Faculty of Chemistry:

On 17.07.2019, following the resolution passed by the Faculty Council of the Faculty of Chemistry dated 17.07.2019, the presidential board of University of Göttingen approved the ninth amendment to the examination and study regulations for the consecutive Master's degree programme in “Chemistry” in the version contained in the announcement dated 07.10.2011 (official announcements I no. 10/2011, p. 684), last amended by resolution of the presidential board dated 26.03.2019 (official announcements I no. 16/2019 p. 189), (§ 44 section 1 sentence 2 NHG in the version of the announcement dated 26.02.2007 (Nds. GVBI (Lower Saxony Law and Official Gazette) p. 69), last amended by Article 1 of the Act dated 11.09.2019 (Nds. GVBI (Lower Saxony Law and Official Gazette) p. 261); § 37 section 1 sentence 3 no. 5 b), § 44 section 1 sentence 3 NHG).

Examination and study regulations
for the consecutive Master's degree programme in “Chemistry”
at the University of Göttingen

Table of Contents

§ 1 Scope

(1) The "General examination regulations for bachelor and Master's degree programmes, as well as other courses and degrees offered at the University of Göttingen" (APO), apply in their respectively valid forms to the Master's degree programme in "Chemistry" at the University of Göttingen.

(2) These regulations stipulate the additional provisions for the consecutive Master's degree programme in "Chemistry".

§ 2 Aims of the course of studies

(1) [1]Building on a bachelor degree programme in Chemistry, the course prepares students for working as independent chemists in research and application-oriented occupational fields. [2]The master programme is characterised by its pronounced focus on research. [3]The extensive course of studies with the highest level of academic content provides thorough scientific specialisation as well as methodological knowledge and experimental skills that can be applied when solving challenging chemical problems independently.

(2) [1]The Master examination will ascertain whether the examinee has indeed acquired the specialised knowledge and key skills required for the purpose of the degree programme, understands the relevant connections of the subject, and possesses the ability to apply scientific methods and insights. [2]The Master examination is a professional and research-oriented degree, which, in particular, creates the foundation for independent scientific work as part of doctoral studies.

§ 3 Academic degree

Once the Master examination is passed, the University of Göttingen awards the university degree "Master of Science" (abbreviated: "M.Sc.").

§ 4 Recommended prior knowledge

[1]Sufficient proficiency in the English language is recommended as most of the specialised literature for Chemistry is written in English. [2]Individual optional required modules are offered only in English. [3]Applicants whose knowledge of English is slight are advised to engage in appropriate learning before beginning the course of studies.

§ 5 Study and examination advice

(1) The Central Office of Student Affairs of University of Göttingen offers advice on general questions regarding the eligibility and admissions for a course and the subjects of study.

(2) [1]Course-related subject-specific guidance is provided by the dean of the Faculty of Chemistry or by the subject-specific advisors appointed by the Faculty. [2]The module managers and the lecturers in the individual courses will also provide advice on specific questions pertaining to the individual modules and courses. [3]The specialised study advisory service supports the students in designing their course of studies and study focus and is intended, in particular, to provide assistance in the event of failed examinations.

(3) The chairperson of the examination board for the bachelor and consecutive Master's degree programme in “Chemistry” will advise on matters related to the examination.

(4) The office of the dean of studies will conduct an introductory event for the Master's degree programme at the start of every semester.

§ 6 Examination board

(1) [1]The examination board has five members, who are appointed by the respective group representatives in the Faculty Council of the Faculty of Chemistry, three members of the professoral group (each of whom is a member of the Institutes for Inorganic Chemistry, Organic and Biomolecular Chemistry and Physical Chemistry), one member of the employee group and one member of the students’ union. [2]At the same time, at least one representative is appointed for each member.

(2) The examination board will choose a chairperson and their deputy from the professoral group.

(3) [1]The examination board can draft proposals for quality assurance and required amendments of the present regulations. [2]Before they are passed on to the Faculty Council, they must be submitted to the relevant Advisory Board for questions relating to teaching and learning for an opinion.

§ 7 Module examinations: registration and withdrawal

(1) [1]The registration for written module examinations is completed electronically within the period specified by the examination board. [2]Withdrawal without stating reasons (withdrawal) is possible

up to a day before the examination date, in as far as the time period between the deadline for registration and the examination date is more than one day. [3]Withdrawal is otherwise excluded.

(2) [1]The registration for oral module examinations is completed electronically within the period specified by the examination board. [2]Withdrawal without stating reasons (withdrawal) is possible up to seven days before the examination date, in as far as the time period between the deadline for registration and the examination date is more than seven days. [3]Withdrawal is otherwise excluded.

