | n MINT Teacher Educat Education PLUS, Elite | | | 020) |
| | | | | | | ا |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | | page 194 / 437 |



Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 195 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | | | | | | | |
|---|--|--|---|---|-----------------------------|--|--|--|--|--|--|--|
| Ultrafa | st spect | roscopy and quantum | i-control | | 08-PCM4-161-m01 | | | | | | | |
| Module | e coordi | nator | | Module offered by | | | | | | | | |
| | | | Materialien" | Institute of Physical and Theoretical Chemistry | | | | | | | | |
| ECTS | urer of the seminar "Nanoskalige Materialien" S Method of grading Only after succ. | | Only after succ. co | | | ennstry | | | | | | |
| | | | | | | | | | | | | |
| 5 | L r | cal grade | | | | | | | | | | |
| Duratio | on | Module level | Other prerequisite | | | | | | | | | |
| 1 seme | ster | graduate | Prior completion of | f modules o8-PCM1a | and o8-PCM1b recor | nmended. | | | | | | |
| Conten | ts | | | | | | | | | | | |
| | | | bics in ultrafast spectre ectroscopy and cohere | | control. It focuses o | n ultrashort | | | | | | |
| Intende | ed learn | ingoutcomes | | | | | | | | | | |
| plain th principl | ne theor les and | y of time-resolved lase applications of quant | neration of ultrashort er spectroscopy and n um control. s, language – if other than G | ame experimental me | | | | | | | | |
| S (2) + | Ü (1) | in: German or English | | | | | | | | | | |
| | | e ssment (type, scope, lang e for bonus) | guage — if other than German | , examination offered — if no | ot every semester, informat | ion on whether | | | | | | |
| c) talk (Langua | (approx. | 30 minutes) sessment: German ar | e each (approx. 20 mir nd/or English | | | | | | | | | |
| | | | | | | | | | | | | |
| Additio | nal info | rmation | | | | | | | | | | |
| Additio | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Worklo | ad | | | | | | | | | | | |
| 150 h | | | | | | | | | | | | |
| Teachir | ng cycle | | · | | | | | | | | | |
| | | | | | | | | | | | | |
| Referre | d to in L | .POI (examination regulati | ons for teaching-degree prog | rammes) | | | | | | | | |
| | | | | | | | | | | | | |
| Module | e appeai | rs in | | | | | | | | | | |
| | | e (1 major) Chemistry | (2016) | | | | | | | | | |
| | - | e (1 major) Mathemat | | | | | | | | | | |
| | - | e (1 major) Physics (2 | | | | | | | | | | |
| | - | | |) | | | | | | | | |
| Master's degree (1 major) Nanostructure Technology (2016) Master's degree (1 major) Computational Mathematics (2016) | | | | | | | | | | | | |
| Master' | | | | | ork Bavaria (ENB) (2 | Master's degree (1 major) Computational Mathematics (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| | Jicuch | | | Network Devents (EN | | 016) | | | | | | |
| Master' | | course MINT Teacher | Education PLUS, Elite | e Network Bavaria (EN | B) (2016) | 016) | | | | | | |
| Master' Supple Master' | mentary 's degre | e (1 major) Chemistry | (2018) | | B) (2016) | 016) | | | | | | |
| Master' Supple Master' Master' | mentary 's degre 's degre | e (1 major) Chemistry e (1 major) Computati | (2018) onal Mathematics (20 | | B) (2016) | 016) | | | | | | |
| Master' Supple Master' Master' Master' | mentary 's degre 's degre 's degre | e (1 major) Chemistry e (1 major) Computati e (1 major) Mathemat | (2018) onal Mathematics (20 ics (2019) | 19) | B) (2016) | 016) | | | | | | |
| Master' Supple Master' Master' Master' | mentary 's degre 's degre 's degre | e (1 major) Chemistry e (1 major) Computati e (1 major) Mathemat | (2018) onal Mathematics (20 | 19) | B) (2016) | 016) | | | | | | |



Master's degree (1 major) Physics (2020) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Physics International (2020) Master's degree (1 major) Quantum Engineering (2020) Master's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Quantum Engineering (2024) Master's degree (1 major) Physics International (2024) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Physics International (2024) Master's degree (1 major) Computational Mathematics (2022)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 197 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| | e title | | | | Abbreviation | |
|--|--|---|---|---|-----------------------------|-----------------|
| Physical Chemistry of Supramolecular Assemblies | | | | | 08-PCM5-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecturer of the seminar "Physikalische Chemie Supramole- kularer Strukturen" | | | | Institute of Physical and Theoretical Chemistry | | |
| ECTS | 1 | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | • | Module level | Other prerequisites | ; | | |
| 1 seme | - | graduate | | | | |
| Conten | | Sidduite | | | | |
| This mo cal pro | odule e perties | of aggregates as well | eractions between mole as key applications of s | | | iysical-chemi- |
| | - | ning outcomes | | | | |
| in the f dern ap | ield. Th oplicati | ney can describe the fo ons of supramolecular | ic interactions between ormation and physical-c r chemistry. rs, language – if other than Ge | hemical properties o | | • |
| S (2) + | | Tamber of weekly contact nou | | many | | |
| • • | • • • | t in: German or Englisł | 1 | | | |
| Metho | d of ass | - | guage — if other than German, | examination offered — if no | ot every semester, informat | tion on whether |
| c) talk | (approx age of a | k. 30 minutes) ssessment: German a | e each (approx. 20 mini nd/or English | utes) or | | |
| | - | | | | | |
| Additio | onal inf | ormation | | | | |
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| 147 11 | ad | | | | | |
| Worklo | | | | | | |
| Worklo | | | | | | |
| | ng cycl | e | | | | |
| 150 h | ng cycl | e | | | | |
| 150 h Teachi | | | ions for teaching-degree progra | ammes) | | |
| 150 h Teachi | | | ions for teaching-degree progra | ammes) | | |
| 150 h Teachin Referre | ed to in | LPOI (examination regulat | ions for teaching-degree progra | ammes) | | |
| 150 h Teachin Referre Module | ed to in e appea | LPO I (examination regulat | | ammes) | | |
| 150 h Teachin Referre Module | ed to in e appea | LPOI (examination regulat | (2016) | ammes) | | |
| 150 h Teachin Referre Module Master Master | ed to in e appea 's degr 's degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat | (2016) | | | |
| 150 h Teachi Referre Module Master Master Master Master | ed to in e appea 's degr 's degr 's degr 's degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona | (2016) iccs (2016) ional Mathematics (201 l Materials (2016) | .6) | | |
| 150 h Teachi Referre Module Master Master Master Master Master | ed to in e appea 's degr 's degr 's degr 's degr 's teacl | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona hing degree Gymnasiu | (2016) ics (2016) ional Mathematics (201 l Materials (2016) m MINT Teacher Educat | .6) ion PLUS, Elite Netw | | 016) |
| 150 h Teachin Referre Master Master Master Master Supple | ed to in e appea 's degr 's degr 's degr 's degr 's teacl ementa | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona hing degree Gymnasiu ry course MINT Teache | (2016) ics (2016) ional Mathematics (201 l Materials (2016) m MINT Teacher Educat r Education PLUS, Elite | .6) ion PLUS, Elite Netw | | 016) |
| 150 h Teachin Referre Module Master Master Master Master Supple Master | ed to in e appea 's degr 's degr 's degr 's degr 's teacl ementar | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry | (2016) iccs (2016) ional Mathematics (201 l Materials (2016) m MINT Teacher Educat r Education PLUS, Elite (2018) | .6) ion PLUS, Elite Netw Network Bavaria (EN | | 016) |
| 150 h Teachin Referre Module Master Master Master Supple Master Master Master | ed to in e appea 's degr 's degr 's degr 's teacl emental 's degr 's degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry ee (1 major) Computat | (2016) iics (2016) ional Mathematics (201 l Materials (2016) m MINT Teacher Educat r Education PLUS, Elite (2018) ional Mathematics (201 | .6) ion PLUS, Elite Netw Network Bavaria (EN | | 016) |
| 150 h Teachi Referre Module Master Master Master Master Supple Master Master Master Master | ed to in e appea 's degr 's degr 's degr 's teacl emental 's degr 's degr 's degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona hing degree Gymnasiu ry course MINT Teache ee (1 major) Chemistry ee (1 major) Computat ee (1 major) Mathemat | (2016) iics (2016) ional Mathematics (201 l Materials (2016) m MINT Teacher Educat r Education PLUS, Elite (2018) ional Mathematics (201 | .6) ion PLUS, Elite Netw Network Bavaria (EN .9) | B) (2016) | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Biofabrication (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 199 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

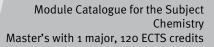
| Modul | e title | | | | Abbreviation | |
|---|-------------|---|-------------------------------|---|----------------------------|----------------|
| Physic | al Chen | nistry (Advanced Lab) | | | 08-PCM6-161-m01 | |
| Modul | e coord | inator | | Module offered by | | |
| lecturers Physikalische Chemie (Physical Chemistry) | | | cal Chemistry) | Institute of Physical and Theoretical Chemistry | | |
| ECTS | <u>г</u> | od of grading | Only after succ. con | · · · | | ennouy |
| | 1 | | | | | |
| 5 | | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ester | graduate | | | | |
| Conter | nts | | | | | |
| | | ives students the oppor f Physical Chemistry and | | | | s based at |
| Intend | ed learı | ning outcomes | | | | |
| Studer | nts have | e become proficient in th bey are able to analyse th | | | | |
| | | umber of weekly contact hours, | | | questions in physic | ar enemistry. |
| P (4) | - ()pc, 1 | senser of meenty contact hours, | | | | |
| | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, langu | age — if other than German, o | examination offered — if no | t every semester, informat | ion on whether |
| | | le for bonus) | | | | |
| presen | tation (| approx. 20 minutes) | | | | |
| Langua | age of a | ssessment: German and | /or English | | | |
| Allocat | tion of p | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| Additio | onal info | ormation on module dur | ation: block taught lal | b course with approx | . 20 working days. | |
| Worklo | | | | | <u> </u> | |
| 150 h | | | | | | |
| - | ng cycl | • | | | | |
| Teacin | ing cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | is for teaching-degree progra | mmes) | | |
| | | | | | | |
| Modul | e appea | irs in | | | | |
| | - | ee (1 major) Chemistry (2 | | | | |
| | - | ee (1 major) Mathematic | | | | |
| | - | ee (1 major) Computatio | | | | |
| | | ning degree Gymnasium | | | | 016) |
| | | y course MINT Teacher E | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (2 | | c) | | |
| | - | ee (1 major) Computatio ee (1 major) Mathematic | | <i>y</i> , | | |
| | - | ning degree Gymnasium | - | ion PLUS, Flite Netwo | ork Bavaria (FNR) (2 | 020) |
| | | y course MINT Teacher E | | | | |
| | | ee (1 major) Computatio | | | // | |
| | | ee (1 major) Mathematic | | | | |
| | - | ee (1 major) Chemistry (2 | | | | |
| Master | 's degr | ee (1 major) Computatio | nal Mathematics (202 | 4) | | |
| Master's w | ith 1 majoi | r Chemistry (2018) | JMU Würzbı | Irg • generated 19-Apr-2025 • | • exam. | page 200 / 437 |
| | , - | | | ord Master (120 ECTS) Chemi | | |



Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 201 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|--------------------|--|--|-----------------------------|-----------------------------|---------------|
| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecturer of lecture "Computational Chemistry" | | | Institute of Physical and Theoretical Chemistry | | | |
| ECTS | 1 | od of grading | Only after succ. con | · · · · | | |
| 5 | | rical grade | | | | |
| Duratio | · | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | 3.444440 | | | | |
| | | ntroduces students to t | he fundamental princir | oles of computationa | al chemistry. | |
| | | ning outcomes | | | at entennistry. | |
| | | able to explain the theo | retical principles of co | mnutational chemist | try and to apply met | nods in com- |
| putatio | | • | retical principles of co | | ing and to apply meti | |
| • | | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (2) + | | | | | | |
| | | essment (type, scope, lang | uage — if other than German. | examination offered — if no | t every semester, informati | on on whether |
| | | le for bonus) | | | | |
| | | nination (approx. 90 to | | | | |
| | | ation of one candidate | | | | |
| | | ation in groups of up to . 20 pages) or | o 3 candidates (approx. | . 15 minutes per cano | didate) or | |
| | | n (approx. 30 minutes) | | | | |
| | | ssessment: German an | d/or English | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additic | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cvcl | 9 | | | | |
| | 3 -) | - | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| | <u></u> | | | | | |
| Module | annes | rs in | | | | |
| | | ee (1 major) Chemistry (| (2016) | | | |
| | | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional | | | | |
| | - | ning degree Gymnasium | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| | | y course MINT Teacher | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (| | | | |
| | - | ee (1 major) Computatio | | 9) | | |
| Master | - | ee (1 major) Mathemati | - | | | |
| | s teach | | a numul loochor Lducat | | |) |
| Master | | ning degree Gymnasiun | | | | 020) |
| Master Supple | mentar | y course MINT Teacher | Education PLUS, Elite I | Network Bavaria (EN | | 020) |
| Master Supple Master | mentar 's degre | | Education PLUS, Elite I onal Mathematics (202 | Network Bavaria (EN | B) (2020) | 020) |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 203 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

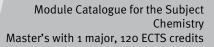
| | e title | | | _ | Abbreviation | |
|--|--|---|--------------------------------|--|----------------------------|------------------|
| Numeri | ical Me | thods and Programmin | g | | 08-TCM3-161-m01 | |
| Module coordinator | | | | Module offered by | J | |
| lecturer of lecture "Programmieren in Theoretischer Che- mie" | | | | - | al and Theoretical Ch | nemistry |
| ECTS | Meth | od of grading | Only after succ. co | mpl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | 5 | | |
| 1 seme | | graduate | | | | |
| Conten | | giauuate | | | | |
| This mo ses its | odule p applica | provides an introductior ation areas. | n to the fundamentals | of programming in th | neoretical chemistry | and discus- |
| Intend | ed lear | ning outcomes | | | | |
| as well | as to r | able to explain and use name its application are | eas. | | lly used in theoretic | al chemistry |
| | _ | number of weekly contact hours | s, language — if other than Ge | erman) | | |
| S (2) + | Ü (2) | | | | | |
| | | sessment (type, scope, lang ole for bonus) | uage — if other than German, | examination offered — if n | ot every semester, informa | ation on whether |
| e) pres | approx entatio | x. 20 pages) or on (approx. 30 minutes) | | k. 15 minutes per can | didate) or | |
| e) pres Langua | approx entations age of a | x. 20 pages) or on (approx. 30 minutes) assessment: German an | | k. 15 minutes per can | didate) or | |
| e) pres Langua Allocat | approx entatic age of a ion of [| x. 20 pages) or on (approx. 30 minutes) assessment: German an | | k. 15 minutes per can | didate) or | |
| e) pres Langua Allocat | approx entatic age of a ion of [| x. 20 pages) or on (approx. 30 minutes) issessment: German an places | | k. 15 minutes per can | didate) or | |
| e) pres Langua Allocat Additic | approx entation age of a ion of p onal inf | x. 20 pages) or on (approx. 30 minutes) issessment: German an places | | x. 15 minutes per can | didate) or | |
| e) pres Langua Allocat Additic Worklo | approx entation age of a ion of p onal inf | x. 20 pages) or on (approx. 30 minutes) issessment: German an places | | x. 15 minutes per can | didate) or | |
| e) pres Langua Allocat | approx entatic age of a ion of p onal inf | x. 20 pages) or on (approx. 30 minutes) issessment: German an places formation | | x. 15 minutes per can | didate) or | |
| e) pres Langua Allocat Additic Worklo 150 h | approx entatic age of a ion of p onal inf | x. 20 pages) or on (approx. 30 minutes) issessment: German an places formation | | . 15 minutes per can | didate) or | |
| e) pres Langua Allocat Additic Worklo 150 h Teachi | approx entatic age of a ion of p onal inf pad | x. 20 pages) or on (approx. 30 minutes) issessment: German an places formation | d/or English | | didate) or | |
| e) pres Langua Allocat Additic Worklo 150 h Teachi | approx entatic age of a ion of p onal inf pad | e | d/or English | | didate) or | |
| e) pres Langua Allocat Additio 150 h Teachin Referre | approx entatic age of a ion of onal inf pad ng cycl | a. 20 pages) or on (approx. 30 minutes) issessment: German an places formation e LPO I (examination regulation) | d/or English | | didate) or | |
| e) pres Langua Allocat Morklo 150 h Teachin Referre Modulo | approx entation age of a ion of p onal inf pad ng cycl ed to in e appea | ars in | d/or English | | didate) or | |
| e) pres Langua Allocat Additic Worklo 150 h Teachin Referre Modulo | approx entation age of a ion of p onal inf onal inf onal inf onal inf ead of to in e appea 's degr | a. 20 pages) or on (approx. 30 minutes) issessment: German an places formation e LPO I (examination regulation) | d/or English | | didate) or | |
| e) pres Langua Allocat Additio 150 h Teachin Referre Module Master Master | approx entatic age of a ion of p onal inf onal inf oad ad ed to in e appea 's degr 's degr | a. 20 pages) or on (approx. 30 minutes) issessment: German an places formation e LPO I (examination regulation ars in ee (1 major) Chemistry is the second second | d/or English | ammes) | didate) or | |
| e) pres Langua Allocat Additic Worklo 150 h Teachin Referre Module Master Master Master | approx entation age of a ion of p onal inf onal | e (1 major) Chemistry (e (1 major) Mathemation | d/or English | ammes) | didate) or | |
| e) pres Langua Allocat Additic Worklo 150 h Teachin Referre Master Master Master Master Master Master | approx entation age of a ion of p onal inf onal | a. 20 pages) or on (approx. 30 minutes) issessment: German an places formation e ars in ee (1 major) Chemistry (ee (1 major) Functional hing degree Gymnasiun | d/or English | ammes) 16) tion PLUS, Elite Netw | vork Bavaria (ENB) (2 | 2016) |
| e) pres Langua Allocat Additic Worklo 150 h Teachin Referre Master Master Master Master Supple | approx entation age of a ion of p onal inf onal | a 20 pages) or on (approx. 30 minutes) issessment: German an places formation e LPO I (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemati ee (1 major) Functional hing degree Gymnasiun ry course MINT Teacher | d/or English | ammes) 16) tion PLUS, Elite Netw | vork Bavaria (ENB) (2 | 2016) |
| e) pres Langua Allocat Additic Worklo 150 h Teachin Referre Modulo Master Master Master Master Supple Master | approx entation age of a ion of p onal inf onal | A. 20 pages) or on (approx. 30 minutes) issessment: German an places formation e E E E E E E E E E E E E E | d/or English | ammes) 16) tion PLUS, Elite Netw Network Bavaria (EN | vork Bavaria (ENB) (2 | 2016) |
| e) pres Langua Allocat Additic Worklo 150 h Teachin Referre Master Master Master Master Master Supple Master Master Master | approx entation age of a ion of p onal inf onal | a. 20 pages) or on (approx. 30 minutes) issessment: German an places formation e LPO I (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemati ee (1 major) Functional hing degree Gymnasiun ry course MINT Teacher ee (1 major) Chemistry (ee (1 major) Computation) | d/or English | ammes) 16) tion PLUS, Elite Netw Network Bavaria (EN | vork Bavaria (ENB) (2 | 2016) |
| e) pres Langua Allocat Additic Worklo 150 h Teachin Referre Master Master Master Master Master Supple Master Master Master Master | approx entation age of a ion of p onal inf onal | A. 20 pages) or on (approx. 30 minutes) issessment: German an places formation e E E E E E E E E E E E E E | d/or English | ammes) 16) tion PLUS, Elite Netw Network Bavaria (EN 19) | vork Bavaria (ENB) (2 | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module title | | | | | Abbreviation | |
|----------------------------------|--|---|--------------------------------|--|-----------------------------|----------------|
| Quantum Dynamics 08-TCM4-161-m01 | | | | | | |
| Module | e coord | inator | | Module offered by | | |
| lecture | lecturer of lecture "Quantendynamik" | | ı | Institute of Physical | and Theoretical Che | emistry |
| ECTS | TS Method of grading Only after succ. con | | npl. of module(s) | | | |
| 5 | nume | rical grade | | | | |
| Duratio | on in the second | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| | | ent Schrödinger equatio adiabatic states, non-ac | | | | theorem, |
| Intende | ed lear | ning outcomes | | | | |
| in mole | ecules. | possess knowledge abo Their insight into the m theoretical chemistry. | | | | |
| Course | S (type, r | number of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (2) + | Ü (2) | | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| c) oral d) log (e) pres | examin approx entatio | nation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | 9 3 candidates (approx | - | lidate) or | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional | | | rli Deverie (END) (e. | |
| | | hing degree Gymnasiun ry course MINT Teacher | | | | 016) |
| | | ee (1 major) Chemistry | | | 5) (2010) | |
| | - | ee (1 major) Computatio | | 9) | | |
| | - | ee (1 major) Mathemati | | | | |
| Master | 's teacl | ning degree Gymnasiun | n MINT Teacher Educat | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 206 / 437 |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module title | | | | | Abbreviation | | |
|---|---|---|---------------------------------|-------------------------------|-----------------------------|----------------|--|
| Selected Topics in Theoretical Chemistry | | | | | 08-TCM1-161-m01 | | |
| Module coordinator | | | | Module offered by | | | |
| lecturer of lecture "Theoretische Chemi | | | mie" | Institute of Physica | l and Theoretical Ch | emistry | |
| ECTS Method of grading | | | Only after succ. con | npl. of module(s) | | | |
| 5 | nume | rical grade | | | | | |
| Duration Module level Other prerequisites | | | | | | | |
| 1 seme | 1 semester graduate | | | | | | |
| Contents | | | | | | | |
| This mo | This module introduces students to the fundamental principles of theoretical chemistry. | | | | | | |
| | | ning outcomes | | | , | | |
| | | able to describe the ma | thematical and physica | al principles underly | ing the quantum che | emical and | |
| | | amical approaches of th | | | | , inicat and | |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Gei | man) | | | |
| S (2) + | Ü (2) | | | | | | |
| | | Sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | ion on whether | |
| | | mination (approx. 90 to | 180 minutes) or | | | | |
| | | nation of one candidate | | s) or | | | |
| | | ation in groups of up to | o 3 candidates (approx | 15 minutes per cano | didate) or | | |
| | | . 20 pages) or | | | | | |
| | | n (approx. 30 minutes) ssessment: German an | | | | | |
| | _ | | | | | | |
| Allocation of places | | | | | | | |
| Additio | | ormation | | | | | |
| Additio | nat ini | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | d to in | LPO I (examination regulati | ons for teaching-degree progra | mmes) | | | |
| | | | | | | | |
| Module | e appea | ars in | | | | | |
| | | ee (1 major) Chemistry | (2016) | | | | |
| | - | ee (1 major) Mathemati | | | | | |
| Master | 's degr | ee (1 major) Computati | onal Mathematics (201 | 6) | | | |
| | - | ee (1 major) Functional | | | | | |
| | | hing degree Gymnasiur | | | | 016) | |
| | | ry course MINT Teacher | | Network Bavaria (EN | B) (2016) | | |
| | - | ee (1 major) Chemistry ee (1 major) Computati | | 0) | | | |
| | - | ee (1 major) Computati ee (1 major) Mathemati | | 9) | | | |
| | - | hing degree Gymnasiur | • | ion PLUS. Elite Netwo | ork Bavaria (ENB) (20 | 020) | |
| | | ry course MINT Teacher | | | | / | |
| | | ee (1 major) Computati | | | | | |
| Master's wi | ith 1 maio | r Chemistry (2018) | IMU Würzbı | Irg • generated 19-Apr-2025 • | exam. | page 208 / 437 | |
| | | , <, | | ord Master (120 ECTS) Chemi | | , | |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 209 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | | |
|--|-------------------|--|------------------------------|-------------------------------|------------------------------|---------------|--|
| Theore | tical Cl | nemistry - Project cours | e quantum chemistry | у | 08-TCAP1-161-m01 | | |
| Module coordinator | | | Module offered by | <u> </u> | | | |
| head of the research group offering the mo | | | ne module | Institute of Physica | l and Theoretical Ch | emistry | |
| ECTS | 1 | od of grading | Only after succ. co | · · · | | | |
| 5 | | successfully completed | | | | | |
|) Duratio | | Module level | Other prerequisite | 26 | | | |
| | | | | | | | |
| | | | | | | | |
| Conten | | | | | <u> </u> | | |
| the Ins | titute o | ives students the oppo f Theoretical Chemistry ntum chemistry. | | | | | |
| Intend | ed lear | ning outcomes | | | | | |
| | | e learned some of the m | ethods typically used | d in theoretical chemi | stry and, in particula | r. in quan- | |
| | | . They are able to expla | | | | | |
| Course | S (type, r | number of weekly contact hours | , language — if other than G | German) | | | |
| P (5) | | | | | | | |
| - | d of ass | Sessment (type, scope, lang | uage — if other than German | n, examination offered — if n | ot every semester, informati | on on whether | |
| | | le for bonus) | | , chained on oncrea | | | |
| presen | tation (| (approx. 30 minutes) | | | | | |
| | | ssessment: German an | d/or English | | | | |
| Allocat | ion of j | olaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | | | | | |
| Additio | nal inf | ormation on module du | ration: block taught l | ab course with appro | x. 20 working days | | |
| Worklo | | | | | | | |
| | <u>au</u> | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree prog | grammes) | | | |
| | | | | | | | |
| Module | e appea | ars in | | | | | |
| | - | ee (1 major) Chemistry (| | | | | |
| | - | ee (1 major) Mathemati | | | | | |
| | - | ee (1 major) Computatio | | | | | |
| | | hing degree Gymnasium ry course MINT Teacher | | | | 016) | |
| | | ee (1 major) Chemistry (| | e welwork davalla (EN | (2010) | | |
| | - | ee (1 major) Computatio | | 019) | | | |
| | - | ee (1 major) Mathemati | | | | | |
| | - | hing degree Gymnasium | - | ation PLUS, Elite Netw | ork Bavaria (ENB) (2 | 020) | |
| | | ry course MINT Teacher | | | B) (2020) | | |
| | - | ee (1 major) Computatio | | 022) | | | |
| | 's degr | ee (1 major) Mathemati | cs (2022) | | | | |
| | | / · · · · | | | | | |
| Master | - | ee (1 major) Chemistry (| | | | | |
| Master | - | ee (1 major) Chemistry (ee (1 major) Computatio | | 024) | | | |



Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 211 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| | itle | | | | Abbreviation | | |
|--|---|---|--|--|------------------------------------|---------------|--|
| Theoretic | cal Chemistry - Proj | ject course | quantum dynamics | | 08-TCAP2-161-m01 | | |
| Module (| coordinator | | | Module offered by | | | |
| head of the research group offering the module | | | e module | Institute of Physica | l and Theoretical Che | emistry | |
| | | | Only after succ. con | compl. of module(s) | | | |
| | not) successfully co | ompleted | | | | | |
| Duration | | • | Other prerequisites | | | | |
| 1 semester graduate | | | | | | | |
| Contents | 19 | | <u> </u> | | | | |
| | · | the opport | unity to get involved | in the work of one of | the research groups | based at | |
| the Instit | | hemistry a | nd learn some of the | | | | |
| Intended | l learning outcomes | 5 | | | | | |
| Students | have learned some | e of the me | thods typically used | in theoretical chemis | stry and, in particula | r, in guan- | |
| | | | issues that are relev | | | • | |
| Courses | (type, number of weekly c | ontact hours, l | anguage — if other than Ger | man) | | | |
| P (5) | | | | | | | |
| Method (| of assessment (type, | scope, langua | ge — if other than German, o | examination offered — if no | t every semester, informati | on on whether | |
| | reditable for bonus) | | . , , , , , , , , , , , , , , , , , , , | | , , | | |
| presenta | tion (approx. 30 mi | nutes) | | | | | |
| Language | e of assessment: G | erman and | /or English | | | | |
| Allocatio | on of places | | | | | | |
| | | | | | | | |
| Addition | al information | | | | | | |
| Addition | al information on m | odule dura | tion: block taught la | b course with approx | . 20 working days. | | |
| Workload | | | | | | | |
| 150 h | | | | | | | |
| Teaching | | | | | | | |
| reacting | s cycle | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Referred | to in LPO I (examinat | ion regulation | s for teaching-degree progra | mmes) | | | |
| | | ion regulation | s for teaching-degree progra | mmes) | | | |
| Module a | appears in | | | mmes) | | | |
| Module a Master's | appears in degree (1 major) Cł | nemistry (2 | 016) | mmes) | | | |
| Module a Master's Master's | appears in degree (1 major) Cł degree (1 major) M | nemistry (2 athematics | 016) 5 (2016) | | | | |
| Module a Master's Master's Master's | appears in degree (1 major) Cł degree (1 major) M degree (1 major) Co | nemistry (2 athematics omputation | 016) 5 (2016) 1al Mathematics (201 | 6) | ork Bayaria (ENB) (ar | 216) | |
| Module a Master's Master's Master's Master's | a ppears in degree (1 major) CH degree (1 major) M degree (1 major) Co teaching degree Gy | nemistry (2 athematics omputation ymnasium | 016) 5 (2016) 1al Mathematics (201 MINT Teacher Educat | 6) ion PLUS, Elite Netw | | 016) | |
| Module a Master's Master's Master's Master's Supplem | appears in degree (1 major) CH degree (1 major) M degree (1 major) Co teaching degree Gy entary course MINT | nemistry (2 athematics omputation ymnasium I Teacher E | 016) 5 (2016) 1al Mathematics (201 MINT Teacher Educat ducation PLUS, Elite I | 6) ion PLUS, Elite Netw | | D16) | |
| Module a Master's Master's Master's Master's Supplem Master's | appears in degree (1 major) CH degree (1 major) M degree (1 major) Co teaching degree Gy rentary course MINT degree (1 major) CH | nemistry (2 athematics omputation ymnasium Teacher E nemistry (2 | 016) 5 (2016) 1al Mathematics (201 MINT Teacher Educat ducation PLUS, Elite I 018) | 6) ion PLUS, Elite Netw Network Bavaria (EN | | 016) | |
| Module a Master's Master's Master's Master's Supplem Master's Master's | appears in degree (1 major) Ch degree (1 major) M degree (1 major) Co teaching degree Gy entary course MINT degree (1 major) Ch degree (1 major) Co | nemistry (2 athematics omputation ymnasium Teacher E nemistry (2 omputation | 016) 5 (2016) 1al Mathematics (201 MINT Teacher Educat ducation PLUS, Elite I 018) 1al Mathematics (201 | 6) ion PLUS, Elite Netw Network Bavaria (EN | | 016) | |
| Master's Master's Master's Master's Supplem Master's Master's Master's | appears in degree (1 major) CH degree (1 major) M degree (1 major) Co teaching degree Gy entary course MINT degree (1 major) Co degree (1 major) M | nemistry (2 athematics omputation ymnasium Teacher E nemistry (2 omputation athematics | 016) 5 (2016) 1al Mathematics (201 MINT Teacher Educat ducation PLUS, Elite I 018) 1al Mathematics (201 | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) | B) (2016) | | |
| Master's Master's Master's Master's Supplem Master's Master's Master's Master's | appears in degree (1 major) Ch degree (1 major) M degree (1 major) Co teaching degree Gy teaching degree Gy tentary course MINT degree (1 major) Ch degree (1 major) M teaching degree Gy | nemistry (2 athematics omputation ymnasium Teacher E nemistry (2 omputation athematics ymnasium | o16) 5 (2016) 1al Mathematics (201 MINT Teacher Educat ducation PLUS, Elite I 018) 1al Mathematics (201 5 (2019) | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (20 | | |
| Master's Master's Master's Master's Master's Master's Master's Master's Supplem | appears in degree (1 major) CH degree (1 major) M degree (1 major) Cd teaching degree Gy eentary course MINT degree (1 major) CH degree (1 major) M teaching degree Gy eentary course MINT | nemistry (2 athematics omputation mnasium Teacher E nemistry (2 omputation athematics mnasium Teacher E | o16) 5 (2016) 1al Mathematics (201 MINT Teacher Educat ducation PLUS, Elite I 018) 1al Mathematics (201 5 (2019) MINT Teacher Educat | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | | |
| Master's Master's Master's Master's Supplem Master's Master's Master's Supplem Master's Master's | appears in degree (1 major) Ch degree (1 major) M degree (1 major) Co teaching degree Gy entary course MINT degree (1 major) Co degree (1 major) M teaching degree Gy entary course MINT degree (1 major) Co degree (1 major) Co degree (1 major) Co | nemistry (2 athematics omputation ymnasium Teacher En emistry (2 omputation athematics ymnasium Teacher En omputation athematics | o16) is (2016) MINT Teacher Educati ducation PLUS, Elite I o18) ial Mathematics (201 is (2019) MINT Teacher Educati ducation PLUS, Elite I ial Mathematics (202 is (2022) | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 | | |
| Master's Master's Master's Master's Master's Master's Master's Master's Supplem Master's Master's Master's Master's | appears in degree (1 major) CH degree (1 major) M degree (1 major) Cd teaching degree Gy teaching degree Gy degree (1 major) CH degree (1 major) M teaching degree Gy teatary course MINT degree (1 major) Cd degree (1 major) Cd degree (1 major) Ch | nemistry (2 athematics omputation ymnasium Teacher E- nemistry (2 omputation athematics ymnasium Teacher E- omputation athematics nemistry (2 | o16) 5 (2016) 1al Mathematics (201 MINT Teacher Educat ducation PLUS, Elite I 018) 1al Mathematics (201 5 (2019) MINT Teacher Educat ducation PLUS, Elite I 1al Mathematics (202 5 (2022) 024) | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN 2) | B) (2016) ork Bavaria (ENB) (20 | | |
| Master's Master's Master's Master's Supplem Master's Master's Master's Supplem Master's Master's Master's Master's Master's | appears in degree (1 major) CH degree (1 major) M degree (1 major) Cd teaching degree Gy teaching degree Gy degree (1 major) CH degree (1 major) M teaching degree Gy teatary course MINT degree (1 major) Cd degree (1 major) Cd degree (1 major) Ch | nemistry (2 athematics omputation ymnasium Teacher E- nemistry (2 omputation athematics ymnasium Teacher E- omputation athematics nemistry (2 | o16) is (2016) MINT Teacher Educati ducation PLUS, Elite I o18) al Mathematics (201 is (2019) MINT Teacher Educati ducation PLUS, Elite I ial Mathematics (202 is (2022) | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN 2) | B) (2016) ork Bavaria (ENB) (20 | | |



Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 213 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | | | | |
|--|--|---|---|--|--|----------------|--|--|
| | | | | | 08-ACM1-161-m01 | | | |
| Module coordinator | | | | Module offered by | | | | |
| Managing Director of the Institute of Inc | | | Inorganic Chemistry | nistry Institute of Inorganic Chemistry | | | | |
| ECTS Method of grading | | | Only after succ. con | npl. of module(s) | | | | |
| 10 | nume | rical grade | | | | | | |
| Duratio | on | Module level | Other prerequisites | 5 | | | | |
| 2 seme | ster | graduate | | | | | | |
| Conten | ts | | | | | | | |
| special | This module discusses advanced topics in main group chemistry and transition metal chemistry. It focuses on special compounds of the main group elements (MGEs), bonding situations of MGEs and MGE compounds, the chemistry of transition metals and coordination chemistry. | | | | | | | |
| Intend | ed lear | ning outcomes | | | | | | |
| the che | emical | able to characterise and properties of transition n compounds. | | | | | | |
| Course | S (type, 1 | number of weekly contact hour | s, language — if other than Ge | rman) | | | | |
| S (3) + | S (3) | | | | | | | |
| | | Sessment (type, scope, lang ole for bonus) | uage — if other than German, | examination offered — if no | t every semester, informat | ion on whether | | |
| c) oral d) log (e) pres Langua | 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 | | | | | | | |
| Additio | onal inf | ormation | | | | | | |
| | | | | | | | | |
| Worklo | ad | | | | | | | |
| 300 h | | | | | | | | |
| Teachi | ng cycl | e | | | | | | |
| | | | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | | | |
| | | | | | | | | |
| Module | e appea | ars in | | | | | | |
| Master Supple Master Master Supple Master Master | 's teac menta 's degr 's teac menta 's degr 's teac | ee (1 major) Chemistry hing degree Gymnasiur ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasiur ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasiur ry course MINT Teacher | n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat Education PLUS, Elite (2024) n MINT Teacher Educat | Network Bavaria (EN ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 B) (2020) ork Bavaria (ENB) (20 | 020) | | |
| Master's w | ith 1 majo | r Chemistry (2018) | JMU Würzb reg. data rec | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | • exam. e - 2018 | page 214 / 437 | | |

| 1 | e title | | | Abbreviation | | |
|--|---|--|--|---|---|--|
| Inorga | nic Che | mistry practical course f | or advanced | | 08-ACPM-161-m01 | |
| Module coordinator | | | | Module offered by | | |
| focus point coordinator "Inorganic Chemistry" | | | emistry" | Institute of Inorganic Chemistry | | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 10 | (not) s | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | i | | |
| 1 seme | ster | graduate | | | | |
| Conten | Its | | • • | | | |
| thods i tral ana | n inorg alysis a | anic chemistry. The focu | s will be on working u ents will be expected | under inert atmosphe to conduct their wo | synthesis and analytical me- eres, purification methods, spec- rk in the lab independently, write | |
| Intend | ed lear | ning outcomes | | | | |
| | | | | | ic chemistry in the lab and to in- ngs and deliver a presentation. | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Gei | rman) | | |
| P (24) Module | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, langua le for bonus) | age — if other than German, | examination offered — if no | t every semester, information on whether | |
| | | tical course (approx. 20 ssessment: German and | | rox. 15 minutes) | | |
| Allocat | ion of j | olaces | | | | |
| | | | | | | |
| | | | | | | |
| | onal inf | ormation | | | | |
| Additic | | | ation: block taught la | b course with appro | . 40 working days. | |
| Additic | onal inf | ormation | ation: block taught la | b course with approx | x. 40 working days. | |
| Additic Additic | onal inf | ormation | ation: block taught la | b course with approx | . 40 working days. | |
| Additic Additic | onal info oad | ormation ormation on module dura | ation: block taught la | b course with approx | x. 40 working days. | |
| Additic Additic Worklo 300 h Teachi | onal info oad ng cycl | ormation ormation on module dura | | | 40 working days. | |
| Additic Additic Worklo 300 h Teachi | onal info oad ng cycl | ormation ormation on module dura e | | | . 40 working days. | |
| Additic Additic Worklo 300 h Teachi | nal info ad ng cycl ed to in | ormation ormation on module dura e LPOI (examination regulation | | | 40 working days. | |
| Additic Worklo 300 h Teachi Referre Modulo | nal info ad ng cycl ed to in e appea | ormation ormation on module dura e LPOI (examination regulation ars in ee (1 major) Chemistry (2 | s for teaching-degree progra 016) | ammes) | | |
| Additic Additic Worklo 300 h Teachi Referre Modulo Master Master | nal info ad ng cycl ed to in e appea ''s degr | ormation ormation on module dura e LPO I (examination regulation ars in ee (1 major) Chemistry (2 hing degree Gymnasium | s for teaching-degree progra 016) MINT Teacher Educat | ammes) ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) | |
| Additic Worklo 300 h Teachi Referro Modulo Master Supple | nal info nad ng cycl ed to in e appea 's degr 's teacl ementa | ormation ormation on module dura e LPOI (examination regulation ars in ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E | s for teaching-degree progra 016) MINT Teacher Educat ducation PLUS, Elite | ammes) ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) | |
| Additic Additic Worklo 300 h Teachi Referre Master Master Master Master Supple | ed to in ead d's degr s degr s teacl ementation s teacl ementation | ormation ormation on module dura e LPO I (examination regulation ars in ee (1 major) Chemistry (2 hing degree Gymnasium | s for teaching-degree progra 016) MINT Teacher Educat ducation PLUS, Elite 018) MINT Teacher Educat ducation PLUS, Elite | ammes) ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | ork Bavaria (ENB) (2016) B) (2016) ork Bavaria (ENB) (2020) | |

| Module | e title | | | | Abbreviation | |
|---|---|--|---|---------------------|---|--|
| Bioinor | ganic (| Chemistry | | | 08-ACM2-161-m01 | |
| Module | e coord | inator | | Module offered by | offered by | |
| lecturer of seminar "Anorganische Aspekte der Biochem and Medizinischen Chemie" (Inorganic Aspects of Bioch mistry and Medicinal Chemistry) | | | | | | |
| ECTS | | od of grading | Only after succ. com | and of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | ites | | |
| | | | | | | |
| 1 seme | | graduate | | | | |
| This mo | odule i ds of Bl | | | | chemistry (BIC). It discusses the ns of BIC in the fields of diagnosis | |
| Intende | ed lear | ning outcomes | | | | |
| | | able to describe the princ us enzymes and describe | | | xplain the structure and effects medicine. | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | man) | | |
| Method module is a) writt b) oral c) oral Langua | d of ass creditab en exal examir examin ge of a | le for bonus) mination (approx. 45 to g nation of one candidate e ation in groups of up to ssessment: German and | oo minutes) or each (20 to 30 minute 3 candidates (15 to 30 | s) or | ot every semester, information on whether date) | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | _ | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | - | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | | | | | | |
| Master Supple Master Master Master | Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |
| C 1 | mentai | y course MINT Teacher E | ducation PLUS Flite | Network Bayaria (FN | P (2020) | |

| Modul | e title | | | | Abbreviation | |
|------------|--------------------|---|---|-------------------------------|---|-----|
| Solid s | state ch | emistry and inorganic | materials | | 08-ACM3-161-m01 | |
| Modul | e coord | inator | | Module offered by | | |
| | | ninar "Festkörperchem | ie and Anorganische | Institute of Inorgan | ic Chemistry | |
| | | Solid State Chemistry a | | | | |
| ECTS | Meth | od of grading | Only after succ. cor | mpl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Durati | on | Module level | Other prerequisites | ites | | |
| 1 seme | ester | graduate | | | | |
| Conte | nts | | | | | |
| | | | n to solid-state chemis selected materials of so | | structure, chemical and physic | cal |
| | | ning outcomes | | | | |
| | | | | | plain methods for solid-state | |
| synthe | esis. The | ey can describe import | ant aspects of selected | materials regarding | the corresponding solids. | |
| Course | es (type, r | number of weekly contact hour | rs, language — if other than Ge | erman) | | |
| S (3) | | | | | | |
| | | sessment (type, scope, lang le for bonus) | guage — if other than German, | examination offered — if no | t every semester, information on whethe | er |
| Langu | | n (approx. 30 minutes) ssessment: German ar blaces | | | | |
| Additi | onal inf | ormation | | | | |
| Workle | oad | | | | | |
| 150 h | | | | | | |
| Teachi | ing cycl | e | | | | |
| Referre | ed to in | LPOI (examination regulat | ions for teaching-degree progr | ammes) | | |
| | | | | | | |
| Modul | e appea | ars in | | | | |
| | - | ee (1 major) Chemistry | | | | |
| | | / | | | ork Bavaria (ENB) (2016) | |
| | | y course MINT Teachei ee (1 major) Chemistry | r Education PLUS, Elite | Network Bavaria (EN | d) (2016) | |
| | - | | | tion PLUS, Flite Netwo | ork Bavaria (ENB) (2020) | |
| | | | r Education PLUS, Elite | | | |
| | | ee (1 major) Chemistry | | | | |
| | - | | | tion PLUS, Elite Netwo | ork Bavaria (ENB) (2025) | |
| Supple | ementa | y course MINT Teache | r Education PLUS, Elite | Network Bavaria (EN | B) (2025) | |
| Master's v | vith 1 maio | r Chemistry (2018) | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | urg • generated 19-Apr-2025 • | exam. page 217 / 4 | 427 |
| | i maju | c | | cord Master (120 ECTS) Chemi | page 21/ / 4 | 42/ |

| Module | Module title Abbreviation | | | | | | |
|---|--|---|--------------------------------|---|------------------------------|----------------|--|
| Moder | n Syntl | netic Methods | | | 08-0CM-SYNT-161-1 | m01 | |
| Module | e coord | linator | | Module offered by | | | |
| | | e seminar | | Institute of Organic | Chemistry | | |
| ECTS | Meth | od of grading | Only after succ. con | | , | | |
| 5 | 1 | rical grade | | | | | |
| Duratio | | Module level | Other prerequisites | i | | | |
| 1 seme | | graduate | | | | | |
| Conten | | 0.00000 | | | | | |
| This m | odule d | liscusses modern stere emistry and catalysis. | oselective synthesis m | ethods. It focuses or | n selected total syntl | heses, orga- | |
| Intend | ed lear | ning outcomes | | | | | |
| Students are able to stereoselectively plan complex chemical syntheses and to stereochemically analyse them. They can explain total syntheses. They can describe aspects of organometallic chemistry and catalysis in synthesis chemistry. | | | | | | | |
| Course | S (type, 1 | number of weekly contact hour | s, language — if other than Ge | rman) | | | |
| | S (2) + Ü (1) Module taught in: German or English | | | | | | |
| Metho | d of as | sessment (type, scope, lang | uage — if other than German, | examination offered — if no | ot every semester, informati | ion on whether | |
| | | mination (approx. 90 to | | | | | |
| c) oral d) log (e) pres | examir (approx entatic | nation of one candidate nation in groups of up to c. 20 pages) or on (approx. 30 minutes) ussessment: German an | o 3 candidates (approx | | didate) or | | |
| Allocat | ion of | places | | | | | |
| | - | | | | | | |
| Additio | onal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | | |
| | | | | | | | |
| Module | e appea | ars in | | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2016) | | | | |
| | - | ee (1 major) Functional | | | | | |
| | | hing degree Gymnasiur | | | | 016) | |
| | | ry course MINT Teacher ee (1 major) Chemistry | | Network Bavaria (EN | D) (2010) | | |
| | | hing degree Gymnasiur | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) | |
| | | ry course MINT Teacher | | | | | |
| | - | ee (1 major) Functional | | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2024) | | | | |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | | page 218 / 437 | |

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 219 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation |
|------------------|--------------------|--|---|-----------------------------|--|
| Advanc | ed Res | earch Project Organic Ch | nemistry | | 08-OCM-AKP1-161-m01 |
| Module | e coord | inator | | Module offered by | |
| head of | f the re | search group offering the | e module | Institute of Organic | Chemistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | (not) s | successfully completed | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| | | ives students the opport f Organic Chemistry and | | | the research groups based at ytical methods. |
| Intende | ed leari | ning outcomes | | | |
| | | able to describe and use well as to describe theor | | s and analytical met | hods typically used by the rese- |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | rman) | |
| P (20) Module | e taugh | t in: German or English | | | |
| | | s essment (type, scope, langua le for bonus) | ge — if other than German, o | examination offered — if no | t every semester, information on whether |
| | | 5 to 20 pages) and talk (a seessment: German and, | | | |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | · | | |
| 300 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | appea | irs in | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 016) | | |
| | | ning degree Gymnasium I | | | |
| | | y course MINT Teacher E ee (1 major) Chemistry (2 | | NELWUIK DAVAIIA (EN | ען (2010) |
| Master Supple | 's teach mentar | ning degree Gymnasium I y course MINT Teacher E | MINT Teacher Educat ducation PLUS, Elite I | | |
| Master | 's teach | ee (1 major) Chemistry (2 ning degree Gymnasium / y course MINT Teacher Eo | MINT Teacher Educat | | |

| Module | title | | | | Abbreviation |
|----------------------|--------------------|---|--|----------------------------|---|
| Moderr | n Aspeo | ts of Natural Product Ch | emistry and Biologic | al Chemistry | 08-0CM-NAT-172-m01 |
| Module | e coord | inator | | Module offered by | |
| lecture | r of the | seminar | | Institute of Organio | c Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| of macr | romole | | | | ngineering and characterisation is of biochemical processes, and |
| Intende | ed lear | ning outcomes | | | |
| Studen | ts have | e developed a knowledge | of molecular biology | and are able to app | oly it to practical experiments. |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | |
| S | | | | | |
| - | | ht in: German or English | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if n | ot every semester, information on whether |
| b) oral c) oral e | examir examin | mination (approx. 45 to 9 ation of one candidate e ation in groups of up to 3 ssessment: German and, | ach (20 to 30 minute 3 candidates (15 to 30 | - | date) |
| Allocat | ion of p | olaces | | | |
| mistry): the san | : 20 pla ne num | aces. Places will be alloca | ated according to the , places will be alloca | number of subject : | e programme Biochemie (Bioche- semesters; among applicants with glist will be maintained and pla- |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ıg cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | | | | | |
| Supple Master | mentaı 's degr | ning degree Gymnasium I y course MINT Teacher Ed ee (1 major) Chemistry (2 ee (1 major) Biochemistry | ducation PLUS, Elite I 018) | | ork Bavaria (ENB) (2016) IB) (2016) |
| Master' | 's teacl | | WINT Teacher Educati | | rork Bavaria (ENB) (2020) IB) (2020) |

| Module | Module title Abbreviation | | | | | | |
|---|---|---|---|-------------------------------|-----------------------------|----------------|--|
| Organi | c Funct | ional Materials | | | 08-OCM-FM-161-mc |)1 | |
| Module | e coord | inator | | Module offered by | | | |
| lecture | r of the | seminar "Organische Fu | Inktionsmaterialien" | Institute of Organic | Chemistry | | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | | |
| 5 | nume | rical grade | | | | | |
| Duratio | | Module level | Other prerequisites | | | | |
| 1 seme | ster | graduate | | | | | |
| Conten | ts | | 1 | | | | |
| sical ef compo | The module deals with specific topics in organic functional materials. The focus is on fundamental (photo)phy- sical effects in organic molecular and polymeric semiconductors as well as their application in (opto)electronic components such as field effect transistors, organic light-emitting diodes, or organic solar cells as well as in non- linear optics. | | | | | | |
| Intende | ed lear | ning outcomes | | | | | |
| The students are able to explain fundamental (photo)physical processes in organic semiconductors. He/She can explain the synthesis of these semiconductor materials as well as their application in (opto)electronic components such as field effect transistors, organic light-emitting diodes or in organic photovoltaics as well as in nonlinear optics. | | | | | | | |
| Course | Courses (type, number of weekly contact hours, language — if other than German) | | | | | | |
| S (3) | - | | | | | | |
| | | sessment (type, scope, langu le for bonus) | age — if other than German, | examination offered — if no | t every semester, informati | on on whether | |
| b) oral c) oral d) log (e) pres Langua | examir examin approx entatio ge of a | mination (approx. 90 to nation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German and | each (20 to 30 minute 3 candidates (approx | - | didate) or | | |
| Allocat | ion of _l | olaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | _ | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | d to in | LPO I (examination regulation | ns for teaching-degree progra | immes) | | | |
| | | | | | | | |
| Module | e appea | urs in | | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 2016) | | | | |
| | - | ee (1 major) Functional N | | | | | |
| | | ning degree Gymnasium | | | | 016) | |
| | | y course MINT Teacher E | | Network Bavaria (ENI | В) (2016) | | |
| | - | ee (1 major) Chemistry (2 ning degree Gymnasium | | ion PLUS Elito Notur | ork Bayaria (ENR) (a | 220) | |
| | | y course MINT Teacher E | | | | 020) | |
| | | ee (1 major) Functional N | | | 0, (2020) | | |
| | - | r Chemistry (2018) | JMU Würzbı | Irg • generated 19-Apr-2025 • | | page 222 / 437 | |
| | | | reg. data rec | ord Master (120 ECTS) Chemi | e - 2018 | | |

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 223 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | Module title Abbreviation | | | | | | |
|---|---|--|--|-----------------------------|--|--|--|
| Molecu | Molecular Biology for Advanced Students 08-BC-MOLMC-161-mo1 | | | | | | |
| Module | coord | inator | | Module offered by | | | |
| holder | of the C | Chair of Biochemistry | _ | Chair of Biochemist | ry | | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | | |
| 5 | nume | rical grade | | | | | |
| Duratio | n | Module level | Other prerequisites | | | | |
| 1 seme | ster | graduate | | | | | |
| Conten | | | | | | | |
| Comprising a lecture and an exercise, this module discusses advanced topics in molecular physiology and func- tional biochemistry. | | | | | | | |
| Intended learning outcomes | | | | | | | |
| Students have developed a sound knowledge of molecular biology. | | | | | | | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | | |
| V (2) + | Ü (1) | | | | | | |
| | | essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | | |
| d) log (e) pres | approx entatio ge of a | ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | | 15 minutes per cano | didate) or | | |
| Allocal | | Jaces | | | | | |
| Additio | nal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachir | ng cycl | 6 | | | | | |
| | 0.7 | - | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | | |
| | | | | | | | |
| Module | e appea | irs in | | | | | |
| Master | 's degre | ee (1 major) Chemistry (2 | 016) | | | | |
| Master' Supple | 's teach mentar | ee (1 major) Functional M ning degree Gymnasium I y course MINT Teacher Ec ee (1 major) Chemistry (20 | MINT Teacher Educati ducation PLUS, Elite I | | | | |
| Supple Master | mentar 's degre | ning degree Gymnasium I y course MINT Teacher Ec ee (1 major) Functional M | ducation PLUS, Elite I aterials (2022) | | | | |
| master | saegre | ee (1 major) Functional M | aterials (2025) | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 224 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation |
|----------------------------|--------------------------------|--|---|----------------------|--|
| Practio | al cou | se "Molecular Machines | " for advanced stude | nts | 08-BC-VPMM-161-m01 |
| Modul | e coord | inator | | Module offered by | • |
| holder | ofthe | Chair of Biochemistry | | Chair of Biochemis | stry |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| lar bio | logy an | | mutagenesis, protein | expression and pu | ed methods and topics in molecu rification, RNA-protein and prote nplexes. |
| Intend | ed lear | ning outcomes | | | |
| Studer work. | nts are | able to explore a specific | research topic and d | eliver an oral prese | ntation on the results of their |
| | es (type, | number of weekly contact hours, | anguage — if other than Gei | rman) | |
| P (10) | | | | | |
| module i Log (ap | s credital | ele for bonus) 20 pages) and talk (appro 19 sessment: German and | ox. 15 minutes) | | ot every semester, information on whether |
| Allocat | tion of | places | | | |
| | | | | | |
| Additio | onal inf | ormation | - | | |
| Additio | onal inf | ormation on module dura | ation: block taught la | b course with appro | x. 40 working days. |
| Worklo | oad | | | | |
| 300 h | _ | | | | |
| Teachi | ng cyc | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | immes) | |
| | | | | | |
| | | | | | |
| Modul | e appe | ars in | | | |
| Master Master Supple | r's degr r's teac ementa | ee (1 major) Chemistry (2 | MINT Teacher Educat ducation PLUS, Elite | | vork Bavaria (ENB) (2016) IB) (2016) |

| Modul | e title | | | | Abbreviation |
|---|--|--|--|---|---|
| Practical course "Protein Degradation in Eukaryotes" for advanced students o8-BC-VPPD-161-mo1 | | | | | |
| Modul | e coord | inator | | Module offered by | |
| holder | ofthe | Chair of Biochemistry | | Chair of Biochemis | try |
| ECTS | Meth | od of grading | Only after succ. com | npl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Durati | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| This m karyot | - | vives students the opport | unity to explore a res | earch topic in the fie | eld of protein degradation in eu- |
| Intend | ed lear | ning outcomes | | | |
| Studer work. | nts are a | able to explore a specific | research topic and d | eliver an oral presen | tation on the results of their |
| Course | es (type, i | number of weekly contact hours, I | anguage — if other than Ger | man) | |
| P (10) | | | | | |
| module i Log (a | is creditat | sessment (type, scope, langua ole for bonus) 20 pages) and talk (appro 1958 ssment: German and | ox. 15 minutes) | examination offered — if no | ot every semester, information on whether |
| | tion of | | | | |
| | | | | | |
| Additi | onal inf | ormation | | | |
| | | ormation on module dura | tion: block taught lal | o course with approx | . 40 working days |
| Worklo | | | | | |
| 300 h | | | | | |
| - | ing cycl | e | | | |
| | | | | | |
| Referr | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Modul | e appea | ars in | | | |
| Master Supple Master Master | r's teac ementa r's degr r's teac | ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E | MINT Teacher Educati ducation PLUS, Elite I 018) MINT Teacher Educati | Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) |

| Module title Abbr | | | | | Abbreviation |
|----------------------------|--------------------|--|--|----------------------------|--|
| Practic | al cour | se "RNA Biochemistry" | for advanced student | S | 08-BC-VPRB-161-m01 |
| Module | e coord | inator | | Module offered by | |
| holder | of the (| Chair of Biochemistry | | Chair of Biochemis | try |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Duratio | | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | 0 | , | | |
| mes as | mole | | tory mechanisms of e | | eld of RNA biochemistry. Riboso- synthesis. Gradient centrifugati |
| Intend | ed lear | ning outcomes | | | |
| work. T | hey are h the h | able to familiarise ther | nselves with different | mechanisms of gen | ntation on the results of their eral and specific translation con appropriate and understandable |
| Course | S (type, r | umber of weekly contact hours | , language — if other than Ge | rman) | |
| P (10) | | | | | |
| module is | s creditab | le for bonus) | _ | examination offered — if n | ot every semester, information on whether |
| | | o pages) and talk (appr ssessment: German and | | | |
| Allocat | ion of p | olaces | | | |
| | - | | | | |
| Additio | onal inf | ormation | | | |
| Additic | onal info | ormation on module du | ration: block taught la | b course with appro | x. 40 working days. |
| Worklo | ad | | | | |
| 300 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulatio | ns for teaching-degree progra | ammes) | |
| | | | | | |
| | e appea | ars in | | | |
| Module | | | | | |
| | - | ee (1 major) Chemistry (| | | |
| Master Master Supple | 's teacl mentai | | MINT Teacher Educat Education PLUS, Elite | | ork Bavaria (ENB) (2016) B) (2016) |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Master (120 ECTS) Chemie - 2018 | page 227 / 437 | |
|--|--|----------------|--|
|--|--|----------------|--|

| Module of holder of ECTS | course "Structural Biology" f oordinator the Chair of Biochemistry Aethod of grading umerical grade Module level | Only after succ. com | S Module offered by Chair of Biochemist | 08-BC-VPSB-161-m01 |
|-----------------------------|---|---------------------------------------|--|--|
| holder of ECTS / 10 r | the Chair of Biochemistry Aethod of grading umerical grade | | | |
| ECTS I | Aethod of grading | | | |
| 10 r | umerical grade | | chun of Diochennist | ry |
| 10 r | umerical grade | | pl. of module(s) | |
| | | o8-BC-MOLP | • • • • | |
| | | Other prerequisites | | |
| 1 semest | er graduate | | | |
| Contents | 10 | <u> </u> | | |
| | amental principles and technic | | | tallisation. It teaches students sation as well as crystallographic |
| Intended | learning outcomes | | | |
| | have developed an understan ster fundamental skills and teo | | | constructs for crystallisation. Il as data collection and proces- |
| Courses | type, number of weekly contact hours, l | anguage — if other than Ger | man) | |
| P (10) | | | | |
| | o f assessment (type, scope, langua reditable for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| | rox. 20 pages) and talk (appro e of assessment: German and, | | | |
| Allocatio | n of places | | | |
| | | | | |
| Addition | al information | | | |
| Addition | al information on module dura | tion: block taught lal | o course with approx | . 40 working days. |
| Workloa | 1 | | | |
| 300 h | | | | |
| Teaching | cycle | | | |
| | | · · · · · · · · · · · · · · · · · · · | | |
| Referred | to in LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | - | | | |
| Module a | ppears in | | | |
| | degree (1 major) Chemistry (2 | 016) | | |
| Master's | teaching degree Gymnasium I | MINT Teacher Educati | | |
| | entary course MINT Teacher Ed | | Network Bavaria (EN | B) (2016) |
| Master's | degree (1 major) Chemistry (2 teaching degree Gymnasium I entary course MINT Teacher E | MINT Teacher Educati | | |

| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | |
|--|--|
| | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 228 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation |
|---|--------------------|--|------------------------------|-----------------------------|--|
| Lab Co | urse M | aterial Science | | | 08-FMM-MP-161-m01 |
| Modul | e coord | inator | | Module offered by | |
| | ers spec Materi | ialisation subject Funktio | onsmaterialien (Fun- | Chair of Chemical T | echnology of Material Synthesis |
| ECTS Method of grading Only afte | | Only after succ. con | npl. of module(s) | | |
| 5 | (not) | successfully completed | | | |
| Duration Module level Other prerequisites | | | | | |
| 1 semester graduate | | | | | |
| Conter | nts | | | | |
| Ten se | lected e | experiments in materials | science. | | |
| | | ning outcomes | | | |
| | - | | I proficiency in the pe | erformance of experi | ments in materials science. |
| | | number of weekly contact hours, l | · · · · | · · · · | |
| P (8) | Ja (type, I | initial of weekly contact nouls, t | anguage — II other than Gel | mally | |
| | d af - | · · · · · · · · · · · · · · · · · · · | | | |
| | | Sessment (type, scope, langua ole for bonus) | ge — If other than German, | examination offered — if no | ot every semester, information on whether |
| pages | each) a | nd assessment of practic | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| | | ssessment: German and, | /or English | | |
| Allocat | tion of | places | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Modul | e appea | ars in | | | |
| | | ee (1 major) Chemistry (2 | 016) | | |
| | - | hing degree Gymnasium | | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | | |
| | | | | | ork Bavaria (ENB) (2020) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2020) |
| | - | ee (1 major) Chemistry (2 | • | | |
| | | hing degree Gymnasium I | | | |
| NUMP | menta | ry course MINT Teacher E | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. reg. data record Master (120 ECTS) Chemie - 2018 | page 229 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--|--|--|--|---|--|--|
| Project | Work | | | | 08-FMM-PA-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| head of | f the re | search group offering the | module | Chair of Chemical T | echnology of Material Synthesis | |
| ECTS Method of grading Or | | Only after succ. con | npl. of module(s) | | | |
| 5 | (not) s | successfully completed | | | | |
| Duratio | n | Module level | Other prerequisites | tes | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| | - | ives students the opport findings. | unity to explore a res | earch topic under th | e guidance of a supervisor and to | |
| Intende | ed lear | ning outcomes | | | | |
| Studen | ts have | e developed an advanced | proficiency in the pe | erformance of experi | ments in materials science. | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | rman) | | |
| P (10) | | | | | | |
| module is | prox. 1 | sessment (type, scope, langua le for bonus) 5 pages) and talk (appro: ssessment: German and, | x. 15 minutes) | examination offered — if no | t every semester, information on whether | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ıg cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master' Supple Master' Master' Supple Master' | 's teach mentai 's degr 's teach mentai 's degr | ee (1 major) Chemistry (2 ning degree Gymnasium / y course MINT Teacher Ed ee (1 major) Chemistry (2 ning degree Gymnasium / y course MINT Teacher Ed ee (1 major) Chemistry (2 ning degree Gymnasium / | MINT Teacher Educat ducation PLUS, Elite I 018) MINT Teacher Educat ducation PLUS, Elite I 024) | Network Bavaria (EN ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (2020) B) (2020) | |
| | | y course MINT Teacher E | | | | |

| Module | Module title Abbreviation | | | | | | |
|--|---|--|---|--|--|-------------------------------------|--|
| Polyme | rs II | | | | 03-FU-PM2-161-mo: | L | |
| Module | coord | inator | | Module offered by | | | |
| holder o Dentisti | | Chair of Functional Mate | rials in Medicine and | Faculty of Medicine | | | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | | |
| 5 | nume | rical grade | | | | | |
| Duratio | 1 | Module level | Other prerequisites | | | | |
| 1 semes | ster | graduate | | | | | |
| Contents | | | | | | | |
| plex po lication their be | lymer a of the havior | mer synthesis methods architectures), biodegra respective polymers: e. on surfaces. | dable polymers, polyp | eptoides, natural po | lymers. We will disc | uss the app- | |
| Intende | d learr | ning outcomes | | | | | |
| differen als. Stu gain ins quence | it synth dents o sight in s / disa | equire advanced knowle netic routes with which can estimate if and how to the field of technical advantages that synthe concerns. | the different molecules fast a polymer degrac ly used polymers from | s can be prepared fro les under given circu nature. Each sectior | om different starting mstances. Furtherm n also points to poss | materi- ore, they ible conse- | |
| Courses (type, number of weekly contact hours, language — if other than German) | | | | | | | |
| S (2) + ĺ | (1) ت | | | | | | |
| | | s essment (type, scope, langu le for bonus) | age — if other than German, o | examination offered — if no | t every semester, informati | on on whether | |
| b) oral e c) talk (| examin approx | nination (approx. 90 m ation of one candidate x. 30 minutes) ssessment: German an | each (approx. 20 mint | ites) or | | | |
| Allocati | ion of p | olaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachin | ng cycl | e | | | | | |
| | | - | _ | | | | |
| Referre | d to in | LPO I (examination regulation | ns for teaching-degree progra | mmes) | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | | | |
| Module | appea | in in | | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | | |
| | - | ee (1 major) Functional I | | | | | |
| | - | ning degree Gymnasium | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) | |
| Supplei | mentar | y course MINT Teacher | Education PLUS, Elite I | Network Bavaria (ENI | B) (2016) | | |
| | - | ee (1 major) Chemistry (| | | | | |
| | | ning degree Gymnasium | | | | 020) | |
| | | y course MINT Teacher | | | | | |
| waster's wi | un 1 major | Chemistry (2018) | | rg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 231 / 437 | |

| Advan | e title | | | | Abbreviation | |
|--|--|--|--|--|---|----------------|
| | ced org | anometallic chemistry | and its application in I | nomogeneous cata- | 08-HKM2-161-m01 | |
| lysis | | | | | | |
| Modul | e coord | inator | | Module offered by | • | |
| lecture | er of the | seminar "Spezielle Me | etallorganische Chemie | Institute of Inorgan | ic Chemistry | |
| | | vendung in der Homog | | | | |
| ECTS | Metho | od of grading | Only after succ. compl. of module(s) | | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ester | graduate | | | | |
| Conter | nts | | | | | |
| This m tions. | odule e | xamines elementary o | rganic compounds of tr | ansition metals with | homogeneous cata | lytic applica- |
| | ad loar | ing outcomos | | | | |
| | | ning outcomes | ho structure reactivity | and analysis of allow | ontoni organia a | nounda The |
| | | | he structure, reactivity tance classes. They ca | | | |
| | - | • | s, language — if other than Ger | <u>_</u> | | |
| S (3) | ()pc, 1 | | | ····, | | |
| | e taugh | t in: German or English | | | | |
| Metho | d of ass | essment (type, scope, lang | guage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| module i | is creditab | le for bonus) | | | | |
| | | mination (approx. 90 to | | | | |
| | | | e each (20 to 30 minute | | didata) ar | |
| | | . 20 pages) or | o 3 candidates (approx | . 15 minutes per can | uluale) or | |
| | | | | | , | |
| Langua | | n (approx. 30 minutes) | | | | |
| | | | | | | |
| | | n (approx. 30 minutes) ssessment: German ar | | | | |
| - | age of a | n (approx. 30 minutes) ssessment: German ar | | | | |
| Allocat | age of a tion of p | n (approx. 30 minutes) ssessment: German ar | | | , | |
| Allocat | age of a tion of p | n (approx. 30 minutes) ssessment: German ar blaces | | | · | |
| Allocat | age of a tion of p onal info | n (approx. 30 minutes) ssessment: German ar blaces | | | | |
| Allocat Additic | age of a tion of p onal info | n (approx. 30 minutes) ssessment: German ar blaces | | | | |
| Allocat Additic Worklc 150 h | age of a tion of p onal info | n (approx. 30 minutes) ssessment: German ar blaces ormation | | | | |
| Allocat Additic Worklc 150 h | age of a tion of p onal info oad | n (approx. 30 minutes) ssessment: German ar blaces ormation | | | | |
| Allocat Additio Worklo 150 h Teachi | age of a tion of p onal info oad | n (approx. 30 minutes) ssessment: German ar places ormation | | ummes) | | |
| Allocat Additio Worklo 150 h Teachi | age of a tion of p onal info oad | n (approx. 30 minutes) ssessment: German ar places ormation | nd/or English | ummes) | | |
| Allocat Additio Worklo 150 h Teachi Referre Modulo | age of a tion of p onal info oad ing cyclo ed to in e appea | n (approx. 30 minutes) ssessment: German ar places ormation e LPO I (examination regulations in the second | nd/or English | nmmes) | | |
| Allocat Additio Worklo 150 h Teachi Referro Modulo | age of a tion of p onal info oad ing cyclo ed to in e appea r's degro | n (approx. 30 minutes) ssessment: German ar blaces ormation e (examination regulation regilation regulation regulation regulation regulation re | nd/or English | | | |
| Allocat Additio Worklo 150 h Teachi Referre Modulo Master Master | age of a tion of p onal info oad ing cyclo ed to in e appea r's degro | n (approx. 30 minutes) ssessment: German ar places ormation e LPO I (examination regulation urs in ee (1 major) Chemistry ning degree Gymnasiur | nd/or English | ion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 016) |
| Allocat Additic Worklo 150 h Teachi Referre Master Master Supple | age of a tion of p onal info oad ing cyclo ed to in e appea r's degro r's teach ementar | n (approx. 30 minutes) ssessment: German ar places ormation e LPO I (examination regulation res in ee (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher | nd/or English | ion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 016) |
| Allocat Additio Worklo 150 h Teachi Teachi Referre Modulo Master Supple Master | age of a tion of p onal info oad ing cyclo ed to in e appea r's degro r's teach ementar r's degro | n (approx. 30 minutes) ssessment: German ar olaces ormation e LPO I (examination regulation regulation e (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher e (1 major) Chemistry | nd/or English | ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (2 B) (2016) | |
| Allocat Additio Worklo 150 h Teachi Referre Master Master Supple Master Master Master | age of a tion of p onal info oad ing cyclo ed to in e appea r's degro r's teach ementar r's degro | n (approx. 30 minutes) ssessment: German ar blaces ormation e LPO I (examination regulation regulation e (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher e (1 major) Chemistry ning degree Gymnasiur | ons for teaching-degree progra (2016) n MINT Teacher Educat (2018) | ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw | ork Bavaria (ENB) (2 B) (2016) ork Bavaria (ENB) (2 | |
| Allocat Additic Worklo 150 h Teachi Referre Master Master Master Master Master Master Master Master Master Master Master Master Master Master | age of a tion of p onal info oad ing cyclo ed to in e appea r's degro r's teach ementar r's degro r's teach ementar | n (approx. 30 minutes) ssessment: German ar places ormation e Places e LPO I (examination regulation e (1 major) Chemistry ning degree Gymnasium y course MINT Teacher e (1 major) Chemistry ning degree Gymnasium y course MINT Teacher e (1 major) Chemistry | ons for teaching-degree progra (2016) n MINT Teacher Educat (2018) n MINT Teacher Educat (2018) n MINT Teacher Educat (2018) n MINT Teacher Educat | ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (2 B) (2016) ork Bavaria (ENB) (2 B) (2020) | 020) |
| Allocat Additio Worklo 150 h Teachi Referro Master Master Master Supple Master Supple Master Master Master Master Master | age of a tion of p onal info oad ing cyclo ed to in e appea r's degro r's teach ementar r's degro r's teach ementar | n (approx. 30 minutes) ssessment: German ar olaces ormation e E LPO I (examination regulation regulation e (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher e (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher e (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher e (1 major) Chemistry ning degree Gymnasiur | ons for teaching-degree progra (2016) n MINT Teacher Educat (2018) n MINT Teacher Educat Education PLUS, Elite I (2018) n MINT Teacher Educat Education PLUS, Elite I (2024) n MINT Teacher Educat | ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw | ork Bavaria (ENB) (2 B) (2016) ork Bavaria (ENB) (2 B) (2020) ork Bavaria (ENB) (2 | 020) |
| Allocat Additio Worklo 150 h Teachi Referre Master Master Master Master Master Supple Master Supple | age of a tion of p onal info oad ing cyclo ed to in e appea r's degro r's teach ementar r's degro r's teach ementar r's degro r's teach ementar | n (approx. 30 minutes) ssessment: German ar olaces ormation e E LPO I (examination regulation regulation e (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher e (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher e (1 major) Chemistry ning degree Gymnasiur y course MINT Teacher e (1 major) Chemistry ning degree Gymnasiur | nd/or English nd/or English ons for teaching-degree progra (2016) n MINT Teacher Educat Education PLUS, Elite I (2018) n MINT Teacher Educat Education PLUS, Elite I (2024) n MINT Teacher Educat | ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw Network Bavaria (EN ion PLUS, Elite Netw | ork Bavaria (ENB) (2 B) (2016) ork Bavaria (ENB) (2 B) (2020) ork Bavaria (ENB) (2 B) (2025) | 020) |

| Module | e title | | | | Abbreviation | |
|---|------------------------------|--|--|-----------------------------|--|--|
| Practic | al cour | se "Homogeneous cataly | rsis in Inorganic Cher | mistry" | 08-HKM3AC-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecturer of the seminar "Spezielle Metallorganische Chemie and deren Anwendung in der Homogenkatalyse" | | | | Institute of Inorgan | ic Chemistry | |
| ECTS | Metho | od of grading | Only after succ. com | npl. of module(s) | | |
| 5 | | successfully completed | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | | | | |
| thods i and cry docum | n homo /stallog enting | ogeneous catalysis. The f raphy. Students will be e their findings and deliver | ocus will be on cataly xpected to conduct the second of t | st synthesis and ch | synthesis and analytical me- aracterisation, spectral analysis independently, write a lab report | |
| | | ning outcomes | | | | |
| | | | | | eneous catalysis in the lab and t dings and deliver a presentation | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | | |
| P (6) | | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| | | tical course (approx. 10 p ssessment: German and, | | ox. 15 minutes) | | |
| | ion of p | | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Workla | ad | | | | | |
| 150 h | | | | | | |
| - | ng cycl | | | | | |
| cacill | ing cycl | | | | | |
| Dofe | | | Contraction 1 | | | |
| Referre | | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| Module | e appea | urs in | | | | |
| | | ee (1 major) Chemistry (2 | 016) | | | |
| | - | ning degree Gymnasium I | | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) | |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (2 | | | arth Davaria (END) () | |
| | | ning degree Gymnasium I Ty course MINT Teacher Eo | | | | |
| | | ee (1 major) Chemistry (2 | | vetwork Davdild (EN | | |
| | - | | ~ - +/ | | | |
| | 's teacl | ning degree Gymnasium I | MINT Teacher Educati | on PLUS, Elite Netw | ork Bavaria (ENB) (2025) | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 233 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|------------------------------|--|---|-----------------------------|--|--|
| Practic | al cour | se "Homogeneous cataly | sis in Organic Chemi | istry" | 08-HKM3OC-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecturer of the seminar "Spezielle Metallorganische Chemie and deren Anwendung in der Homogenkatalyse" | | | | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. com | npl. of module(s) | | |
| 5 | (not) s | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | its | | | | | |
| thods i and cry docum | n homo /stallog enting | ogeneous catalysis. The f raphy. Students will be e their findings and deliver | ocus will be on cataly expected to conduct t | st synthesis and ch | synthesis and analytical me- aracterisation, spectral analysis independently, write a lab report | |
| | - | ning outcomes | | | | |
| | | | | | eneous catalysis in the lab and to dings and deliver a presentation. | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | rman) | | |
| P (6) | | | | | | |
| | | t in: German or English | | | | |
| | | eessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | ot every semester, information on whether | |
| | | tical course (approx. 10 p ssessment: German and, | | ox. 15 minutes) | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | · · · | | | |
| Module | e appea | irs in | | | | |
| | | ee (1 major) Chemistry (2 | 016) | | | |
| Master | 's teach | ning degree Gymnasium I | MINT Teacher Educati | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) | |
| | | y course MINT Teacher E | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (2 | | | ante Devenie (END) (- | |
| | | ning degree Gymnasium I ry course MINT Teacher Eo | | | ork Bavaria (ENB) (2020) B) (2020) | |
| | | ee (1 major) Chemistry (2 | | NELWOIN DAVAIIA (EN | | |
| | - | | ~ - +/ | | | |
| | 's teach | ning degree Gymnasium I | MINT Teacher Educati | ion PLUS, Elite Netw | ork Bavaria (ENB) (2025) | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 234 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title A | | | | Abbreviation | | |
|---|--|---|--|-----------------------------|--|--|
| Advance | ed tran | sition metal chemistry | | | 08-HKM4-161-m01 | |
| Module | coord | inator | | Module offered by | Nodule offered by | |
| lecturer of the seminar "Spezielle Übergangsmetallchemie" Institute | | | Institute of Inorgani | ic Chemistry | | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Content | Contents | | | | | |
| nation o | This module provides students with deeper insights into topics in the chemistry of transition metals and coordi- nation chemistry. It also provides an introduction to bioinorganic chemistry and discusses recent developments in transition metal chemistry. | | | | | |
| Intende | d learn | ning outcomes | | | | |
| | | ble to explain transition field. They can explain th | | | nonstrating a high degree of ex- chemistry. | |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | e essment (type, scope, langua) le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| b) oral e c) oral e d) log (a e) prese | examin examin approx entatio | nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | ach (20 to 30 minute 3 candidates (approx. | - | didate) or | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachin | ig cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | | | | | | |
| Master' Suppler Master' | s teach mentar s degre | ee (1 major) Chemistry (20 hing degree Gymnasium I y course MINT Teacher Ed ee (1 major) Chemistry (20 hing degree Gymnasium I | WINT Teacher Educati ducation PLUS, Elite I 018) | Network Bavaria (ENI | B) (2016) | |
| Suppler | mentar | y course MINT Teacher Ed ee (1 major) Chemistry (24 | ducation PLUS, Elite I | | | |
| | | ning degree Gymnasium I y course MINT Teacher Ec | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 235 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|--|--|--|------------------------------|-----------------------------|--|
| Practic | al cour | se medicinal chemistry | | | 08-MCM1-161-m01 |
| Module | e coord | inator | | Module offered by | |
| lecturers Pharmazeutische Chemie (Pharmaceutical Che- mistry) | | armaceutical Che- | Institute of Pharma | cy and Food Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | (not) s | successfully completed | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Contents | | | | | |
| Selecte | ed meth | ods and topics in medic | inal chemistry (synth | esis, testing, analysi | s, theory, pharmacokinetics). |
| Intend | ed lear | ning outcomes | | | |
| Studen | nts have | e developed a knowledge | of medicinal chemis | try and are able to a | pply it to practical experiments. |
| Course | S (type, r | umber of weekly contact hours, l | anguage — if other than Ge | rman) | |
| P (10) | | t in: German or English | | | |
| | | s essment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | t every semester, information on whether |
| pages (pages) | each) a age of a | nd assessment of practic ssessment: German and, | al assignments (2 to | | minutes each, log approx. 5 to 10 ions) as well as report (30 to 50 |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 300 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | - | | |
| Module | e appea | irs in | | | |
| | | ee (1 major) Chemistry (2 | 016) | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | |
| Master Supple | Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) | | | | |
| Master | 's teacl | ning degree Gymnasium I y course MINT Teacher E | MINT Teacher Educat | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 236 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--------------------------------|-------------------------------|--|---|-----------------------------|-----------------------------|----------------|
| Pharma | aceutic | al/Medicinal Chemistry | 1 | | 08-MCM2a-161-mo | 1 |
| Module | e coord | inator | | Module offered by | | |
| lecture mistry) | | mazeutische Chemie (P | harmaceutical Che- | Institute of Pharma | cy and Food Chemis | itry |
| ECTS | 1 | od of grading | Only after succ. co | npl. of module(s) | | |
| 5 | 1 | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| | | graduate | | • | | |
| 1 seme | | glauuale | | | | |
| structu in the r drug de | re-activ nodule evelopr | Irugs by field of indicati vity relationships; molec ; drug analysis; drug syn nent: discussion of spec | cular effect mechanisi nthesis; biotransform | ns; pharmacological | principles of the dru | ugs discussed |
| | - | ning outcomes | | | | |
| Studen | its have | e developed a knowledg | e of pharmaceutical/ | medicinal chemistry. | | |
| Course | S (type, r | number of weekly contact hours | , language — if other than Ge | erman) | | |
| V (3) | | | | | | |
| | | eessment (type, scope, langu le for bonus) | age — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| e) pres Langua | entatio age of a | . 20 pages) or n (approx. 30 minutes) ssessment: German and | d/or English | | | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulatio | ns for teaching-degree progr | ammes) | | |
| | | | | | | |
| Module | e appea | urs in | | | | |
| Master | 's degr | ee (1 major) Chemistry (| 2016) | | | |
| Master | 's teacl | ning degree Gymnasium | MINT Teacher Educat | | | 016) |
| | | ry course MINT Teacher | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (| | | |) |
| | | ning degree Gymnasium 1y course MINT Teacher I | | | | 020) |
| | | ee (1 major) Chemistry (| | Network Davalla (EN | טן (2020) | |
| Master | 's teacl | ning degree Gymnasium y course MINT Teacher I | MINT Teacher Educat | | | 025) |
| Sappic | mentu | | | | -, () | |
| Aaster's w | ith 1 maio | r Chemistry (2018) | JMU Würzb | urg • generated 19-Apr-2025 | • exam. | page 237 / 437 |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 237 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--------------------------------|-------------------------------|---|---|-----------------------------|-----------------------------|----------------|
| Pharma | aceutic | al/Medicinal Chemistry | / 2 | | 08-MCM2b-161-mc |)1 |
| Module | e coord | inator | | Module offered by | | |
| | rs Phar | mazeutische Chemie (F | Pharmaceutical Che- | - | cy and Food Chemis | itry |
| ECTS | 1 | od of grading | Only after succ. co | npl. of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | 5 | | |
| 1 seme | | graduate | | • | | |
| Conten | | gladuate | | | | |
| structu in the r drug de | re-activ nodule evelopr | Irugs by field of indicati vity relationships; mole ; drug analysis; drug sy nent: discussion of spe | cular effect mechanisı nthesis; biotransform | ns; pharmacological | principles of the dr | ugs discussed |
| | | ning outcomes | | | | |
| Studen | ts have | e developed a knowledg | ge of pharmaceutical/ | medicinal chemistry. | | |
| | S (type, r | number of weekly contact hours | , language — if other than Ge | erman) | | |
| V (3) | | | | | | |
| | | Sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| e) pres Langua | entatio ige of a | . 20 pages) or n (approx. 30 minutes) ssessment: German an | d/or English | | | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progr | ammes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry (| (2016) | | | |
| | | hing degree Gymnasiun | | | | 016) |
| | | ry course MINT Teacher | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (| | tion DILIC Elita Natur | ork Rovaria (END) (a | 020) |
| | | hing degree Gymnasiun ry course MINT Teacher | | | | 020) |
| | | ee (1 major) Chemistry (| | | | |
| Master | 's teacl | hing degree Gymnasiun ry course MINT Teacher | n MINT Teacher Educa | | | 025) |
| 2-444 | | | | | -, ()/ | |
| Master's w | ith 1 maio | r Chemistry (2018) | JMU Würzb | urg • generated 19-Apr-2025 | • exam. | page 238 / 437 |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 238 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | | |
|---|--|----------------------------------|--------------------------------|---|------------------------------|----------------|
| Mass-S | Spectro | metry and Proteomics | | | 08-MBC-MSP-161-n | 101 |
| Module | e coord | inator | | Module offered by | | |
| holder | of the (| Chair of Biochemistry | | Chair of Biochemistry | | |
| ECTS | Metho | od of grading | Only after succ. con | Only after succ. compl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | i | | |
| 1 semester graduate | | | | | | |
| Conten | ts | | | | | |
| les of the sation of so prove as well of quar N15 lab fication ces stu to a rar yeast. T wards, to iden Intende Studen have lee ty purific spectro | This module comprises a lecture, a seminar and a lab course. The lecture discusses the fundamental princip- les of the mass spectrometry of biomolecules. Topics to be covered in the lecture include ESI and MALDI ioni- sation techniques as well as the operating principles of TOF, Orbitrap and other mass analysers. The lecture al- so provides an introduction to CID and ETD fragmentation techniques, peptide and protein separation methods as well as the analysis of mass spectrometric data (protein databases, FDR, GO terms, etc.). It gives an overview of quantitative proteomics with a special focus on different stable isotope quantification methods (e.g. SILAC, N15 labelling, iTRAQ) and provides an insight into the mass spectrometric analysis of post-translational modi- fications. The seminar covers the fundamental principles of the analysis of mass spectrometric data. It introdu- ces students to different software packages and gives them the opportunity to independently develop solutions to a range of problems. In the lab course, students will use affinity purification to isolate a protein complex from yeast. They will then use 1D-SDS-PAGE to separate that complex and will proteolytically cleave it in the gel. After- wards, students will use nano-LC-MS/MS to analyse the peptides thus obtained and will conduct a data analysis to identify specific interaction partners and post-translational modifications. Intended learning outcomes Students have learned the theoretical foundations of mass spectrometry protein and proteomic analysis. They have learned how to use proteomic data analysis software tools. Students have become proficient in the affini- ty purification of protein complexes and have learned the steps involved in the preparation of samples for mass spectrometry protein analysis, e.g. SDS-PAGE and in-gel digestion. They have gained an insight into how to ope- rate a nanoHPLC-coupled mass spectrometer. | | | | | |
| | | | s, language — if other than Ge | rman) | | |
| V (2) + Module | | r (2) t in: German or English | | | | |
| | | | guage — if other than German, | examination offered — if no | ot every semester, informati | ion on whether |
| | | le for bonus) | | | | |
| b) log (c) oral d) oral e) pres Langua | a) written examination (approx. 45 to 90 minutes) or b) log (20 to 30 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (15 to 30 minutes per candidate) or e) presentation (20 to 40 minutes) Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered, no less than once a year | | | | | |
| Allocation of places | | | | | | |
| 67 places. | | | | | | |
| Additional information | | | | | | |
| | | | | | | |
| Workload | | | | | | |
| 150 h | 150 h | | | | | |
| Teachi | Teaching cycle | | | | | |
| | | | | | | |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | | page 239 / 437 |

Referred to in LPO I (examination regulations for teaching-degree programmes)