(3) [1]The registration for examinations during the teaching period and practical module examinations is completed electronically within the period specified by the examination board. [2]Withdrawal without stating reasons (withdrawal) is possible up to two weeks before the examination date – which is usually the start of the internship – provided the time period between the deadline for registration and the start of the examination period is more than two weeks. [3]Withdrawal is otherwise excluded.

(4) [1]Registration for other examinations during the teaching period must take place at the start of seminars. [2]Withdrawal from papers is possible up to the announcement of the paper's topic and withdrawal from presentations and co-presentations up to fourteen days before the date of presentation, provided the time period between the deadline for registration and the examination date is more than two weeks. [3]Withdrawal is otherwise excluded.

§ 8 Admission to courses with a restricted number of participants; qualifications for entry to practical laboratory courses

(1) For admission to events (e.g., modules, courses) with a restricted number of places, registrations will be considered according to ranking groups in the following sequence when the registrations exceed the number of places and no identical parallel seminars can be offered:

a. Registration of students for whom the course is a compulsory or optional required course;
b. Registration of students for whom the course is an optional course;
c. Registration of students in other courses of study who are entitled to attend the course as part of their area of professionalisation;
d. Registration of students who wish to attend the course as an additional course;
e. Other registrations of students.

(2) [1]Students who are about to complete their academic studies or who are attending the subject semester in which the module is offered will be given precedence within the individual ranking groups according to section 1; students, who for reasons not attributable to themselves, were unable to receive a place in the previous semester will be given the same precedence. [2]In the event of ranking parity, precedence will be given to students for whom the enrollment to the course is a requirement for attendance in another course in their degree programme or the

module package. [3]The date of registration and then a lottery will be decisive in cases of rank parity.

(3) The procedure must be announced in advance with sufficient notice.

(4) [1]In the event that all students within ranking groups specified under section 1 letters a. to c. in a semester cannot be considered for a course, the Faculty of Chemistry shall specify a sufficiently higher number of places for the next semester within the scope of what is possible in terms of staff and infrastructure. [2]This shall not apply in the event that the expected number of participants will most probably permit consideration of the students assigned to ranking groups as specified in section 2 letters a. to c.

(5) [1]Requirement for the general admission to practical laboratory courses is basically prior participation in the respective safety training. [2]For safety reasons, a precondition for admission to individual laboratory experiments is a colloquium, where it is determined whether the student is sufficiently informed about the practical procedure of the respective experiment and its background.

§ 9 Reassessment of examinations; mandatory study advice

(1) Failed module examinations can be retaken three times.

(2) Anyone who has failed a second re-examination in a compulsory module will be admitted to the third re-examination only after having received mandatory study advice.

(3) [1]In the Master's degree programme in “Chemistry”, up to two module examinations passed within the standard course length can be repeated once each for the purpose of grade improvement.. [2]At the request of the student, the grade improvement may be limited to partial examinations. [3]A re-examination for grade improvement must take place no later than the end of the next semester following the announcement of the first passing. The repetition cannot result in any deterioration of the grade.

§ 10 Structure of the course of studies; standard course length

(1) The course of studies commences in the winter or the summer semester.

(2) The standard course length is four semesters:

(3) The consecutive Master's degree programme in "Chemistry" cannot be attended on a part-time basis.

(4) The course of studies comprises 120 credits (ECTS credits; in short: C), which are distributed as follows:

a. for the degree programme 78 C,
b. for the area of professionalisation 12 C and
c. for the master thesis 30 C.

(5) [1]These compulsory modules, optional required modules and optional modules are specified in the module overview (Appendix 1). [2]It is at the discretion of the student to decide the times and order in which the modules are attended, provided the qualifications for entry to the individual modules and courses are adhered to. [3]For recommendation on the appropriate course of studies structure, please refer to the schedule for the periods of studies enclosed in appendix II. [4]The module catalogue and module handbook are published separately in a common electronic version (digital module directory). They form part of these regulations, in as far as the modules are itemised in the module overview (appendix I).

(6) [1]In the degree programme, the students complete courses covering all aspects of chemistry, which include lectures on special topics of inorganic, organic, physical and applied chemistry with a total rating of 24 C and two method modules on modern analysis techniques with a total rating of 6 C. [2]Advanced internship modules and lectures on specialisation with a total rating of 48 C can be chosen additionally. [3]In the area of professionalisation, modules with a rating of 12 C, for which natural science modules are offered in addition to practical modules of the four subject areas theoretical chemistry, biomolecular chemistry, catalysis chemistry and macromolecular chemistry, must be completed successfully. [4]Of these 12 C, up to 6 C can be obtained in the form of freely selectable key competence modules.