Module appears in

Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's degree (1 major) Chemistry (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 240 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|--|---|--|--|---|---|
| Supran | nolecul | ar Chemistry (Practical C | Course) | | 08-SCM2-161-m01 |
| Module | e coord | inator | | Module offered by | |
| | | ture "Supramolekularen kalische Chemie)" | Chemie (Organische | Faculty of Chemistr | y and Pharmacy |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) s | successfully completed | 08-SCM1 | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 semester graduate | | | | | |
| Conten | ts | | • • | | |
| mistry. | They w | | host-guest complexe | | ents in supramolecular che- d nanoparticles and use advan- |
| Intende | ed lear | ning outcomes | | | |
| | | able to perform synthese hem. They are able to pro | | | roscopic methods to analyse and hem microscopically. |
| Course | S (type, r | number of weekly contact hours, | anguage — if other than Gei | man) | |
| P (6) Module | e taugh | t in: German or English | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether |
| pages e | each) a | chtestate (pre and post- nd assessment of practions ssessment: German and | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| Allocat | ion of _l | olaces | | | |
| | | | - | | |
| Additio | nal inf | ormation | - | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cvcl | e | | | |
| | | | | | |
| Referre | d to in | LPOI (examination regulation | s for teaching-degree progra | mmes) | |
| | | | 00 | / | |
| Module | e appea | ars in | | | |
| Master Master Supple Master Master | 's degr 's teacl menta 's degr 's teacl | ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 hing degree Gymnasium ry course MINT Teacher E | MINT Teacher Educat ducation PLUS, Elite 018) MINT Teacher Educat | Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) |

| Module | Module title Abbreviation | | | | | |
|--|---------------------------|--|-------------------------------|-----------------------------|---|--|
| Supran | nolecul | ar Chemistry (Advanced | Lab) | | 08-SCM4-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| | | ture "Supramolekularen kalische Chemie)" | Chemie (Organische | Institute of Organic | Chemistry | |
| ECTS | Methe | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | (not) | successfully completed | 08-SCM2 | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | · | | | |
| thods i | n supra | | udents will be expected | | synthesis and analytical me- vork in the lab independently, do | |
| Intend | ed lear | ning outcomes | | | | |
| | | able to use advanced syr eir findings. They are abl | | | olecular chemistry in the lab and gs. | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | man) | | |
| P (6) Module | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, langua le for bonus) | age — if other than German, e | examination offered — if no | t every semester, information on whether | |
| | | (approx. 20 minutes) ssessment: German and | /or English | | | |
| Allocat | ion of | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| Additio | nal inf | ormation on module dura | ation: block taught lal | o course with approx | . 20 working days. | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPOI (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 242 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation |
|---|---------------------------------------|---|---|-----------------------------|--|
| Special Topics in Inorganic Chemistry 08-ACM | | | | | 08-ACMS-211-m01 |
| Module | coord | inator | | Module offered by | |
| Person(| (s) resp | onsible for the focus Ino | rganic Chemistry | Institute of Inorgani | c Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Conten | ts | | | | |
| The mo | dule co | overs current and/or spec | ial topics in Inorgani | c Chemistry. | |
| Intende | ed learr | ning outcomes | | | |
| quired l | knowle | | ic contexts, knows th | e application areas | He/she is able to classify the ac- and can assess the relevance for |
| Courses | S (type, n | umber of weekly contact hours, la | anguage — if other than Ger | man) | |
| S (2) + ĺ | Ü (1) | | | | |
| | | essment (type, scope, languag le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral e c) oral e d) log (a e) prese | examin examin approx entatio | nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | ach (20 to 30 minute candidates (approx. | | lidate) or |
| Allocati | ion of p | olaces | | | |
| | | | | | |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teaching cycle | | | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module | | | | | |
| | - | ee (1 major) Chemistry (20 | | | |
| Master's degree (1 major) Chemistry (2024) | | | | | |

| Module title | | | | | Abbreviation | |
|---|---|---|---|-----------------------------|--|--|
| Special | Special Topics in Biochemistry 08-BCMS-211-mo1 | | | | | |
| Module | coord | inator | | Module offered by | | |
| Person | (s) resp | onsible for the focus Bio | chemistry | Chair of Biochemist | ry | |
| ECTS | Metho | od of grading | Only after succ. com | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | ts | | | | | |
| The mo | dule co | overs current and/or spec | ial topics in Biochem | nistry. | | |
| Intende | ed leari | ning outcomes | | | | |
| red kno | wledge | | ontexts, knows the a | pplication areas and | e is able to classify the acqui- l can assess the relevance for va- | |
| Courses | S (type, n | umber of weekly contact hours, la | anguage — if other than Ger | man) | | |
| S (2) + I | Ü (1) | | | | | |
| | | s essment (type, scope, langua; le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| b) oral e c) oral e d) log (a e) prese | examin examin approx entatio | nination (approx. 90 to 1 nation of one candidate en ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | ach (20 to 30 minute candidates (approx. | | didate) or | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teaching cycle | | | | | | |
| | | | | | | |
| Referre | Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| - | | | | | | |
| Module | | | | | | |
| | - | ee (1 major) Chemistry (20 | | | | |
| Master's degree (1 major) Chemistry (2024) | | | | | | |

| Module | Module title Abbreviation | | | | | |
|--|---------------------------------------|---|--|-----------------------------|--|--|
| Specia | l Topic | s in Homogeneous Cataly | /sis | | 08-HKMS-211-m01 | |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| Person sis | (s) resp | oonsible for the focus Ho | mogeneous Cataly- | Institute of Inorgan | ic Chemistry | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| The mo | dule c | overs current and/or spec | cial topics in Homoge | eneous Catalysis. | | |
| Intend | ed lear | ning outcomes | | | | |
| the acc | uired l | | specific contexts, kn | ows the application | ysis. He/she is able to classify areas and can assess the rele- methods. | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Gei | rman) | | |
| S (2) + | Ü (1) | | | | | |
| | | Sessment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether | |
| b) oral c) oral d) log (e) pres | examir examin approx entatio | mination (approx. 90 to 1 nation of one candidate e lation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and, | ach (20 to 30 minute 3 candidates (approx | - | didate) or | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| | - | ee (1 major) Chemistry (2 | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 024) | | | |

| | | , |
|--|---|----------------|
| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 245 / 437 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | |
| | reg. uata recoru master (120 ECTS) Chemile - 2018 | |

| Module title Abbreviation | | | | | |
|---|---|--|-----------------------------|---|--|
| Special To | opics in Medicinal Chemistry | | | 08-MCMS-211-m01 | |
| Module co | oordinator | | Module offered by | | |
| Person(s) | responsible for the focus Me | dical Chemistry | Institute of Pharma | cy and Food Chemistry | |
| ECTS M | ethod of grading | Only after succ. con | pl. of module(s) | | |
| 5 ni | umerical grade | | | | |
| Duration | Module level | Other prerequisites | | | |
| 1 semeste | er graduate | | | | |
| Contents | | | | | |
| The modu | le covers current and/or spec | cial topics in Medicin | al Chemistry. | | |
| Intended | learning outcomes | | | | |
| acquired l | | cific contexts, knows | the application area | . He/she is able to classify the as and can assess the relevance ods. | |
| Courses (t | ype, number of weekly contact hours, l | anguage — if other than Ger | man) | | |
| S (2) + Ü (| (1) | | | | |
| | f assessment (type, scope, langua editable for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| b) oral exa c) oral exa d) log (ap) e) present | examination (approx. 90 to 1 amination of one candidate e amination in groups of up to 3 prox. 20 pages) or tation (approx. 30 minutes) of assessment: German and, | ach (20 to 30 minute 3 candidates (approx | - | didate) or | |
| Allocation | n of places | | | | |
| | | | | | |
| Additiona | l information | | | | |
| | | | | | |
| Workload | | | | | |
| 150 h | | | | | |
| Teaching cycle | | | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module appears in | | | | | |
| | Master's degree (1 major) Chemistry (2018) | | | | |
| Master's d | degree (1 major) Chemistry (2 | 024) | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 246 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | |
|---|--|--|--|-----------------------------|--|
| Specia | l Topic | s in Organic Chemistry | | | 08-0CMS-211-m01 |
| Modul | e coord | inator | | Module offered by | |
| Person | ı(s) resp | oonsible for the focus Org | anic Chemistry | Institute of Organic | Chemistry |
| ECTS | Meth | od of grading | Only after succ. con | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conten | nts | | | | |
| The mo | odule c | overs current and/or spec | cial topics in Organic | Chemistry. | |
| Intend | ed lear | ning outcomes | | | |
| quired | knowle | | ic contexts, knows th | ne application areas | le/she is able to classify the ac- and can assess the relevance for |
| Course | es (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (2) + | Ü (1) | | | | |
| | | sessment (type, scope, langua ole for bonus) | ge — if other than German, o | examination offered — if no | t every semester, information on whether |
| b) oral c) oral d) log (e) pres | examir examin (approx entatio | mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 a. 20 pages) or on (approx. 30 minutes) assessment: German and, | ach (20 to 30 minute 3 candidates (approx | - | didate) or |
| Allocat | tion of _l | places | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teaching cycle | | | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module appears in | | | | | |
| | | ee (1 major) Chemistry (2 | | | |
| Master | r's degr | ee (1 major) Chemistry (2 | 024) | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 247 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | Module title Abbreviation | | | | | |
|---|--|---|--|-----------------------------|--|--|
| Special | Special Topics in Physical Chemistry o8-PCMS-211-mo1 | | | | | |
| Module | e coord | inator | | Module offered by | | |
| Person(| (s) resp | oonsible for the focus Phy | vsical Chemistry | Institute of Physica | l and Theoretical Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | ts | | | | | |
| The mo | dule co | overs current and/or spec | cial topics in Physical | Chemistry. | | |
| Intende | ed lear | ning outcomes | | | | |
| quired l | knowle | | ic contexts, knows th | | He/she is able to classify the ac- and can assess the relevance for | |
| Courses | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | | |
| S (2) + l | Ü (1) | | | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| b) oral e c) oral e d) log (a e) prese | examir examin approx entatio | mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and, | ach (20 to 30 minute 3 candidates (approx | - | didate) or | |
| Allocati | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teaching cycle | | | | | | |
| | | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | | |
| - | | | | | | |
| Module appears in | | | | | | |
| | Master's degree (1 major) Chemistry (2018) | | | | | |
| waster' | Master's degree (1 major) Chemistry (2024) | | | | | |

| Module title Abbreviation | | | | | |
|--|--|--|--|-----------------------------|--|
| Specia | Special Topics in Supramolecular Chemistry | | | | 08-SCMS-211-m01 |
| Module | e coord | inator | | Module offered by | <u>.</u> |
| Person mistry | (s) resp | oonsible for the focus Su | pramolecular Che- | Institute of Organic | Chemistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| The mo | dule co | overs current and/or spec | cial topics in Supram | olecular Chemistry. | |
| Intende | ed learn | ning outcomes | | | |
| fy the a | cquire | | ct-specific contexts, | knows the application | mistry. He/she is able to classi- on areas and can assess the rele- methods. |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Gei | rman) | |
| S (2) + | Ü (1) | | | | |
| | | s essment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether |
| b) oral c) oral d) log (e) pres | examin examin approx entatio | nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and | ach (20 to 30 minute 3 candidates (approx | - | didate) or |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module | e appea | ars in | | | |
| | - | ee (1 major) Chemistry (2 | | | |
| Master | 's degre | ee (1 major) Chemistry (2 | 024) | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 249 / 437 |
|--|--|----------------|
| | | F-3+77 +77 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | |
| | | |

| Module | Module title Abbreviation | | | | |
|--|---------------------------|-----------------------------------|--------------------------------|-----------------------------|--|
| Special Topics in Theoretical Chemistry 08-TCMS-211-m01 | | | | 08-TCMS-211-m01 | |
| Module coordinator | | Module offered by | | | |
| Person(s) responsible for the focus Theoretical Chemistry | | eoretical Chemistry | Institute of Physica | l and Theoretical Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | mpl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | on | Module level | dule level Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | Its | | | | |
| The mo | dule co | overs current and/or spec | cial topics in Theoreti | cal Chemistry. | |
| Intend | ed lear | ning outcomes | | | |
| The student has advanced knowledge of selected topics in Theoretical Chemistry. He/she is able to classify the acquired knowledge in the subject-specific contexts, knows the application areas and is proficient in the required methods. He/she is able to apply these methods to current problems in Theoretical Chemistry. | | | | | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Gei | rman) | |
| S (2) + | Ü (1) | | | | |
| Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for 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 | | | | | |
| Allocat | ion of _l | olaces | | | |
| | - | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teaching cycle | | | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | |
| Master's degree (1 major) Chemistry (2024) | | | | | |

| Module title | | | Abbreviation | | |
|--|-------------------|----------------------------------|-----------------------------|--|-------|
| Special Topics in the Field of Functional Materials | | | 08-FMMS-211-m01 | | |
| Module coordinator | | | | Module offered by | |
| Person | (s) resp | onsible for the focus Fur | ctional Materials | Chair of Chemical Technology of Material Synthesis | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duration Module level | | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Conten | ts | | | | |
| The mo | dule co | overs current and/or spec | cial topics in the field | of Functional Materi | ials. |
| Intende | ed leari | ning outcomes | | | |
| The student has advanced knowledge of selected topics in the field of Functional Materials. He/she is able to classify the acquired knowledge in the subject-specific contexts, knows the application areas and can assess the relevance for various experimental syntheses, device preparations as well as measurement and analysis methods. | | | | | |
| Course | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (2) + l | Ü (1) | | | | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for 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 | | | | | |
| Allocati | ion of p | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teaching cycle | | | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | |
| Master's degree (1 major) Chemistry (2024) | | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 251 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



Subfield Other additional qualifications

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 252 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|------------------|--|--|------------------------------|-----------------------------|---|--|
| Tutorin | g 1 (pr | actical course) | | | 08-WRM1-161-m01 | |
| Module | e coord | inator | | Module offered by | <u>.</u> | |
| Dean o | f Studi | es Chemie (Chemistry) | | Faculty of Chemistr | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | (not) s | successfully completed | | | | |
| Duratio | on in the second | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | contract for this mo | • | rmed under a research assistant ist accompany a different course ⁄11. | |
| Conten | ts | | | | | |
| | | ives students the opport I Pharmacy and learn hov | | | lecture offered by the Faculty of an appropriate manner. | |
| Intende | ed lear | ning outcomes | · | | | |
| Studen needs. | ts are a | able to teach students in | earlier stages of thei | r degrees and tailor | their teaching to those students' | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Gei | rman) | | |
| T (3) | , | | | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether | |
| | | ities, (preparation of stat ssessment: German and | | ports, approx. 100 h | ours total) | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachiı | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 016) | | | |
| | Master's degree (1 major) Food Chemistry (2016) | | | | | |
| | Master's degree (1 major) Chemistry (2018) | | | | | |
| | - | ee (1 major) Food Chemis | | | | |
| | - | ee (1 major) Food Chemis | • | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 024) | | | |

| Module | e title | | | | Abbreviation | |
|--|--|--|------------------------------|-----------------------------|---|--|
| Tutorin | g 2 (pr | actical course) | | | 08-WRM2-161-m01 | |
| Module | e coord | inator | | Module offered by | <u>.</u> | |
| Dean o | f Studi | es Chemie (Chemistry) | | Faculty of Chemistr | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | (not) s | successfully completed | | | | |
| Duratio | on in the second | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | contract for this mo | • | rmed under a research assistant ist accompany a different course ⁄11. | |
| Conten | ts | | | | | |
| | | ives students the opport I Pharmacy and learn how | | | lecture offered by the Faculty of an appropriate manner. | |
| Intende | ed lear | ning outcomes | | | | |
| Studen needs. | ts are a | able to teach students in | earlier stages of thei | r degrees and tailor | their teaching to those students' | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Gei | rman) | | |
| T (3) | , | | | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether | |
| | | ities, (preparation of stat ssessment: German and | | ports, approx. 100 h | ours total) | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachiı | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | immes) | | |
| | _ | | | | | |
| Module | e appea | ars in | | | | |
| Master's degree (1 major) Chemistry (2016) | | | | | | |
| | Master's degree (1 major) Food Chemistry (2016) | | | | | |
| | Master's degree (1 major) Chemistry (2018) | | | | | |
| | - | ee (1 major) Food Chemis | | | | |
| | - | ee (1 major) Food Chemis | • | | | |
| Master | s degr | ee (1 major) Chemistry (2 | 024) | | | |

| Foreign Studies (short) 08:APM1:161:m01 Module contrained (Chemistry) Faculty of Chemistry and Pharmacy Eras Diply after succ. compl. of module(s) S (not) successfully completed | Module title Abbreviation | | | | | Abbreviation | |
|--|---------------------------|---|-----------------------------------|------------------------------|-----------------------------|--|--|
| Erasmus programme coordinator Chemie (Chemistry) 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 1 semester graduate May not be combined with o8-APM2. Contents Practical course to be completed at universities abroad. Students may complete this course in the context of exchange programmes such as Erasmus etc. The contents of the course should correspond to the contents of a lab course offered in the context of the Master's programme in Chemistry (120 ECTS credits); please consult with the completent coordinator in advance. Intended learning outcomes Students are familiar with procedures and processes used at universities in countries other than Germany. They have acquired subject-specific skills as well as language and interpersonal skills. Courses (type, number of weekly contact hours, language – if other than German) P (o) Module taught in: German and/or English and potentially language of the respective country Method of assessment: Grema and/or English and potentially language of the respective country Module is to a pages) or b) talk (to to a pages) or b) talk (to to a pages) or b) talk (to to a minutes) Language of assessment: Germa and/or English and potentially language of the respective country Additional information on module duration: block placeme | Foreign | Studio | es (short) | | | 08-APM1-161-m01 | |
| ECTS Method of grading Only after succ. compl. of module(s) 5 (not) successfully completed | Module coordinator | | | | Module offered by | | |
| in the successfully completed | Erasmu | s prog | ramme coordinator Chem | ie (Chemistry) | Faculty of Chemistr | y and Pharmacy | |
| Duration Module level Other prerequisites 1 semester graduate May not be combined with 08-APM2. Contents Practical course to be completed at universities abroad. Students may complete this course in the context of tex- change programmes such as Erasmus etc. The contents of the course should correspond to the contents of a lab course offered in the context of the Master's programme in Chemistry (120 ECTS credits); please consult with the competent coordinator in advance. Intended learning outcomes Intended learning outcomes Students are familiar with procedures and processes used at universities in countries other than Germany. They have acquired subject-specific skills as well as language and interpersonal skills. Courses (type, number of weekly contact hours, language — if other than German) P (o) Module taught in: German and/or English and potentially language of the respective country Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for hours) a) report (10 to 20 pages) or b) talk (to 120 minutes) The prove the | ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 1 semester graduate May not be combined with 08-APM2. Contents Practical course to be completed at universities abroad. Students may complete this course in the context of exchange programmes such as Erasmus etc. The contents of the course should correspond to the contents of a lab course offered in the context of the Master's programme in Chemistry (120 ECTS credits); please consult with the competent coordinator in advance. Intended learning outcomes Students are familiar with procedures and processes used at universities in countries other than Germany. They have acquired subject-specific skills as well as language and interpersonal skills. Courses (type, number of weekly contact hours, language – if other than German) P (o) Module taught in: German and/or English and potentially language of the respective country Method of assessment (type, scope, language – if other than German, examination offered – if not every senester, information on whether module is creditable for bonus) a) report (to to 2 o pages) or b) talk (to to 2 o minutes) Language of assessment: German and/or English and potentially language of the respective country Alditional information Additional information Additional information on module duration: block placement abroad with a duration of no less than 20 working days. Workload 150 h Teaching cycle Module appers in Module appers in | 5 | (not) s | successfully completed | | | | |
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| Teaching cycle Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Food Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2021) | Worklo | ad | | | | | |
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| Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Food Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2019) | | ng cycl | e | | | | |
| Module appears in Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Food Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2021) | | • • | | | | | |
| Module appears in Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Food Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2021) | Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Food Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2021) | | | | | | | |
| Master's degree (1 major) Food Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2021) | Module | appea | ars in | | | | |
| Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2021) | | | | 016) | | | |
| Master's degree (1 major) Food Chemistry (2019) Master's degree (1 major) Food Chemistry (2021) | Master' | s degr | ee (1 major) Food Chemis | try (2016) | | | |
| Master's degree (1 major) Food Chemistry (2021) | | - | | | | | |
| | | | | | | | |
| Master's degree (1 major) Chemistry (2024) | | - | | | | | |
| | Master' | s degr | ee (1 major) Chemistry (20 | 024) | | | |

| Modul | Nodule title Abbreviation | | | | | |
|---|---|---|--|-----------------------|---|--|
| Chemi | stry-re | lated competences outsic | le of the Natural Scie | ences | 08-CHPM1-161-m01 | |
| Modul | e coord | linator | | Module offered | by | |
| Dean o | of Studi | es Chemie (Chemistry) | | Faculty of Chem | istry and Pharmacy | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | (not) | successfully completed | | | | |
| Durati | on | Module level | Other prerequisites | | | |
| 1 seme | ester | graduate | Please consult with | course advisory | service in advance. | |
| Conte | nts | • • | · | | | |
| other I | acultie | | cluded in the acaden | | y-related courses that are offered by or their programmes. Students MUST | |
| Intend | ed lear | ning outcomes | | | | |
| Stude | nts hav | e developed the knowled | ge and skills taught i | n the courses att | ended by them. | |
| Course | es (type, | number of weekly contact hours, l | anguage — if other than Ger | rman) | | |
| Νο coι | urses as | signed to module | | | | |
| | | sessment (type, scope, langua ble for bonus) | ge — if other than German, | examination offered — | if not every semester, information on whether | |
| b) oral c) oral d) log e) pres | examii examir (approx sentatic | mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 x. 20 pages) or on (approx. 30 minutes) assessment: German and | ach (20 to 30 minute 3 candidates (approx | | candidate) or | |
| Alloca | tion of | places | | | | |
| | | | | | | |
| Additi | onal inf | ormation | | | | |
| | | | | | | |
| Workle | oad | | | | | |
| 150 h | | | | | | |
| Teachi | ing cyc | e | | | | |
| | | | | | | |
| Referr | ed to in | LPOI (examination regulation | s for teaching-degree progra | ammes) | | |
| | | | | | | |
| Modul | e appe | ars in | | | | |
| | - | ree (1 major) Chemistry (2 | | | | |
| | - | ree (1 major) Chemistry (2 | | | | |
| Maste | r's degr | ee (1 major) Chemistry (2 | 024) | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 257 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation |
|---|---|---|--|----------------------------|--|
| Chemi | stry-re | ated competences withir | n the Natural Science | S | 08-CHPM2-161-m01 |
| Modul | e coord | linator | | Module offered by | , , |
| Dean o | of Studi | es Chemie (Chemistry) | | Faculty of Chemist | ry and Pharmacy |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) | successfully completed | | | |
| Durati | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | Please consult with | course advisory ser | vice in advance. |
| Conter | nts | | | | |
| other F | acultie | | cluded in the acaden | | elated courses that are offered by heir programmes. Students MUST |
| Intend | ed lear | ning outcomes | | | |
| Studer | nts hav | e developed the knowled | ge and skills taught i | n the courses atten | ded by them. |
| Course | es (type, | number of weekly contact hours, l | anguage — if other than Gei | rman) | |
| Νο cou | urses as | signed to module | | | |
| | | s essment (type, scope, langua ble for bonus) | ge — if other than German, | examination offered — if n | ot every semester, information on whether |
| b) oral c) oral d) log e) pres | examii examir (approx sentatic | mination (approx. 90 to 1 nation of one candidate e nation in groups of up to 3 x. 20 pages) or on (approx. 30 minutes) assessment: German and | ach (20 to 30 minute 3 candidates (approx | - | ndidate) or |
| Alloca | tion of | places | | | |
| | | | | | |
| Additi | onal inf | ormation | | | |
| | | | | | |
| Worklo | oad | | | | |
| 150 h | | | | | |
| Teachi | ing cycl | e | | | |
| | | | | | |
| Referr | ed to in | LPO I (examination regulation | s for teaching-degree progra | immes) | |
| | | | | | |
| Modul | e appe | ars in | | | |
| Maste | r's degr | ee (1 major) Chemistry (2 | 016) | | |
| | - | ee (1 major) Chemistry (2 | | | |
| Maste | r's degr | ee (1 major) Chemistry (2 | 024) | | |

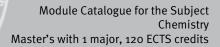
| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 258 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|--|---------------------------------------|--|---|-----------------------------|---|
| Chemis road | stry-rel | ated competences outsic | le of the Natural Scie | nces acquired ab- | 08-CHPM3-161-m01 |
| Module | Module coordinator Module off | | | Module offered by | |
| Dean o | f Studi | es Chemie (Chemistry) | | Faculty of Chemistr | y and Pharmacy |
| ECTS | Metho | od of grading | Only after succ. com | npl. of module(s) | |
| 5 | (not) s | successfully completed | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | Please consult with | course advisory serv | vice in advance. |
| Conten | ts | | | | |
| other F | acultie | | cluded in the acaden | | elated courses that are offered by eir programmes. Students MUST |
| Intende | ed lear | ning outcomes | | | |
| Studen | its have | e developed the knowled | ge and skills taught i | n the courses attend | led by them. |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | rman) | |
| | | signed to module t in: German and/or Engl | ish and potentially la | nguage of the respe | ctive country |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral c) oral d) log (e) pres | examir examin approx entatio | mination (approx. 90 to 1 nation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and, | ach (20 to 30 minute 3 candidates (approx. | . 15 minutes per can | |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module appears in | | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 016) | | |
| | - | ee (1 major) Chemistry (2 | - | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 024) | | |

| F | | |
|--|--|----------------|
| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 259 / 437 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | Nodule title Abbreviation | | | | | |
|-------------------------------|--|--|-----------------------------|----------------------|---|--|
| Chemis | stry-rel | ated competences withir | the Natural Science | s acquired abroad | 08-CHPM4-161-m01 | |
| Module | Module coordinator Module offered | | | | • | |
| Dean o | f Studi | es Chemie (Chemistry) | | Faculty of Chemistr | ry and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | (not) s | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | Please consult with | course advisory ser | vice in advance. | |
| Conten | ts | | | | | |
| This se | minar e | equips students with kno | wledge, skills and me | ethods for special e | ducation professionals. | |
| Intende | ed lear | ning outcomes | | | | |
| Knowle | dge, sl | kills and methods for spe | cial education profes | sionals. | | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | | |
| | | signed to module t in: German and/or Engl | ish and potentially la | nguage of the respe | ective country | |
| Metho | d of ass | | | - | ot every semester, information on whether | |
| d) log (e) pres Langua | approx entatio ge of a | ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and, | | | | |
| Allocat | ion of j | olaces | | | | |
| Additio | nal inf | ormation | | | | |
| | - nat mi | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | | |
| Module appears in | | | | | | |
| | Master's degree (1 major) Chemistry (2016) | | | | | |
| | | ee (1 major) Chemistry (2 | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 024) | | | |





Thesis (30 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 261 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---------------------------------------|---------------------|---|------------------------------|-----------------------------|---|--|
| Master-Thesis Chemistry 08-MA-161-m01 | | | | | | |
| Module coordinator | | | | Module offered by | <u>I</u> | |
| degree | progra | mme coordinator Chemi | e (Chemistry) | Faculty of Chemistr | y and Pharmacy | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 30 | nume | rical grade | | ` | | |
| Duratio | on | Module level | Other prerequisites | uisites | | |
| 1 seme | ster | graduate | Where applicable, s | pecific modules as s | specified by supervisor. | |
| Conten | its | | <u> </u> | · | | |
| | | vives students the opport scientific methods they | | | problem within a given time frame | |
| Intend | ed lear | ning outcomes | | | | |
| | | able to conduct research to present the results of | | | the principles of good scientific | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | rman) | | |
| No cou | rses as | signed to module | - | | | |
| | | sessment (type, scope, langua vle for bonus) | ge — if other than German, o | examination offered — if no | ot every semester, information on whether | |
| | | is (approx. 60 to 80 page ssessment: German and | | | | |
| Allocat | ion of _l | places | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| Time to | o comp | lete: 6 months. | | | | |
| Worklo | ad | | | | | |
| 900 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 016) | | | |
| | - | ee (1 major) Chemistry (2 | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 024) | | | |



Compulsory Courses (double degree) (35 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 263 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



Subfield Courses at partner university abroad

(5 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 264 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | | | | |
|---|---|---|--|-----------------------------|----------------------------|-----------------|--|--|--|
| Toxicology and legal studies | | | | | 03-TR-152-m01 | | | | |
| Module coordinator | | | Module offered by | | | | | | |
| | | ure "Toxikologie und R | echtskunde" | Faculty of Medicine | | | | | |
| ECTS | 1 | od of grading | | compl. of module(s) | | | | | |
| | | rical grade | | | | | | | |
| 3 Duratio | <u> </u> | Module level | Other prerequisites | | | | | | |
| 1 seme | | undergraduate | | | | | | | |
| Conten | | | | | | | | | |
| | | l regulations for chemis | ts (handling and trans | nortation of hazardo | us materials) funda | mentals of | | | |
| toxicol | - | | na manuting allu tidlis | | ius materiais), tulluc | intentais UI | | | |
| | | ning outcomes | | | | | | | |
| | | master the basics of leg | al regulations for cher | nists (handling and t | ransport of hazardo | us substan- | | | |
| | | the fundamentals of to | | | | | | | |
| Course | S (type, n | umber of weekly contact hours | , language — if other than Ger | man) | | | | | |
| V (1) + V | V (1) | | | | | | | | |
| | | essment (type, scope, lang | uage — if other than German, o | examination offered — if no | t every semester, informat | on on whether | | | |
| | | le for bonus) | | | | | | | |
| written | examir | nation (approx. 90 minu | ites) | | | | | | |
| Allocat | ion of p | olaces | | | | | | | |
| | | | | | | | | | |
| Additio | nal info | ormation | | | | | | | |
| | | 2 para. 2 sentence 2 A he APOLmCh and No. 5 | | | er g) and i) and No. I | l 1st letter d) | | | |
| Worklo | ad | | | | | | | | |
| 90 h | | | | | | | | | |
| Teachiı | ng cycl | 9 | | | | | | | |
| | | | | | | | | | |
| Referre | d to in | LPOI (examination regulation | ons for teaching-degree progra | mmes) | | | | | |
| § 22 | | | | | | | | | |
| § 22 | | | | | | | | | |
| § 22 | | | | | | | | | |
| Module | | | | | | | | | |
| | | gree (1 major) Biochemi | | | | | | | |
| | | gree (1 major) Chemistr | | | | | | | |
| | | gree (1 major) Food Che mination for the teachiı | | Chemistry (2015) | | | | | |
| | | mination for the teachin | | | stry (Primary School) | (2015) | | | |
| | | mination for the teachin | | | | (<i>)</i> / | | | |
| | | | | • - | | | | | |
| 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 sta | ate exa | | First state examination for the teaching degree Mittelschule Didactics in Chemistry (Middle School) (2015) | | | | | | |
| First sta First sta | ate exa ate exa | mination for the teachin | ng degree Mittelschule | • - | try (Middle School) | (2015) | | | |
| First sta First sta Master | ate exa ate exa 's degre | mination for the teachin ee (1 major) Chemistry (| ng degree Mittelschule (2016) | • - | try (Middle School) | (2015) | | | |
| First sta First sta Master Bachelo | ate exa ate exa 's degre or's deg | mination for the teachin ee (1 major) Chemistry (gree (1 major) Food Che | ng degree Mittelschule 2016) mistry (2016) | • - | try (Middle School) | (2015) | | | |
| First sta First sta Master Bachelo Bachelo | ate exa ate exa 's degre or's deg or's deg | mination for the teachin ee (1 major) Chemistry (| ng degree Mittelschule (2016) mistry (2016) (2017) | • - | | (2015) | | | |

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)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 266 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Advana | | | | | Abbreviation | |
|--|-------------------|--|------------------------------|-----------------------------|---|--|
| Advanced chemical practical course 08-VPM-DA-161-m01 | | | | | | |
| Module | e coord | inator | | Module offered by | <u>.</u> | |
| head of | f the re | search group offering the | e module | Faculty of Chemistr | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 2 | (not) s | successfully completed | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| | | ives students the opport ne in question. | unity to explore a res | earch topic and app | ly the methods commonly used | |
| Intende | ed lear | ning outcomes | | | | |
| Studen oral pre | | | research topic and p | resent the results of | their work in a written report or | |
| Course | S (type, r | number of weekly contact hours, I | anguage — if other than Ger | rman) | | |
| Р (3) | | | | | | |
| | | eessment (type, scope, langua le for bonus) | ge — if other than German, o | examination offered — if no | ot every semester, information on whether | |
| | | a. 3 pages) ssessment: German and | /or English | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 60 h | | | | | | |
| Teachiı | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| | - | ee (1 major) Chemistry (2 | | | | |
| | • | ee (1 major) Chemistry (2 ee (1 major) Chemistry (2 | - | | | |

| page 267 / 437 | JMU Würzburg • generated 19-Apr-2025 • exam. | Master's with 1 major Chemistry (2018) |
|----------------|--|--|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |
| | | Master's with 1 major Chemistry (2018) |



Subfield Courses at partner university abroad

(30 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 268 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation | |
|-----------------|--|--|--------------------------------------|-----------------------------|---|--|
| Qualifi | Qualifications - Partner University 08-VPU-161-m01 | | | | | |
| Modul | e coord | inator | | Module offered by | <u></u> | |
| progra | mme co | pordinator of the exchange | ge programme | Faculty of Chemistr | y and Pharmacy | |
| ECTS | Meth | od of grading | Only after succ. compl. of module(s) | | | |
| 30 | (not) | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ester | graduate | Please consult with | course advisory serv | vice in advance. | |
| Conter | nts | | | | | |
| This m | odule c | liscusses topics from the | curriculum of the pai | rtner university abro | ad. | |
| Intend | ed lear | ning outcomes | | | | |
| Studer sity. | nts have | e developed the knowled | ge and skills taught i | n the courses attenc | led by them at the partner univer- | |
| Course | S (type, r | number of weekly contact hours, I | anguage — if other than Ger | rman) | | |
| No cou | irses as | signed to module | | | | |
| | | sessment (type, scope, langua vle for bonus) | ge — if other than German, e | examination offered — if no | ot every semester, information on whether | |
| | | as specified by partner u ssessment: German and | | at partner university | <i>i</i> abroad | |
| Allocat | tion of _l | places | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 900 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPOI (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Modul | e appea | ars in | | | | |
| | - | ee (1 major) Chemistry (2 | | | | |
| | 0 | ee (1 major) Chemistry (2 ee (1 major) Chemistry (2 | , | | | |



Compulsory Electives (double degree)

(55 ECTS credits)

Students must take one focus with 25 ECTS credits as well as one focus with 30 ECTS credits (focuses 1 and 2 pursuant to Section 3 Subsection 2 FSB (subject-specific provisions) Annex DA), provisions on available combinations are set out in Section 3 Subsection 2 Sentence 8 FSB.

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 270 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Inorganic Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 271 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(20 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 272 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | |
|--|--|---|--------------------------------|---|----------------------------|----------------|
| Advanc | ed Ino | rganic Chemistry | | | 08-ACM1-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| Manag | Managing Director of the Institute of Inorganic Chemistr | | | Institute of Inorgani | ic Chemistry | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 10 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | ; | | |
| 2 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| special | comp | liscusses advanced top ounds of the main grou ransition metals and co | p elements (MGEs), bo | | | |
| Intend | ed lear | ning outcomes | | | | |
| the che | emical | able to characterise and properties of transition n compounds. | | | | |
| Course | S (type, 1 | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (3) + | S (3) | | | | | |
| | | Sessment (type, scope, lang ole for bonus) | uage — if other than German, | examination offered — if no | t every semester, informat | ion on whether |
| c) oral d) log (e) pres | examir approx entatio ge of a | nation of one candidate nation in groups of up to a 20 pages) or n (approx. 30 minutes) ssessment: German an places | o 3 candidates (approx | | didate) or | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 300 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module appears in | | | | | | |
| Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) | | | | | | |
| Master's w | ith 1 majo | r Chemistry (2018) | JMU Würzb reg. data rec | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | • exam. e - 2018 | page 273 / 437 |

| Module title | | | | | Abbreviation |
|---|---|--|--|---|---|
| Inorga | nic Che | mistry practical course f | or advanced | | 08-ACPM-161-m01 |
| Module | Module coordinator | | | Module offered by | |
| focus p | oint co | ordinator "Inorganic Che | mistry" | Institute of Inorgan | ic Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | npl. of module(s) | |
| 10 | (not) s | successfully completed | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | ł | | |
| thods i tral ana | n inorg alysis a | anic chemistry. The focu | s will be on working u ents will be expected | inder inert atmosphe to conduct their wo | synthesis and analytical me- eres, purification methods, spec- rk in the lab independently, write |
| Intende | ed lear | ning outcomes | | | |
| | | | | - | ic chemistry in the lab and to in- ngs and deliver a presentation. |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | rman) | |
| P (24) Module | e taugh | t in: German or English | | | |
| | | sessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| | | tical course (approx. 20 ssessment: German and | | rox. 15 minutes) | |
| Allocat | ion of j | olaces | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| Additio | nal inf | ormation on module dura | ation: block taught lal | b course with appro> | . 40 working days. |
| Worklo | ad | | | | |
| 300 h | | | - | | |
| - | | | | | |
| Teachi | ng cycl | e | - | | |
| Teachi | ng cycl | e | | | |
| | | e LPOI (examination regulation | s for teaching-degree progra | mmes) | |
| | | | s for teaching-degree progra | immes) | |
| | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| Referre Module | ed to in e appea | LPO I (examination regulation | | immes) | |
| Referre Module Master Supple | ed to in e appea 's degr 's teacl menta | LPO I (examination regulation ars in ee (1 major) Chemistry (2 ning degree Gymnasium y course MINT Teacher E | 016) MINT Teacher Educati ducation PLUS, Elite I | ion PLUS, Elite Netwo | |
| Referre Master Master Supple Master Supple | ed to in e appea 's degr 's teacl mental 's degr 's teacl mental | LPO I (examination regulation Irs in ee (1 major) Chemistry (2 ning degree Gymnasium | 016) MINT Teacher Educati ducation PLUS, Elite I 018) MINT Teacher Educati ducation PLUS, Elite I | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (2020) |

| | | (|
|--|--|----------------|
| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | page 274 / 437 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(5 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 275 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

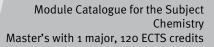
| Module | e title | | | | Abbreviation |
|--|--|---|--|--|---|
| Bioinor | ganic (| Chemistry | | | 08-ACM2-161-m01 |
| Module | e coord | inator | | Module offered by | |
| and Me | edizinis | ninar "Anorganische Asp chen Chemie" (Inorganic dicinal Chemistry) | | Institute of Inorgan | ic Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | | rical grade | | · · · · · · · · · · · · · · · · · · · | |
| Duratio | | Module level | Other prerequisites | | |
| 1 seme | | graduate | | | |
| Conten | | Sidduite | <u> </u> | | |
| This mo | odule in ds of BI | | | | chemistry (BIC). It discusses the ns of BIC in the fields of diagnosis |
| Intende | ed lear | ning outcomes | · | | |
| | | able to describe the princ us enzymes and describe | | | xplain the structure and effects nedicine. |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (3) Module | e taugh | t in: German or English | | | |
| a) writt b) oral c) oral | en exai examir examin | le for bonus) mination (approx. 45 to 9 nation of one candidate e ation in groups of up to 3 ssessment: German and, | ach (20 to 30 minute 3 candidates (15 to 30 | - | late) |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cvcl | e | | | |
| | 0 .) | 2 | | | |
| Referre | d to in | LPOI (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | annes | urs in | | | |
| Master Master Supple Master Master Master | 's degro 's teach mentar 's degro 's degro 's teach | ee (1 major) Chemistry (2 ning degree Gymnasium y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Biochemistry | MINT Teacher Educat ducation PLUS, Elite I 018) / (2019) MINT Teacher Educat | Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (2020) |

| Modul | e title | | | | Abbreviation | |
|---------------------------------------|--|--|--------------------------------|------------------------------|-----------------------------|----------------|
| Solid s | state ch | emistry and inorganic | materials | | 08-ACM3-161-m01 | |
| Modul | e coord | inator | | Module offered by | <u> </u> | |
| lecture | er of ser | ninar "Festkörperchemi | ie and Anorganische | Institute of Inorgan | ic Chemistry | |
| | | Solid State Chemistry a | | | , | |
| ECTS | Meth | od of grading | Only after succ. co | mpl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Durati | on | Module level | Other prerequisites | 5 | | |
| 1 seme | ester | graduate | | | | |
| Conte | nts | a | | | | |
| This m | odule p | provides an introduction | n to solid-state chemis | stry. It focuses on the | structure, chemical | and physical |
| | | nthesis methods and s | | | , , | |
| Intend | led lear | ning outcomes | | | | |
| | | able to describe the str | | | | |
| synthe | esis. The | ey can describe importa | ant aspects of selected | I materials regarding | the corresponding s | olids. |
| Course | es (type, 1 | number of weekly contact hour | s, language — if other than Ge | erman) | | |
| S (3) | | | | | | |
| | | sessment (type, scope, lang vle for bonus) | uage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| d) log e) pres Langua Alloca | (approx sentation age of a tion of p | | - | | | |
| Additi | onal inf | ormation | | | | |
| Workle | oad | | | | | |
| 150 h | | | | | | |
| Teachi | ing cycl | e | | | | |
| | | | _ | | | |
| Referr | ed to in | LPO I (examination regulation | ons for teaching-degree progr | ammes) | | |
| | | • | | | | |
| | e appea | | () | | | |
| | - | ee (1 major) Chemistry hing degree Gymnasiur | | tion DILIS Elita Natur | ork Bayaria (END) (a. | 016) |
| | | ry course MINT Teacher | | | | 010) |
| | | ee (1 major) Chemistry | | | _, () | |
| | - | hing degree Gymnasiur | | tion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 020) |
| | | ry course MINT Teacher | | Network Bavaria (EN | B) (2020) | |
| | - | ee (1 major) Chemistry | | | | , |
| | | hing degree Gymnasiur | | | | 025) |
| Supple | ementa | ry course MINT Teacher | Education PLUS, Elite | Network Bavaria (EN | B) (2025) | |
| Master's v | vith 1 majo | r Chemistry (2018) | JMU Würzb | ourg • generated 19-Apr-2025 | • exam. | page 277 / 437 |
| | | | | cord Master (120 ECTS) Chemi | | |

| Advance Order Set HKA2-161-m01 types Module correations Module of foread by Module Institute of Inorganic Chemistry Institute of Inorganic Chemistry Advance Only after succ. comp L of module(s) Institute of Inorganic Chemistry Signame in advance Institute of Inorganic Chemistry Signame in advance Inorganic Chemistry Signame Inorganic Chemistry Inorganic Chemistry Signame Inorganic Chemistry Inorganic Chemistry Signamination Inorganic Chemistry Inorganic Chemistry <t< th=""><th></th><th>e title</th><th></th><th></th><th></th><th>Abbreviation</th><th></th></t<> | | e title | | | | Abbreviation | |
|--|--|--|---|---|---|--|----------------|
| Module coordinator Module offered by lecturer of the seminar "Spezielle Metallorganische Chemie and deren Anwendung in der Homogenkatalyse" Institute of Inorganis Chemistry and deren Anwendung in der Homogenkatalyse" CTS Method of grading Only after succe. compl. of module(s) 5 numerical grade Duration Module tevel Other prerequisites 1 semester graduate Contents This module examines elementary organic compounds of transition metals with homogeneous catalytic appl tions. Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. I are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module tageth in: German or English Module camination of one candidate each (2o to 3 on inutes) or b) oral examination of one candidate each (2o to 3 on inutes) or c) oral examination of one candidate each (2o to 3 on inutes) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English Adlitonal information </th <th>Advanc</th> <th>ed orga</th> <th>nometallic chemistry</th> <th>and its application in h</th> <th>nomogeneous cata-</th> <th>08-HKM2-161-m01</th> <th></th> | Advanc | ed orga | nometallic chemistry | and its application in h | nomogeneous cata- | 08-HKM2-161-m01 | |
| lecturer of the seminar "Spezielle Metallorganische Chemie Institute of Inorganic Chemistry and deren Anwendung in der Homogenkatalyse" ECTS Method of grading Only after succ. compl. of module(s) 5 numerical grade - Duration Module level Other prerequisites 1 semester graduate - Contents This module examines elementary organic compounds of transition metals with homogeneous catalytic appl tions. Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than Geman) S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than Geman, examination offered – if not every semester, information on whet module is creditable for homus) a) written examination (approx. 90 to 180 minutes) or b) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 90 minutes) Language of assessment: German and/or English Additional information | lysis | | | | | | |
| and deren Anwendung in der Homogenkatalyse" ECTS Method of grading Only after succ. compl. of module(s) s numerical grade Duration Module level Other prerequisites semester graduate Contents This module examines elementary organic compounds of transition metals with homogeneous catalytic appl tions. Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module taught in: German or English Method of assessment (type, score, language – if other than German) S (3) a) written examination of one candidate each (20 to 30 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 to 180 minutes) Language of assessment: German and/or English Allocation of places | Module | e coordi | nator | | Module offered by | | |
| ECTS Method of grading Only after succ. compl. of module(s) 5 numerical grade Duration Module level Other prerequisites 1 semester graduate Contents This module examines elementary organic compounds of transition metals with homogeneous catalytic appl tions. Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. I are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German, examination offered – if not every semester, information on whetl module is creditable for bonus) 3 written examination in groups of up to 3 candidates (approx. 15 minutes) or b) 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 Aldication of place Module appears in | lecture | r of the | seminar "Spezielle Me | tallorganische Chemie | Institute of Inorgan | ic Chemistry | |
| 5 numerical grade Duration Module level Other prerequisites 1 semester graduate Contents This module examines elementary organic compounds of transition metals with homogeneous catalytic applitions. Intended learning outcomes | and de | ren Anw | vendung in der Homog | enkatalyse" | | | |
| Duration Module level Other prerequisites 1 semester graduate Contents This module examines elementary organic compounds of transition metals with homogeneous catalytic appl tions. Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whet module is creditable for homus) a) written examination (approx. 90 to 180 minutes) or b) 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 Mokule appears in Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT T | ECTS | Metho | d of grading | Only after succ. con | npl. of module(s) | | |
| I semester graduate Contents This module examines elementary organic compounds of transition metals with homogeneous catalytic appl tions. Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whet module is creditable for 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 (approx. 30 to 180 minutes) or b) oral examination (approx. 30 to 180 minutes) or c) oral examination (approx. 30 minutes) Language of assessment: German and/or English Allocation of places | 5 | numer | ical grade | | | | |
| Contents This module examines elementary organic compounds of transition metals with homogeneous catalytic applitions. Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whetl module is creditable for bonus) a) written examination (approx. 90 to 180 minutes) or b) oral examination of approx. 90 to 180 minutes) or c) oral examination of approx. 90 to 180 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 | Duratio | on | Module level | Other prerequisites | | | |
| This module examines elementary organic compounds of transition metals with homogeneous catalytic appl tions. Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whetl module is creditable for 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 | 1 seme | ster | graduate | | | | |
| tions. Intendel learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whetl module is creditable for borus) 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 | Conten | ts | | - k | | | |
| Intended learning outcomes Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whetl module is creditable for 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 | This mo | odule ex | kamines elementary or | ganic compounds of tr | ansition metals with | homogeneous catal | lytic applica- |
| Students can describe and analyse the structure, reactivity and analysis of elementary organic compounds. T are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whetl module is creditable for 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 | tions. | | | | | _ | |
| are able to characterise special substance classes. They can formulate homogeneous catalysis reactions. Courses (type, number of weekly contact hours, language – if other than German) S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on wheth module is creditable for 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 | Intende | ed learn | ing outcomes | | | | |
| Courses (type, number of weekly contact hours, language — if other than German) S (3) Module taught in: German or English Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whetl module is creditable for bonus) a) written examination of one candidate each (20 to 30 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 | | | | | | | |
| S (3) Module taught in: German or English Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whetl module is creditable for bonus) a) written examination (approx. 9 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 Morkload 150 h Teaching cycle Referred to in LPO I (examination regulations for teaching-degree programmes) Module appears in Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Chemistry (2024) | are able | e to cha | racterise special subs | tance classes. They car | n formulate homoge | neous catalysis reac | tions. |
| Module taught in: German or English Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whetl module is creditable for bonus) a) written examination (approx. 90 to 180 minutes) or b) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) 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 | Course | S (type, n | umber of weekly contact hours | s, language — if other than Ger | rman) | | |
| Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whett module is creditable for bonus) a) written examination (approx. 90 to 180 minutes) or b) 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 | | | | | | | |
| module is creditable for bonus) a) written examination (approx. 90 to 180 minutes) or b) 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 | | | | | | | |
| 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 150 h Teaching cycle Referred to in LPO I (examination for teaching-degree programmes) Module appears in Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Chemistry (2024) | | | | uage — if other than German, o | examination offered — if no | t every semester, informat | ion on whether |
| 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 | | | | | | | |
| 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 | | | | | | | |
| 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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| reg. data record Master (120 ECTS) Chemie - 2018 | d) log (a e) prese Langua Allocati Additio Worklo 150 h Teachir Referre Master' Master' Master' Supple Master' Supple Master' Supple | approx. entation age of as ion of p onal info onal info is i info is i info onal info is i i info is i i i i i i i i i i i i i i i i i i | 20 pages) or (approx. 30 minutes) ssessment: German an laces ormation LPO I (examination regulation rs in ee (1 major) Chemistry ing degree Gymnasium y course MINT Teacher ee (1 major) Chemistry ing degree Gymnasium y course MINT Teacher ee (1 major) Chemistry ing degree Gymnasium y course MINT Teacher ee (1 major) Chemistry ing degree Gymnasium y course MINT Teacher | o 3 candidates (approx. d/or English | . 15 minutes per can . 15 minutes per can | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 B) (2020) ork Bavaria (ENB) (20 B) (2025) | 020) |

| Module | e title | | | | Abbreviation | |
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| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | |
| Module | e coordi | inator | | Module offered by | | |
| | | ure "Computational Ch | emistrv" | | l and Theoretical Ch | emistrv |
| ECTS | 1 | od of grading | Only after succ. con | · · · · | | |
| 5 | | rical grade | | | | |
| Duratio | <u> </u> | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | l | 3.444440 | | | | |
| | | troduces students to t | he fundamental princir | oles of computationa | al chemistry. | |
| | | ning outcomes | | | at enemistry. | |
| | | ble to explain the theo | ratical principles of co | moutational chamics | the and to apply moth | ade in com |
| | nal che | • | retical principles of co | inputational chemis | try and to apply meti | ious in com- |
| • | | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (2) + | | ,,, | | | | |
| | | essment (type, scope, lang | uage — if other than German | examination offered — if no | nt every semester information | ion on whether |
| | | le for bonus) | aage in other than ochhan, | | sectory semester, mormat | ion on whether |
| a) writt | en exar | nination (approx. 90 to | 180 minutes) or | | | |
| b) oral | examin | ation of one candidate | each (20 to 30 minute | | | |
| | | ation in groups of up to | 3 candidates (approx | . 15 minutes per can | didate) or | |
| | | . 20 pages) or n (approx. 30 minutes) | | | | |
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| Worklo | ad | | | | | |
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| Module | e appea | rs in | | | | |
| | | ee (1 major) Chemistry (| (2016) | | | |
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| Master's degree (1 major) Computational Mathematics (2016) | | | | | | |
| Master's degree (1 major) Functional Materials (2016) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Computational Mathematics (2019) | | | | | | |
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| | | y course MINT Teacher | | | | <i>220</i> , |
| | | ee (1 major) Computatio | | | , () | |
| Meeter | ith a major | | | | | |
| waster's w | 101110100 | Chemistry (2018) | IMU Würzhı | irg • generated 19-Apr-2025 | • exam. | page 279 / 437 |

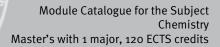
Julius-Maximilians-UNIVERSITÄT WÜRZBURG



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 280 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Organic Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | page 281 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 282 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | |
|---|---|--|--------------------------------|---|-----------------------------|----------------|
| Moder | n Syntl | netic Methods | | | 08-0CM-SYNT-161-1 | m01 |
| Module | e coord | linator | | Module offered by | | |
| lecture | lecturer of the seminar | | | Institute of Organic | Chemistry | |
| ECTS | Meth | od of grading | Only after succ. cor | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | i | | |
| 1 seme | ester | graduate | | | | |
| Conten | nts | | | | | |
| | | liscusses modern stere emistry and catalysis. | oselective synthesis m | ethods. It focuses or | n selected total syntl | heses, orga- |
| Intend | ed lear | ning outcomes | | | | |
| | an expl | able to stereoselectivel ain total syntheses. Th | | | | |
| Course | S (type, I | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + Module | | it in: German or English | 1 | | | |
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| | - | ee (1 major) Functional | | | | |
| Imaster | s aegr | ee (1 major) Chemistry | (2024) | | | |
| Master's w | vith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | | page 283 / 437 |

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 284 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | |
|--|-------------------|---|------------------------------|-----------------------------|--|--|
| Advanced Research Project Organic Chemistry | | | | 08-0CM-AKP1-161-m01 | | |
| Module coordinator | | | | Module offered by | | |
| head o | f the re | search group offering the | e module | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 10 | (not) s | successfully completed | | | | |
| Duratio | n | Module level | Other prerequisites | Other prerequisites | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| | | ives students the opport f Organic Chemistry and | | | the research groups based at ytical methods. | |
| Intende | ed learı | ning outcomes | | | | |
| | | ble to describe and use well as to describe theor | | s and analytical met | hods typically used by the rese- | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| P (20) Module | e taugh | t in: German or English | | | | |
| Metho | d of ass | | ge — if other than German, | examination offered — if no | t every semester, information on whether | |
| | | 5 to 20 pages) and talk (a ssessment: German and, | | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 300 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | irs in | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 016) | | | |
| Supple | mentar | ning degree Gymnasium I y course MINT Teacher E ee (1 major) Chemistry (2 | ducation PLUS, Elite | | | |
| Supple | mentar | ning degree Gymnasium I y course MINT Teacher E ee (1 major) Chemistry (2 | ducation PLUS, Elite | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) | | | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 285 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |





Compulsory Electives

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 286 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

| Module | e title | | | | Abbreviation | |
|---|--|---|--|----------------------------|--|--|
| Modern Aspects of Natural Product Chemistry and Biological Chemistry 08-0CM-NAT-172-mo1 | | | | | 08-OCM-NAT-172-m01 | |
| Module coordinator | | | | Module offered by | ed by | |
| lecture | r of the | seminar | | Institute of Organio | c Chemistry | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| of macr | romole | | | | ngineering and characterisation sis of biochemical processes, and | |
| Intende | ed lear | ning outcomes | | | | |
| Studen | ts have | e developed a knowledge | of molecular biology | and are able to app | oly it to practical experiments. | |
| Course | S (type, r | number of weekly contact hours, l | anguage — if other than Ger | man) | | |
| S /Marilal | I. A | | | | | |
| - | | ht in: German or English | | | | |
| | | s essment (type, scope, langua; le for bonus) | ge — if other than German, e | examination offered — if n | ot every semester, information on whether | |
| b) oral c) oral e | examir examin | mination (approx. 45 to 9 nation of one candidate e ation in groups of up to 3 ssessment: German and/ | ach (20 to 30 minute 3 candidates (15 to 30 | - | date) | |
| Allocat | ion of p | olaces | | | | |
| Master's degree programme Chemie (Chemistry): no limitation. Master's degree programme Biochemie (Bioche- mistry): 20 places. Places will be allocated according to the number of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot A waiting list will be maintained and pla- ces re-allocated as they become available. | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | | | | | | |
| Supple Master | mentai 's degr | ning degree Gymnasium <i>I</i> y course MINT Teacher Ec ee (1 major) Chemistry (20 ee (1 major) Biochemistry | ducation PLUS, Elite I 018) | | vork Bavaria (ENB) (2016) IB) (2016) | |
| Master' | Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |

| Module title | | | Abbreviation | | | |
|--|-------------------------------|---|--------------------------------|--|-----------------------------|----------------|
| Organic Functional Materials | | | 08-OCM-FM-161-m01 | | | |
| Module coordinator | | | Module offered by | | | |
| lecture | r of the | seminar "Organische F | unktionsmaterialien" | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | | | | |
| The mo sical ef | dule d fects ir nents s | eals with specific topics organic molecular and such as field effect trans | l polymeric semicondu | ctors as well as their | application in (opto |)electronic |
| Intende | ed lear | ning outcomes | | | | |
| explain | the sy ch as f | are able to explain func nthesis of these semico ield effect transistors, o | onductor materials as v | well as their applicat | ion in (opto)electron | ic compon- |
| Course | S (type, r | number of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (3) | | | | | | |
| Method | | Sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| 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 | | | | | | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | e | | | | |
| | | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | | |
| | | | | | | |
| Module appears in | | | | | | |
| Master's degree (1 major) Chemistry (2016) | | | | | | |
| Master's degree (1 major) Functional Materials (2016) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| | - | ee (1 major) Chemistry | | | | |
| | | ning degree Gymnasiun | | | | 020) |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| Master's degree (1 major) Functional Materials (2022) Master's with 1 major Chemistry (2018) JMU Würzburg • generated 19-Apr-2025 • exam. page 288 / 437 | | | | | | |
| waster's wi | iin 1 majo | r Criemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 288 / 437 |

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 289 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | | |
|--|-----------------------------|---|---|--|-----------------------------|----------------|
| Organo | Organo- and Biocatalysis | | | | 08-HKM1-152-m01 | |
| Module coordinator | | | Module offered by | | | |
| lecture | r of the | seminar "Organo- and | Biokatalyse" | Faculty of Chemistry | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | Contents | | | | | |
| This module provides students with deeper insights into topics in organic compounds and enzymes in catalytic processes. Organocatalysis: enantioselective implementation, principles, green chemistry, substance classes and application areas. Biocatalysis: effects of enzymes in view of different aspects, especially regarding organic synthesis. | | | | | | |
| Intende | ed lear | ning outcomes | | | | |
| scribe t | he stru | able to categorise organ Icture and applications ne effects of enzymes. | | | | |
| Course | S (type, r | umber of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (3) | | | | | | |
| | | s essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) oral (Langua | examir examin ge of a | mination (approx. 45 to ation of one candidate ation in groups of up to ssessment: German an | each (20 to 30 minute 3 candidates (15 to 30 | - | late) | |
| Allocat | | Jaces | | | | |
| • • • • • • • | | | | | | |
| Additio | natini | ormation | | | | |
| | | | | | | |
| Worklo | au | | | | | |
| 150 h | | • | | | | |
| Teachi | ig cyci | e | | | | |
| Deferme | d 4 a 3 a | | | ` | | |
| Referre | αιοιη | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| Madula | | | | | | |
| Module | | | tru (2015) | | | |
| Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Biochemistry (2017) | | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| Supple | mentai | ning degree Gymnasiun y course MINT Teacher ee (1 major) Chemistry | Education PLUS, Elite | | | 520) |
| Master's wi | ith 1 majo | r Chemistry (2018) | | ırg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 290 / 437 |



| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 291 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | |
|---|--------------------|--|---|--|--|
| Supramolecular Chemistry (Basics) | | | | | 08-SCM1-152-m01 |
| Module | coord | inator | | Module offered by | |
| lecturer | of lect | ure "Organischen Chemi | e" | Faculty of Chemistry | y and Pharmacy |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | numei | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Conten | ts | | | | |
| actions nation (| betwe polyme | en molecules, molecular | recognition by recept rystals, self-assembly | tors, complexes, sup | ar chemistry. It focuses on inter- oramolecular polymers, coordi- synthetic ion channels and mo- |
| Intende | ed learr | ning outcomes | | | |
| field as describ | well as e the s | s to describe the formatio | on, structure and poly s in aqueous media as | mers of coordinations well as to identify t | igh degree of expertise in the n compounds. They are able to the characteristics of synthetic |
| Courses | 5 (type, n | umber of weekly contact hours, la | anguage — if other than Ger | man) | |
| S (3) | | | | | |
| | | e essment (type, scope, languag le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral e | examin | nination (approx. 90 min ation of one candidate e ssessment: German and/ | ach (approx. 20 minu | tes) | |
| Allocati | ion of p | olaces | | | |
| | | | | | |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycle | 9 | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Biofabrication (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |

| Module title | | | Abbreviation | | | |
|---|---|--|---|---|-----------------------------|---------------------------------------|
| Bioorga | anic Ch | emistry | | | 08-SCM3-152-m01 | |
| Module | coord | inator | | Module offered by | | |
| lecturer Chemis | | ture "Bioorganische Che | mie" (Bioorganic | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | ts | | | | | |
| spectro manipu the fran to enab Key con thogona ceptor i Intende The stu | Bioorganic chemistry unites the central questions of organic chemistry, biochemistry, medicinal chemistry and spectroscopy with a focus on biomolecules. At the core of bioorganic chemistry is the synthesis and purposeful manipulation of biomolecules, such as nucleic acids, peptides, proteins, carbohydrates and lipids. This includes the framework of structure-function relationships and the fundamental understanding of biological mechanisms, to enable applications towards biomaterials, biosensing, bioimaging, clinical diagnostics and therapeutics. Key concepts covered in the course are nucleic acid chemistry, peptide chemistry, carbohydrate chemistry, bioor- thogonal reactions, molecular diversity, solid-phase synthesis, molecular recognition and interactions (ligand-re- ceptor interactions, signal transduction) Intended learning outcomes The students will have a molecular understanding of the structure and reactivity of biomolecules. The students | | | | | |
| | tions a | dge of modern synthetic nd recognition mechanis ids. | | | | |
| Courses | S (type, n | umber of weekly contact hours, | language — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | essment (type, scope, langua le for bonus) | age — if other than German, e | examination offered — if no | t every semester, informati | ion on whether |
| b) oral e c) oral e | examin examin | nination (approx. 45 to s ation of one candidate e ation in groups of up to ssessment: German and | each (20 to 30 minute 3 candidates (15 to 30 | | late) | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | e | | | | |
| | | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | | |
| | | | | | | |
| Module | e appea | in in | | | | |
| Master's degree (1 major) Biochemistry (2015) | | | | | | |
| Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Eulertianal Materials (2016) | | | | | | |
| Master's degree (1 major) Functional Materials (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| | | Chemistry (2018) | JMU Würzbu | rg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | exam. | page 293 / 437 |
| | | | - | | | · · · · · · · · · · · · · · · · · · · |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)

Master's degree (1 major) Biochemistry (2017)

Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Master's degree (1 major) Functional Materials (2022)

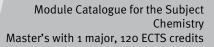
Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 294 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--|-------------|--|--------------------------------|-----------------------------|------------------------------|----------------|
| Basics and Applications of Quantum Chemistry08-TCM2-161-m01 | | | | | | |
| Module coordinator | | | Module offered by | | | |
| | | ure "Computational Ch | emistry" | | l and Theoretical Ch | emistry |
| ECTS | 1 | od of grading | Only after succ. con | · · · | | |
| 5 | · · · · · · | rical grade | | .p.u. c | | |
| Duratio | <u> </u> | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | | | | |
| | | ntroduces students to t | he fundamental princir | les of computation | al chemistry | |
| | | | | | at chemistry. | |
| | | ning outcomes | | | | hadain sam |
| putatio | | ble to explain the theo mistry. | retical principles of co | mputational chemis | try and to apply meti | noas in com- |
| • | | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (2) + | | and a recently contact hours | | | | |
| | | s essment (type, scope, lang | ugge — if other than Corman | avamination offered — if no | t every comestor information | ion on whather |
| | | le for bonus) | uage — ii other than German, i | zzaniniation onereu — if no | n every semester, mormat | ion on whether |
| a) writt | en exar | nination (approx. 90 to | 180 minutes) or | | | |
| b) oral | examin | ation of one candidate | each (20 to 30 minute | | | |
| | | ation in groups of up to | 3 candidates (approx | 15 minutes per can | didate) or | |
| | | . 20 pages) or | | | | |
| | | n (approx. 30 minutes) ssessment: German an | d/or English | | | |
| Allocat | | | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| Auditio | mat mit | | | | | |
| Worklo | | | | | | |
| 150 h | au | | | | | |
| Teachi | | 2 | | | | |
| | is cycl | ~ | | | | |
| Poforro | d to in | LPOI (examination regulation | ne for too shing dograa progra | mmoc) | | |
| | | | | innes) | | |
| Module | | rs in | | | | |
| | | ee (1 major) Chemistry (| (2016) | | | |
| | | ee (1 major) Mathemati | | | | |
| | - | - | | 6) | | |
| Master's degree (1 major) Computational Mathematics (2016) Master's degree (1 major) Functional Materials (2016) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master's degree (1 major) Computational Mathematics (2019) | | | | | | |
| Master's degree (1 major) Mathematics (2019) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| | | • | | | B) (2020) | |
| Master | 's degre | ee (1 major) Computatio | onal Mathematics (202 | 2) | | |
| Master's wi | ith 1 major | Chemistry (2018) | | irg • generated 19-Apr-2025 | | page 295 / 437 |
| | | | reg. data rec | ord Master (120 ECTS) Chemi | e - 2018 | |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 296 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation | |
|--|---|---|------------------------------|------------------------|--|--|
| Practica | Practical course of clinical-analytical Chemistry | | | | 08-PH-KACP-152-m01 | |
| Module coordinator Module | | | Module offered by | <u> </u> | | |
| | lecturer of lecture "Klinisch-analytische Chemie" (Clinical | | Chemie" (Clinical | | cy and Food Chemistry | |
| | | Chemistry) | chemic (chinear | | cy and rood chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 (| (not) s | uccessfully completed | | | | |
| Duration | า | Module level | Other prerequisites | i i | | |
| 1 semest | ter | undergraduate | | | | |
| Contents | s | | | | | |
| This moo methods | | overs practical topics in o | clinical chemistry and | d clinical diagnostics | s as well as the related analytical | |
| Intended | d learr | ning outcomes | | | | |
| Students ments. | s have | developed a knowledge | of clinical analytical | chemistry and are a | ble to apply it to practical experi- | |
| Courses | (type, n | umber of weekly contact hours, l | anguage — if other than Ge | rman) | | |
| P (5) | | | | | | |
| module is c | creditab | le for bonus) | | | ot every semester, information on whether | |
| pages ea | ach) a | chtestate (pre and post-e nd assessment of practic ssessment: German and, | al performance (2 to | | minutes each, log approx. 5 to 10 ions) | |
| Allocatio | on of p | laces | | | | |
| | | | | | | |
| Addition | nal info | ormation | | | | |
| | | | | | | |
| Workloa | d | | | | | |
| 150 h | | | | | | |
| Teaching | g cycle | 9 | | | | |
| | | | | | | |
| Referred | l to in | LPO I (examination regulations | s for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | appea | rs in | | | | |
| | - | ee (1 major) Biochemistry | | | | |
| Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Biochemistry (2017) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2010) | | | | | | |
| Master's | Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 297 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Physical Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | page 298 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





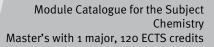
Compulsory Courses

(20 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 299 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

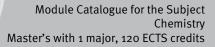


| Module | e title | | | | Abbreviation | |
|------------|------------------------|--|--|------------------------------|-----------------------------|----------------|
| Laser S | spectro | scopy | | | 08-PCM1a-161-m01 | L |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| | | | opie" (Laser Spectros- | | l and Theoretical Ch | emistry |
| ECTS | Metho | od of grading | Only after succ. cor | npl. of module(s) | | |
| 5 | 1 | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | 5 | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | l | | | |
| This m | odule ir | ntroduces students to spectroscopy. | the fundamental princi | ples of laser spectro | scopy. It discusses a | absorption |
| Intend | ed learı | ning outcomes | | | | |
| of lase | r techno S (type, n | ology. They are able to | nponents and operating describe the principles rs, language — if other than Ge | s of absorption and e | | |
| • • | • • | t in: German or Englisł | ı | | | |
| | | - | guage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| | | le for bonus) | | | | |
| b) oral | examin | mination (approx. 90 r ation of one candidat ssessment: German a | e each (approx. 20 min | utes) | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cvcl | 6 | | | | |
| | 0 .) | - | | | | |
| Referre | d to in | IPOI (examination regulat | ions for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | annos | ors in | | | | |
| | | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemat | | | | |
| | - | | ional Mathematics (201 | 16) | | |
| | - | ee (1 major) Functiona | | | | |
| | - | | m MINT Teacher Educat | tion PLUS, Elite Netw | ork Bavaria (ENB) (2 | 016) |
| Supple | mentar | y course MINT Teache | r Education PLUS, Elite | Network Bavaria (EN | B) (2016) | |
| Master | 's degr | ee (1 major) Chemistry | (2018) | | | |
| | - | | ional Mathematics (201 | 19) | | |
| | - | ee (1 major) Mathemat | - | | | , |
| | | | m MINT Teacher Educat | | | 020) |
| | | | r Education PLUS, Elite ional Mathematics (202 | | B) (2020) | |
| | | Chemistry (2018) | | urg • generated 19-Apr-2025 | exam | page 300 / 43 |
| nasiei S W | i i i i i i i aj 01 | chemistry (2010) | | cord Master (120 ECTS) Chemi | | page 300 / 43 |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Advanc | e title | | | | Abbreviation | |
|--|--|--|--|--|---|----------------|
| | Advanced Physical Chemistry (Lab) | | | | 08-PCM1b-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture copy) | r of ser | ninar "Laserspektroskop | ie" (Laser Spectros- | | l and Theoretical Ch | emistry |
| ECTS | Meth | od of grading | Only after succ. cor | npl. of module(s) | | |
| 5 | (not) | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | ; | | |
| 1 seme | ster | graduate | | | | |
| Conten | | 5144444C | <u> </u> | | | |
| borato | ry. Afte | vives students the oppor r a safety briefing, the st o take tests and write lal | udents autonomously | y conduct experimen | ts in the laboratory. | |
| Intend | ed lear | ning outcomes | | | | |
| | | e developed a high level to analyse the resulting | | - | thods in physical ch | iemistry. |
| Course | S (type, 1 | number of weekly contact hours, | language — if other than Ge | rman) | | |
| P (4) | | | | | | |
| | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, langu ble for bonus) | age — if other than German, | examination offered — if no | ot every semester, informati | ion on whether |
| pages | each) a | achtestate (pre and post- and assessment of practi assessment: German and | cal performance (2 to | | | oprox. 5 to 10 |
| Allocat | ion of | places | | | | |
| | | | | | | |
| | | | _ | | | |
| Additio | onal inf | ormation | | | | |
| | | ormation ormation on module dur | ation: block taught la | b course with approx | k. 20 working days. | |
| | onal inf | | ation: block taught la | b course with approx | . 20 working days. | |
| Additio Worklo | onal inf | | ation: block taught la | b course with approx | <. 20 working days. | |
| Additio Worklo 150 h | onal inf oad | ormation on module dur | ation: block taught la | b course with approx | k. 20 working days. | |
| Additio Worklo | onal inf oad | ormation on module dur | ation: block taught la | b course with approx | <. 20 working days. | |
| Additio Worklo 150 h Teachin | onal inf oad ng cycl | ormation on module dur e | | | x. 20 working days. | |
| Additio Worklo 150 h Teachin | onal inf oad ng cycl | ormation on module dur | | | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre | nal inf ad ng cycl ed to in | ormation on module dur e LPOI (examination regulation | | | 4. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module | onal inf ad ng cycl ed to in e appea | ormation on module dur e LPOI (examination regulation | ns for teaching-degree progra | | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module Master | nal inf ad ng cycl ed to in e appea | ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 | ns for teaching-degree progra | | 4. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module Master Master | nal inf ad ng cycl ed to in e appea 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic | ns for teaching-degree progra 2016) S (2016) | ammes) | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module Master Master Master | ng cycl ed to in e appea 's degr 's degr | ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 | ns for teaching-degree progra 2016) S (2016) nal Mathematics (201 | ammes) .6) | | 016) |
| Additio Worklo 150 h Teachin Referre Module Master Master Master Supple | ng cycl ed to in e appea 's degr 's degr 's teac ementa | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher E | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite | ammes) .6) ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 016) |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master | ed to in ed to in e appea 's degr 's degr 's teac ementa 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 | 2016) s (2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) | ammes) .6) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 | 016) |
| Additio Worklo 150 h Teachin Referre Master Master Master Supple Master Master Master | ed to in ed to in ed to in 's degr 's degr 's teac menta 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computatio | ns for teaching-degree progra 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 | ammes) .6) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 | 016) |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master Master Master Master | ed to in ed to in ed to in e appea 's degr 's degr 's teac ementa 's degr 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Mathematic | 2016) s (2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) | ammes) .6) .ion PLUS, Elite Netw Network Bavaria (EN .9) | ork Bavaria (ENB) (20 B) (2016) | |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master Master Master Supple | ed to in ed to in ed to in e appea 's degr 's degr 's teac menta 's degr 's degr 's teac menta | e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Computatio | 2016) s (2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite | ammes) .6) .ion PLUS, Elite Netw Network Bavaria (EN .9) .ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |



Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 303 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| C | e title | | | | Abbreviation | |
|--|---|---|--|---|----------------------------|-----------------|
| Statistical Mechanics and Reaction Dynamics | | | Dynamics | | 08-PCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture mics) | r of ser | ninar "Chemische Dyn | amik" (Chemical Dyna- | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | its | 0 | | | | |
| clude t | he fund | | cs in statistical mechar statistical thermodynar gy transfer. | | | |
| Intend | ed lear | ning outcomes | | | | |
| | | | selected topics in stati ndamental principles of | | | . They have |
| Course | S (type, r | number of weekly contact hou | rs, language — if other than Ge | rman) | | |
| S (2) + | Ü (1) | | | | | |
| • • | • • | t in: German or Englisł | 1 | | | |
| | | sessment (type, scope, lan le for bonus) | guage — if other than German, | examination offered — if no | t every semester, informat | tion on whether |
| c) talk | (approx age of a | x. 30 minutes) ssessment: German al | e each (approx. 20 mini nd/or English | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| WOIKIO | | | | | | |
| | | | | | | |
| 150 h | ng cycl | e | | | | |
| | ng cycl | e | | | | |
| 150 h Teachi | | | ions for teaching-degree progra | Immec) | | |
| 150 h Teachi Referre | | | ions for teaching-degree progra | ımmes) | | |
| 150 h Teachin Referre | ed to in | LPOI (examination regulat | ions for teaching-degree progra | ummes) | | |
| 150 h Teachin Referre Module | ed to in e appea | LPO I (examination regulat | | ımmes) | | |
| 150 h Teachin Referre Module Master | ed to in e appea | LPOI (examination regulat ars in ee (1 major) Chemistry | (2016) | ummes) | | |
| 150 h Teachin Referre Module Master Master | ed to in e appea 's degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat | (2016) ics (2016) | | | |
| 150 h Teachin Referre Module Master Master Master | ed to in e appea d's degr degr s degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat | (2016) ics (2016) ional Mathematics (201 | | | |
| 150 h Teachin Referre Module Master Master Master Master | ed to in e appea 's degr 's degr 's degr 's degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona | (2016) ics (2016) ional Mathematics (201 | 6) | ork Bavaria (ENB) (2 | 016) |
| 150 h Teachi Referre Module Master Master Master Master Master | ed to in e appea 's degr 's degr 's degr 's degr 's teacl | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona ning degree Gymnasiu | (2016) ics (2016) ional Mathematics (201 l Materials (2016) | 6) ion PLUS, Elite Netw | | .016) |
| 150 h Teachin Referre Master Master Master Master Supple | ed to in e appea d's degr d's degr d's degr d's degr d's teacl ementa | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona ning degree Gymnasiu | (2016) ics (2016) ional Mathematics (201 Materials (2016) m MINT Teacher Educat r Education PLUS, Elite | 6) ion PLUS, Elite Netw | | 016) |
| 150 h Teachin Referre Module Master Master Master Supple Master Master Master | ed to in e appea d's degr d's degr d's degr d's teacl ementai d's degr d's degr d's degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Computat ee (1 major) Functiona ning degree Gymnasiu y course MINT Teache ee (1 major) Chemistry ee (1 major) Computat | (2016) ics (2016) ional Mathematics (201 Materials (2016) m MINT Teacher Educat r Education PLUS, Elite (2018) ional Mathematics (201 | 6) ion PLUS, Elite Netw Network Bavaria (EN | | 016) |
| 150 h Teachi Referre Module Master Master Master Master Supple Master Master Master Master | ed to in e appea d's degr d's degr d's degr d's teacl emental d's degr d's degr d's degr d's degr | LPO I (examination regulat ars in ee (1 major) Chemistry ee (1 major) Mathemat ee (1 major) Functiona hing degree Gymnasiu y course MINT Teache ee (1 major) Chemistry ee (1 major) Computat ee (1 major) Mathemat | (2016) ics (2016) ional Mathematics (201 Materials (2016) m MINT Teacher Educat r Education PLUS, Elite (2018) ional Mathematics (201 | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) | B) (2016) | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module | e title | | | | Abbreviation | |
|------------|-------------------|--|--------------------------------|---|-----------------------------|----------------|
| Physic | al Chen | nistry (Advanced Lab) | | | 08-PCM6-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture | rs Phys | ikalische Chemie (Phys | ical Chemistry) | Institute of Physical and Theoretical Chemistry | | |
| ECTS | r í | od of grading | Only after succ. con | · · · · | | , |
| 5 | <u> </u> | successfully completed | | | | |
| Duratio | · | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | | Siddate | | | | |
| | | ives students the oppo | | in the work of one of | the recearch groups | s based at |
| | | f Physical Chemistry an | | | | b baseu al |
| | | ning outcomes | | | · | |
| | | e become proficient in t | ne research methods t | vpically used by the | relevant physical ch | emistrv rese- |
| | | ey are able to analyse t | | | | |
| Course | S (type, n | umber of weekly contact hours | , language — if other than Ger | man) | | |
| P (4) | | | | | | |
| | e taugh | t in: German or English | | | | |
| Metho | d of ass | essment (type, scope, langu | uage — if other than German, o | examination offered — if no | t every semester, informati | ion on whether |
| | | le for bonus) | | | | |
| | | approx. 20 minutes) | | | | |
| | | ssessment: German an | a/or English | | | |
| Allocat | ion of p | olaces | | | | |
| | | | _ | | | |
| | | ormation | | | | |
| Additio | onal info | ormation on module du | ration: block taught la | o course with approx | . 20 working days. | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ns for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | rs in | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| Master | 's degre | ee (1 major) Computatio | onal Mathematics (201 | 6) | | |
| | | ning degree Gymnasium | | | | 016) |
| | | y course MINT Teacher | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (| | 、 、 | | |
| | - | ee (1 major) Computatio | | 9) | | |
| | - | ee (1 major) Mathematio | - | | arte Dougris (END) (- | |
| | | ning degree Gymnasium y course MINT Teacher | | | | 020) |
| | | ee (1 major) Computatio | | | D) (2020) | |
| | | ee (1 major) Mathematic | | <i>-</i> , | | |
| | - | ee (1 major) Chemistry (| | | | |
| | - | ee (1 major) Computatio | • | 4) | | |
| Master's w | ith 1 major | Chemistry (2018) | JMU Würzbı | Irg • generated 19-Apr-2025 • | • exam. | page 306 / 437 |
| | ., | | | ord Master (120 ECTS) Chemi | | |



Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 307 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



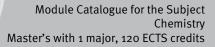


Compulsory Electives

(5 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 308 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | | |
|--|------------------------------|--|---------------------------------------|---|------------------------------|----------------|--|
| Nanosc | ale Ma | terials | | | 08-PCM3-161-m01 | | |
| Module | e coord | inator | | Module offered by | odule offered by | | |
| lecture | r of the | seminar "Nanoskalige | Materialien" | | l and Theoretical Ch | emistry | |
| ECTS | | od of grading | | Only after succ. compl. of module(s) | | | |
| 5 | | rical grade | | | | | |
| Duratio | | Module level | Other prerequisites | | | | |
| 1 seme | | graduate | | | | | |
| Conten | | glauuale | | | | | |
| | | | · · · · · · · · · · · · · · · · · · · | | | fabricati | |
| | | liscusses advanced top naracterisation method | | | | es, fabricati- | |
| Intende | ed lear | ning outcomes | | | | | |
| | | able to characterise na noscale materials. | noscale materials. The | y are able to name ar | nalytical methods an | d applicati- | |
| Courses (type, number of weekly contact hours, language — if other than German) | | | | | | | |
| S (2) + Ü (1) Module taught in: German or English | | | | | | | |
| | | | | in ation offered if as | | | |
| | | Sessment (type, scope, lang Ile for bonus) | uage — If other than German, | examination offered — If no | it every semester, informati | on on whether | |
| b) oral c) talk (| examir (approx ge of a | mination (approx. 90 m nation of one candidate k. 30 minutes) ssessment: German ar bonus | each (approx. 20 min | utes) or | | | |
| Allocat | ion of _l | olaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | • | | | | | |
| Poforro | d to in | LPO I (examination regulati | and for tooching degree progr | | | | |
| Referre | | | ons for teaching-degree progra | annies) | | | |
| | | | | | | | |
| Module | | | (() | | | | |
| | - | ee (1 major) Chemistry ee (1 major) Mathemati | | | | | |
| | - | ee (1 major) Mathemati ee (1 major) Computati | | 6) | | | |
| | - | ee (1 major) Functional | | (0) | | | |
| | - | hing degree Gymnasiur | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) | |
| | | ry course MINT Teacher | | | | , | |
| Master | 's degr | ee (1 major) Chemistry | (2018) | | | | |
| Master | 's degr | ee (1 major) Computati | onal Mathematics (201 | 19) | | | |
| | - | ee (1 major) Mathemat | | | | , | |
| | | hing degree Gymnasiur ry course MINT Teacher | | | | 020) | |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | | page 309 / 437 | |



Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 310 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---------------------|--------------------|---|--------------------------------------|-------------------------------|-----------------------------|----------------|
| Ultrafa | st spec | troscopy and quantum | -control | | 08-PCM4-161-m01 | |
| Module | e coordi | inator | | Module offered by | | |
| | | seminar "Nanoskalige | Materialien" | | l and Theoretical Ch | emistry |
| ECTS | r | od of grading | | ompl. of module(s) | | ennstry |
| | | | | | | |
| 5 | <u> </u> | rical grade | | | | |
| Duratio | on | Module level | Other prerequisite | | | |
| 1 seme | ster | graduate | Prior completion of | of modules o8-PCM1a | and o8-PCM1b recor | nmended. |
| Conten | ts | | | | | |
| | | iscusses advanced top ime-resolved laser spe | | | control. It focuses o | n ultrashort |
| | | ing outcomes | | | | |
| plain tł princip | ne theo les and | ble to describe the gen ry of time-resolved lase applications of quant | er spectroscopy and r um control. | name experimental me | | |
| S (2) + | Ü (1) | umber of weekly contact hour | | Jerman) | | |
| Metho | d of ass | essment (type, scope, lang le for bonus) | | n, examination offered — if n | ot every semester, informat | ion on whether |
| c) talk Langua | (approx | ation of one candidate . 30 minutes) ssessment: German ar Jaces | | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| - | ng cycle | | | | | |
| reaciii | ig cycu | 5 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulati | ons for teaching-degree prog | grammes) | | |
| | | | | | | |
| Module | e appea | rs in | | | | |
| Master | 's degre | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Physics (20 | | | | |
| | - | ee (1 major) Nanostruc | | | | |
| | | ee (1 major) Computati | | | | |
| | | ning degree Gymnasiur | | | | 016) |
| | | y course MINT Teacher | | e Network Bavaria (EN | в) (2016) | |
| | - | ee (1 major) Chemistry | | | | |
| | - | ee (1 major) Computati | | 019) | | |
| | - | ee (1 major) Mathemati ee (1 major) Nanostruci | - | 0) | | |
| Aaster's w | ith 1 major | Chemistry (2018) | | zburg • generated 19-Apr-2025 | • exam | page 311 / 43 |
| | i majui | 2010) | | record Master (120 ECTS) Chem | | Puse 511/43 |



Master's degree (1 major) Physics (2020) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Physics International (2020) Master's degree (1 major) Quantum Engineering (2020) Master's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Quantum Engineering (2024) Master's degree (1 major) Physics International (2024) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Physics International (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 312 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--|--|--|--|-----------------------------|-----------------------------------|-----------------|
| Physical Chemistry of Supramolecular Assemblies | | | | 08-PCM5-161-m01 | _ | |
| Module | e coordi | nator | | Module offered by | <u>I</u> | |
| | r of the Struktu | seminar "Physikalisch uren" | e Chemie Supramole- | Institute of Physica | l and Theoretical Ch | iemistry |
| ECTS | 1 | d of grading | Only after succ. con | npl. of module(s) | | |
| 5 | 1 | ical grade | | • • • • • | | |
| Duratio | ' r | Module level | Other prerequisites | i | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidudic | l | | | |
| This mo cal pro | odule ex perties | of aggregates as well a | ractions between mole as key applications of s | | | nysical-chemi |
| Intende | ed learn | ing outcomes | | | | |
| in the f dern ap | ield. Th oplications S (type, n | ey can describe the fo ons of supramolecular | c interactions betweer rmation and physical-c chemistry. s, language — if other than Ge | hemical properties o | | |
| • • | • • | in: German or English | | | | |
| Metho | d of ass | - | uage — if other than German, | examination offered — if no | ot every semester, informa | tion on whether |
| c) talk Langua | (approx | . 30 minutes) ssessment: German ar | e each (approx. 20 min Id/or English | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| | ng cycle | | _ | | | |
| | | - | | | | |
| Deferm | d #= ! | | <i>c</i> , | ` | | |
| Referre | | LTUI (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| | e appea | | | | | |
| | - | ee (1 major) Chemistry | | | | |
| | - | ee (1 major) Mathemat | | () | | |
| waster | - | e (1 major) Computati e (1 major) Functional | onal Mathematics (201 Materials (2016) | .o <i>j</i> | | |
| Mactor | - | e (i major) i unctional | materiais (2010) | ion PLUS Flite Netw | | |
| | 's teach | ing degree Gymnasiur | n MINT Teacher Educat | | ork Bavaria (FNR) (a | 2016) |
| Master | | | n MINT Teacher Educat Education PLUS. Elite | | | 2016) |
| Master Supple | mentar | y course MINT Teacher | Education PLUS, Elite | | | 2016) |
| Master Supple Master | ementar 's degre | y course MINT Teacher ee (1 major) Chemistry | Education PLUS, Elite | Network Bavaria (EN | | 2016) |
| Master Supple Master Master Master | ementar 's degre 's degre 's degre | y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati ee (1 major) Mathemat | Education PLUS, Elite (2018) onal Mathematics (201 | Network Bavaria (EN 9) | B) (2016) | |
| Master Supple Master Master Master Master | mentar 's degre 's degre 's degre 's teach | y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computati ee (1 major) Mathemat | Education PLUS, Elite (2018) onal Mathematics (201 cs (2019) n MINT Teacher Educat | Network Bavaria (EN 9) | B) (2016) ork Bavaria (ENB) (2 | |