(7) [1]It is possible to complete part of the course of studies abroad. [2]There are agreements on student exchange programmes with a number of different universities abroad. [3]The faculty makes these public in a suitable manner. [4]Results awarded abroad are recognised under the provisions of APO. [5]For this purpose, a 'learning agreement' is concluded before the start of the planned period abroad. [6]This should only include courses and degrees offered at the university abroad, which

a) correspond essentially to the qualification standard of a Master's degree programme,

b) correspond to the qualification objectives of the Master's degree programme in "Chemistry" and

c) are not included in a module examination that has already been completed successfully, or will be completed before the start of the period abroad.

[7]The examination board takes decisions about the learning agreement. [8]It is strongly recommended that a subject-specific advisory service be provided before taking up study abroad and preparing for the learning contract.

§ 10 a Subject-specific examination types

Besides the examination components allowed according to the provisions of APO, the following subject-specific examination components can be planned:

Results log:

[1]In a results log, the candidate should document in writing independent contributions to the planning, execution and evaluation of practical laboratory experiments and present the results in a technically appropriate form in writing. If necessary, he or she may refer to the experiment protocols that have already been tested as part of the examination components rendered in advance. [2]The results log will be assessed by the examiner heading the laboratory classes.

§ 11 Admission to the Master thesis

(1) As a requirement for admission to the master thesis, all modules of the degree programme with a total rating of 60 C must be completed successfully.

(2) [1]The written application for admission to the master thesis must be submitted to the responsible examination board. [2]The following material must be enclosed with the application:

a) proof of fulfilment as concerns the requirements specified under section 1,
b) proposal of the topic for the master thesis,
c) a proposal for the first academic advisor or the second academic advisor,
d) written confirmation of the first academic advisor and the second academic advisor,
e) a declaration specifying that the master examination in the Master's degree programme in “Chemistry” has not been failed definitively or registered as definitively failed in the same or similar Master's degree programme at a domestic or foreign university.

[3]The proposals under letters b) and c) as well as the proof as specified under letter d) are unnecessary if the student provides assurance that he or she has been unable to find an academic advisor.

(3) [1]The examination board shall decide on admission. [2]This should be rejected if the qualifications for entry are not fulfilled or the master examination in the Master's degree programme in “Chemistry” or a same or similar Master's degree programme at a domestic or foreign university has been definitively failed or regarded as definitive failing.

§ 12 Master thesis

(1) [1]In the written master thesis, the candidate should prove that she or he can process and present a challenging chemical problem independently in accordance with scientific methods within the allotted time. [2]The master thesis can be completed in one of the areas of “inorganic chemistry”, “organic chemistry” and “physical chemistry” or in the selected elective (“biomolecular chemistry”, “catalysis chemistry”, “macromolecular chemistry”, “theoretical chemistry”).

(2) [1]In general, the master thesis should be written in the fourth subject semester of the Master's degree programme. [2]The provisional working topic of the master thesis must be agreed with the supervisor to be proposed and presented to the responsible examination board with confirmation

from the second supervisor to be proposed. [3]Should a candidate be unable to find a supervisor, the responsible examination board will appoint an academic advisor and a topic. [4]The candidate's view should be considered in choosing the topic. [5]The right to make a proposal for the choice of topic does not constitute a legal right. [6]The Examination Office issues the topic of the master thesis under the auspices of the chairperson of the examination board. [7]The time of issue must be recorded.

(3) [1]The processing time for the master thesis is six months. [2]Upon application of the candidate, the examination board concerned can extend the deadline for submitting the thesis by a maximum of 3 months, subject to agreement with the supervisor and the existence of an important reason that cannot be attributed to the candidate. [3]An important reason normally exists in the case of an illness that is to be notified immediately and demonstrated by producing a medical certificate.

(4) [1]The topic can be returned only once and only within the first 4 weeks of the time allotted for completing the thesis. [2]A new topic must be agreed upon immediately, but no later than within 4 weeks. [3]In the event that the master thesis is repeated, the topic may be returned only in accordance with sentence 1 if the examinee has not resorted to this option in the first submission of the master thesis.