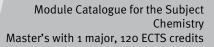
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Biofabrication (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 314 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | | | |
|---|-------------------------------------|--|---|--|-----------------------------|----------------|--|
| Quantum Dynamics 08-TCM4-161-m01 | | | | | | | |
| Module | e coord | inator | | Module offered by | | | |
| lecture | ecturer of lecture "Quantendynamik" | | Institute of Physical and Theoretical Chemistry | | | | |
| ECTS Method of grading Only after succ. compl. of module(s) | | | | | | | |
| 5 | nume | rical grade | | | | | |
| Duratio | n | Module level | Other prerequisites | | | | |
| 1 seme | 1 semester graduate | | | | | | |
| Conten | ts | | | | | | |
| | | ent Schrödinger equatio diabatic states, non-ac | | | | theorem, | |
| Intende | ed lear | ning outcomes | | | | | |
| in mole | cules. | possess knowledge abo Their insight into the m theoretical chemistry. | | | | | |
| Course | S (type, r | number of weekly contact hours | , language — if other than Ge | rman) | | | |
| S (2) + | Ü (2) | | | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether | |
| c) oral (d) log (e) pres | examin approx entatio | ation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | 3 candidates (approx | - | didate) or | | |
| Allocat | ion of j | olaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | | | | | |
| | | | | | | | |
| Worklo | Workload | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | ummes) | | | |
| | | | | | | | |
| Module | e appea | urs in | | | | | |
| Master | 's degr | ee (1 major) Chemistry (| (2016) | | | | |
| | - | ee (1 major) Mathemati | | | | | |
| | - | ee (1 major) Computatio | | 6) | | | |
| | - | ee (1 major) Functional | | | | | |
| | | ning degree Gymnasium Y course MINT Teacher | | | | 010) | |
| | | ee (1 major) Chemistry (| | | B) (2010) | | |
| | - | ee (1 major) Computatio | | 9) | | | |
| | - | ee (1 major) Mathemati | | - | | | |
| Master | 's teacl | ning degree Gymnasium | n MINT Teacher Educat | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) | |
| Master's wi | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 315 / 437 | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module | title | | | | Abbreviation | |
|---|-------------------|---|---------------------------------|------------------------------|-----------------------------|----------------|
| Basics and Applications of Quantum Chemistry | | | | 08-TCM2-161-m01 | | |
| Module coordinator | | | Module offered by | | | |
| lecturer of lecture "Computational Chemistry" | | Institute of Physical and Theoretical Chemistry | | emistry | | |
| ECTS | | | , | | | |
| 5 | | ical grade | | · · · | | |
| Duratio | | | | | | |
| 1 semester graduate | | | | | | |
| Conten | ts | 0 | I | | | |
| | | troduces students to t | ne fundamental princip | oles of computationa | al chemistry. | |
| | | ing outcomes | <u></u> | | | |
| | | ble to explain the theo | retical principles of co | mputational chemist | try and to apply met | nods in com- |
| putatio | | | | | ing and to apply meth | |
| Courses | S (type, n | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (2) + I | Ü (2) | | | | | |
| Method | l of ass | essment (type, scope, lang | uage — if other than German, o | examination offered — if no | t every semester, informati | ion on whether |
| | | e for bonus) | | | | |
| | | nination (approx. 90 to | | | | |
| | | ation of one candidate | | | d: d = t =) = | |
| | | ation in groups of up to 20 pages) or | 3 candidates (approx. | . 15 minutes per cano | didate) or | |
| | | n (approx. 30 minutes) | | | | |
| | | ssessment: German an | d/or English | | | |
| Allocati | | | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycle | 2 | | | | |
| | 15 0 9 00 | • | | | | |
| | d to in | LPO I (examination regulation | une for too shing dograa progra | | | |
| Keleffe | | | | innes) | | |
| Module | 20002 | rs in | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional | | 0) | | |
| | - | ing degree Gymnasium | | ion PLUS. Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| | | y course MINT Teacher | | | | , |
| | | , ee (1 major) Chemistry (| | | - | |
| | - | ee (1 major) Computatio | | 9) | | |
| Master' | 's degre | ee (1 major) Mathemati | cs (2019) | | | |
| | | iing degree Gymnasium | | | | 020) |
| | | y course MINT Teacher | | | B) (2020) | |
| Master' | 's degre | ee (1 major) Computatio | onal Mathematics (202 | 2) | | |
| | | | | | | |
| Master's wi | th 1 major | Chemistry (2018) | JMU Würzbı | rg • generated 19-Apr-2025 • | • exam. | page 317 / 437 |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 318 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Numerical M | | | | Abbreviation | |
|--|--|--|--|-----------------------------|-----------------|
| | ethods and Programmir | Ig | | 08-TCM3-161-m01 | |
| Module coordinator | | | Module offered by | dule offered by | |
| lecturer of lecture "Programmieren in Theoretischer Che- mie" | | | Institute of Physical and Theoretical Chemistry | | |
| - | Method of grading Only after succ. compl. of module(s) | | | | |
| | numerical grade | | | | |
| Duration Module level Other prerequisites | | | | | |
| | | | | | |
| 1 semester | glauuale | | | | |
| ses its applic | | n to the fundamentals | of programming in th | eoretical chemistry | and discus- |
| Intended lea | rning outcomes | | | | |
| as well <u>as to</u> | able to explain and use name its application are | eas. | | ly used in theoretica | al chemistry |
| | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + Ü (2) | | | | | |
| Method of as module is credita | ssessment (type, scope, lang able for bonus) | guage — if other than German, | examination offered — if no | ot every semester, informat | tion on whether |
| Allocation of | assessment: German ar places | | | | |
| | | | | | |
| Additional in | formation | | | | |
| Additional in | formation | | | | |
| | formation | | | | |
| Workload | formation | | | | |
| | | | | | |
| Workload 150 h | | | | | |
| Workload 150 h Teaching cyc | :le | ons for teaching-degree progr | ammes) | | |
| Workload 150 h Teaching cyc | | ons for teaching-degree progra | ammes) | | |
| Workload 150 h Teaching cyc Referred to in | : le n LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| Workload 150 h Teaching cyc Referred to in Module appe | le n LPO I (examination regulati | | ammes) | | |
| Workload 150 h Teaching cyc Referred to in Module appe Master's deg | :le n LPO I (examination regulati ears in gree (1 major) Chemistry | (2016) | ammes) | | |
| Workload 150 h Teaching cyc Referred to in Module appe Master's deg Master's deg | :le n LPO I (examination regulati ears in gree (1 major) Chemistry gree (1 major) Mathemati | (2016) ics (2016) | | | |
| Workload 150 h Teaching cyc Referred to in Module appe Master's deg Master's deg Master's deg | :le n LPO I (examination regulati ears in gree (1 major) Chemistry | (2016) ics (2016) onal Mathematics (201 | | | |
| Workload 150 h Teaching cyc Referred to in Module appe Master's deg Master's deg Master's deg Master's deg | t le n LPO I (examination regulati ears in gree (1 major) Chemistry gree (1 major) Mathemati gree (1 major) Computati | (2016) ics (2016) onal Mathematics (201 Materials (2016) | 16) | ork Bavaria (ENB) (2 | 2016) |
| Workload 150 h Teaching cyc Referred to in Module appe Master's deg Master's deg Master's deg Master's deg Master's deg | t le n LPO I (examination regulati ears in gree (1 major) Chemistry gree (1 major) Mathemati gree (1 major) Computati gree (1 major) Functional | (2016) ics (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat | 16) tion PLUS, Elite Netw | | |
| Workload 150 h Teaching cyc Referred to in Module appe Master's deg Master's deg Master's deg Master's deg Master's teac Supplementa Master's deg | te n LPO I (examination regulati ears in gree (1 major) Chemistry gree (1 major) Mathemati gree (1 major) Computati gree (1 major) Functional ching degree Gymnasiur ary course MINT Teacher gree (1 major) Chemistry | (2016) ics (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) | 16) tion PLUS, Elite Netw Network Bavaria (EN | | .016) |
| Workload 150 h Teaching cyc Referred to in Module appe Master's deg Master's deg Master's deg Master's deg Master's deg Supplementa Master's deg Master's deg | ILPO I (examination regulati ears in gree (1 major) Chemistry gree (1 major) Mathemati gree (1 major) Mathemati gree (1 major) Functional ching degree Gymnasiur ary course MINT Teacher gree (1 major) Chemistry gree (1 major) Computati | (2016) ics (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 | 16) tion PLUS, Elite Netw Network Bavaria (EN | | 2016) |
| Workload 150 h Teaching cyc Referred to in Module appe Master's deg Master's deg Master's deg Master's deg Master's deg Master's deg Master's deg Master's deg Master's deg | te n LPO I (examination regulati ears in gree (1 major) Chemistry gree (1 major) Mathemati gree (1 major) Computati gree (1 major) Functional ching degree Gymnasiur ary course MINT Teacher gree (1 major) Chemistry | (2016) ics (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 ics (2019) | 16) tion PLUS, Elite Netw Network Bavaria (EN 19) | B) (2016) | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module | e title | | | | Abbreviation | |
|--|--|---|---|---------------------------|----------------------------|----------------|
| Theoretical Chemistry - Project course quantum chemistry | | | | | 08-TCAP1-161-m01 | |
| Module coordinator | | | Module offered by | | | |
| nead of the research group offering the module | | ne module | Institute of Physical and Theoretical Chemistry | | | |
| ECTS | Method of grading Only after succ. compl. of module(s) | | | | | |
| 5 | 1 | successfully completed | | 1 () | | |
| J Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | • | | |
| | | glauuale | | | | |
| Conten | | • • • • • | | | | 1 1 1 |
| the Ins | titute o | ives students the oppo f Theoretical Chemistry ntum chemistry. | | | | |
| Intend | ed lear | ning outcomes | | | | |
| | | e learned some of the m | ethods typically used | in theoretical chemi | stry and, in particula | r. in quan- |
| | | <i>i</i> . They are able to expla | | | | , 9560 |
| | | number of weekly contact hours | | | | |
| P (5) | | , | | | | |
| - | d of ace | sessment (type, scope, lang | if other than Corman | avamination offered if no | t over comester informati | ion on whothor |
| | | le for bonus) | uage – Il other than German, | | it every semester, mormati | |
| | | (approx. 30 minutes) | | | | |
| | | ssessment: German an | d/or English | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | ormation on module du | | h course with approx | 20 working days | |
| Worklo | | | | | . 20 Working duys. | |
| | au | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry (| (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | | | |
| | | ning degree Gymnasiun | | | | 016) |
| | | ry course MINT Teacher | | Network Bavaria (EN | в) (2016) | |
| | - | ee (1 major) Chemistry (ee (1 major) Computatio | |) | | |
| | - | ee (1 major) Computationee (1 major) Mathemation | | -7/ | | |
| | - | hing degree Gymnasiun | - | ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 020) |
| Master | | | Education PLUS, Elite | | | |
| | | , | | | | |
| Supple | | ee (1 major) Computatio | onal Mathematics (202 | 22) | | |
| Supple Master Master | 's degr 's degr | ee (1 major) Computatio ee (1 major) Mathemati | cs (2022) | 22) | | |
| Supple Master Master Master | 's degr 's degr 's degr | ee (1 major) Computatio ee (1 major) Mathemati ee (1 major) Chemistry (| cs (2022) (2024) | | | |
| Supple Master Master Master | 's degr 's degr 's degr | ee (1 major) Computatio ee (1 major) Mathemati | cs (2022) (2024) | | | |



Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | page 322 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| moaule | e title | | | | Abbreviation | |
|---|--|--|--|--|---|----------------|
| Theoretical Chemistry - Project course quantum dynamics | | | | | 08-TCAP2-161-m01 | |
| Module coordinator | | | Module offered by | | | |
| head of the research group offering the module | | e module | Institute of Physical and Theoretical Chemistry | | | |
| ECTS | 1 | od of grading | | | , | |
| 5 | 1 | successfully completed | | | | |
| 5 Duratio | | Module level | Other prerequisites | | | |
| | | | | • | | |
| 1 seme | | graduate | | | | |
| Conten | | | | | | |
| the Ins | titute o | ives students the oppor f Theoretical Chemistry ntum dynamics. | | | | |
| Intend | ed lear | ning outcomes | | | | |
| | | e learned some of the m | ethods typically used | in theoretical chemi | stry and in particula | r in quan- |
| | | . They are able to explai | | | | i, in quan |
| | | number of weekly contact hours, | | | , | |
| P (5) | - (, , , , , , , , , , , , , , , , , , , | | | | | |
| - | doface | accmant (| | | · · · · · · · · · · · · · · · · · · · | |
| | | Sessment (type, scope, langu Ile for bonus) | age — If other than German, | examination offered — if no | ot every semester, informati | ion on whether |
| | | (approx. 30 minutes) | _ | | | |
| | | ssessment: German and | l/or English | | | |
| | | | <u>,</u> | | | |
| Allocat | ion of I | hlaces | | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| Additio Additio | onal inf | | ation: block taught la | b course with approx | k. 20 working days. | |
| Additio | onal inf | ormation | ation: block taught la | b course with approx | x. 20 working days. | |
| Additio Additio | onal inf | ormation | ation: block taught la | b course with approx | k. 20 working days. | |
| Additio Additio Worklo | onal inf onal info oad | ormation ormation on module dur | ation: block taught la | b course with approx | x. 20 working days. | |
| Additio Additio Worklo 150 h | onal inf onal info oad | ormation ormation on module dur | ation: block taught la | b course with approx | k. 20 working days. | |
| Additio Additio Worklo 150 h Teachi | onal info onal info oad ng cycl | ormation ormation on module dur e | | | x. 20 working days. | |
| Additio Additio Worklo 150 h Teachi i | onal info onal info oad ng cycl | ormation ormation on module dur | | | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre | nal info nal info ad ng cycl ed to in | ormation ormation on module dur e LPOI (examination regulation | | | k. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module | nal info ad ng cycl ed to in | ormation ormation on module dur e LPOI (examination regulation | ns for teaching-degree progra | | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module | nal info ad ng cycl ed to in e appea | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 | ns for teaching-degree progra | | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module Master Master | nal info nal info ad ng cycl ed to in e appea 's degr | ormation ormation on module dur e LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic | ns for teaching-degree progra 2016) S (2016) | ammes) | x. 20 working days. | |
| Additio Worklo 150 h Teachin Referre Module Master Master Master | nal info ad ng cycl ed to in 's degr 's degr 's degr | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio | ns for teaching-degree progra 2016) S (2016) nal Mathematics (201 | ammes) 6) | | 016) |
| Additio Additio Worklo 150 h Teachin Referre Master Master Master Master Master | nal info ad ng cycl ed to in 's degr 's degr 's degr 's teac | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium | ns for teaching-degree progra 2016) s (2016) nal Mathematics (201 MINT Teacher Educat | ammes) 6) ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 016) |
| Additio Additio Worklo 150 h Teachin Referre Master Master Master Master Supple | nal info ad ng cycl ed to in 's degr 's degr 's teacl menta | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite | ammes) 6) ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 016) |
| Additio Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master | enal info mal info ad ng cycl ed to in 's degr 's degr 's degr 's teacl mental 's degr | ormation ormation on module dur e LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher B | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 | 016) |
| Additio Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master Master | nal inf ad ng cycl ed to in 's degr 's degr 's teacl menta 's degr 's degr | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher R ee (1 major) Chemistry (2 | ns for teaching-degree progra 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 | 016) |
| Additio Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master Master Master Master | nal info ad ng cycl ed to in 's degr 's degr 's teacl mental 's degr 's degr 's degr | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher F ee (1 major) Chemistry (2 ee (1 major) Computatio | 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN 9) | ork Bavaria (ENB) (20 B) (2016) | |
| Additio Additio 150 h Teachin Referre Master Master Master Master Supple Master Master Master Master Master Supple | enal info mal info ad ng cycl ed to in e appea 's degr 's degr 's degr 's teacl mentar 's degr 's teacl mentar | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (a ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher B ee (1 major) Chemistry (a ee (1 major) Chemistry (a ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Mathematic hing degree Gymnasium ry course MINT Teacher B | 2016) s (2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Supple Master Master Supple Master Master Master | nal inf nal inf ad ng cycl ed to in e appea 's degr 's degr 's teacl menta 's degr 's degr 's teacl menta 's degr | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio ning degree Gymnasium ry course MINT Teacher F ee (1 major) Chemistry (2 ee (1 major) Chemistry (2 ee (1 major) Chemistry (2 ee (1 major) Chemistry (2 ee (1 major) Computatio ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher F ee (1 major) Computatio | ns for teaching-degree progra 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite nal Mathematics (202 | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |
| Additio Worklo 150 h Teachin Referre Master Master Master Master Master Master Master Master Master Master Master Master Master Master Master Master Master Master Master | nal info ad ng cycl ed to in 's degr 's degr | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher R ee (1 major) Chemistry (2 ee (1 major) Computatio ee (1 major) Mathematic hing degree Gymnasium ry course MINT Teacher R ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Mathematic | 2016) s (2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite nal Mathematics (202 s (2022) | ammes) 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |
| Additio Additio Uorklo 150 h Teachin Referre Master | enal info ad ng cycl ed to in e appea 's degr 's degr | ormation ormation on module dur e LPO I (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher R ee (1 major) Chemistry (2 ee (1 major) Mathematic hing degree Gymnasium ry course MINT Teacher R ee (1 major) Mathematic hing degree Gymnasium ry course MINT Teacher R ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Mathematic ee (1 major) Chemistry (2 | 2016) s for teaching-degree progra 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite nal Mathematics (202 s (2022) 2024) | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN 22) | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |
| Additio Additio Uorklo 150 h Teachin Referre Master | enal info ad ng cycl ed to in e appea 's degr 's degr | ormation ormation on module dur e LPOI (examination regulation ars in ee (1 major) Chemistry (2 ee (1 major) Mathematic ee (1 major) Computatio hing degree Gymnasium ry course MINT Teacher R ee (1 major) Chemistry (2 ee (1 major) Computatio ee (1 major) Mathematic hing degree Gymnasium ry course MINT Teacher R ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Computatio ee (1 major) Mathematic | 2016) s for teaching-degree progra 2016) s (2016) nal Mathematics (201 MINT Teacher Educat Education PLUS, Elite 2018) nal Mathematics (201 s (2019) MINT Teacher Educat Education PLUS, Elite nal Mathematics (202 s (2022) 2024) | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) ion PLUS, Elite Netw Network Bavaria (EN 22) | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |



Master's degree (1 major) Mathematics (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 324 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| | e title | | | | Abbreviation | |
|--|--|--|--|--|---|--------------------------|
| Materia | al Scie | nce 1 (Basic introduction | n) | | 08-FU-MaWi1-152-m | 101 |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| holder thesis | ofthe | Chair of Chemical Techn | ology of Material Syn- | | Fechnology of Materia | al Synthesis |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | 1 | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme: | | undergraduate | | | | |
| | | undergraduate | | | | |
| | ainty aı | nalysis, process enginee | | ution, agglomeration | n, separation, drying, | conveying. |
| Vacuun | n techr | ology, coating processe | es, sintering. | | | |
| Intende | ed lear | ning outcomes | | | | |
| ques ar in hand | nd can dling of | ess engineering. For a g suggest ways of fabrica measurement data as v clature, significance as v | tion, processing and t well as statistical and s | reatment of materia systematic errors an | ls. Furthermore they a d posess extensive k | areconfident nowledge |
| Course | S (type, r | number of weekly contact hours | , language — if other than Ger | man) | | |
| V (3) + I | Ü (1) | | | | | |
| | | s essment (type, scope, langu ble for bonus) | uage — if other than German, o | examination offered — if n | ot every semester, information | on on whether |
| | | | 180 minutes) or each (20 to 30 minute | - | didata) ar | |
| c) oral (d) log (e) preso Langua | examin approx entatio ige of a | nation in groups of up to x. 20 pages) or on (approx. 30 minutes) assessment: German and | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral (d) log (e) prese | examin approx entatio ige of a | nation in groups of up to x. 20 pages) or on (approx. 30 minutes) assessment: German and | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral e d) log (a e) prese Langua Allocat | examin approx entatio age of a ion of j | nation in groups of up to a. 20 pages) or on (approx. 30 minutes) assessment: German and places | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral e d) log (a e) prese Langua Allocat | examin approx entatio age of a ion of j | nation in groups of up to x. 20 pages) or on (approx. 30 minutes) assessment: German and | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral (d) log (e) preso Langua Allocat | examin approx entatio age of a ion of j | nation in groups of up to a. 20 pages) or on (approx. 30 minutes) assessment: German and places | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral (d) log (e) preso Langua Allocat Additio | examin approx entatio ge of a ion of p | nation in groups of up to a. 20 pages) or on (approx. 30 minutes) assessment: German and places | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral (d) log (e) prese Langua Allocat Additio Worklo | examin approx entatio ge of a ion of p | nation in groups of up to a. 20 pages) or on (approx. 30 minutes) assessment: German and places | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral e d) log (a e) prese Langua Allocat | examin approx entatio ige of a ion of p onal inf ad | nation in groups of up to a. 20 pages) or on (approx. 30 minutes) assessment: German and places | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral e d) log (e) prese Langua Allocat Additio Worklo 150 h | examin approx entatio ige of a ion of p onal inf ad | nation in groups of up to a. 20 pages) or on (approx. 30 minutes) assessment: German and places | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| c) oral e d) log (z e) prese Langua Allocat Additio Teachir | examin approx entatio ige of a ion of p onal inf pad | eation in groups of up to a 20 pages) or on (approx. 30 minutes) assessment: German and places | each (20 to 30 minute 3 candidates (approx. d/or English | 15 minutes per can | didate) or | |
| c) oral e d) log (z e) prese Langua Allocat Additio Teachir | examin approx entatio ige of a ion of p onal inf pad | nation in groups of up to a. 20 pages) or on (approx. 30 minutes) assessment: German and places | each (20 to 30 minute 3 candidates (approx. d/or English | 15 minutes per can | didate) or | |
| c) oral e d) log (2 e) prese Langua Allocat Morklo 150 h Teachir Referre | examin approx entatio ige of a ion of p onal inf onal inf onal inf ed to in | e LPOI (examination regulation | each (20 to 30 minute 3 candidates (approx. d/or English | 15 minutes per can | didate) or | |
| c) oral e d) log (z e) prese Langua Allocat Additio Worklo 150 h Teachir Referre Module | examin approx entatio ge of a ion of p onal inf ad ng cycl | e LPOI (examination regulation | each (20 to 30 minute 3 candidates (approx. d/or English | 15 minutes per can mmes) | didate) or | |
| c) oral e d) log (2 e) prese Langua Allocat Additio Worklo 150 h Teachir Referre Bachele Bachele | examin approx entatio ige of a ion of p onal inf onal inf ead ed to in e appea or's de or's de | e LPO I (examination regulatio ars in gree (1 major) Nanostrue gree (1 major) Functiona | each (20 to 30 minute 3 candidates (approx. d/or English | 15 minutes per can mmes) | didate) or | |
| c) oral e d) log (2 e) prese Langua Allocat Additio Morklo 150 h Teachir Referre Bachele Bachele Master | examin approx entatio ge of a ion of p onal inf onal inf ead ed to in e appea or's de or's de 's degr | e LPO I (examination regulation ars in gree (1 major) Chemistry (| each (20 to 30 minute 3 candidates (approx. d/or English | 15 minutes per can mmes) 5) | | |
| c) oral e d) log (2 e) prese Langua Allocat Additio Worklo 150 h Teachir Referre Bachele Bachele Master Master | examin approx entatio ge of a ion of p onal inf onal inf ead ed to in e appea or's de or's de 's degr 's teac | e LPOI (examination regulation ars in gree (1 major) Nanostrue gree Gymnasium | each (20 to 30 minute 3 candidates (approx. d/or English | mmes) 5) ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | |
| c) oral e d) log (2 e) prese Langua Allocat Morklo 150 h Teachir Referre Bachele Bachele Master' Supple | examin approx entatio ige of a ion of p onal inf ad ad ad ed to in e appea or's de or's de or's degr 's teac menta | e LPO I (examination regulation gree (1 major) Nanostrue gree Gymnasium ry course MINT Teacher | each (20 to 30 minute 3 candidates (approx. d/or English | mmes) 5) ion PLUS, Elite Netw | ork Bavaria (ENB) (20 | |
| c) oral e d) log (2 e) prese Langua Allocat Additio Morklo 150 h Teachir Referre Bachele Bachele Master' Supple Master | examin approx entatio ige of a ion of p onal inf onal inf ad ead ed to in e appea or's de or's de or's de 's teac 's teac 's degr | e LPO I (examination regulation gree (1 major) Nanostruc gree (1 major) Functiona e (1 major) Chemistry (hing degree Gymnasium ry course MINT Teacher I ee (1 major) Chemistry (| each (20 to 30 minute 3 candidates (approx. d/or English | mmes) 5) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 B) (2016) | |
| c) oral e d) log (2 e) prese Langua Allocat Additio Teachir Referre Bachele Bachele Master' Supple Master' Master' | examin approx entatio ge of a ion of p onal inf onal inf ead ed to in e appea or's de or's de or's de r's degr 's teac 's degr 's teac | e LPO I (examination regulation gree (1 major) Nanostrue gree Gymnasium ry course MINT Teacher | each (20 to 30 minute 3 candidates (approx. d/or English | mmes) 5) ion PLUS, Elite Netw Network Bavaria (EN | ork Bavaria (ENB) (20 B) (2016) ork Bavaria (ENB) (20 | |



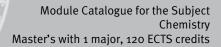
Bachelor's degree (1 major) Nanostructure Technology (2020)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 326 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | Abbreviation |
|---------------------------|--------------------|--|------------------------------|-----------------------------|--|
| Lab Co | urse M | aterial Science | | | 08-FMM-MP-161-m01 |
| Modul | e coord | inator | | Module offered by | |
| | ers spec Materi | ialisation subject Funktio | onsmaterialien (Fun- | Chair of Chemical T | echnology of Material Synthesis |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) | successfully completed | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| Ten se | lected e | experiments in materials | science. | | |
| | | ning outcomes | | | |
| | - | | I proficiency in the pe | erformance of experi | ments in materials science. |
| | | number of weekly contact hours, l | · · · · | · · · · | |
| P (8) | Ja (type, I | initial of weekly contact nouls, t | anguage — II other than Gel | mally | |
| | d af - | · · · · · · · · · · · · · · · · · · · | | | |
| | | Sessment (type, scope, langua ole for bonus) | ge — If other than German, | examination offered — if no | ot every semester, information on whether |
| pages | each) a | nd assessment of practic | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| | | ssessment: German and, | /or English | | |
| Allocat | tion of | places | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Modul | e appea | ars in | | | |
| | | ee (1 major) Chemistry (2 | 016) | | |
| | - | hing degree Gymnasium | | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | | |
| | | | | | ork Bavaria (ENB) (2020) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2020) |
| | - | ee (1 major) Chemistry (2 | • | | |
| | | hing degree Gymnasium I | | | |
| NUMPIC | menta | ry course MINT Teacher E | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record Master (120 ECTS) Chemie - 2018 | page 327 / 437 |
|--|--|----------------|
|--|--|----------------|





Biochemistry (25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 328 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 329 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | Module title | | | | Abbreviation |
|---|---|--|---|-----------------------------|--|
| Molecular Biology for Advanced Students | | | nts | | 08-BC-MOLMC-161-m01 |
| Module | coord | inator | | Module offered by | |
| holder | of the C | Chair of Biochemistry | _ | Chair of Biochemist | ry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | | | | | |
| Compri tional b | | | his module discusse | s advanced topics in | n molecular physiology and func- |
| Intende | ed learr | ning outcomes | | | |
| Studen | ts have | e developed a sound know | wledge of molecular | piology. | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| V (2) + | Ü (1) | | | | |
| | | essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| d) log (e) pres | approx entatio ge of a | ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | | 15 minutes per cano | didate) or |
| Allocal | | Jaces | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | 6 | | | |
| | 0.0 | - | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | e appea | irs in | | | |
| Master | 's degre | ee (1 major) Chemistry (2 | 016) | | |
| Master' Supple | Master's degree (1 major) Functional Materials (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | |
| Supple Master | mentar 's degre | ning degree Gymnasium I y course MINT Teacher Ec ee (1 major) Functional M | ducation PLUS, Elite I aterials (2022) | | |
| master | saegre | ee (1 major) Functional M | aterials (2025) | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 330 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

Master's with 1 major Chemistry (2018)

| Module | title | | | | Abbreviation |
|---|--|---|---|---|--|
| Molecul | ar Bio | logy laboratory course | | | 08-BC-MOLP-172-m01 |
| Module | coordi | inator | | Module offered by | |
| holder o | of the C | Chair of Biochemistry | _ | Chair of Biochemist | ry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 10 | numer | rical grade | | | |
| Duration | n | Module level | Other prerequisites | | |
| 1 semes | ster | undergraduate | | | |
| Content | S | | | | |
| of macro | omoleo | | | | gineering and characterisation s of biochemical processes, and |
| Intende | d learr | ning outcomes | | | |
| Student | s have | developed a knowledge | of molecular biology | and are able to app | ly it to practical experiments. |
| Courses | (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| P (5) | | | | | |
| | | essment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| d) oral e e) prese f) praction not exce Languag Assessn | c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English Assessment offered: Once a year, winter semester | | | | |
| Allocati | | | | | |
| Selectio exceed to thirds of average respecti lot. A wa Chemie Master's cated ac sters, pl me avail distribut allocate mesters become | n proc the nu f place grade ve app aiting l (Chem s degre ccordir aces w lable. ted am d acco s place | mber of available places s): current average grade , places will be allocated olicant; among applicant ist will be maintained an histry), Master's and MIN ee programme Chemie (C ng to the number of subje vill be allocated by lot. A 2. In case that there are p nong the students in the ording to the number of s es will be allocated by lot be allocated by lot | , places will be allocate of successfully com by lot. Quota 2 (one s with the same num d places re-allocated T-Lehramt PLUS Mast hemistry) (120 ECTS ect semesters. Among waiting list will be m places left after proce Master's degree prog ubject semesters. Am | ated according to the pleted modules; am third of places): num ber of subject semes as they become ava er's: 6 places. Selec credits) will be consi g applicants with the aintained and places dure 1 is finished co ramme MINT-Lehram ong applicants with | uld the number of applications e following quotas: Quota 1 (two ong applicants with the same nber of subject semesters of the sters, places will be allocated by ailable. tion process: 1. Applications of dered first: Places will be allo- e same number of subject seme- s re-allocated by lot as they beco- impletely, theses places will be the same number of subject se- the same number of subject se- |
| Addition | nal info | ormation | | | |
| | | | | | |
| Workloa | ad | | | | |
| 300 h | | | | | |

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Teaching cycle

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Bachelor's degree (1 major) Biochemistry (2022)

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 332 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 333 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Practical course "Molecular Machines" for advanced students 08-BC-VPMM Module cordinator Module offered by holder of the Chair of Biochemistry Chair of Biochemistry ECTS Method of grading Only after succ. compl. of module(s) 10 numerical grade 08-BC-MOLP Duration Module level Other prerequisites 1 semester graduate Contents Contention on dule gives students the opportunity to explore a research topic. Selected methods an lar biology and biochemistry; cloning, mutagenesis, protein expression and purification, RNA in-protein interactions, isolation and functional analysis of macromolecular complexes. Intended learing outcomes Students are able to explore a specific research topic and elliver an oral presentation on the work. 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, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Module information on module duration: block taught lab course with approx. 40 working ton | I | |
|---|-----------------------|--|
| holder of the Chair of Biochemistry Chair of Biochemistry ECTS Method of grading Only after succ. compl. of module(s) 10 numerical grade 08-BC-MOLP Duration Module level Other prerequisites 1 semester graduate Contents Content site opportunity to explore a research topic. Selected methods and lar biology and biochemistry; cloning, mutagenesis, protein expression and purification, RNA-in-protein interactions, isolation and functional analysis of macromolecular complexes. Intended learning outcomes Students are able to explore a specific research topic and deliver an oral presentation on the work. 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, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working and book is on a module struction: block taught lab course with approx. 40 working and book is on a module struction: block taught lab course with approx. 40 working an an | -161-m01 | |
| ECTS Method of grading Only after succ. compl. of module(s) 10 numerical grade 08-BC-MOLP Duration Module level Other prerequisites 1 semester graduate Contents This module gives students the opportunity to explore a research topic. Selected methods am lar biology and biochemistry; cloning, mutagenesis, protein expression and purification, RNA in-protein interactions, isolation and functional analysis of macromolecular complexes. Intended learning outcomes Students are able to explore a specific research topic and deliver an oral presentation on the work. 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, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working of workload 300 h | ered by | |
| 10 numerical grade o8-BC-MOLP Duration Module level Other prerequisites 1 semester graduate Contents This module gives students the opportunity to explore a research topic. Selected methods annual protein interactions, isolation and functional analysis of macromolecular complexes. Intended learning outcomes Students are able to explore a specific research topic and deliver an oral presentation on the work. 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, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Additional information on module duration: block taught lab course with approx. 40 working of Workload | | |
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| 1 semester graduate Contents This module gives students the opportunity to explore a research topic. Selected methods an lar biology and biochemistry; cloning, mutagenesis, protein expression and purification, RNA: in-protein interactions, isolation and functional analysis of macromolecular complexes. Intended learning outcomes Students are able to explore a specific research topic and deliver an oral presentation on the work. 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, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Motitional information Additional information on module duration: block taught lab course with approx. 40 working of workload 300 h | | |
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| This module gives students the opportunity to explore a research topic. Selected methods and lar biology and biochemistry; cloning, mutagenesis, protein expression and purification, RNA in-protein interactions, isolation and functional analysis of macromolecular complexes. Intended learning outcomes Students are able to explore a specific research topic and deliver an oral presentation on the work. 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, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working of Workload 300 h Teaching cycle | | |
| lar biology and biochemistry; cloning, mutagenesis, protein expression and purification, RNA- in-protein interactions, isolation and functional analysis of macromolecular complexes. Intended learning outcomes Students are able to explore a specific research topic and deliver an oral presentation on the work. 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, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working of Workload 300 h Teaching cycle | | |
| Students are able to explore a specific research topic and deliver an oral presentation on the work. 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, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working of Workload 300 h Teaching cycle | | |
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| P (10) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working of Workload 300 h Teaching cycle | results of their | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, i module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working of Workload 300 h Teaching cycle | | |
| module is creditable for bonus) Log (approx. 20 pages) and talk (approx. 15 minutes) Language of assessment: German and/or English Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working of Workload 300 h Teaching cycle | | |
| Allocation of places Additional information Additional information on module duration: block taught lab course with approx. 40 working o Workload 300 h Teaching cycle | nformation on whether | |
| Additional information Additional information on module duration: block taught lab course with approx. 40 working workload 300 h Teaching cycle | | |
| Additional information on module duration: block taught lab course with approx. 40 working a Workload 300 h Teaching cycle | | |
| Workload 300 h Teaching cycle | | |
| Workload 300 h Teaching cycle | davs. | |
| Teaching cycle | , | |
| Teaching cycle | | |
| | | |
| | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
| | | |
| Module appears in | | |
| Master's degree (1 major) Chemistry (2016) | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (E | NB) (2016) | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | |
| Master's degree (1 major) Chemistry (2018) Master's teaching degree Cumpasium MINT Teacher Education DLUS, Elite Natural, Deveria (E | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (E Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | ND) (2020) | |

| Module title Abbreviation | | | | | Abbreviation |
|--|---|---|-----------------------------|-----------------------------|---|
| Practio | Practical course "Protein Degradation in Eukaryotes" for adva | | | | 08-BC-VPPD-161-m01 |
| Module coordinator | | | | Module offered by | |
| holder | ofthe | Chair of Biochemistry | | Chair of Biochemis | try |
| ECTS | Meth | od of grading | Only after succ. com | npl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Durati | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| This m karyot | - | vives students the opport | unity to explore a res | earch topic in the fie | eld of protein degradation in eu- |
| Intend | ed lear | ning outcomes | | | |
| Studer work. | nts are a | able to explore a specific | research topic and d | eliver an oral presen | tation on the results of their |
| Course | es (type, i | number of weekly contact hours, I | anguage — if other than Ger | man) | |
| P (10) | | | | | |
| module i Log (a | is creditat | sessment (type, scope, langua ole for bonus) 20 pages) and talk (appro 1958 ssment: German and | ox. 15 minutes) | examination offered — if no | ot every semester, information on whether |
| | tion of | | | | |
| | | | | | |
| Additi | onal inf | ormation | | | |
| | | ormation on module dura | tion: block taught lal | o course with approx | . 40 working days |
| Worklo | | | | | |
| 300 h | | | | | |
| - | ing cycl | e | | | |
| | | | | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |

| Module title | | | | | Abbreviation |
|----------------------------|-------------------------------|--|--|----------------------------|--|
| Practic | al cour | se "RNA Biochemistry" | for advanced student | S | 08-BC-VPRB-161-m01 |
| Module coordinator | | | | Module offered by | |
| holder | of the (| Chair of Biochemistry | | Chair of Biochemis | try |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | its | | • | | |
| mes as | mole | | tory mechanisms of eu | | eld of RNA biochemistry. Riboso- synthesis. Gradient centrifugati |
| Intend | ed lear | ning outcomes | | | |
| work. T | hey are h the h | e able to familiarise ther | nselves with different | mechanisms of gen | ntation on the results of their eral and specific translation con appropriate and understandable |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | rman) | |
| P (10) | | | | | |
| module i | s creditab | le for bonus) | | examination offered — if n | ot every semester, information on whether |
| | | o pages) and talk (appr ssessment: German and | | | |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| Additic | onal info | ormation on module du | ation: block taught la | b course with appro | x. 40 working days. |
| Worklo | ad | | | | |
| 300 h | _ | | _ | | |
| Teachi | ng cycl | е | | | |
| | | | | | |
| Referre | ed to in | LPOI (examination regulatio | ns for teaching-degree progra | immes) | |
| | | | | | |
| | | | | | |
| Modul | e appea | ars in | | | |
| Master Master Supple | 's degr 's teach mentai | ee (1 major) Chemistry (| MINT Teacher Educat Education PLUS, Elite | | ork Bavaria (ENB) (2016) B) (2016) |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 336 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | |
|--------------------------------------|------------------------------------|---|---|-----------------------------|--|--|
| Practic | al cou | rse "Structural Biology" | ts | 08-BC-VPSB-161-m01 | | |
| Module coordinator | | | | Module offered by | I | |
| holder | ofthe | Chair of Biochemistry | | Chair of Biochemis | try | |
| ECTS | Meth | od of grading | Only after succ. cor | npl. of module(s) | | |
| 10 | nume | rical grade | o8-BC-MOLP | | | |
| Duratio | on | Module level | Other prerequisites | 5 | | |
| 1 seme | ster | graduate | | | | |
| Conten | nts | | • | | | |
| | ıdamer | ntal principles and techr | | | tallisation. It teaches students sation as well as crystallographic | |
| Intend | ed lear | ning outcomes | | | | |
| | | | | | constructs for crystallisation. Il as data collection and proces- | |
| Course | S (type, | number of weekly contact hours | , language — if other than Ge | rman) | | |
| P (10) | | | | | | |
| | | sessment (type, scope, langu ole for bonus) | uage — if other than German, | examination offered — if no | ot every semester, information on whether | |
| | | 20 pages) and talk (app assessment: German an | | | | |
| Allocat | tion of | places | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| Additic | onal inf | ormation on module du | ration: block taught la | b course with approx | x. 40 working days. | |
| Worklo | ad | | | | | |
| 300 h | | | | | | |
| Teachi | ng cyc | le | | | | |
| | - • | | | | | |
| Referre | ed to in | LPOI (examination regulation | ns for teaching-degree progra | ammes) | | |
| | - | | | | | |
| Module | e appe | ars in | | | | |
| Master Master Supple Master | degr s teac ementa s degr | ree (1 major) Chemistry (hing degree Gymnasium ry course MINT Teacher ree (1 major) Chemistry (| n MINT Teacher Educat Education PLUS, Elite 2018) | Network Bavaria (EN | | |
| | | hing degree Gymnasium ry course MINT Teacher | | | ork Bavaria (ENB) (2020) B) (2020) | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 337 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | Module title | | | | Abbreviation |
|---|--|--|---|----------------------|---|
| Bioinor | ganic (| Chemistry | | | 08-ACM2-161-m01 |
| Module | e coord | inator | | Module offered by | <u>.</u> |
| lecturer of seminar "Anorganische Aspekte der Biochemie and Medizinischen Chemie" (Inorganic Aspects of Bioche- mistry and Medicinal Chemistry) | | | | Institute of Inorgan | ic Chemistry |
| ECTS | | od of grading | Only after succ. com | and of module(s) | |
| 5 | | rical grade | | | |
| Duratio | | Module level | Other prerequisites | | |
| | | | | | |
| 1 seme | | graduate | | | |
| This mo | odule i ds of Bl | | | | chemistry (BIC). It discusses the ns of BIC in the fields of diagnosis |
| Intende | ed lear | ning outcomes | | | |
| | | able to describe the princ us enzymes and describe | | | xplain the structure and effects medicine. |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | man) | |
| Method module is a) writt b) oral c) oral Langua | d of ass creditab en exal examir examin ge of a | le for bonus) mination (approx. 45 to g nation of one candidate e ation in groups of up to ssessment: German and | oo minutes) or each (20 to 30 minute 3 candidates (15 to 30 | s) or | ot every semester, information on whether date) |
| Allocat | ion of _l | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | e appea | ars in | | | |
| Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |
| Suppla | mentai | y course MINT Teacher E | ducation PLUS. Elite I | Network Bavaria (EN | B) (2020) |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 338 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | |
|---|-----------------------------|--|---|--|-----------------------------|----------------|
| Organo | - and E | Biocatalysis | | | 08-HKM1-152-m01 | |
| Module coordinator | | | | Module offered by | | |
| lecture | r of the | seminar "Organo- and | Biokatalyse" | Faculty of Chemistry | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | Contents | | | | | |
| process | ses. Or plicatio | rovides students with ganocatalysis: enantion of areas. Biocatalysis: | selective implementati | on, principles, green | chemistry, substand | ce classes |
| Intende | ed lear | ning outcomes | | | | |
| scribe t | he stru | able to categorise organ Icture and applications ne effects of enzymes. | | | | |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | man) | | |
| S (3) | | | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) oral (Langua | examir examin ge of a | mination (approx. 45 to nation of one candidate ation in groups of up to ssessment: German an | each (20 to 30 minute 3 candidates (15 to 30 | - | late) | |
| Allocat | ion of p | Diaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | a to in | LPO I (examination regulati | ons for teaching-degree progra | mmes) | | |
| | | | | | | |
| | Module appears in | | | | | |
| Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Biochemistry (2017) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| | | y course MINT Teacher ee (1 major) Chemistry | | Network Bavaria (EN | ןס (2020) | |
| Master's wi | ith 1 majo | r Chemistry (2018) | | ırg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 339 / 437 |



Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 340 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | | | |
|--------------------|--------------------|--|---|-----------------------|---|--|--|--|
| Moder | n Aspe | cts of Natural Product Ch | nemistry and Biologic | al Chemistry | 08-OCM-NAT-172-m01 | | | |
| Module | Module coordinator | | | | l by | | | |
| lecture | r of the | seminar | | Institute of Org | anic Chemistry | | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) |) | | | |
| 5 | nume | rical grade | | | | | | |
| Duratio | on | Module level | Other prerequisites | | | | | |
| 1 seme | ster | graduate | | | | | | |
| Contents | | | | | | | | |
| of mac | romole | | | | nt engineering and characterisation alysis of biochemical processes, and | | | |
| Intend | ed lear | ning outcomes | | | | | | |
| Studen | ts have | e developed a knowledg | e of molecular biology | and are able to | apply it to practical experiments. | | | |
| Course | S (type, 1 | number of weekly contact hours, | language — if other than Ger | man) | | | | |
| S | | | | | | | | |
| - | | ht in: German or English | | | | | | |
| | | sessment (type, scope, langu ole for bonus) | age — if other than German, o | examination offered – | – if not every semester, information on whether | | | |
| c) oral Langua | examir ige of a | nation of one candidate nation in groups of up to assessment: German and | 3 candidates (15 to 30 | | ndidate) | | | |
| Allocat | | | | | | | | |
| mistry) the sar | : 20 pla ne num | aces. Places will be alloc | ated according to the s, places will be alloc | number of subj | gree programme Biochemie (Bioche- ect semesters; among applicants with iting list will be maintained and pla- | | | |
| Additio | onal inf | ormation | | | | | | |
| | | | | | | | | |
| Worklo | ad | | | | | | | |
| 150 h | | | | | | | | |
| Teachi | ng cycl | e | | | | | | |
| | | | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ns for teaching-degree progra | mmes) | | | | |
| | | | | | | | | |
| Module appears in | | | | | | | | |
| Supple Master | menta 's degr | ry course MINT Teacher E | Module appears in Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | |
| | 's teac | | y (2019) | | | | | |

| Drug de | | | | Abbreviation | |
|---|----------|----------------------------------|------------------------------|-----------------------------|---|
| Drug design | | | | | 08-MCM3-172-m01 |
| Module coordinator | | | | Module offered by | <u> </u> |
| lecturer mistry) | rs Phar | mazeutische Chemie (Ph | armaceutical Che- | Institute of Pharma | cy and Food Chemistry |
| ECTS Method of grading Only after succ. compl. of module(s) | | | | | |
| 5 | numei | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Contents | | | | | |
| This mo | dule d | iscusses advanced topic | s in natural product (| chemistry and biolog | gical chemistry. |
| | | ing outcomes | | , . | , |
| | | ble to discuss advanced | topics in natural pro | duct chemistry and | biological chemistry |
| | | umber of weekly contact hours, l | · · · | | |
| S (2) + 1 | | and of weekly contact hours, t | | | |
| • • | | t in: German or English | | | |
| | | | ge — if other than German. | examination offered — if no | ot every semester, information on whether |
| | | le for bonus) | | | · · |
| | | approx. 30 minutes) with | | | |
| Langua | ge of a | ssessment: German and, | /or English | | |
| Allocati | ion of p | olaces | | | |
| 22 places. 16 places for students of the Master's degree programme Chemie (Chemistry): Places will be alloca- ted according to the same number of subject semesters; students who have chosen Medizinische Chemie (Medi- cinal Chemistry) as their focus will be given preferential consideration. 6 places for students of the Master's de- gree programme Biochemie (Biochemistry): Places will be allocated according to the number of subject seme- sters; among applicants with the same number of subject semesters, places will be allocated by lot.2 places for students of the Master's degree programme MINT-Lehramt PLUS: Places will be allocated according to the num- ber of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot ; a waiting list will be maintained and places re-allocated by lot as they become available. | | | | | |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | 9 | | | |
| | | | | | |
| Referre | d to in | LPOI (examination regulations | s for teaching-degree progra | ummes) | |
| | | | | | |
| Module | appea | rs in | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |
| | | y course MINT Teacher E | | | |

| Module title | | | | Abbreviation | |
|--|---|------------------------------|-----------------------------|--|--|
| Clinical-ana | lytical Chemistry | | | 08-PH-KAC-152-m01 | |
| Module coor | dinator | | Module offered by | | |
| lecturer of le | cture "Klinisch-analytische | e Chemie" (Clinical | | cy and Food Chemistry | |
| | al Chemistry) | | | | |
| | hod of grading | Only after succ. con | npl. of module(s) | | |
| | erical grade | | | | |
| Duration | Module level | Other prerequisites | i | | |
| 1 semester | graduate | | | | |
| Contents | | | | | |
| This module | discusses advanced topic | s in clinical analytica | l chemistry. | | |
| Intended lea | rning outcomes | | | | |
| Students hav | ve developed an advanced | knowledge of molec | ular biology. | | |
| Courses (type | , number of weekly contact hours, l | anguage — if other than Ge | rman) | | |
| V (3) | | | | | |
| Method of a | ssessment (type, scope, langua | ge — if other than German, | examination offered — if no | t every semester, information on whether | |
| module is credita | | | | | |
| | nination (approx. 120 minu | | | | |
| | assessment: German and, | or English | | | |
| Allocation of | fplaces | | | | |
| | | | | | |
| Additional in | nformation | | | | |
| | | | | | |
| Workload | | | | | |
| 150 h | | | | | |
| Teaching cy | cle | | | | |
| | | | | | |
| Referred to i | n LPO I (examination regulations | s for teaching-degree progra | ummes) | | |
| | | | | | |
| Module app | ears in | | | | |
| | gree (1 major) Biochemistry | (2015) | | | |
| | gree (1 major) Chemistry (2 | | | | |
| Master's tea | ching degree Gymnasium I | WINT Teacher Educat | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | |
| Master's degree (1 major) Biochemistry (2017) | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | |
| Master's degree (1 major) Biochemistry (2019) Master's teaching degree Cumpacium MINT Teacher Education DILLS, Elite Network Payaria (ENP) (2022) | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |
| | gree (1 major) Chemistry (2 | | | _, () | |
| | ching degree Gymnasium I | • | ion PLUS, Elite Netwo | ork Bavaria (ENB) (2025) | |
| | ary course MINT Teacher E | | | | |
| Supplement | ary course with Treacher E | ucation PLUS, EIITe | ivelwork bavaria (EN | DJ (2025) | |

| Module | title | | | | Abbreviation |
|---|---|--|---|------------------------|--|
| Practical course of clinical-analytical Chemistry | | | | | 08-PH-KACP-152-m01 |
| Modulo | coordi | inator | | Module offered by | <u> </u> |
| Module coordinator lecturer of lecture "Klinisch-analytische Chemie" (Clinical | | | Chemie" (Clinical | | cy and Food Chemistry |
| | | Chemistry) | chemic (chinear | | cy and rood chemistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 (| (not) s | uccessfully completed | | | |
| Duration | n I | Module level | Other prerequisites | i i | |
| 1 semest | ter | undergraduate | | | |
| Contents | s | | | | |
| This moo methods | | overs practical topics in o | clinical chemistry and | d clinical diagnostics | s as well as the related analytical |
| Intended | d learr | ning outcomes | | | |
| Students ments. | s have | developed a knowledge | of clinical analytical | chemistry and are a | ble to apply it to practical experi- |
| Courses | (type, n | umber of weekly contact hours, l | anguage — if other than Ge | rman) | |
| P (5) | | | | | |
| module is c | creditab | le for bonus) | | | ot every semester, information on whether |
| pages ea | ach) a | chtestate (pre and post-e nd assessment of practic ssessment: German and, | al performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| Allocatio | on of p | laces | | | |
| | | | | | |
| Addition | nal info | ormation | | | |
| | | | | | |
| Workloa | d | | | | |
| 150 h | | | | | |
| Teaching | g cycle | 9 | | | |
| | | | | | |
| Referred | l to in | LPO I (examination regulations | s for teaching-degree progra | ammes) | |
| | | | | | |
| Module | appea | rs in | | | |
| | - | ee (1 major) Biochemistry | | | |
| Master's Supplem Master's Master's | s teach nentar s degre s degre | ee (1 major) Chemistry (2 ning degree Gymnasium / y course MINT Teacher Ec ee (1 major) Biochemistry ee (1 major) Chemistry (2 | MINT Teacher Educat ducation PLUS, Elite (2017) 018) | | |
| Master's | s teach | ee (1 major) Biochemistry iing degree Gymnasium / y course MINT Teacher Ec | WINT Teacher Educat | | ork Bavaria (ENB) (2020) B) (2020) |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 344 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Functional Materials

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 345 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(20 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 346 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation |
|---|-------------|--|------------------------------|-----------------------------|--|
| Lab Co | urse M | aterial Science | | | 08-FMM-MP-161-m01 |
| Modul | e coord | inator | | Module offered by | |
| lecturers specialisation subject Funktionsmaterialien (Fu | | | onsmaterialien (Fun- | Chair of Chemical T | echnology of Material Synthesis |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | (not) | successfully completed | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| Ten se | lected e | experiments in materials | science. | | |
| | | ning outcomes | | | |
| | - | | I proficiency in the pe | erformance of experi | ments in materials science. |
| | | number of weekly contact hours, l | · · · · | · · · · | |
| P (8) | Ja (type, I | initial of weekly contact nouls, t | anguage — II other than Gel | mally | |
| | d af - | · · · · · · · · · · · · · · · · · · · | | | |
| | | Sessment (type, scope, langua ole for bonus) | ge — If other than German, | examination offered — if no | ot every semester, information on whether |
| pages | each) a | nd assessment of practic | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) |
| | | ssessment: German and, | /or English | | |
| Allocat | tion of | places | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | | | |
| Modul | e appea | ars in | | | |
| | | ee (1 major) Chemistry (2 | 016) | | |
| | - | hing degree Gymnasium | | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | | |
| | | | | | ork Bavaria (ENB) (2020) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2020) |
| | - | ee (1 major) Chemistry (2 | • | | |
| | | hing degree Gymnasium I | | | |
| NUMP | menta | ry course MINT Teacher E | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. reg. data record Master (120 ECTS) Chemie - 2018 | page 347 / 437 |
|--|--|----------------|
|--|--|----------------|

| Module | e title | | | | Abbreviation | |
|--|--|---|------------------------------|-----------------------------|--|--|
| Project Work 08-FMM-PA-161-mo | | | | 08-FMM-PA-161-m01 | | |
| Module coordinator | | | | Module offered by | | |
| head of | f the re | search group offering the | module | Chair of Chemical T | echnology of Material Synthesis | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 5 | (not) s | successfully completed | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| | - | ives students the opport findings. | unity to explore a res | earch topic under the | e guidance of a supervisor and to | |
| Intende | ed lear | ning outcomes | | | | |
| Studen | ts have | e developed an advanced | proficiency in the pe | erformance of experim | ments in materials science. | |
| Course | S (type, r | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| P (10) | | | | | | |
| module is | prox. 1 | s essment (type, scope, langua le for bonus) 5 pages) and talk (approx ssessment: German and/ | x. 15 minutes) | examination offered — if no | t every semester, information on whether | |
| Allocat | | | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 016) | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| | Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | |
| | - | ee (1 major) Chemistry (2 ning degree Gymnasium I | | ion PILIS Flito Notwo | ork Bayaria (ENB) (2020) | |
| | | y course MINT Teacher E | | | | |
| | | ee (1 major) Chemistry (2 | | | / \/ | |
| | | ning degree Gymnasium I y course MINT Teacher Ee | | | | |

| Module title | | | | Abbreviation | | |
|--|--|---|--|--|-----------------------------|----------------|
| Organic Functional Materials 08-OCM-FM-161-m01 | | | | | 01 | |
| Module coordinator | | | | Module offered by | | |
| lecturer of the seminar "Organische Funktionsmaterialien" Institute of Organic Chemistry | | | | | | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | 0 | l | | | |
| sical ef | fects ir nents s | eals with specific topics organic molecular and uch as field effect trans | l polymeric semicondu | ctors as well as their | application in (opto |)electronic |
| Intende | ed lear | ning outcomes | | | | |
| explain | the sy ch as f | are able to explain func nthesis of these semico ield effect transistors, o | onductor materials as v | vell as their applicat | ion in (opto)electron | ic compon- |
| Course | S (type, r | umber of weekly contact hours | s, language — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | s essment (type, scope, lang le for bonus) | uage — if other than German, e | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) oral e d) log (a e) prese Langua | examir examin approx entatio ge of a | mination (approx. 90 to ation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | each (20 to 30 minute 3 candidates (approx. | - | didate) or | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ıg cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module appears in | | | | | | |
| Master's degree (1 major) Chemistry (2016) | | | | | | |
| Master's degree (1 major) Functional Materials (2016) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| | Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | |
| | Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |
| | | y course MINT Teacher | | | | |
| | | ee (1 major) Functional | | | , (, | |
| | | Chemistry (2018) | JMU Würzbu | irg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 349 / 437 |

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 350 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|--|---|--|--|--|---|
| Materia | al Scie | nce 1 (Basic introductio | n) | | 08-FU-MaWi1-152-n | 101 |
| Module coordinator Module offered by | | | | | | |
| holder | | Chair of Chemical Techr | nology of Material Syn- | - | echnology of Materi | al Synthesis |
| thesis | | | | | | |
| ECTS | | od of grading rical grade | Unly after succ. com | ipi. of module(s) | | |
| 5 Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | undergraduate | | | | |
| Conten | | undergraduate | | | | |
| Uncerta | ainty a | nalysis, process engine nology, coating process | | ution, agglomeration | , separation, drying | , conveying. |
| | | ning outcomes | | | | |
| chemic ques ai in hanc | al proc nd can lling of | possess comprehensive ess engineering. For a g suggest ways of fabrica measurement data as clature, significance as | given objective they are ation, processing and t well as statistical and s | e able to weigh the p reatment of material systematic errors and | ros and cons of diffe s. Furthermore they l posess extensive k | erent techni- areconfiden knowledge |
| Course | S (type, r | number of weekly contact hours | , language — if other than Ger | man) | | |
| V (3) + | Ü (1) | | | | | |
| module is | creditab | Sessment (type, scope, lang le for bonus) mination (approx. 90 to | | examination offered — if no | t every semester, informat | ion on whether |
| c) oral (d) log (e) prese Langua | examin approx entatio ge of a | nation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | o 3 candidates (approx. | - | lidate) or | |
| Allocat | | Diaces | | | | |
| | | | | | | |
| Additio | nat m | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachiı | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | | | | <u>`</u> | | |
| | | gree (1 major) Nanostru | | 5) | | |
| | | gree (1 major) Function | | | | |
| | - | ee (1 major) Chemistry (| | ion DILIC Elito Notur | ork Rovaria (END) (a | 016) |
| | | hing degree Gymnasiun ry course MINT Teacher | | | | (010) |
| | | ee (1 major) Chemistry (| | vetwork Davalla (EN | (2010) | |
| | - | hing degree Gymnasiun | | ion PILIS Flite Netwo | ork Bayaria (FNR) (a | 020) |
| | | ry course MINT Teacher | | | | 020) |
| | | r Chemistry (2018) | | rg • generated 19-Apr-2025 • | | page 351 / 43 |
| | | , , | | ord Master (120 ECTS) Chemi | | |



Bachelor's degree (1 major) Nanostructure Technology (2020)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 352 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(5 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 353 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--|---|--|---|--|--|-----------------|
| Material Science 2 (The Material Groups) | | | oups) | | 08-FU-MaWi2-152- | m01 |
| Module | e coordi | nator | | Module offered by | | |
| | | | nology of Material Syn- | Chair of Chemical Te | echnology of Mater | ial Synthesis |
| ECTS | Metho | d of grading | Only after succ. con | Only after succ. compl. of module(s) | | |
| 5 | | ical grade | | • • • • | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | | | | |
| Conten | | | | | | |
| and pro loys. Ce | operties eramics | ; thermo-mechanical t : oxidic and non-oxidi | in material groups. Met reatment; Martensitic t c structural ceramics; e noplasts, duromers, ela | ransitions; ductility a lectric and magnetic | and strength; form properties of funct | memory al- |
| Intende | ed learn | ing outcomes | | | | |
| | | developed a knowled nowledge to research | ge of the fabrication an problems. | d properties of the m | nain material group | s and are able |
| Course | S (type, ni | umber of weekly contact hour | s, language — if other than Ger | man) | | |
| V (3) + | Ü (1) | | | | | |
| | | essment (type, scope, lang e for bonus) | uage — if other than German, o | examination offered — if no | t every semester, informa | tion on whether |
| d) log (e) pres | approx. entatior | ation in groups of up to 20 pages) or 1 (approx. 30 minutes) ssessment: German ar | | 15 minutes per cano | lidate) or | |
| Allocat | ion of p | laces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| ال تار خ | | | | | | |
| Teachi | ng cycle | 2 | | | | |
| - | ng cycle | 2 | | | | |
| Teachin | | | ons for teaching-degree progra | mmes) | | |
| Teachii | | | ons for teaching-degree progra | mmes) | | |
| Teachin Referre | | L PO I (examination regulati | ons for teaching-degree progra | mmes) | | |
| Teachin Referre Module | ed to in l e appea | LPOI (examination regulati | ons for teaching-degree progra | | | |
| Teachin Referre Module Bachele Bachele | ed to in l e appea or's deg or's deg | L PO I (examination regulati r s in gree (1 major) Nanostru gree (1 major) Function | icture Technology (201 al Materials (2015) | | | |
| Teachin Referre Bachele Bachele Master | ed to in l e appea or's deg or's deg 's degre | L PO I (examination regulati rs in gree (1 major) Nanostru gree (1 major) Function re (1 major) Chemistry | icture Technology (201 <u>9</u> al Materials (2015) (2016) | 2) | | |
| Teachin Referre Bachele Bachele Master Master | ed to in l e appea or's deg or's degre 's degre 's teach | LPOI (examination regulati rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ing degree Gymnasiur | ucture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat | 5) ion PLUS, Elite Netwo | | 2016) |
| Teachin Referre Bachelo Bachelo Master Supple | ed to in l e appea or's deg or's degre 's degre 's teach mentar | L PO I (examination regulati rs in gree (1 major) Nanostru gree (1 major) Function te (1 major) Chemistry ing degree Gymnasiur y course MINT Teacher | icture Technology (201) al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite I | 5) ion PLUS, Elite Netwo | | 2016) |
| Teachin Referre Bachele Bachele Master Supple Master | ed to in l e appea or's deg or's degre 's degre 's teach mentan 's degre | L PO I (examination regulati rs in gree (1 major) Nanostru gree (1 major) Function the (1 major) Chemistry ing degree Gymnasiur y course MINT Teacher the (1 major) Chemistry | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite I (2018) | 5) ion PLUS, Elite Netwo Network Bavaria (ENF | 3) (2016) | |
| Teachin Referre Bachele Bachele Master Master Supple Master Master | ed to in l e appea or's deg or's degre 's degre 's teach mentan 's degre 's teach | LPO I (examination regulati rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ing degree Gymnasiur y course MINT Teacher ee (1 major) Chemistry ing degree Gymnasiur | icture Technology (201) al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite I | 5) ion PLUS, Elite Netwo Network Bavaria (ENE ion PLUS, Elite Netwo | 3) (2016) ork Bavaria (ENB) (2 | |
| Teachin Referre Bachele Bachele Master Master Supple Master Supple | ed to in l e appea or's deg or's degre 's degre 's teach mentan 's teach mentan | LPO I (examination regulati rs in gree (1 major) Nanostru gree (1 major) Function re (1 major) Chemistry ing degree Gymnasiur y course MINT Teacher re (1 major) Chemistry ing degree Gymnasiur y course MINT Teacher | acture Technology (2019 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite I (2018) n MINT Teacher Educat | 5) ion PLUS, Elite Netwo Network Bavaria (ENE ion PLUS, Elite Netwo Network Bavaria (ENE | 3) (2016) ork Bavaria (ENB) (2 | |

Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Bachelor's degree (1 major) Functional Materials (2021) Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Chemistry (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Bachelor's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 355 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| | e title | | | | Abbreviation | |
|---|---|---|---|--|---|----------------|
| Chemic | ally an | d bio-inspired Nanoted | chnology for Material S | Synthesis | 08-FU-NT-152-m01 | |
| Module coordinator | | | Module offered by | | | |
| degree tional N | | mme coordinator Funkt als) | tionswerkstoffe (Func- | Chair of Chemica | l Technology of Materi | al Synthesis |
| ECTS | Metho | d of grading | Only after succ. con | fter succ. compl. of module(s) | | |
| 5 | numer | ical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | undergraduate | | | | |
| Conten | l | | | | | |
| ted ma | terials. | | n sol-gel chemistry as s of biomineralisation, | | | |
| Intende | ed learn | ing outcomes | | | | |
| Studen | ts have | developed a sound kr | nowledge of sol-gel che | mistry and biomir | eralisation. | |
| Course | S (type, n | umber of weekly contact hour | s, language — if other than Ge | rman) | | |
| V (4) | | | | | | |
| | d of ass | essment (type, scope, lang | uage — if other than German, | examination offered — i | not every semester, informat | ion on whether |
| | | e for bonus) | , | | ,, | |
| Allocat | ion of p | | d/or English | | | |
| Additio | onal info | ormation | | | | |
| Worklo | | | | | | |
| | au | | | | | |
| 150 h | | | | | | |
| | ng cycle | - | | | | |
| Teachi | | 9 | | | | |
| | | | | | | |
| | d to in | | ons for teaching-degree progra | ımmes) | | |
| Referre | | LPO I (examination regulation | ons for teaching-degree progra | ummes) | | |
| Referre | ed to in e appea | LPO I (examination regulation | ons for teaching-degree progra | ımmes) | | |
| Referre Module Bachele | e appea or's deg | LPO I (examination regulation rs in gree (1 major) Nanostru | icture Technology (201 | | | |
| Referre Bachele Bachele | e appea or's deg or's deg | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function | icture Technology (201 al Materials (2015) | | | |
| Referre Bachele Bachele Master | e appea or's deg or's deg 's degre | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry | icture Technology (201) al Materials (2015) (2016) | 5) | | |
| Referre Bachele Bachele Master Master | e appea or's deg or's deg 's degre 's teach | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ing degree Gymnasium | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat | 5) ion PLUS, Elite Ne | | 016) |
| Referre Bachele Bachele Master Master Supple | e appea or's deg or's deg 's degre 's teach mentar | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ing degree Gymnasiun y course MINT Teacher | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite | 5) ion PLUS, Elite Ne | | 016) |
| Referre Bachele Bachele Master Supple Master | e appea or's deg or's degre 's degre 's teach mentar 's degre | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite (2018) | 5) ion PLUS, Elite Ne Network Bavaria (I | ENB) (2016) | |
| Referre Bachele Bachele Master Master Supple Master Master | e appea or's deg or's degre 's degre 's teach mentar 's degre 's teach | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ing degree Gymnasium y course MINT Teacher ee (1 major) Chemistry ing degree Gymnasium | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite | 5) ion PLUS, Elite Ne Network Bavaria (I ion PLUS, Elite Ne | ENB) (2016) work Bavaria (ENB) (2 | |
| Referre Bachele Bachele Master Master Supple Master Supple | e appea or's deg or's degre 's teach mentar 's degre 's teach mentar | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ing degree Gymnasiun y course MINT Teacher ee (1 major) Chemistry ing degree Gymnasiun y course MINT Teacher | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat | 5) ion PLUS, Elite Net Network Bavaria (I ion PLUS, Elite Net Network Bavaria (I | ENB) (2016) work Bavaria (ENB) (2 | |
| Referre Bachele Bachele Master Master Supple Master Supple Bachele | e appea or's deg or's degre 's teach mentar 's degre 's teach mentar or's deg | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ing degree Gymnasiun y course MINT Teacher ee (1 major) Chemistry ing degree Gymnasiun y course MINT Teacher | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat Education PLUS, Elite icture Technology (202 | 5) ion PLUS, Elite Net Network Bavaria (I ion PLUS, Elite Net Network Bavaria (I | ENB) (2016) work Bavaria (ENB) (2 | |
| Referre Bachele Bachele Master Master Supple Master Supple Bachele Bachele | e appea or's deg or's degre 's teach mentar 's degre 's teach mentar or's deg or's deg | LPO I (examination regulation rs in gree (1 major) Nanostru gree (1 major) Function ee (1 major) Chemistry ing degree Gymnasium y course MINT Teacher ee (1 major) Chemistry ing degree Gymnasium y course MINT Teacher gree (1 major) Nanostru | icture Technology (201 al Materials (2015) (2016) n MINT Teacher Educat Education PLUS, Elite (2018) n MINT Teacher Educat Education PLUS, Elite icture Technology (2021) | 5) ion PLUS, Elite Net Network Bavaria (I ion PLUS, Elite Net Network Bavaria (I | ENB) (2016) work Bavaria (ENB) (2 ENB) (2020) | |



Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| P | | |
|--|--|----------------|
| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 357 / 437 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | Abbreviation | | | | |
|--|--|--|---|--|--|------------------------------|--|
| Molecu | lar Ma | terials (Lecture) | | | 08-FU-MoMaV-152- | m01 | |
| Module | coord | inator | | Module offered by | | | |
| degree tional N | | mme coordinator Funkt als) | ionswerkstoffe (Func- | Chair of Chemical T | echnology of Materi | al Synthesis | |
| ECTS | ECTS Method of grading Only after succ. compl. of module(s) | | | | | | |
| 5 | nume | rical grade | | | | | |
| Duration Module level Other prerequisites | | | | | | | |
| 1 semes | 1 semester undergraduate | | | | | | |
| Conten | ts | | | | | | |
| Chemic ticles, t | | ds and molecular intera ns. | ctions, supramolecula | r chemistry, molecul | lar materials, colloid | s, nanopar- | |
| Intende | ed learı | ning outcomes | | | | | |
| cal prop teractio | perties ons and lves wi | e developed an understa of materials and their s I how they determine th ith a topic in the field, d | tructure. They know th e properties of molecu | e significance of var Ilar materials. They h | ious inter and intran nave learned how to | nolecular in- familiarise | |
| Courses | 5 (type, n | umber of weekly contact hours | , language — if other than Ge | rman) | | | |
| V (3) + 9 | S (1) | | | | | | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) | | | | | | | |
| tes) or o 20 page | c) oral (es) or e | mination (approx. 90 to examination in groups o presentation (approx. ssessment: German an | of up to 3 candidates (30 minutes)] as well a | approx. 15 minutes p | oer candidate) or d) l | og (approx. | |
| Allocati | ion of p | olaces | | | | | |
| | | | _ | | | | |
| Additio | nal inf | ormation | | | | | |
| | | | | | | | |
| Workload | | | | | | | |
| 150 h | | | | | | | |
| Teachir | ıg cycl | 8 | | | | | |
| | | | _ | | | | |
| Referre | d to in | LPO I (examination regulation | ns for teaching-degree progra | immes) | | | |
| | | | | | | | |
| Module | | | | <u>``</u> | | | |
| Bacheld Master' Master' Supple Master' Supple | or's degre s degre s teach mentar s degre s teach mentar | gree (1 major) Nanostru gree (1 major) Functiona ee (1 major) Chemistry (ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry (ning degree Gymnasium y course MINT Teacher gree (1 major) Nanostru | Il Materials (2015) 2016) MINT Teacher Educat Education PLUS, Elite 2018) MINT Teacher Educat Education PLUS, Elite | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (24 | | |
| Master's wi | th 1 majoı | r Chemistry (2018) | | ırg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 358 / 437 | |

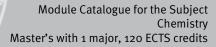
Julius-Maximilians-UNIVERSITÄT WÜRZBURG

Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Chemistry (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 359 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | Abbreviation | |
|---|--------------------------------------|-----------------------------|----------------------------|----------------|
| Polymer Chemistry 1 (Lecture and Practical Course) | | | 03-FU-PM1-152-mo | 1 |
| Module coordinator | | Module offered by | | |
| holder of the Chair of Functional Materials in Medicine Dentistry | e and | Faculty of Medicine | | |
| | Only after succ. compl. of module(s) | | | |
| 5 numerical grade | | | | |
| Duration Module level Other prerequi | isites | | | |
| 1 semester undergraduate | | | | |
| Contents | | | | |
| Basic methods of polymerisation: free radical polymer radical polymerisations; characterisation of polymers endgroup analysis, mass spectrometry, rheology. | | | | |
| Intended learning outcomes | | | | |
| The students acquire fundamentals of polymer chemis | stry an | d the related metho | ds for their characte | erisation. |
| Courses (type, number of weekly contact hours, language – if other th | , | | | |
| V(2) + P(2) | | | | |
| | | | | |
| Method of assessment (type, scope, language — if other than Ge module is creditable for bonus) | erman, e | examination offered — if no | t every semester, informat | ion on whether |
| Language of assessment: German and/or English Assessment offered: Once a year, winter semester creditable for bonus | | | | |
| Allocation of places | | | | |
| | | | | |
| Additional information | | | | |
| | | | | |
| Workload | | | | |
| 150 h | | | | |
| Teaching cycle | | | | |
| | | | | |
| Referred to in LPO I (examination regulations for teaching-degree | e progra | mmes) | | |
| | _ | | | |
| Module appears in | | | | |
| Bachelor's degree (1 major) Functional Materials (2015 | 5) | | | |
| Master's degree (1 major) Chemistry (2016) | , | | | |
| Master's teaching degree Gymnasium MINT Teacher Ed | ducati | on PLUS, Elite Netwo | ork Bavaria (ENB) (2 | 016) |
| Supplementary course MINT Teacher Education PLUS, | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | |
| Master's teaching degree Gymnasium MINT Teacher Ed | | | | 020) |
| Supplementary course MINT Teacher Education PLUS, | | letwork Bavaria (EN | B) (2020) | |
| Bachelor's degree (1 major) Functional Materials (2021 | 1) | | | |
| Master's degree (1 major) Chemistry (2024) | • • • • | | | |
| | | | |) |
| Master's teaching degree Gymnasium MINT Teacher Ed Supplementary course MINT Teacher Education PLUS, | | | | 025) |
| Master's teaching degree Gymnasium MINT Teacher Ed Supplementary course MINT Teacher Education PLUS, | Elite N | | B) (2025) | 025) |



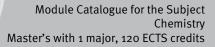


Bachelor's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 361 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation | |
|---|---|--|---|--|--|-------------------------------------|
| Polyme | Polymers II 03-FU-PM2-161-m01 | | | | | 1 |
| Module | Module coordinator | | | Module offered by | | |
| holder o Dentisti | | Chair of Functional Mate | erials in Medicine and | Faculty of Medicine | | |
| ECTS | Metho | od of grading | Only after succ. con | pl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | 1 | Module level | Other prerequisites | | | |
| 1 semes | 1 semester graduate | | | | | |
| Conten | | | | | | |
| plex po lication their be | lymer a of the havior | mer synthesis methods architectures), biodegra respective polymers: e on surfaces. | dable polymers, polyp | eptoides, natural po | lymers. We will disc | uss the app- |
| Intende | d lear | ning outcomes | | | | |
| differen als. Stu gain ins quence | it synth dents o sight in s / disa | equire advanced knowle netic routes with which can estimate if and how to the field of technical advantages that synthe concerns. | the different molecules fast a polymer degrac ly used polymers from | s can be prepared fro les under given circu nature. Each sectior | om different starting mstances. Furtherm a also points to poss | materi- ore, they ible conse- |
| Courses | 5 (type, n | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (2) + ĺ | (1) ت | | | | | |
| | | e essment (type, scope, langu le for bonus) | uage — if other than German, o | examination offered — if no | t every semester, informati | on on whether |
| b) oral e c) talk (| examin approx | nination (approx. 90 m ation of one candidate x. 30 minutes) ssessment: German an | each (approx. 20 mint | ites) or | | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachin | ng cycl | e | | | | |
| | | - | | | | |
| Referre | d to in | LPO I (examination regulation | ns for teaching-degree progra | mmes) | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | | |
| Module appears in | | | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | |
| | - | ee (1 major) Functional | | | | |
| | - | ning degree Gymnasium | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| Supplei | mentar | y course MINT Teacher | Education PLUS, Elite I | Network Bavaria (ENI | B) (2016) | |
| | - | ee (1 major) Chemistry (| | | | |
| | | ning degree Gymnasium | | | | 020) |
| <u> </u> | | y course MINT Teacher | | | | |
| waster's wi | un 1 major | Chemistry (2018) | | rg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 362 / 437 |

| Module title | | | Abbreviation | | | |
|---|--|--|--|---|-----------------------------|----------------|
| Nanoscale Materials 08-PCM3-161-m01 | | | | | | |
| Module coordinator | | | Module offered by | | | |
| lecture | lecturer of the seminar "Nanoskalige Materialien" | | Materialien" | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | ECTS Method of grading Only after succ. com | | | • | | |
| 5 | | rical grade | | • • • • | | |
| Duratio | | Module level | Other prerequisites | i | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidudite | | | | |
| This module discusses advanced topics in nanoscale materials. It focuses on the structure, properties, fabricati- | | | | | | |
| | | | s and application area | | | es, labricati- |
| Intende | ed lear | ning outcomes | | | | |
| | | able to characterise na noscale materials. | noscale materials. They | y are able to name ar | nalytical methods an | d applicati- |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + | | | | | | |
| Module | e taugh | t in: German or English | <u> </u> | | | |
| | | essment (type, scope, lang le for bonus) | guage — if other than German, | examination offered — if no | t every semester, informati | ion on whether |
| b) oral c) talk Langua | a) written examination (approx. 90 minutes) or b) oral examination of one candidate each (approx. 20 minutes) or c) talk (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus | | | | | |
| Allocat | ion of j | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | e appea | urs in | | | | |
| | | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemat | | | | |
| Master | 's degr | ee (1 major) Computati | onal Mathematics (201 | .6) | | |
| Master | 's degr | ee (1 major) Functional | Materials (2016) | | | |
| Master | Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master's degree (1 major) Computational Mathematics (2019) | | | | | | |
| | - | ee (1 major) Mathemat | - | | | |
| | | | n MINT Teacher Educat Education PLUS, Elite | | | 020) |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • cord Master (120 ECTS) Chemi | | page 363 / 437 |



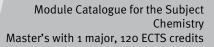
Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 364 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation | |
|---|--|--|--|--|--|--|
| Supramolecular Chemistry (Basics) | | | | 08-SCM1-152-m01 | | |
| Module coordinator | | | | Module offered by | | |
| lecturer | of lect | ure "Organischen Chemi | e" | Faculty of Chemistry | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | | |
| 5 | numei | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | 1 semester graduate | | | | | |
| Conten | ts | | | | | |
| actions nation p | betwe oolyme | en molecules, molecular | recognition by recept rystals, self-assembl | tors, complexes, sup | ar chemistry. It focuses on inter- oramolecular polymers, coordi- synthetic ion channels and mo- | |
| Intende | d learr | ning outcomes | | | | |
| field as describ | well as e the s | s to describe the formation | on, structure and poly s in aqueous media a | mers of coordinatio s well as to identify t | igh degree of expertise in the n compounds. They are able to the characteristics of synthetic | |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | e ssment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether | |
| b) oral e | examin | nination (approx. 90 min ation of one candidate e ssessment: German and/ | ach (approx. 20 minu | ites) | | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Workloa | ad | | | | | |
| 150 h | | | | | | |
| Teachin | ig cycle | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | Module appears in | | | | | |
| Master' Master' Suppler Master' Master' | Module appears inMaster's degree (1 major) Biofabrication (2015)Master's degree (1 major) Chemistry (2016)Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)Master's degree (1 major) Chemistry (2018)Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |

| Modul | e title | | | | Abbreviation | |
|---|--------------------|---|--|-------------------------------|---------------------------------------|-----------|
| Solid state chemistry and inorganic materials | | | | 08-ACM3-161-m01 | _ | |
| Module coordinator Module offered by | | | | | | |
| | | ninar "Festkörperchen | nie and Anorganische | Institute of Inorgan | ic Chemistry | |
| | | Solid State Chemistry | | | ic chemistry | |
| ECTS | Metho | od of grading | Only after succ. cor | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Durati | on | Module level | Other prerequisites | 5 | | |
| 1 seme | ester | graduate | | | | |
| Conte | nts | | · · · · · | | | |
| | | | on to solid-state chemis selected materials of sc | | structure, chemical and p | ohysical |
| Intend | led lear | ning outcomes | | | | |
| | | | | | plain methods for solid-s | |
| synthe | esis. The | ey can describe import | tant aspects of selected | materials regarding | the corresponding solids. | |
| Course | es (type, r | number of weekly contact hou | ırs, language — if other than Ge | rman) | | |
| S (3) | | | | | | |
| | | sessment (type, scope, lar Ile for bonus) | nguage — if other than German, | examination offered — if no | t every semester, information on v | whether |
| Langu | | n (approx. 30 minutes ssessment: German a blaces | | | | |
| Additi | onal inf | ormation | | | | |
| Workle | oad | | | | | |
| 150 h | | | | | | |
| Teachi | ing cycl | e | | | | |
| Referre | ed to in | LPOI (examination regula | tions for teaching-degree progr | ammes) | | |
| | | | | | | |
| Modul | e appea | ars in | | | | |
| Maste | r's degr | ee (1 major) Chemistry | <i>(</i> 2016) | | | |
| | | , | | | ork Bavaria (ENB) (2016) | |
| | | • | er Education PLUS, Elite | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry | | ion DILIC Elita Natur | ork Rovaria (END) (acca) | |
| | | | er Education PLUS, Elite | | ork Bavaria (ENB) (2020) B) (2020) | |
| | | ee (1 major) Chemistry | | | | |
| | - | | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (2025) | |
| | | | er Education PLUS, Elite | | | |
| | | | | | | |
| Mactar's | with a most | r Chemistry (2018) | 1841134/** 1 | urg • generated 19-Apr-2025 • | a over | 366 / 437 |

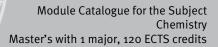
| Module | e title | | | | Abbreviation | |
|---|--------------------|--|--------------------------------|--|----------------------------|----------------|
| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | |
| Module | Module coordinator | | | Module offered by | | |
| lecturer of lecture "Computational Chemistry" | | | emistry" | | l and Theoretical Ch | emistry |
| ECTS | 1 | od of grading | Only after succ. com | · · · · · · | | , |
| 5 | 1 | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | - | graduate | | | | |
| Conten | | 3.444440 | | | | |
| | | ntroduces students to th | ne fundamental princir | les of computationa | al chemistry. | |
| | | ning outcomes | | | at entennistry. | |
| | - | able to explain the theo | retical principles of co | moutational chemist | try and to apply met | nods in com- |
| putatio | | - | | | | |
| | | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (2) + | | | | | | |
| | | sessment (type, scope, langu | age — if other than German, e | examination offered — if no | t every semester, informat | ion on whether |
| | | le for bonus) | | | | |
| | | nination (approx. 90 to | | | | |
| | | ation of one candidate | | | | |
| | | ation in groups of up to . 20 pages) or | 3 candidates (approx. | 15 minutes per cano | didate) or | |
| | | n (approx. 30 minutes) | | | | |
| | | ssessment: German and | d/or English | | | |
| Allocat | | | ., | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | • | | | | |
| Referre | d to in | LPO I (examination regulation | ns for teaching-degree progra | mmec) | | |
| | | | | inities) | | |
| Module | annea | ors in | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | |
| | - | ee (1 major) Mathematic | | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional I | | -, | | |
| | - | ning degree Gymnasium | | on PLUS. Elite Netwo | ork Bavaria (FNB) (20 | 016) |
| | | y course MINT Teacher | | | | - / |
| | | ee (1 major) Chemistry (| | ···· ··· ··· ··· ··· ··· ··· ··· ··· · | | |
| | - | ee (1 major) Computatio | | 9) | | |
| | - | ee (1 major) Mathematic | | · · | | |
| | - | ning degree Gymnasium | - | on PLUS, Elite Netwo | ork Bavaria (ENB) (2 | 020) |
| | | y course MINT Teacher | | | | |
| Supple | | y course minur reacher | Education PLUS, Eine i | VELWOIK BAVAIIA LEIV | В) (2020) | |
| | 's degr | ee (1 major) Computatio | | | B) (2020) | |
| Master | | - | nal Mathematics (202 | | | page 367 / 437 |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 368 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Homogeneous Catalysis

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 369 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(20 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 370 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | title | | | | Abbreviation | |
|--|--|---|---|--|-----------------------------|----------------|
| Organo- and Biocatalysis 08-HKM1-152-m01 | | | | | | |
| Module coordinator | | | Module offered by | | | |
| lecture | lecturer of the seminar "Organo- and Biokatalyse" | | | Faculty of Chemistry | y and Pharmacy | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | | | | | |
| process | ses. Or plicatio | rovides students with o ganocatalysis: enantios on areas. Biocatalysis: e | selective implementati | on, principles, green | chemistry, substand | ce classes |
| Intende | ed lear | ning outcomes | | | | |
| scribe t | he stru | able to categorise organ acture and applications ne effects of enzymes. | | | | |
| Course | S (type, r | umber of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (3) | | | | | | |
| | | s essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| b) oral c) oral e | examir examin | nination (approx. 45 to ation of one candidate ation in groups of up to ssessment: German an | each (20 to 30 minute 3 candidates (15 to 30 | | ate) | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ıg cycl | e | | | | |
| | | | _ | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master Master Supple Master Master Master Supple | Module appears in Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Biochemistry (2017) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) | | | | | |
| Master's wi | th 1 majo | Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 371 / 437 |



Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 372 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Advanc lysis | e title | | | Abbreviation | |
|---|--|--|---|--|----------------|
| | ed organometallic chemist | ry and its application in h | nomogeneous cata- | 08-HKM2-161-m01 | |
| | | | - | | |
| Module | coordinator | | Module offered by | | |
| lecturer | r of the seminar "Spezielle I | Metallorganische Chemie | Institute of Inorgan | ic Chemistry | |
| | ren Anwendung in der Hom | | | | |
| ECTS | Method of grading | Only after succ. com | ompl. of module(s) | | |
| 5 | numerical grade | | | | |
| Duratio | n Module level | Other prerequisites | | | |
| 1 semes | ster graduate | | | | |
| Conten | ts | | | | |
| This mo tions. | odule examines elementary | organic compounds of tra | ansition metals with | homogeneous catal | lytic applica- |
| | d loarning outcomes | | | | |
| | ed learning outcomes | the structure result | and analysis of elem | onton, organis | oundo The |
| | ts can describe and analyse e to characterise special su | | | | |
| | S (type, number of weekly contact h | · · · · · · | | | |
| S (3) | , pe, namber of weekly condition | | | | |
| | e taught in: German or Engli | sh | | | |
| Method | d of assessment (type, scope, la | anguage — if other than German, e | examination offered — if no | t every semester, informati | ion on whether |
| module is | s creditable for bonus) | | | | |
| | en examination (approx. 90 | | | | |
| | examination of one candida examination in groups of up | | | didata) ar | |
| | approx. 20 pages) or | o to 3 candidates (approx. | . 15 minutes per cano | liuale) or | |
| e) prese | entation (approx. 30 minute | | | | |
| Langua | ge of assessment: German | and/or English | | | |
| Allocati | ion of places | | | | |
| | | | | | |
| Additio | nal information | | | | |
| | | | | | |
| | | | | | |
| Worklo | ad | | | | |
| | ad | | | | |
| Worklo 150 h | ad ng cycle | | | | |
| Worklo 150 h | | | | | |
| Worklo 150 h Teachir | | ations for teaching-degree progra | mmes) | | |
| Worklo 150 h Teachir | ng cycle | ations for teaching-degree progra | mmes) | | |
| Worklo 150 h Teachir Referre | ng cycle | ations for teaching-degree progra | mmes) | | |
| Workloo 150 h Teachir Referre Module | ng cycle Ind to in LPO I (examination regu | | mmes) | | |
| Worklog 150 h Teachir Referre Module Master | ng cycle ed to in LPO I (examination regu e appears in | ry (2016) | | ork Bavaria (ENB) (20 | 016) |
| Workloa 150 h Teachir Referre Module Master' Supple | ng cycle ed to in LPO I (examination regu e appears in 's degree (1 major) Chemist 's teaching degree Gymnasi mentary course MINT Teach | ry (2016) um MINT Teacher Educati er Education PLUS, Elite I | ion PLUS, Elite Netwo | | 016) |
| Worklog 150 h Teachir Referre Module Master' Master' Supple Master' | ng cycle ed to in LPO I (examination regu e appears in 's degree (1 major) Chemist 's teaching degree Gymnasi mentary course MINT Teach 's degree (1 major) Chemist | ry (2016) um MINT Teacher Educati er Education PLUS, Elite I ry (2018) | ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) | |
| Worklor 150 h Teachir Referre Module Master' Master' Master' Master' Master' | ng cycle ed to in LPO I (examination regu e appears in 's degree (1 major) Chemist 's teaching degree Gymnasi mentary course MINT Teach 's degree (1 major) Chemist 's teaching degree Gymnasi | ry (2016) um MINT Teacher Educati er Education PLUS, Elite I ry (2018) um MINT Teacher Educati | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (24 | |
| Worklog 150 h Teachir Referre Module Master' Master' Master' Master' Supple | ng cycle ed to in LPO I (examination regu e appears in e's degree (1 major) Chemist 's teaching degree Gymnasi mentary course MINT Teach 's degree (1 major) Chemist 's teaching degree Gymnasi mentary course MINT Teach | ry (2016) um MINT Teacher Educati er Education PLUS, Elite I ry (2018) um MINT Teacher Educati er Education PLUS, Elite I | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (24 | |
| Worklog 150 h Teachir Referre Module Master' Master' Master' Master' Supple Master' | ng cycle ed to in LPO I (examination regu e appears in 's degree (1 major) Chemist 's teaching degree Gymnasi mentary course MINT Teach 's degree (1 major) Chemist 's teaching degree Gymnasi | ry (2016) um MINT Teacher Educati er Education PLUS, Elite I ry (2018) um MINT Teacher Educati er Education PLUS, Elite I ry (2024) | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) ork Bavaria (ENB) (20 B) (2020) | 020) |
| Worklog 150 h Teachir Referre Master' Master' Master' Supple Master' Master' Master' Master' | ng cycle ed to in LPO I (examination regu e appears in es degree (1 major) Chemist 's teaching degree Gymnasi mentary course MINT Teach 's degree (1 major) Chemist mentary course MINT Teach 's degree (1 major) Chemist 's degree (1 major) Chemist | ry (2016) um MINT Teacher Educati er Education PLUS, Elite I ry (2018) um MINT Teacher Educati er Education PLUS, Elite I ry (2024) um MINT Teacher Educati | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 B) (2020) ork Bavaria (ENB) (20 | 020) |

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| Modul | e title | | | | Abbreviation |
|-----------------------------|--------------------------------|--|--|-----------------------------|---|
| Practic | al cour | se "Homogeneous cataly | rsis in Inorganic Cher | nistry" | 08-HKM3AC-161-m01 |
| Modul | e coord | inator | | Module offered by | |
| | | seminar "Spezielle Meta vendung in der Homogen | | Institute of Inorgan | ic Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | mpl. of module(s) | |
| 5 | 1 | successfully completed | | | |
| Duratio | <u> </u> | Module level | Other prerequisites | | |
| 1 seme | | graduate | | | |
| Conter | | 5.444446 | | | |
| thods i and cry docum | n homo /stallog enting f | ogeneous catalysis. The for raphy. Students will be e their findings and deliver | ocus will be on cataly xpected to conduct the second of t | st synthesis and ch | synthesis and analytical me- aracterisation, spectral analysis independently, write a lab repor |
| | - | ning outcomes | | | |
| | | | | | eneous catalysis in the lab and t dings and deliver a presentatior |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| P (6) | | | | | |
| | | t in: German or English | | | |
| | | | ge — if other than German, e | examination offered — if no | ot every semester, information on whether |
| | | le for bonus) |) | | |
| | | tical course (approx. 10 p ssessment: German and | | ox. 15 minutes) | |
| | ion of p | | | | |
| | | | | | |
| Additic | nal inf | ormation | | | |
| Auditic | | | | | |
| Worklo | he | | | | |
| 150 h | | | | | |
| - | ng cycl | a | | | |
| cauli | is cycl | | | | |
| Doform | d to in | | fanta altin dur | | |
| Releffe | | LPOI (examination regulations | s for teaching-degree progra | mmes) | |
| Module | e appea | rs in | | | |
| Master | 's degre | ee (1 major) Chemistry (2 | 016) | | |
| | | | | | ork Bavaria (ENB) (2016) |
| | | y course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | on DILLS Elite Notes | ork Pavaria (END) (acco) |
| | | y course MINT Teacher E | | | ork Bavaria (ENB) (2020) B) (2020) |
| | | ee (1 major) Chemistry (2 | | | |
| | - | ning degree Gymnasium I | • | on DLUS Elito Notw | vork Povoria (ENP) (2025) |
| master | | ing acgree by innusiant i | VIIIVI TEacher Luucali | UII FLUS, LIILE NELW | UIK DAVAIIA (EIND) (2025) |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. |
|--|--|
| | reg. data record Master (120 ECTS) Chemie - 2018 |

| Module | e title | | | | Abbreviation |
|--|------------------------------|--|---|-----------------------------|--|
| Practic | al cour | se "Homogeneous cataly | sis in Organic Chemi | istry" | 08-HKM3OC-161-m01 |
| Module | e coord | inator | | Module offered by | |
| lecturer of the seminar "Spezielle Metallorganische Chemi and deren Anwendung in der Homogenkatalyse" | | | | Institute of Organic | Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | npl. of module(s) | |
| 5 | (not) s | successfully completed | | | |
| Duratio | on | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | its | | | | |
| thods i and cry docum | n homo /stallog enting | ogeneous catalysis. The f raphy. Students will be e their findings and deliver | ocus will be on cataly expected to conduct t | st synthesis and ch | synthesis and analytical me- aracterisation, spectral analysis independently, write a lab report |
| | - | ning outcomes | | | |
| | | | | | eneous catalysis in the lab and to dings and deliver a presentation. |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | rman) | |
| P (6) | | | | | |
| | | t in: German or English | | | |
| | | eessment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | ot every semester, information on whether |
| | | tical course (approx. 10 p ssessment: German and, | | ox. 15 minutes) | |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | · · · | | |
| Module | e appea | irs in | | | |
| | | ee (1 major) Chemistry (2 | 016) | | |
| Master | 's teach | ning degree Gymnasium I | MINT Teacher Educati | ion PLUS, Elite Netw | ork Bavaria (ENB) (2016) |
| | | y course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | | ante Devenie (END) (- |
| | | ning degree Gymnasium I ry course MINT Teacher Eo | | | ork Bavaria (ENB) (2020) B) (2020) |
| | | ee (1 major) Chemistry (2 | | NELWOIN DAVAIIA (EN | |
| | - | | ~ - +/ | | |
| | 's teach | ning degree Gymnasium I | MINT Teacher Educati | ion PLUS, Elite Netw | ork Bavaria (ENB) (2025) |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 375 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(5 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg ● generated 19-Apr-2025 ● exam. | nage 276 / 427 |
|--|--|----------------|
| master 5 with 1 major chemistry (2016) | Jino wulzburg • generateu 19-Api-2025 • exam. | page 376 / 437 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

| Module | title | | | | Abbreviation |
|---|---------------------------------------|---|--|-----------------------------|---|
| Advance | ed tran | sition metal chemistry | | | 08-HKM4-161-m01 |
| Module | coord | inator | | Module offered by | |
| lecturer | of the | seminar "Spezielle Über | gangsmetallchemie" | Institute of Inorgani | ic Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Content | ts | | | | |
| nation o | chemis | | | | of transition metals and coordi- discusses recent developments |
| Intende | d learn | ning outcomes | | | |
| | | ble to explain transition field. They can explain th | | | nonstrating a high degree of ex- chemistry. |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (3) | | | | | |
| | | e essment (type, scope, langua) le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral e c) oral e d) log (a e) prese | examin examin approx entatio | nination (approx. 90 to 1 ation of one candidate e ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ | ach (20 to 30 minute 3 candidates (approx. | - | didate) or |
| Allocati | ion of p | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachin | ig cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | | | | | |
| Master' Suppler Master' | s teach mentar s degre | ee (1 major) Chemistry (20 hing degree Gymnasium I y course MINT Teacher Ed ee (1 major) Chemistry (20 hing degree Gymnasium I | WINT Teacher Educati ducation PLUS, Elite I 018) | Network Bavaria (ENI | B) (2016) |
| Suppler | mentar | y course MINT Teacher Ed ee (1 major) Chemistry (24 | ducation PLUS, Elite I | | |
| | | ning degree Gymnasium I y course MINT Teacher Ec | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 377 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Statist | e title | | | | Abbreviation | |
|---|---|---|--|---|-----------------------------|----------------|
| Statistical Mechanics and Reaction Dynamics 08-PCM2-161-m01 | | |) ynamics | | 08-PCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture mics) | r of sen | ninar "Chemische Dyna | mik" (Chemical Dyna- | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | | Sidduite | | | | |
| clude t | he func | iscusses selected topic lamental principles of s vell as charge and energ | statistical thermodyna | | | |
| Intend | ed lear | ning outcomes | | | | |
| | | e become familiar with re able to apply the fun | • | | - | . They have |
| Course | S (type, r | number of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (2) + | Ü (1) | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | sessment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| c) talk | (approx age of a | nation of one candidate (. 30 minutes) ssessment: German an places | | | | |
| | | | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| Additio | onal inf | ormation | | | | |
| | | ormation | | | | |
| Worklo | | ormation | | | | |
| Worklo 150 h | ad | | | | | |
| Worklo | ad | | | | | |
| Worklo 150 h Teachin | oad ng cycl | e | | | | |
| Worklo 150 h Teachin Referre | oad ng cycl | | ons for teaching-degree progra | ımmes) | | |
| Worklo 150 h Teachin Referre | ng cycl | e LPO I (examination regulation | ons for teaching-degree progra | ammes) | | |
| Worklo 150 h Teachin Referre Modulo | oad ng cycl ed to in e appea | e LPOI (examination regulation re | | ammes) | | |
| Worklo 150 h Teachii Referre Module Master | ng cycl ed to in e appea | e LPOI (examination regulation I rs in ee (1 major) Chemistry | (2016) | ammes) | | |
| Worklo 150 h Teachin Referre Module Master Master | ng cycl ed to in e appea ''s degra | e LPO I (examination regulation ITS in ee (1 major) Chemistry ee (1 major) Mathemati | (2016) cs (2016) | | | |
| Worklo 150 h Teachin Referre Module Master Master Master | ad ng cycl ed to in e appea 's degru 's degru | e LPOI (examination regulation ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation | (2016) cs (2016) onal Mathematics (201 | | | |
| Worklo 150 h Teachin Referre Module Master Master Master Master | ad ng cycl ed to in e appea 's degru 's degru 's degru | e LPOI (examination regulation ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computationel | (2016) cs (2016) onal Mathematics (201 Materials (2016) | 6) | ork Bayaria (FNR) (2 | 016) |
| 150 h Teachin Referre Module Master Master Master Master Master | ed to in ed to in "s degra "s degra "s degra "s degra | e LPO I (examination regulation ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional ning degree Gymnasiun | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat | 6) ion PLUS, Elite Netw | | 016) |
| Workla 150 h Teachin Referre Master Master Master Master Master Master Supple | ed to in e appea d's degra d's degra d's degra d's degra d's teach ementa | e LPOI (examination regulation ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Mathemati ee (1 major) Functional ning degree Gymnasiun y course MINT Teacher | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite | 6) ion PLUS, Elite Netw | | 016) |
| Worklo 150 h Teachin Referre Modulo Master Master Master Master Master Supple Master | ed to in e appea d's degra s degra s degra s teach ementar s degra | e LPO I (examination regulation ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional ning degree Gymnasiun | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) | 6) ion PLUS, Elite Netw Network Bavaria (EN | | 016) |
| Worklo 150 h Teachin Referre Master Master Master Master Master Supple Master Master Master | ed to in e appea d's degru d's degru d's degru d's teach ementau d's degru d's degru d's degru | e LPOI (examination regulation ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional ning degree Gymnasium by course MINT Teacher ee (1 major) Chemistry | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 | 6) ion PLUS, Elite Netw Network Bavaria (EN | | 016) |
| Worklo 150 h Teachin Referre Module Master Master Master Master Supple Master | ed to in ed to in d to in d's degru d's degru d's degru d's teach ementai d's degru d's degru d's degru | e LPOI (examination regulation ars in ee (1 major) Chemistry ee (1 major) Mathemati ee (1 major) Computation ee (1 major) Functional ning degree Gymnasium y course MINT Teacher ee (1 major) Chemistry ee (1 major) Computation | (2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite (2018) onal Mathematics (201 cs (2019) | 6) ion PLUS, Elite Netw Network Bavaria (EN 9) | B) (2016) | |

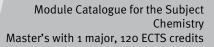
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module title Abbreviation | | | | | | |
|---|------------------------------|---|--------------------------------|--|------------------------------|----------------|
| Moder | n Syntl | netic Methods | | | 08-0CM-SYNT-161-1 | m01 |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| | turer of the seminar | | | Institute of Organic | Chemistry | |
| ECTS | | od of grading | Only after succ. con | | | |
| 5 | | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidduite | | | | |
| | | liscusses modern stere | | ethods It focuses of | n selected total synt | hasas orga |
| | | emistry and catalysis. | | | | leses, olga- |
| Intend | ed lear | ning outcomes | | | | |
| | an expl | able to stereoselectivel ain total syntheses. The | | | | |
| Courses (type, number of weekly contact hours, language — if other than German) | | | | | | |
| S (2) + Module | | t in: German or English | | | | |
| Metho | d of as | sessment (type, scope, lang | uage — if other than German, | examination offered — if no | ot every semester, informati | ion on whether |
| | | le for bonus) | | | | |
| c) oral d) log (e) pres | examir (approx entatic | nation of one candidate nation in groups of up to a. 20 pages) or on (approx. 30 minutes) assessment: German an | o 3 candidates (approx | | didate) or | |
| Allocat | ion of | places | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Functional | | | | |
| | | hing degree Gymnasiur | | | | 016) |
| | | ry course MINT Teacher ee (1 major) Chemistry | | ivelwork bavaria (EN | D) (2010) | |
| | | hing degree Gymnasiur | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) |
| | | ry course MINT Teacher | | | | |
| | - | ee (1 major) Functional | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2024) | | | |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 380 / 437 |

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 381 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---------|----------|--|--------------------------------|---------------------------------------|----------------------------|----------------|
| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| | | ture "Computational Ch | emistrv" | | l and Theoretical Ch | emistrv |
| ECTS | | od of grading | Only after succ. com | · · · · | | , |
| 5 | 1 | rical grade | | · · · · · · · · · · · · · · · · · · · | | |
| Duratio | · | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | 3.444440 | | | | |
| | | ntroduces students to th | ne fundamental princir | oles of computationa | al chemistry. | |
| | | ning outcomes | | | | |
| | | able to explain the theo | retical principles of co | mnutational chemist | try and to apply met | nods in com |
| putatio | | - | | | | |
| | | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (2) + | | | | | | |
| Methor | d of ass | sessment (type, scope, langu | lage — if other than German, e | examination offered — if no | t every semester, informat | ion on whether |
| | | le for bonus) | | | | |
| | | nination (approx. 90 to | | | | |
| | | ation of one candidate | | | | |
| | | ation in groups of up to . 20 pages) or | 3 candidates (approx. | 15 minutes per cano | didate) or | |
| | | n (approx. 30 minutes) | | | | |
| | | ssessment: German and | d/or English | | | |
| Allocat | | | <u></u> | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | <u></u> | • | | | | |
| Referre | d to in | LPO I (examination regulation | ns for teaching-degree progra | mmec) | | |
| | | | | inites) | | |
| Module | annea | ors in | | | | |
| | | ee (1 major) Chemistry (| 2016) | | | |
| | - | ee (1 major) Mathematic | | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional I | | | | |
| | - | ning degree Gymnasium | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (2 | 016) |
| | | y course MINT Teacher | | | | |
| | | , ee (1 major) Chemistry (| | · · | · - | |
| | - | ee (1 major) Computatio | | 9) | | |
| | - | ee (1 major) Mathematio | | | | |
| | - | ning degree Gymnasium | - | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) |
| Supple | mentar | y course MINT Teacher | Education PLUS, Elite I | Network Bavaria (EN | B) (2020) | |
| | | | | | | |
| Master | 's degr | ee (1 major) Computatic | onal Mathematics (202 | 2) | | |
| | | ee (1 major) Computatio | | 2) Irg • generated 19-Apr-2025 • | • exam. | page 382 / 437 |

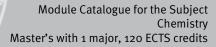


Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 383 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

| Polvme | e title | | | | Abbreviation | | | | | | | |
|--|---|---|--|---|--|---------------|--|--|--|--|--|--|
| Polymer Chemistry 1 (Lecture and Practical Course) | | | | | 03-FU-PM1-152-m01 | L | | | | | | |
| Module | a coord | inator | | Module offered by | | | | | | | | |
| Module coordinator holder of the Chair of Functional Materials in Medicine and | | | orials in Madising and | | | | | | | | | |
| Dentistry | | | | Faculty of Medicine | | | | | | | | |
| ECTS | Methe | od of grading | Only after succ. con | npl. of module(s) | | | | | | | | |
| 5 | nume | rical grade | | | | | | | | | | |
| Duratio | on | Module level | Other prerequisites | i | | | | | | | | |
| 1 seme | ster | undergraduate | , , , , | | | | | | | | | |
| Conten | | | | | | | | | | | | |
| radical | polym | | ee radical polymerisatio ation of polymers and p try, rheology. | | | | | | | | | |
| Intende | ed lear | ning outcomes | | | | | | | | | | |
| The stu | Idents | acquire fundamentals | of polymer chemistry ar | nd the related metho | ds for their characte | risation. | | | | | | |
| | | | rs, language — if other than Ger | | | | | | | | | |
| V (2) + | - | , | | | | | | | | | | |
| | | accmont (tune coope land | if other than Cormon | avamination offered if no | t over comector informati | on on whathar | | | | | | |
| | | bessinent (type, scope, lang ble for bonus) | guage — if other than German, o | exammation onered — if ho | every semester, informati | on on whether | | | | | | |
| Langua Assess credita | age of a ment o ble for | ssessment: German ar ffered: Once a year, wi bonus | | | | | | | | | | |
| Allocat | ion of _l | places | | | | | | | | | | |
| | | | | | | | | | | | | |
| Additio | onal inf | ormation | | | | | | | | | | |
| | | | | | | | | | | | | |
| Worklo | ad | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 150 h | | | | | | | | | | | | |
| 150 h Teachir | ng cycl | 9 | | | | | | | | | | |
| 150 h Teachi i | ng cycl | e | | | | | | | | | | |
| Teachii | | | | | | | | | | | | |
| Teachii | | | ions for teaching-degree progra | ımmes) | | | | | | | | |
| Teachin Referre | ed to in | LPO I (examination regulat | ions for teaching-degree progra | ımmes) | | | | | | | | |
| Teachin Referre Module | ed to in e appea | LPOI (examination regulat | | ummes) | | | | | | | | |
| Teachin Referre Module Bachelo | ed to in e appea or's de | LPOI (examination regulat ars in gree (1 major) Function | al Materials (2015) | ımmes) | | | | | | | | |
| Teachin Referre Module Bachele Master | ed to in e appea or's de 's degr | LPO I (examination regulat ars in gree (1 major) Function ee (1 major) Chemistry | al Materials (2015) (2016) | | | | | | | | | |
| Teachin Referre Module Bachele Master Master | ed to in e appea or's de 's degr 's teac | LPO I (examination regulat ars in gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiu | al Materials (2015) (2016) m MINT Teacher Educat | ion PLUS, Elite Netwo | | 016) | | | | | | |
| Teachin Referre Module Bachele Master Master Supple | ed to in e appea or's de 's degr 's teac ementa | LPOI (examination regulat ars in gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teacher | al Materials (2015) (2016) n MINT Teacher Educat r Education PLUS, Elite I | ion PLUS, Elite Netwo | | 016) | | | | | | |
| Teachin Referre Bachelo Master Master Supple Master | ed to in e appea or's de 's degr 's teac ementa 's degr | LPO I (examination regulat ars in gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teachen ee (1 major) Chemistry | al Materials (2015) (2016) n MINT Teacher Educat r Education PLUS, Elite I (2018) | ion PLUS, Elite Netwo Network Bavaria (EN | B) (2016) | | | | | | | |
| Teachin Referre Bachele Master Master Supple Master Master | ed to in e appea or's degr 's teac menta 's degr 's teac | LPO I (examination regulat ars in gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasiun | al Materials (2015) (2016) n MINT Teacher Educat ^r Education PLUS, Elite I (2018) n MINT Teacher Educat | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 | | | | | | | |
| Teachin Referre Bachelo Master' Master' Master' Master' Master' Supple Supple | ed to in e appea or's de 's degr 's teacl menta 's degr 's teacl menta | LPO I (examination regulat ars in gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teachen ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teachen | al Materials (2015) (2016) n MINT Teacher Educat ^r Education PLUS, Elite I (2018) n MINT Teacher Educat ^r Education PLUS, Elite I | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 | | | | | | | |
| Teachin Referre Module Bachele Master' Supple Master' Supple Bachele Bachele | ed to in e appea or's de 's degr 's teach 's degr 's teach 's teach or's degr | LPO I (examination regulat ars in gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teacher ee (1 major) Chemistry hing degree Gymnasiun | al Materials (2015) (2016) m MINT Teacher Educat r Education PLUS, Elite I (2018) m MINT Teacher Educat r Education PLUS, Elite I al Materials (2021) | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 | | | | | | | |
| Teachin Referre Bachele Master Master Master Supple Master Supple Bachele Master Master Master Master Master Master Master | ed to in e appea or's de 's degr 's teacl menta or's de 's degr 's teacl 's degr 's teacl | LPO I (examination regulat ars in gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teachen ee (1 major) Chemistry hing degree Gymnasiun ry course MINT Teachen gree (1 major) Function ee (1 major) Chemistry hing degree Gymnasiun | al Materials (2015) (2016) m MINT Teacher Educat r Education PLUS, Elite I (2018) m MINT Teacher Educat r Education PLUS, Elite I al Materials (2021) | ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo Network Bavaria (EN ion PLUS, Elite Netwo | B) (2016) ork Bavaria (ENB) (20 B) (2020) ork Bavaria (ENB) (20 | 020) | | | | | | |





Bachelor's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 385 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Medicinal Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 386 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |





Compulsory Courses

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 387 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|--|--|--|---|-----------------------------|--|--|
| Practic | al cour | se medicinal chemistry | | | 08-MCM1-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecturers Pharmazeutische Chemie (Pharmaceutical Che- mistry) | | armaceutical Che- | Institute of Pharma | cy and Food Chemistry | | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 10 | (not) s | successfully completed | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | Its | | | | | |
| Selecte | ed meth | ods and topics in medic | inal chemistry (synth | esis, testing, analysi | s, theory, pharmacokinetics). | |
| Intend | ed lear | ning outcomes | | | | |
| Studen | nts have | e developed a knowledge | of medicinal chemis | try and are able to a | pply it to practical experiments. | |
| Course | S (type, r | umber of weekly contact hours, l | anguage — if other than Ge | rman) | | |
| P (10) | | t in: German or English | | | | |
| | | s essment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | t every semester, information on whether | |
| pages (pages) | each) a age of a | nd assessment of practic ssessment: German and, | al assignments (2 to | | minutes each, log approx. 5 to 10 ions) as well as report (30 to 50 | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 300 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | | |
| | | | - | | | |
| Module | e appea | irs in | | | | |
| | | ee (1 major) Chemistry (2 | 016) | | | |
| Master Supple | Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | |
| Master Supple | 's teacl menta | ning degree Gymnasium I y course MINT Teacher Ed ee (1 major) Chemistry (2 | MINT Teacher Educat ducation PLUS, Elite | | | |
| Master | 's teacl | ning degree Gymnasium I y course MINT Teacher E | MINT Teacher Educat | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 388 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 389 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|--------------------------------------|--------------------|---|--|-------------------------------|---|
| Pharmaceutical/Medicinal Chemistry 1 | | | | | 08-MCM2a-161-m01 |
| Madula | | | | Madula offered by | |
| Module | | · · · · · · · · · · · · · · · · · · · | | Module offered by | |
| lecture mistry) | rs Phar | mazeutische Chemie (Pl | narmaceutical Che- | Institute of Pharma | cy and Food Chemistry |
| ECTS | Metho | od of grading | Only after succ. cor | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | on | Module level | Other prerequisites | ; | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| structu in the r | re-activ nodule | ity relationships; molec | ular effect mechanism hthesis; biotransform | ns; pharmacological | gies for active agent discovery; principles of the drugs discussed tics of individual drugs; history of |
| Intende | ed lear | ning outcomes | | | |
| Studen | ts have | e developed a knowledg | e of pharmaceutical/ | medicinal chemistry. | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ge | rman) | |
| V (3) | | | | | |
| | | sessment (type, scope, langu le for bonus) | age — if other than German, | examination offered — if no | ot every semester, information on whether |
| e) pres | entatio | . 20 pages) or n (approx. 30 minutes) ssessment: German and | l/or English | | |
| Allocat | ion of p | olaces | | | |
| | | | | | |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulation | ns for teaching-degree progra | ammes) | |
| | | | 00 Produ | | |
| Module | e appea | ars in | | | |
| | | ee (1 major) Chemistry (2 | 2016) | | |
| Master | 's teacl | ning degree Gymnasium | MINT Teacher Educat | | ork Bavaria (ENB) (2016) |
| | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | | |
| | | hing degree Gymnasium ry course MINT Teacher E | | | ork Bavaria (ENB) (2020) B) (2020) |
| | | ee (1 major) Chemistry (2 | | NELWOIK DAVAIIA (EN | ע (2020) |
| Master | 's teacl | | MINT Teacher Educat | | ork Bavaria (ENB) (2025) B) (2025) |
| | | | | | |
| naster's wi | ith 1 major | r Chemistry (2018) | JMU Würzb | urg • generated 19-Apr-2025 • | • exam. page 390 / 437 |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 390 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---------------------|---------------------|--|---|-----------------------------|-----------------------------|----------------|
| Pharma | aceutic | al/Medicinal Chemistry | / 2 | | 08-MCM2b-161-mc | |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| | | mazeutische Chemie (P | harmaceutical Che- | | cy and Food Chemis | trv |
| mistry) | | inazeatisene enernie (i | | | cy una roba chemia | , ci y |
| ECTS | Metho | od of grading | Only after succ. cor | mpl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | 5 | | |
| 1 seme | ster | graduate | | | | |
| Conten | ts | 0 | 1 | | | |
| structu in the r | re-activ nodule | lrugs by field of indicati vity relationships; moleo ; drug analysis; drug sy nent: discussion of spe | cular effect mechanism nthesis; biotransform | ns; pharmacological | principles of the dru | ugs discussed |
| | | ning outcomes | | | | |
| Studen | ts have | e developed a knowledg | ge of pharmaceutical/ | medicinal chemistry. | | |
| Course | S (type, r | number of weekly contact hours | , language — if other than Ge | rman) | | |
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| | | hing degree Gymnasium | | | | 016) |
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| | - | hing degree Gymnasium | | ion PLUS, Flite Netwo | ork Bayaria (FNR) (a | 020) |
| | | ry course MINT Teacher | | | | 020) |
| | | ee (1 major) Chemistry (| | | ,, | |
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| Master's w | ith 1 maio | r Chemistry (2018) | JMU Würzb | urg • generated 19-Apr-2025 | exam. | page 391 / 437 |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 391 / 437 |
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| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |

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| Mass-Spectrometry and Proteomics 08-MBC-MSP-161-m01 | | | | | | | |
| Module coordinator | | | | Module offered by | | | |
| holder of the Chair of Biochemistry | | | Chair of Biochemistry | | | | |
| ECTS Method of grading | | Only after succ. con | Only after succ. compl. of module(s) | | | | |
| 5 numerical grade | | | | | | | |
| | | | Other prerequisites | i | | | |
| 1 seme | ster | graduate | | | | | |
| Conten | Its | | | | | | |
| les of t sation so prov as well of quar N15 lab fication ces stu to a ran yeast. wards, to iden Intendo Studen have le ty purif | This module comprises a lecture, a seminar and a lab course. The lecture discusses the fundamental princip- les of the mass spectrometry of biomolecules. Topics to be covered in the lecture include ESI and MALDI ioni- sation techniques as well as the operating principles of TOF, Orbitrap and other mass analysers. The lecture al- so provides an introduction to CID and ETD fragmentation techniques, peptide and protein separation methods as well as the analysis of mass spectrometric data (protein databases, FDR, GO terms, etc.). It gives an overview of quantitative proteomics with a special focus on different stable isotope quantification methods (e.g. SILAC, N15 labelling, iTRAQ) and provides an insight into the mass spectrometric analysis of post-translational modi- fications. The seminar covers the fundamental principles of the analysis of mass spectrometric data. It introdu- ces students to different software packages and gives them the opportunity to independently develop solutions to a range of problems. In the lab course, students will use affinity purification to isolate a protein complex from yeast. They will then use 1D-SDS-PAGE to separate that complex and will proteolytically cleave it in the gel. After- wards, students will use nano-LC-MS/MS to analyse the peptides thus obtained and will conduct a data analysis to identify specific interaction partners and post-translational modifications. Intended learning outcomes Students have learned the theoretical foundations of mass spectrometry protein and proteomic analysis. They have learned how to use proteomic data analysis software tools. Students have become proficient in the affini- ty purification of protein complexes and have learned the steps involved in the preparation of samples for mass spectrometry protein analysis, e.g. SDS-PAGE and in-gel digestion. They have gained an insight into how to ope- | | | | | | |
| | _ | number of weekly contact hours, | language — if other than Ge | rman) | | | |
| V (2) + Module | | P (2) t in: German or English | | | | | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) | | | | | | | |
| a) written examination (approx. 45 to 90 minutes) or b) log (20 to 30 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (15 to 30 minutes per candidate) or e) presentation (20 to 40 minutes) Language of assessment: German and/or English Assessment offered: In the semester in which the course is offered, no less than once a year | | | | | | | |
| Allocation of places | | | | | | | |
| 67 places. | | | | | | | |
| Additional information | | | | | | | |
| 150 h | Workload 150 h Teaching cycle | | | | | | |
| | | | | | | | |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 393 / 437 | |

Referred to in LPO I (examination regulations for teaching-degree programmes)

Module appears in

Master's degree (1 major) Chemistry (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's degree (1 major) Chemistry (2024)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 394 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | |
|--|---|--|------------------------------|--|---|--|
| Clinical-analytical Chemistry | | | | | 08-PH-KAC-152-m01 | |
| Module coordinator | | | | Module offered by | | |
| lecturer of lecture "Klinisch-analytische Chemie" (Clinicand Analytical Chemistry) | | | e Chemie" (Clinical | Institute of Pharmacy and Food Chemistry | | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ester | graduate | | | | |
| Conter | nts | | | | | |
| This m | odule d | iscusses advanced topic | s in clinical analytica | ll chemistry. | | |
| Intend | ed lear | ning outcomes | | | | |
| Studer | nts have | e developed an advanced | knowledge of molec | ular biology. | | |
| | | umber of weekly contact hours, l | | | | |
| V (3) | .,, , | , , , , , | | - | | |
| Metho module i | s creditab | le for bonus) | | examination offered — if no | ot every semester, information on whether | |
| Langua | age of a | nation (approx. 120 minu ssessment: German and/ | | | | |
| Allocat | tion of p | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulations | s for teaching-degree progra | immes) | | |
| | | | - · · · | | | |
| Modul | e appea | irs in | | | | |
| - | | ee (1 major) Biochemistry | r (2015) | | | |
| Master's degree (1 major) Chemistry (2016) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Master's degree (1 major) Biochemistry (2017) Master's degree (1 major) Chemistry (2018) | | | | | | |
| Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Chemistry (2024) | | | | | | |
| Master | Master's degree (1 major) enemstry (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) | | | | | |

| Module tit | e | | | Abbreviation | |
|---|--|---|-----------------------------|--|--|
| Practical course of clinical-analytical Chemistry | | | | 08-PH-KACP-152-m01 | |
| Module coordinator | | | Module offered by | <u> </u> | |
| lecturer of lecture "Klinisch-analytische Chemie" (Clinical | | | | cy and Food Chemistry | |
| and Analytical Chemistry) | | | | cy and rood chemistry | |
| ECTS Me | thod of grading | Only after succ. cor | npl. of module(s) | | |
| 5 (nc | t) successfully completed | | | | |
| Duration | Module level | Other prerequisites | | | |
| 1 semester | undergraduate | | | | |
| Contents | | | | | |
| This modul methods. | e covers practical topics in | clinical chemistry and | d clinical diagnostics | s as well as the related analytical | |
| Intended le | arning outcomes | | | | |
| Students h ments. | ave developed a knowledge | e of clinical analytical | chemistry and are a | ble to apply it to practical experi- | |
| Courses (typ | e, number of weekly contact hours, | language — if other than Ge | rman) | | |
| Р (5) | | | | | |
| | assessment (type, scope, langua itable for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether | |
| pages each Language c |) and assessment of praction for a seessment: German and | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) | |
| Allocation | of places | | | | |
| | | | | | |
| Additional | information | | | | |
| | | | | | |
| Workload | | | | | |
| 150 h | | | | | |
| Teaching c | cle | | | | |
| | | | | | |
| Referred to | in LPO I (examination regulation | s tor teaching-degree progra | ammes) | | |
| | ! | | | | |
| Module ap | | . () | | | |
| Master's degree (1 major) Biochemistry (2015) Master's degree (1 major) Chemistry (2016) | | | | | |
| Master's te Supplemer Master's de Master's de | aching degree Gymnasium tary course MINT Teacher E egree (1 major) Biochemistn egree (1 major) Chemistry (2 | MINT Teacher Educat ducation PLUS, Elite / (2017) 018) | | | |
| Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 396 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | | |
|--|---|--|---|-------------------------------|------------------------------|----------------|
| Moder | Modern Synthetic Methods o8-OCM-SYNT-161-mo1 | | | | | |
| Module | e coord | linator | | Module offered by | | |
| | lecturer of the seminar | | Institute of Organic | Chemistry | | |
| ECTS | | od of grading | Only after succ. con | | | |
| 5 | 1 | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | i | | |
| 1 seme | | graduate | | | | |
| Conten | | <u>5</u> 44444 | | | | |
| This m | odule d | liscusses modern stere emistry and catalysis. | oselective synthesis m | ethods. It focuses or | n selected total syntl | neses, orga- |
| | | ning outcomes | | | | |
| | - | able to stereoselectivel | v plan complex chemic | al syntheses and to | storoochomically an | alveo thom |
| | an expl | ain total syntheses. The | | | | |
| | | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + Module | | t in: German or English | | | | |
| | | sessment (type, scope, lang | | examination offered — if no | nt every semester, informati | ion on whether |
| | | ble for bonus) | auge in ether than eenhally | | | |
| b) oral c) oral d) log (e) pres | examir examir (approx entatic | mination (approx. 90 to nation of one candidate nation in groups of up to x. 20 pages) or on (approx. 30 minutes) assessment: German ar | each (20 to 30 minute o 3 candidates (approx | | didate) or | |
| Allocat | ion of | places | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module appears in | | | | | | |
| Master's degree (1 major) Chemistry (2016) | | | | | | |
| Master's degree (1 major) Functional Materials (2016) | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | |
| Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| | Master's degree (1 major) Functional Materials (2022) | | | | | |
| | - | ee (1 major) Chemistry | | | | |
| Master's w | ith 1 maio | r Chemistry (2018) | IMII Würzh | urg • generated 19-Apr-2025 • | • exam. | page 397 / 437 |
| | | | | ord Master (120 ECTS) Chemi | | 1-6- 571 457 |



Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 398 / 437 |
|--|--|----------------|
| | | 1.0.0.00.000 |
| | reg. data record Master (120 ECTS) Chemie - 2018 | |
| | reg. data record master (120 Eers) enemice 2010 | |

| Module | title | | | | Abbreviation |
|---|--------------------|---|--|-------------------------|---|
| Moderr | n Aspec | ts of Natural Product Ch | emistry and Biologic | al Chemistry | 08-0CM-NAT-172-m01 |
| Module coordinator Module offered b | | | by | | |
| lecture | r of the | seminar | | Institute of Orga | nic Chemistry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| of macr | romole | | | | t engineering and characterisation lysis of biochemical processes, and |
| Intende | ed learı | ning outcomes | | | |
| Studen | ts have | e developed a knowledge | of molecular biology | and are able to a | apply it to practical experiments. |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S /Madul | | atin Common or Fradiah | | | |
| | | ht in: German or English | | | |
| | | ESSMENT (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — i | if not every semester, information on whether |
| b) oral c) oral e | examin examin | nination (approx. 45 to 9 ation of one candidate e ation in groups of up to 3 ssessment: German and, | ach (20 to 30 minute 3 candidates (15 to 30 | | didate) |
| Allocat | | | | | |
| mistry): the san | : 20 pla 1e num | aces. Places will be alloca | ated according to the , places will be alloca | number of subject | ree programme Biochemie (Bioche- ct semesters; among applicants with ing list will be maintained and pla- |
| Additio | nal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module | appea | ars in | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) | | | | | |
| Master' | s teach | | WINT Teacher Educati | | twork Bavaria (ENB) (2020) ENB) (2020) |

| Module title | | | | | Abbreviation | |
|---|--|--|---|----------------------|---|--|
| Bioinor | ganic (| Chemistry | | | 08-ACM2-161-m01 | |
| Module coordinator | | | | Module offered by | Aodule offered by | |
| and Me | dizinis | ninar "Anorganische Asp chen Chemie" (Inorganic dicinal Chemistry) | | Institute of Inorgan | ic Chemistry | |
| ECTS | | od of grading | Only after succ. com | and of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| | | | | | | |
| 1 seme | | graduate | | | | |
| This mo | odule i ds of Bl | | | | chemistry (BIC). It discusses the ns of BIC in the fields of diagnosis | |
| Intende | ed lear | ning outcomes | | | | |
| | | able to describe the princ us enzymes and describe | | | xplain the structure and effects medicine. | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | man) | | |
| Method module is a) writt b) oral c) oral Langua | d of ass creditab en exal examir examin ge of a | le for bonus) mination (approx. 45 to g nation of one candidate e ation in groups of up to ssessment: German and | oo minutes) or each (20 to 30 minute 3 candidates (15 to 30 | s) or | ot every semester, information on whether date) | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | |
| Suppla | mentai | v course MINT Teacher E | ducation PLUS. Elite I | Network Bavaria (EN | B) (2020) | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 400 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | |
|---|---|---|------------------------------|-----------------------------|--|
| Molecular Biology for Advanced Students | | | | | 08-BC-MOLMC-161-m01 |
| Module coordinator | | | | Module offered by | |
| holder | of the C | Chair of Biochemistry | | Chair of Biochemist | ry |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 seme | ster | graduate | | | |
| Conten | ts | | | | |
| Compri tional b | | | his module discusse | s advanced topics in | n molecular physiology and func- |
| Intende | ed learr | ning outcomes | | | |
| Studen | ts have | e developed a sound know | wledge of molecular l | piology. | |
| Course | S (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| V (2) + | Ü (1) | | | | |
| | | e essment (type, scope, langua ₎ le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| d) log (e) pres | approx entatio ge of a | ation in groups of up to 3 . 20 pages) or n (approx. 30 minutes) ssessment: German and/ Jlaces | | 15 minutes per cano | |
| | | | | | |
| Additio | nal info | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachir | ng cycl | e | | | |
| | | | | | |
| Referre | d to in | LPOI (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Chemistry (2016) | | | | | |
| Master's degree (1 major) Functional Materials (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | |
| Supple Master | Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Functional Materials (2022) | | | | |
| master | Master's degree (1 major) Functional Materials (2025) | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 401 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation |
|--------------------------------------|---|---|---|-----------------------------|--|
| Practic | al cour | se "Structural Biology" | for advanced student | ts | 08-BC-VPSB-161-m01 |
| Module | e coord | linator | | Module offered by | |
| holder | ofthe | Chair of Biochemistry | | Chair of Biochemis | try |
| ECTS | Meth | od of grading | Only after succ. cor | mpl. of module(s) | |
| 10 | nume | rical grade | o8-BC-MOLP | | |
| Duratio | on . | Module level | Other prerequisites | 5 | |
| 1 seme | ster | graduate | | | |
| Conten | Its | 10 | | | |
| | ıdamer | ital principles and techn | | | stallisation. It teaches students sation as well as crystallographic |
| Intend | ed lear | ning outcomes | | | |
| | | | | | constructs for crystallisation. Il as data collection and proces- |
| Course | S (type, I | number of weekly contact hours | , language — if other than Ge | erman) | |
| P (10) | | | | | |
| | | s essment (type, scope, langu ble for bonus) | age — if other than German, | examination offered — if no | ot every semester, information on whether |
| | | 20 pages) and talk (appr assessment: German and | | | |
| Allocat | ion of | places | | | |
| | | | | | |
| Additio | onal inf | ormation | | | |
| Additic | nal inf | ormation on module du | ation: block taught la | b course with approx | x. 40 working days. |
| Worklo | ad | | | · · | |
| 300 h | | | | | |
| Teachi | ng cvcl | e | | | |
| | 0., | | | | |
| Referre | ed to in | LPO I (examination regulatio | ns for teaching-degree progr | ammes) | |
| | | (examination regulation | | | |
| Module | | ars in | | | |
| Master Master Supple Master | 's degr 's teac ementa 's degr | ee (1 major) Chemistry (hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry (| MINT Teacher Educat Education PLUS, Elite 2018) | Network Bavaria (EN | |
| | | hing degree Gymnasium ry course MINT Teacher I | | | rork Bavaria (ENB) (2020) IB) (2020) |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 402 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



Supramolecular Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 403 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Courses

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 404 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | Abbreviation | |
|---|--------------------|--|--|--|--|
| Supramolecular Chemistry (Basics) | | | | | 08-SCM1-152-m01 |
| Module coordinator | | | | Module offered by | |
| lecturer | of lect | ure "Organischen Chemi | e" | Faculty of Chemistry | y and Pharmacy |
| ECTS | Metho | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | numei | rical grade | | | |
| Duratio | n | Module level | Other prerequisites | | |
| 1 semes | ster | graduate | | | |
| Conten | ts | | | | |
| actions nation p | betwe oolyme | en molecules, molecular | recognition by recept rystals, self-assembl | tors, complexes, sup | ar chemistry. It focuses on inter- oramolecular polymers, coordi- synthetic ion channels and mo- |
| Intende | d learr | ning outcomes | | | |
| field as describ | well as e the s | s to describe the formation | on, structure and poly s in aqueous media a | mers of coordinatio s well as to identify t | igh degree of expertise in the n compounds. They are able to the characteristics of synthetic |
| Courses | 5 (type, n | umber of weekly contact hours, l | anguage — if other than Ger | man) | |
| S (3) | | | | | |
| | | e ssment (type, scope, langua le for bonus) | ge — if other than German, e | examination offered — if no | t every semester, information on whether |
| b) oral e | examin | nination (approx. 90 min ation of one candidate e ssessment: German and/ | ach (approx. 20 minu | ites) | |
| Allocati | ion of p | olaces | | | |
| | | | | | |
| Additio | nal info | ormation | | | |
| | | | | | |
| Workloa | ad | | | | |
| 150 h | | | | | |
| Teachin | ig cycle | 9 | | | |
| | | | | | |
| Referre | d to in | LPO I (examination regulations | s for teaching-degree progra | mmes) | |
| | | | | | |
| Module appears in | | | | | |
| Master's degree (1 major) Biofabrication (2015) Master's degree (1 major) Chemistry (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | |

| Module | e title | | | | Abbreviation | | |
|---------------------|-------------------|---|------------------------------|-----------------------------|---|--|--|
| Supran | nolecul | ar Chemistry (Practical (| Course) | | 08-SCM2-161-m01 | | |
| Module | e coord | inator | | Module offered by | ile offered by | | |
| | | ture "Supramolekularen kalische Chemie)" | Chemie (Organische | Faculty of Chemistr | y and Pharmacy | | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | | |
| 5 | (not) | successfully completed | 08-SCM1 | ٨1 | | | |
| Duratio | on | Module level | Other prerequisites | | | | |
| 1 semester graduate | | | | | | | |
| Conten | ts | | | | | | |
| mistry. | They w | | host-guest complexe | | ents in supramolecular che- d nanoparticles and use advan- | | |
| Intend | ed lear | ning outcomes | | | | | |
| | | able to perform synthese hem. They are able to pro | | | oscopic methods to analyse and hem microscopically. | | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Gei | rman) | | | |
| P (6) Module | e taugh | t in: German or English | | | | | |
| | | sessment (type, scope, langua le for bonus) | age — if other than German, | examination offered — if no | t every semester, information on whether | | |
| pages | each) a | chtestate (pre and post- nd assessment of practions sessment: German and | cal performance (2 to | | minutes each, log approx. 5 to 10 ions) | | |
| Allocat | ion of | olaces | | | | | |
| | | | | | | | |
| Additio | onal inf | ormation | | | | | |
| | , | | | | | | |
| Worklo | ad | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | ed to in | LPOI (examination regulation | s for teaching-degree progra | mmes) | | | |
| | | | | | | | |
| Module | e appea | urs in | | | | | |
| Master | 's teac | ee (1 major) Chemistry (2 ning degree Gymnasium y course MINT Teacher E | MINT Teacher Educat | | | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 406 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |





Compulsory Electives

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 407 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | | |
|---|---|--|---|---|--|--|
| Bioorga | anic Ch | emistry | | | 08-SCM3-152-m01 | |
| Module | | | | Module offered by | | |
| lecturer Chemis | | ure "Bioorganische Che | mie" (Bioorganic | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 semes | ster | graduate | | | | |
| Conten | ts | | | | | |
| spectro manipu the fran to enab Key con thogona ceptor i Intende The stu obtain l | scopy s ilation nework ole appl acepts o al react interact ed learr dents v knowle tions a | emistry unites the centra with a focus on biomole of biomolecules, such as of structure-function re- lications towards biomar covered in the course are tions, molecular diversit tions, signal transduction hing outcomes will have a molecular united dge of modern synthetic and recognition mechanis | cules. At the core of b s nucleic acids, peptio lationships and the fu- terials, biosensing, bi e nucleic acid chemis y, solid-phase synthe n) derstanding of the str methods in bioorgar | ioorganic chemistry des, proteins, carboh indamental understa oimaging, clinical di try, peptide chemistr sis, molecular recogr ucture and reactivity ic chemistry and car | is the synthesis and hydrates and lipids. anding of biological r agnostics and thera ry, carbohydrate che hition and interactio of biomolecules. Th h explain principles of | purposeful This includes nechanisms, peutics. mistry, bioor- ns (ligand-re- e students of molecular |
| | | uns. umber of weekly contact hours, | language — if other than Ger | man) | | |
| S (3) | | | | | | |
| | | essment (type, scope, langua le for bonus) | age — if other than German, o | examination offered — if no | t every semester, informati | on on whether |
| b) oral e c) oral e | examin examin | nination (approx. 45 to g ation of one candidate e ation in groups of up to ssessment: German and | each (20 to 30 minute 3 candidates (15 to 30 | | ate) | |
| Allocati | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | _ | | | |
| Teachir | ng cycl | 9 | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | appea | rs in | | | | |
| Master' Master' | s degre s degre | ee (1 major) Biochemistr ee (1 major) Chemistry (2 ee (1 major) Functional M ning degree Gymnasium | o16) Iaterials (2016) | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| Master's wi | th 1 major | Chemistry (2018) | | ırg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 408 / 437 |
| | | | | | | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)

Master's degree (1 major) Biochemistry (2017)

Master's degree (1 major) Chemistry (2018) Master's degree (1 major) Biochemistry (2019)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)

Master's degree (1 major) Functional Materials (2022)

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 409 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | |
|---------------------------|-------------|---|-------------------------------|-----------------------------|---|
| Suprar | molecu | lar Chemistry (Advanced | Lab) | | 08-SCM4-161-m01 |
| Modul | e coord | inator | | Module offered by | |
| | | ture "Supramolekularen ikalische Chemie)" | Chemie (Organische | Institute of Organic | Chemistry |
| ECTS | Meth | od of grading | Only after succ. com | pl. of module(s) | |
| 5 | (not) | successfully completed | 08-SCM2 | | |
| | | | Other prerequisites | | |
| 1 seme | ester | graduate | | | |
| Conter | nts | | | | |
| thods i | in supra | | udents will be expect | | synthesis and analytical me- vork in the lab independently, do |
| Intend | ed lear | ning outcomes | | | |
| | | able to use advanced syr eir findings. They are abl | | | olecular chemistry in the lab and gs. |
| Course | es (type, 1 | number of weekly contact hours, | language — if other than Ger | man) | |
| P (6) Modul | e taugh | t in: German or English | | | |
| | | s essment (type, scope, langua ble for bonus) | age — if other than German, e | examination offered — if no | t every semester, information on whether |
| • | | (approx. 20 minutes) Issessment: German and | /or English | | |
| Allocat | tion of | places | | | |
| Additio | onal inf | ormation | | | |
| | | ormation on module dura | ation: block taught lal | o course with approx | 20 working days |
| Worklo | | | | | |
| 150 h | | | | | |
| - | ng cycl | e | | | |
| | | • | | | |
| Referre | ed to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | |
| | | | is for reaching-degree progra | | |
| Modul | e appea | ars in | | | |
| | | ee (1 major) Chemistry (2 | .016) | | |
| | - | hing degree Gymnasium | | ion PLUS, Elite Netwo | ork Bavaria (ENB) (2016) |
| • • | | ry course MINT Teacher E | | Network Bavaria (EN | B) (2016) |
| | - | ee (1 major) Chemistry (2 | | | |
| | | hing degree Gymnasium | | | |
| Supple | menta | ry course MINT Teacher E | HULLER DILLC FREE | | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 410 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| DI. ' | e title | | | | Abbreviation | |
|---|---|---|--|---|-----------------------------|----------------|
| Physic | al Cher | nistry of Supramolecula | r Assemblies | | 08-PCM5-161-m01 | |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| lecture kularer | | seminar "Physikalische uren" | e Chemie Supramole- | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | 1 | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | | rical grade | | • | | |
| Duratio | | Module level | Other prerequisites | 6 | | |
| 1 seme | ster | graduate | | | | |
| Conten | | Sidduite | 1 | | | |
| This mo cal pro | odule e perties | xamines the basic inter of aggregates as well a | | | | ysical-chemi |
| Intend | ed lear | ning outcomes | | | | |
| in the f dern ap Course | ield. Th oplicati s (type, r | able to explain the basic ney can describe the for ons of supramolecular number of weekly contact hours | mation and physical-c chemistry. | hemical properties o | | |
| S(2) + Module | • • | t in: German or English | | | | |
| Metho | d of ass | Gessment (type, scope, languile for bonus) | uage — if other than German, | examination offered — if no | ot every semester, informat | ion on whether |
| c) talk | (approx age of a | nation of one candidate <. 30 minutes) ssessment: German an places | | | | |
| | | | | | | |
| Additio | nal inf | | | | | |
| Adultio | matim | ormation | | | | |
| | | ormation | _ | | | |
| Worklo | | ormation | | | | |
| Worklo | | ormation | | | | |
| Worklo 150 h | ad | | | | | |
| Worklo | ad | | | | | |
| Worklo 150 h Teachin | oad ng cycl | e | ns for teaching.dogroe progr | ammes) | | |
| Worklo 150 h Teachin | oad ng cycl | | ns for teaching-degree progra | ammes) | | |
| Worklo 150 h Teachin Referre | ng cycl ed to in | e LPO I (examination regulatic | ns for teaching-degree progra | ammes) | | |
| Worklo 150 h Teachin Referre Module | ad ng cycl ed to in e appea | e LPOI (examination regulation ars in | | ammes) | | |
| Worklo 150 h Teachin Referre Module | ng cycl ed to in e appea | e LPOI (examination regulation ars in ee (1 major) Chemistry (| 2016) | ammes) | | |
| Worklo 150 h Teachin Referre Module Master Master | ed to in e appea 's degr | e LPO I (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemation | 2016) CS (2016) | | | |
| Worklo 150 h Teachin Referre Module Master Master Master | ed to in e appea 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemation ee (1 major) Computation | 2016) cs (2016) onal Mathematics (201 | | | |
| Worklo 150 h Teachin Referre Module Master Master Master Master Master | ad ng cycl ed to in 's degr 's degr 's degr 's degr | e LPO I (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemation | 2016) cs (2016) onal Mathematics (201 Materials (2016) | .6) | ork Bavaria (ENB) (2 | 016) |
| Worklo 150 h Teachin Referre Module Master Master Master Master Master Master | e appea 's degr 's degr 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemation ee (1 major) Computation ee (1 major) Functional | 2016) cs (2016) mal Mathematics (201 Materials (2016) n MINT Teacher Educat | .6) ion PLUS, Elite Netw | | 016) |
| Worklo 150 h Teachin Referre Master Master Master Master Master Master Supple | ed to in e appea 's degr 's degr 's degr 's degr 's teac ementa | e LPO I (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemation ee (1 major) Computation ee (1 major) Functional hing degree Gymnasium | 2016) cs (2016) onal Mathematics (201 Materials (2016) o MINT Teacher Educat Education PLUS, Elite | .6) ion PLUS, Elite Netw | | 016) |
| Worklo 150 h Teachin Referre Module Master Master Master Master Supple Master | ed to in e appea 's degr 's degr 's degr 's teac 's teac 's teac 's degr | e LPO I (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemation ee (1 major) Computation ee (1 major) Functional hing degree Gymnasium ry course MINT Teacher | 2016) cs (2016) onal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite 2018) | .6) ion PLUS, Elite Netw Network Bavaria (EN | | 016) |
| Worklo 150 h Teachin Referre Module Master Master Master Master Supple Master | ed to in ed to in 's degr 's degr 's teacl ementa 's degr 's degr 's degr 's degr 's degr | e LPOI (examination regulation ars in ee (1 major) Chemistry (ee (1 major) Mathemation ee (1 major) Computation ee (1 major) Functional hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry (| 2016) cs (2016) mal Mathematics (201 Materials (2016) n MINT Teacher Educat Education PLUS, Elite 2018) mal Mathematics (201 cs (2019) | .6) ion PLUS, Elite Netw Network Bavaria (EN .9) | B) (2016) | |

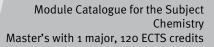
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Biofabrication (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 412 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|--|--|--|---|---|--|
| Bioinor | ganic (| Chemistry | | | 08-ACM2-161-m01 | |
| Module | e coord | inator | | Module offered by | offered by | |
| and Me | dizinis | ninar "Anorganische Asp chen Chemie" (Inorganic dicinal Chemistry) | | Institute of Inorgan | ic Chemistry | |
| ECTS | | od of grading | Only after succ. com | and of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | | | |
| | 1 semester graduate | | | | | |
| Conten | | graduate | | | | |
| This mo | odule i ds of Bl | | | | chemistry (BIC). It discusses the ns of BIC in the fields of diagnosis | |
| Intende | ed lear | ning outcomes | | | | |
| | | able to describe the princ us enzymes and describe | | | xplain the structure and effects medicine. | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | man) | | |
| Method module is a) writt b) oral c) oral Langua | d of ass creditab en exal examir examin ge of a | le for bonus) mination (approx. 45 to g nation of one candidate e ation in groups of up to ssessment: German and | oo minutes) or each (20 to 30 minute 3 candidates (15 to 30 | s) or | ot every semester, information on whether date) | |
| Allocat | ion of _l | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | d to in | LPO I (examination regulation | s for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master Supple Master Master Master | 's teacl mentai 's degr 's degr 's teacl | | MINT Teacher Educati ducation PLUS, Elite I 018) / (2019) MINT Teacher Educati | Network Bavaria (EN ion PLUS, Elite Netw | B) (2016) ork Bavaria (ENB) (2020) | |
| Suppla | mentai | y course MINT Teacher E | ducation PLUS. Elite I | Network Bavaria (EN | B) (2020) | |

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 413 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|------------|----------------------|---|---------------------------------|---|-----------------------------|----------------|
| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| | | ure "Computational Ch | emistrv" | Institute of Physical and Theoretical Chemistry | | |
| ECTS | 1 | od of grading | Only after succ. con | · · · | | |
| 5 | | rical grade | | | | |
| Duratio | í – r | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Siduate | | | | |
| | | ntroduces students to t | ho fundamontal princir | alos of computations | al chomistry | |
| | | | | | at chemistry. | |
| | | ning outcomes | | | | |
| | its are a mal che | ble to explain the theo mistry. | retical principles of co | mputational chemis | try and to apply meth | nods in com- |
| Course | S (type, n | umber of weekly contact hours | s, language — if other than Ger | rman) | | |
| S (2) + | Ü (2) | | | | | |
| | | essment (type, scope, lang le for bonus) | uage — if other than German, o | examination offered — if no | ot every semester, informat | ion on whether |
| | | nination (approx. 90 to | 180 minutes) or | | | |
| | | ation of one candidate | | s) or | | |
| c) oral | examin | ation in groups of up to | | | didate) or | |
| | | . 20 pages) or | | | | |
| | | n (approx. 30 minutes) | d / a w Ew aliab | | | |
| | | ssessment: German an | | | | |
| Allocat | ion of p | llaces | | | | |
| | | | | | | |
| Additio | onal info | ormation | - | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | |
| | | | | | | |
| Module | e appea | rs in | | | | |
| Master | 's degre | ee (1 major) Chemistry (| (2016) | | | |
| Master | 's degre | ee (1 major) Mathemati | cs (2016) | | | |
| Master | 's degre | ee (1 major) Computatio | onal Mathematics (201 | 6) | | |
| | - | ee (1 major) Functional | | | | |
| | | ning degree Gymnasium | | | | 016) |
| | | y course MINT Teacher | | Network Bavaria (EN | В) (2016) | |
| | - | ee (1 major) Chemistry (| | 0) | | |
| | - | ee (1 major) Computatio ee (1 major) Mathemati | | 9) | | |
| | - | ning degree Gymnasium | - | ion PLUS. Elite Netw | ork Bavaria (FNB) (20 | 020) |
| | | y course MINT Teacher | | | | , |
| | | ee (1 major) Computatio | | | | |
| | | | | | | |
| Master's w | ith 1 maior | Chemistry (2018) | IMII Würzbı | Irg • generated 19-Apr-2025 | • exam. | page 414 / 437 |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 415 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

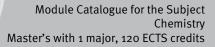
| Module | e title | | | | Abbreviation | |
|---|---------------------------------------|---|---|-------------------------------|-----------------------------|----------------|
| , | | | | 08-0CM-FM-161-mc | 01 | |
| Module coordinator | | | | Module offered by | | |
| lecture | r of the | seminar "Organische F | unktionsmaterialien" | Institute of Organic | Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | | |
| 5 | nume | rical grade | | | | |
| Duratio | n | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | | | | |
| Conten | Contents | | | | | |
| sical ef | fects ir nents s | eals with specific topics organic molecular and uch as field effect trans | polymeric semicondu | ctors as well as their | application in (opto |)electronic |
| Intende | ed lear | ning outcomes | | | | |
| explain | the sy ch as f | are able to explain fund nthesis of these semico ield effect transistors, o | onductor materials as v | vell as their applicat | ion in (opto)electron | ic compon- |
| Course | S (type, r | umber of weekly contact hours | , language — if other than Ger | man) | | |
| S (3) | | | | | | |
| Method | | s essment (type, scope, langu le for bonus) | uage — if other than German, o | examination offered — if no | t every semester, informati | ion on whether |
| b) oral c) oral e d) log (a e) prese | examir examin approx entatio | nination (approx. 90 to ation of one candidate ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | each (20 to 30 minute 3 candidates (approx | - | didate) or | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachir | ng cvcl | 9 | | | | |
| | 0 . 7 | - | | | | |
| Referre | d to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| | <u>u co m</u> | | | | | |
| Module | e appea | irs in | | | | |
| | | ee (1 major) Chemistry (| (2016) | | | |
| | - | ee (1 major) Functional | | | | |
| | | ning degree Gymnasium | | | | 016) |
| | | y course MINT Teacher | | Network Bavaria (ENI | B) (2016) | |
| | - | ee (1 major) Chemistry (| | | | , |
| | | ning degree Gymnasium | | | | 020) |
| | | y course MINT Teacher | | vetwork Bavaria (ENI | B) (2020) | |
| | | ee (1 major) Functional Chemistry (2018) | | Irg ● generated 19-Apr-2025 ● | exam. | page 416 / 437 |
| uster 5 WI | i majo | c | | ord Master (120 ECTS) Chemi | | Pube 410 / 45/ |

Master's degree (1 major) Chemistry (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 417 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|---|-------------------------------|--|--|--|-----------------------------|----------------|
| Nanoso | ale Ma | terials | | | 08-PCM3-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of the | seminar "Nanoskalige | Materialien" | Institute of Physica | l and Theoretical Ch | emistry |
| ECTS | Metho | od of grading | Only after succ. con | • | | |
| 5 | | rical grade | | • | | |
| Duratio | | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sidudite | | | | |
| This module discusses advanced topics in nanoscale materials. It focuses on the structure, properties, fabricati- | | | | | | |
| | | | s and application area | | | es, labricati- |
| Intende | ed lear | ning outcomes | | | | |
| | | able to characterise na noscale materials. | noscale materials. They | y are able to name ar | nalytical methods an | d applicati- |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | rman) | | |
| S (2) + | | | | | | |
| Module | e taugh | t in: German or English | | | | |
| | | essment (type, scope, lang le for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | ion on whether |
| b) oral c) talk | examir (approx ige of a | k. 30 minutes) ssessment: German ar | e each (approx. 20 mini | utes) or | | |
| Allocat | ion of j | olaces | | | | |
| | | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulati | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | e appea | urs in | | | | |
| | | ee (1 major) Chemistry | (2016) | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | | onal Mathematics (201 | 6) | | |
| Master | 's degr | ee (1 major) Functional | Materials (2016) | | | |
| Master | 's teacl | ning degree Gymnasiur | n MINT Teacher Educat | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 016) |
| | | • | Education PLUS, Elite | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry | | | | |
| | - | | onal Mathematics (201 | 9) | | |
| | - | ee (1 major) Mathemati | - | | | , |
| | | | n MINT Teacher Educat Education PLUS, Elite | | | 020) |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 418 / 437 |



Bachelor's degree (1 major) Quantum Technology (2021) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 419 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |





Theoretical Chemistry

(25 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 420 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |



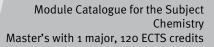


Compulsory Courses

(15 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 421 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module | e title | | | | Abbreviation | |
|----------------------------|--------------------|--|--|-----------------------------|-----------------------------|---------------|
| Basics | and Ap | plications of Quantum | Chemistry | | 08-TCM2-161-m01 | |
| Module | e coord | inator | | Module offered by | <u> </u> | |
| | | ure "Computational Ch | emistrv" | | l and Theoretical Ch | emistrv |
| ECTS | 1 | od of grading | Only after succ. con | · · · · | | |
| 5 | | rical grade | | | | |
| Duratio | · | Module level | Other prerequisites | | | |
| 1 seme | | graduate | | | | |
| Conten | | Sladuate | | | | |
| | | ntroduces students to t | ho fundamontal princir | alos of computations | al chomistry | |
| | | | | | at chemistry. | |
| | | ning outcomes | | | | |
| | | able to explain the theo emistry. | retical principles of co | mputational chemist | try and to apply mether | nods in com- |
| Course | S (type, n | umber of weekly contact hours | s, language — if other than Ger | rman) | | |
| S (2) + | Ü (2) | | | | | |
| | | e essment (type, scope, lang le for bonus) | uage — if other than German, o | examination offered — if no | ot every semester, informat | on on whether |
| | | mination (approx. 90 to | | | | |
| | | ation of one candidate | | s) or | | |
| c) oral | examin | ation in groups of up to | | | didate) or | |
| | | . 20 pages) or | | | | |
| | | n (approx. 30 minutes) | | | | |
| | | ssessment: German an | a/or English | | | |
| Allocat | ion of p | olaces | | | | |
| | | | | | | |
| Additio | onal info | ormation | | | | |
| | | | | | | |
| Worklo | ad | | - | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progra | mmes) | | |
| | | | | | | |
| Module | e appea | irs in | | | | |
| | | ee (1 major) Chemistry (| (2016) | | | |
| | | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional | | | | |
| | | ning degree Gymnasium | | | | 016) |
| | | y course MINT Teacher | | Network Bavaria (EN | B) (2016) | |
| | - | ee (1 major) Chemistry (| | ` | | |
| | - | ee (1 major) Computatio | | 9) | | |
| MALTOP | - | ee (1 major) Mathemati | - | ion DILLC Elito Notur | | |
| | | | | | | 220) |
| Master | | ning degree Gymnasiun v course MINT Teacher | | | | 020) |
| Master Supple | mentar | y course MINT Teacher | Education PLUS, Elite I | Network Bavaria (EN | | 020) |
| Master Supple Master | mentar 's degro | | Education PLUS, Elite I onal Mathematics (202 | Network Bavaria (EN | B) (2020) | D20) |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 423 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | 1 |

| | e title | | | _ | Abbreviation | |
|--|--|---|--|--|----------------------------|-----------------|
| Numer | ical Me | thods and Programmin | g | | 08-TCM3-161-m01 | |
| Module | e coord | inator | | Module offered by | J | |
| | | ture "Programmieren in | Theoretischer Che- | - | ll and Theoretical Ch | nemistry |
| ECTS | Meth | od of grading | Only after succ. co | mpl. of module(s) | | |
| 5 | | rical grade | | | | |
| Duratio | | Module level | Other prerequisites | tes | | |
| 1 seme | | graduate | | - | | |
| | | giaduale | | | | |
| | odule p | provides an introduction ation areas. | to the fundamentals | of programming in th | neoretical chemistry | and discus- |
| Intend | ed lear | ning outcomes | | | | |
| as well | as to r | able to explain and use name its application are | as. | | lly used in theoretica | al chemistry |
| | _ | number of weekly contact hours | , language — if other than Ge | erman) | | |
| S (2) + | U (2) | | | | | |
| | | 5essment (type, scope, lang ble for bonus) | uage — if other than German, | examination offered — if n | ot every semester, informa | tion on whether |
| | | x. 20 pages) or on (approx. 30 minutes) | | , , , , , , , , , , , , , , , , , , , | didate) or | |
| e) pres Langua | entations entations entations entations entations entations entrations entrations entrations entations ent | on (approx. 30 minutes) assessment: German an | d/or English | | | |
| e) pres Langua Allocat | entation age of a cion of | on (approx. 30 minutes) issessment: German an places | d/or English | | | |
| e) pres Langua Allocat | entation age of a cion of | on (approx. 30 minutes) assessment: German an | d/or English | | | |
| e) pres Langua Allocat Additic | entation age of a ion of p onal inf | on (approx. 30 minutes) issessment: German an places | d/or English | | | |
| e) pres Langua Allocat Additic Worklo | entation age of a ion of p onal inf | on (approx. 30 minutes) issessment: German an places | d/or English | | | |
| e) pres Langua Allocat Additic Worklo 150 h | entation age of a ion of p onal inf | on (approx. 30 minutes) issessment: German an places formation | d/or English | | | |
| e) pres Langua Allocat | entation age of a ion of p onal inf | on (approx. 30 minutes) issessment: German an places formation | d/or English | | | |
| e) pres Langua Allocat Additic 150 h Teachi | entation age of a ion of p onal inf pad | e | | | | |
| e) pres Langua Allocat Additic Worklo 150 h Teachi | entation age of a ion of p onal inf pad | on (approx. 30 minutes) issessment: German an places formation | | | | |
| e) pres Langua Allocat Additio 150 h Teachi Referre | entation age of a ion of p onal inf pad ng cycl ed to in | e LPOI (examination regulation | | | | |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Referre Modulo | entatic age of a ion of p onal inf pad ng cycl ed to in e appea | e LPOI (examination regulation ars in | ons for teaching-degree progr | | | |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Referre Modulo | entation age of a ion of p onal inf onal info onal info info onal info info info info info info info info | e (1 major) Chemistry (| ons for teaching-degree progr | | | |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Referre Modulo Master Master | entation age of a ion of p onal inf pad ed to in e appea 's degr 's degr | e (1 major) Chemistry (e (1 major) Mathematic | 2016) CS (2016) | ammes) | | |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Referre Module Master Master Master | entation age of a ion of p onal inf onal info onal info info onal info info info info info info info info | e (1 major) Chemistry (| 2016) cs (2016) onal Mathematics (201 | ammes) | | |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Referre Modulo Master Master Master Master | entatic age of a ion of p onal inf pad ad ad ad ad ad ad ad ad ad ad ad ad a | e LPOI (examination regulation ars in ee (1 major) Computation | (2016) (2016) (2016) (2016) (2016) (2016) (2016) (2016) (2016) (2016) (2016) (2016) (2016) (2016) (2016) | 'ammes) | | 2016) |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Teachi Teachi Moster Master Master Master Master Master | entatic age of a ion of p onal inf onal inf oad ed to in e appea 's degr 's degr 's degr 's teac | e E E E E E E E E E E E E E | (2016) (2016) (2016) (cs (2016) (cs (2016)) (cs (2016) | ammes) 16) tion PLUS, Elite Netw | vork Bavaria (ENB) (2 | 2016) |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Referro Master Master Master Master Supple | entatic age of a ion of p onal inf onal info is degr 's teac comenta | e (1 major) Computation ee (1 major) Functional hing degree Gymnasium | 2016) cs (2016) cs (2016) onal Mathematics (2016) n MINT Teacher Educa Education PLUS, Elite | ammes) 16) tion PLUS, Elite Netw | vork Bavaria (ENB) (2 | 2016) |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Referre Master Master Master Master Supple Master | entatic age of a ion of p onal inf pad ad ad ad ad ad ad ad ad ad ad ad ad a | e (1 major) Chemistry (ee (1 major) Chemistry (ee (1 major) Chemistry (ee (1 major) Chemistry (ee (1 major) Functional hing degree Gymnasium ry course MINT Teacher | (2016) cs (2016) cs (2016) onal Mathematics (2016) n MINT Teacher Educa Education PLUS, Elite (2018) | rammes) 16) tion PLUS, Elite Netw Network Bavaria (EN | vork Bavaria (ENB) (2 | 2016) |
| e) pres Langua Allocat Additic Worklo 150 h Teachi Teachi Teachi Master Master Master Master Master Supple Master Master Master Master | entatic age of a ion of p onal inf onal info is degr 's degr 's degr 's degr 's degr | e (1 major) Chemistry (e (1 major) Chemistry (e (1 major) Functional hing degree Gymnasium ry course MINT Teacher ee (1 major) Chemistry (| (2016) (2 | ammes) 16) tion PLUS, Elite Netw Network Bavaria (EN 19) | rork Bavaria (ENB) (2 | |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Module | e title | | | | Abbreviation | |
|---------------------|---------------------|--|--------------------------------|--|-----------------------------|----------------|
| Quantu | ım Dyn | amics | | | 08-TCM4-161-m01 | |
| Module | e coord | inator | | Module offered by | | |
| lecture | r of lec | ture "Quantendynamik' | I | Institute of Physical | l and Theoretical Che | emistry |
| ECTS | Metho | od of grading | Only after succ. con | · · · · · | | |
| 5 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | i | | |
| 1 seme | ster | graduate | | | | |
| Conten | Contents | | | | | |
| | | ent Schrödinger equatio adiabatic states, non-ad | | | | theorem, |
| Intende | ed lear | ning outcomes | | | | |
| in mole | ecules. | possess knowledge abo Their insight into the m theoretical chemistry. | | | | |
| Course | S (type, r | number of weekly contact hours | s, language — if other than Ge | rman) | | |
| S (2) + | Ü (2) | | | | | |
| | | Sessment (type, scope, lang Ile for bonus) | uage — if other than German, | examination offered — if no | t every semester, informati | on on whether |
| d) log (e) pres | approx entatio | ation in groups of up to . 20 pages) or n (approx. 30 minutes) ssessment: German an | | . 15 minutes per cano | didate) or | |
| Allocat | ion of _l | olaces | | | | |
| | - | | | | | |
| Additio | onal inf | ormation | | | | |
| | | | _ | | | |
| Worklo | ad | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progra | ammes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2016) | | | |
| | 0 | ee (1 major) Mathemati | . , | | | |
| | - | ee (1 major) Computatio | | 6) | | |
| | - | ee (1 major) Functional | | | | |
| | | hing degree Gymnasiun ry course MINT Teacher | | | | J10) |
| | | ee (1 major) Chemistry | | | B) (2010) | |
| | - | ee (1 major) Computatio | | 9) | | |
| | - | ee (1 major) Mathemati | | ~ | | |
| | - | hing degree Gymnasiun | - | ion PLUS, Elite Netwo | ork Bavaria (ENB) (20 | 020) |
| Master's w | ith 1 majo | r Chemistry (2018) | | urg • generated 19-Apr-2025 • ord Master (120 ECTS) Chemi | | page 426 / 437 |

Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)



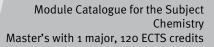


Compulsory Electives

(10 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 428 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title | | | | | Abbreviation | | | |
|--|--|-------------------------------|---|--|-----------------------------|----------------|--|--|
| Selected Topics in Theoretical Chemistry 08-TCM1-161-m01 | | | | | | | | |
| Module coordinator | | | | Module offered by | | | | |
| lecturer of lecture "Theoretische Chemi | | | mie" | Institute of Physical and Theoretical Chemistry | | emistry | | |
| ECTS | Metho | od of grading | Only after succ. con | Only after succ. compl. of module(s) | | | | |
| 5 | nume | rical grade | | | | | | |
| Duration Module level Other prerequi | | | Other prerequisites | | | | | |
| 1 semester graduate | | | | | | | | |
| Conten | ts | | | | | | | |
| This m | odule i | ntroduces students to t | he fundamental princi | oles of theoretical ch | emistry. | | | |
| | | ning outcomes | | | , | | | |
| | - | | thematical and physic | al principles underly | ing the quantum che | mical and | | |
| | | amical approaches of t | | | | | | |
| Course | S (type, r | number of weekly contact hour | s, language — if other than Ge | rman) | | | | |
| S (2) + | Ü (2) | | | | | | | |
| | | | guage — if other than German, | examination offered — if no | t every semester, informati | ion on whether | | |
| | | le for bonus) | | | | | | |
| | | mination (approx. 90 to | | | | | | |
| | | | e each (20 to 30 minute o 3 candidates (approx | | didate) or | | | |
| | | . 20 pages) or | | | | | | |
| | | n (approx. 30 minutes) | | | | | | |
| | | ssessment: German ar | id/or English | | | | | |
| Allocat | ion of _l | olaces | | | | | | |
| | | | | | | | | |
| Additio | onal inf | ormation | | | | | | |
| | | | | | | | | |
| Worklo | ad | | | | | | | |
| 150 h | | | | | | | | |
| Teachi | ng cycl | e | | | | | | |
| | | | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree progra | immes) | | | | |
| | | | | | | | | |
| Module | e appea | ars in | | | | | | |
| Master | 's degr | ee (1 major) Chemistry | (2016) | | | | | |
| | - | ee (1 major) Mathemat | | | | | | |
| Master's degree (1 major) Computational Mathematics (2016) | | | | | | | | |
| Master's degree (1 major) Functional Materials (2016) | | | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) | | | | | | | | |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | | | | |
| Master's degree (1 major) Computational Mathematics (2019) | | | | | | | | |
| | Master's degree (1 major) Computational Mathematics (2019) Master's degree (1 major) Mathematics (2019) | | | | | | | |
| Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) | | | | | | | | |
| Supple | menta | ry course MINT Teacher | Education PLUS, Elite | Network Bavaria (EN | B) (2020) | | | |
| Master | 's degr | ee (1 major) Computati | onal Mathematics (202 | 2) | | | | |
| Master's w | ith 1 majo | r Chemistry (2018) | | ırg ● generated 19-Apr-2025 ● ord Master (120 ECTS) Chemi | | page 429 / 437 | | |



Master's degree (1 major) Functional Materials (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Chemistry (2024) Master's degree (1 major) Computational Mathematics (2024) Master's degree (1 major) Mathematics (2024) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Master's degree (1 major) Functional Materials (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 430 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | | |
|--|-------------------|--|------------------------------|---|----------------------------|----------------|
| Theoretical Chemistry - Project course quantum chemistry o8-TCAP | | | | | 08-TCAP1-161-m01 | |
| Module coordinator | | | Module offered by | Module offered by | | |
| head of the research group offering the module | | | ne module | Institute of Physical and Theoretical Chemistry | | |
| ECTS | | od of grading | Only after succ. co | · · · · | | |
| 5 | 1 | successfully completed | | | | |
|) Duratio | | Module level | Other prerequisite | c | | |
| | | graduate | | 5 | | |
| 1 semester graduate Contents | | | | | | |
| | | • • • • • | | | C.1 1 | 1 1 1 |
| the Ins | titute o | ives students the oppo f Theoretical Chemistry ntum chemistry. | | | | |
| Intend | ed lear | ning outcomes | | | | |
| | | e learned some of the m | ethods typically used | l in theoretical chemi | strv and, in particula | r. in quan- |
| | | r. They are able to expla | | | | , |
| Course | S (type, r | number of weekly contact hours | , language — if other than G | erman) | | |
| P (5) | | | | | | |
| - | d of ase | Sessment (type, scope, lang | uage — if other than German | examination offered — if no | nt even semester informati | ion on whether |
| | | le for bonus) | | | st every semester, mormat | ion on whether |
| presen | tation | (approx. 30 minutes) | | | | |
| | | ssessment: German an | d/or English | | | |
| Allocat | ion of | olaces | | | | |
| | | | | | | |
| Additio | nal inf | ormation | | | | |
| | | ormation on module du | ration, block taught la | ah course with approx | x 20 working days | |
| Worklo | | | | | . 20 Wonking duys. | |
| | <u>au</u> | | | | | |
| 150 h | | | | | | |
| Teachi | ng cycl | e | | | | |
| | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ons for teaching-degree prog | rammes) | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| | - | ee (1 major) Chemistry (| | | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ee (1 major) Computatio | | | | |
| | | hing degree Gymnasium | | | | U16J |
| Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's degree (1 major) Chemistry (2018) | | | | | | |
| | - | ee (1 major) Computatio | | 19) | | |
| | - | ee (1 major) Mathemati | | | | |
| | - | ning degree Gymnasium | - | tion PLUS, Elite Netw | ork Bavaria (ENB) (20 | 020) |
| | | ry course MINT Teacher | | | B) (2020) | |
| | - | ee (1 major) Computatio | | 22) | | |
| | | | ac (a a a a) | | | |
| Master | - | ee (1 major) Mathemati | | | | |
| Master Master | 's degr | ee (1 major) Chemistry (| (2024) |) | | |
| Master Master | 's degr | - | (2024) | 24) | | |



Master's degree (1 major) Mathematics (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 432 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | | | |
|---|-------------------|--|---------------------------|----------------------------------|----------------------------|---------------|--|
| Theoretical Chemistry - Project course quantum dynamics | | | | ics | 08-TCAP2-161-m01 | | |
| Module coordinator | | | | Module offered by | Module offered by | | |
| head o | f the re | search group offering th | ne module | Institute of Physica | al and Theoretical Ch | emistry | |
| ECTS | | od of grading | | compl. of module(s) | | , | |
| | 1 | successfully completed | | | | | |
| 5 Duratio | | Module level | Other prerequis | itac | | | |
| | | | | | | | |
| 1 seme | | graduate | | | | | |
| Conten | | | | | | | |
| the Ins | titute o | ives students the oppo f Theoretical Chemistry Intum dynamics. | | | | | |
| Intend | ed lear | ning outcomes | | | | | |
| | | e learned some of the m | ethods typically us | sed in theoretical chemi | stry and, in particula | r. in quan- | |
| | | . They are able to expla | | | | · ····· | |
| Course | S (type, r | number of weekly contact hours | , language — if other tha | n German) | | | |
| P (5) | | | | | | | |
| - | d of as | Sessment (type, scope, langu | lage — if other than Gorn | nan examination offered — if n | ot every semester informat | ion on whethe | |
| | | le for bonus) | lage – If other than dem | nan, examination onered — in n | ot every semester, mormat | | |
| presen | tation | (approx. 30 minutes) | | | | | |
| | | ssessment: German and | d/or English | | | | |
| Allocat | ion of I | olaces | | | | | |
| | | | | | | | |
| Additio | nal inf | ormation | | | | | |
| | | ormation on module du | - ration: block taugh | t lab course with appro | x 20 working days | | |
| | | | | | A. 20 WOIKINg udys. | | |
| Worklo | | | | | | | |
| 150 h | | | | | | | |
| Teachi | ng cycl | e | | | | | |
| | | | | | | | |
| Referre | ed to in | LPO I (examination regulation | ns for teaching-degree p | rogrammes) | | | |
| | | | | | | | |
| Module | e appea | ars in | | | | | |
| Master | 's degr | ee (1 major) Chemistry (| 2016) | | | | |
| Master | 's degr | ee (1 major) Mathematio | cs (2016) | | | | |
| Master | 's degr | ee (1 major) Computatio | onal Mathematics (| 2016) | | | |
| | | hing degree Gymnasium | | | | 016) | |
| | | ry course MINT Teacher | | lite Network Bavaria (EN | IB) (2016) | | |
| | - | ee (1 major) Chemistry (| | () | | | |
| | - | ee (1 major) Computatio | | 2019) | | | |
| | - | ee (1 major) Mathematio hing degree Gymnasium | - | Ication PLUS Flite Notw | ork Bayaria (FNR) (a | 020) | |
| | | ry course MINT Teacher | | | | 020) | |
| | | ee (1 major) Computatio | | | , (2020) | | |
| | - | ee (1 major) Mathematic | | | | | |
| | - | ee (1 major) Chemistry (| | | | | |
| | - | ee (1 major) Computatio | | 2024) | | | |
| Aaster's w | ith 1 majo | r Chemistry (2018) | | lürzburg • generated 19-Apr-2025 | | page 433 / 4 | |
| | | | reg. da | ta record Master (120 ECTS) Chem | 16 - 2010 | | |



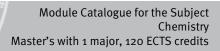
Master's degree (1 major) Mathematics (2024)

Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 434 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Module title Abbreviation | | | | | |
|--|--|---|--|---|--|
| Drug design 08-MCM3-172-m01 | | | | | |
| Module coordinator | | | | Module offered by | <u> </u> |
| lecturers Pharmazeutische Chemie (Pharmaceutical Che- mistry) | | | armaceutical Che- | Institute of Pharmacy and Food Chemistry | |
| ECTS | Metho | od of grading | Only after succ. con | npl. of module(s) | |
| 5 | nume | rical grade | | | |
| Duration Module level Other prerequisites | | | | | |
| 1 seme | ster | graduate | | | |
| Conten | Its | | | | |
| This m | odule d | iscusses advanced topic | s in natural product (| chemistry and biolog | gical chemistry. |
| Intend | ed learı | ning outcomes | | | |
| Studer | nts are a | ble to discuss advanced | topics in natural pro | duct chemistry and | biological chemistry. |
| | | umber of weekly contact hours, l | · · · | | |
| S (2) + | | | | | |
| • • | • • | t in: German or English | | | |
| | | e ssment (type, scope, langua le for bonus) | ge — if other than German, | examination offered — if no | ot every semester, information on whether |
| presen | tation (| approx. 30 minutes) with | discussion | | |
| Langua | age of a | ssessment: German and, | /or English | | |
| Allocat | ion of p | olaces | | | |
| ted acc cinal C gree pr sters; a studen ber of s | cording hemisti ogramr among a ts of th subject | to the same number of s y) as their focus will be g ne Biochemie (Biochemis applicants with the same e Master's degree progra | ubject semesters; stu given preferential con stry): Places will be a number of subject s mme MINT-Lehramt I cants with the same | udents who have cho isideration. 6 places llocated according to emesters, places wil PLUS: Places will be number of subject se | nemistry): Places will be alloca- osen Medizinische Chemie (Medi- for students of the Master's de- o the number of subject seme- l be allocated by lot.2 places for allocated according to the num- emesters, places will be allocated ecome available. |
| Additio | onal inf | ormation | | | |
| | | | | | |
| Worklo | ad | | | | |
| 150 h | | | | | |
| Teachi | ng cycl | e | | | |
| | | | | | |
| Referre | ed to in | LPO I (examination regulations | s for teaching-degree progra | immes) | |
| | | | | | |
| Modul | e appea | irs in | | | |
| Supple Master Master | ementar 's degro 's degro | ning degree Gymnasium I y course MINT Teacher E ee (1 major) Chemistry (2 ee (1 major) Biochemistry | ducation PLUS, Elite 018) 1 (2019) | Network Bavaria (EN | |
| | | y course MINT Teacher E | | | |





Thesis (30 ECTS credits)

| Master's with 1 major Chemistry (2018) | JMU Würzburg • generated 19-Apr-2025 • exam. | page 436 / 437 |
|--|--|----------------|
| | reg. data record Master (120 ECTS) Chemie - 2018 | |

| Modul | e title | | | | Abbreviation | |
|---------------------------------------|--|--|------------------------------|-----------------------------|---|--|
| Master-Thesis Chemistry 08-MA-161-m01 | | | | | | |
| Module coordinator Module o | | | | Module offered by | l | |
| degree | progra | mme coordinator Chemi | e (Chemistry) | Faculty of Chemistr | y and Pharmacy | |
| ECTS | Meth | od of grading | Only after succ. con | npl. of module(s) | | |
| 30 | nume | rical grade | | | | |
| Duratio | on | Module level | Other prerequisites | | | |
| 1 seme | ster | graduate | Where applicable, s | pecific modules as s | specified by supervisor. | |
| Conten | its | | | · | · · · · | |
| | | ives students the oppor scientific methods they | | | problem within a given time frame | |
| Intend | ed lear | ning outcomes | | | | |
| | | able to conduct research to present the results of | | | the principles of good scientific | |
| Course | S (type, r | number of weekly contact hours, | language — if other than Ger | rman) | | |
| No cou | rses as | signed to module | | | | |
| | | S essment (type, scope, langu ole for bonus) | age — if other than German, | examination offered — if no | ot every semester, information on whether | |
| | | is (approx. 60 to 80 pag ssessment: German and | | | | |
| Allocat | ion of | places | | | | |
| Additio | onal inf | ormation | | | | |
| Time to | o comp | lete: 6 months. | | | | |
| Worklo | | | _ | | | |
| 900 h | | | - | | | |
| Teachi | ng cycl | e | _ | | | |
| | | | | | | |
| Referre | Referred to in LPO I (examination regulations for teaching-degree programmes) | | | | | |
| | | | | | | |
| Module | e appea | ars in | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 2016) | | | |
| | Master's degree (1 major) Chemistry (2018) | | | | | |
| Master | 's degr | ee (1 major) Chemistry (2 | 2024) | | | |