(5) [1]Two copies of the master thesis must be submitted to the Examination Office concerned within the time allotted. [2]It should also be submitted in an electronic form according to more specific regulation of the examination board. [3]The time of submission should be recorded. [4]Upon submission, the candidate should declare in writing that he or she has independently compiled the work and has not used any sources and tools other than those specified.

(6) [1]The office of examinations will pass the master thesis to the first supervisor and to the second supervisor who will act as independent reviewers. [2]Each reviewer will give a grade.

(7) The duration of the application procedure should not exceed six weeks.

§ 13 Grade point average of the master examination

(1) The master examination is passed, if at least 120 credits were acquired and all of the required module examinations as well as the master thesis have been passed.

(2) [1]Module examinations for modules in the area of key competencies, except those modules where key competencies are acquired only partly and integratively, will not be included in the calculation of the grade point average of the master examination by converting passed and graded module examinations into ungraded module examinations. [2]Conversion in the examination management system takes place at the latest before the transcript of records (master) is issued or before changing the university.

(3) The grade point average "with distinction" is awarded if the master thesis is graded 1.0 and the current average grade of the master examination is at least 1.4.

§ 14 Entry into force; interim regulations

(1) This regulation enters into force retroactively following publication in the official announcements of the University of Göttingen as per 01.10.2011.

(2) [1]Students who commenced their course of studies before these examination and study regulations came into force and who have remained enrolled in the consecutive Master's degree programme in “Chemistry” without interruption will be examined, upon application, in accordance with the examination regulations for the Bachelor’s and Master's degree programme in Chemistry of the University of Göttingen in the version of the announcement dated 29.09.2006 (official announcements no. 24/2006 p. 2110, last amended by resolution of the presidential board dated 17.06.2009 (official announcements 17/2009 p. 1652), and the supplementary study regulations issued for the bachelor and Master's degree programme in Chemistry in the version of the announcement dated 29.09.2006 (official announcements no. 24/2006 p. 2142), last amended by resolution of the presidential board dated 17.06.2009 (official announcements 17/2009 p. 1674). The application should be made within one year after the present regulations enter into force. [2]In the event that upon application according to sentence 1, the examination and study regulations shall apply in the version in place before these regulations came into force, this will not apply to module overview, module catalogue and the module handbook for examinations that remain to be taken, unless preventing a breach of trust with a student would necessitate a different decision by the examination board. [3]This different decision is possible especially in the cases in which a module examination can be retaken or a compulsory module or an optional required module was changed substantially or removed. [4]The examination board may introduce general regulations for these cases.

(3) [1]Students who commenced their course of studies before an amendment to these examination and study regulations came into force and who have remained enrolled therein without interruption will be examined on the basis of the examination and study regulations in place before the amendments came into force. [2]In the case of pending examinations, this does not apply to module overviews and descriptions, unless the legal entitlements of a student calls for a different decision by the examination board. [3]A different decision can be reached especially in cases where an examination component can be repeated, or a compulsory or optional required module has changed significantly or been cancelled. [4]The examination board may introduce general regulations for these cases. [5]Examinations based on a version valid prior to the coming into force of an amendment to the existing examination and study regulations will be conducted for the last time in the fourth semester following the amendment has come into force.

[6]On application, students affected by sentence 1 shall be examined in general on the basis of the amended regulations.

Appendix I: Module directory

The sum of 120 C must be successfully completed following the regulations below.

1. Professional studies

Optional required modules worth overall 78 C must be successfully completed according to the following regulations.

a. Methods

Either the two modules M.Che.1130 and M.Che.1131 or the two modules M.Che.1132 and M.Che.1133 worth overall 6 C must be successfully completed:

M.Che.1130	Moderne Methoden der Chemie - Beugungsmethoden	3 C / 2 WLH
M.Che.1131	Moderne Methoden der Chemie – Praktikum Beugungsmethoden	3 C / 3 WLH
M.Che.1132	Moderne Methoden der Chemie – Spektroskopie und Magnetismus	3 C / 2 WLH
M.Che.1133	Moderne Methoden der Chemie – Praktikum Spektroskopie und Magnetismus	3 C / 3 WLH

b. Special inorganic chemistry

Two of the following six optional required modules worth overall 6 C must be successfully completed:

M.Che.1111	Bioanorganische Chemie	3 C / 3 WLH
M.Che.1114	Hauptgruppenmetallorganische Chemie	3 C / 3 WLH
M.Che.1115	Mechanistic Organometallic Chemistry	3 C / 3 WLH
M.Che.1116	Aktuelle Forschungsschwerpunkte in der Anorganischen Chemie 1	3 C / 3 WLH
M.Che.1117	Aktuelle Forschungsschwerpunkte in der Anorganischen Chemie 2	3 C / 3 WLH
M.Che.1119	Moderne Festkörperchemie	3 C / 3 WLH

c. Special organic chemistry

Two of the following six optional required modules worth overall 6 C must be successfully completed:

M.Che.1211	Chemie der Naturstoffe	3 C / 3 WLH
M.Che.1212	Synthesemethoden in der Organischen Chemie	3 C / 3 WLH
M.Che.1213	Heterocyclenchemie	3 C / 3 WLH
M.Che.1216	Aktuelle Themen der Organischen Chemie	3 C / 3 WLH
M.Che.1217	Moderne Massenspektrometrie und Gasphasenchemie	3 C / 3 WLH
M.Che.1218	Ringvorlesung „Moderne organische und biomolekulare	

	Chemie“	3 C / 3 WLH

d. Special physical chemistry

One of the following five optional required modules worth 6 C must be successfully completed:

M.Che.1311	Schwingungsspektroskopie und zwischenmolekulare Dynamik	6 C / 4 WLH
M.Che.1313	Elektronische Spektroskopie und Reaktionsdynamik	6 C / 4 WLH
M.Che.1314	Biophysikalische Chemie	6 C / 4 WLH
M.Che.1315	Chemical Dynamics at Surfaces	6 C / 4 WLH
M.Che.1316	Aktuelle Themen der Physikalischen Chemie	6 C / 4 WLH

e. Applied chemistry

One of the following five optional required modules worth 6 C must be successfully completed:

M.Che.2402	Quantenchemie	6 C / 5 WLH
M.Che.2502	Biomolekulare Chemie	6 C / 5 WLH
M.Che.2602	Moderne Entwicklungen der Katalysechemie	6 C / 5 WLH
M.Che.2702	Spezielle makromolekulare Chemie	6 C / 5 WLH
M.Che.2404	Dynamik und Simulation	6 C / 5 WLH

f. Thematic specialization

Modules worth overall at least 48 C must be successfully completed and can be chosen from the following list of modules as well as those modules listed in letters a though e which were not already completed:

M.Che.2503	Praktikum „Biomolekulare Chemie“	6 C / 6 WLH
M.Che.2603	Praktikum „Katalysechemie“	6 C / 8 WLH
M.Che.2703	Praktikum „Makromolekulare Chemie“	6 C / 8 WLH
M.Che.1214	NMR für Strukturchemie und Strukturbiologie I	3 C / 3 WLH
M.Che.1215	NMR für Strukturchemie und Strukturbiologie II	3 C / 3 WLH
M.Che.1121	AC-Forschungspraktikum 1	6 C / 9 WLH
M.Che.1122	AC-Forschungspraktikum 2	6 C / 9 WLH
M.Che.1134	Aktuelle Themen der anorganischen Chemie	3 C / 2 WLH
M.Che.1205	Praktikum „Methoden der modernen organischen und biomolekularen Chemie (MeMo)“	9 C / 12 WLH
M.Che.1221	OC-Forschungspraktikum 1	6 C / 9 WLH
M.Che.1222	OC-Forschungspraktikum 2	6 C / 9 WLH
M.Che.1304	PC Experimentieren - Spektroskopie	6 C / 7 WLH
M.Che.1305	PC Experimentieren – Kinetik	6 C / 7 WLH
M.Che.1307	PC Experimentieren – Festkörper	6 C / 7 WLH

M.Che.1308	PC-Experimentieren – Oberflächencharakterisierung und Vakuumtechnik	6 C / 7 WLH
M.Che.1321	Physikalisch-chemisches Forschungspraktikum	6 C / 10 WLH
M.Che.1322	IPC-Forschungspraktikum	6 C / 10 WLH
M.Che.1331	Kinetik und Dynamik	3 C / 3 WLH
M.Che.1332	Reaktionsdynamik in der Gasphase	3 C / 2 WLH
M.Che.3907	Einführung in die Synchrotron- und Neutronenstreuung	3 C / 3 WLH

Modules from the other mathematical-natural scientific faculties (with the exception of modules from psychology) may also be chosen; in order to do so, an application must be submitted to the Dean of Studies at the Faculty of Chemistry. The application may be rejected without giving reasons; the student possesses no legal claim as to being granted permission.

2. Area of professionalisation

Modules worth overall at least 12 C must be successfully completed according to the following regulations.

a. Optional required modules

Modules worth overall at least 6 C must be successfully completed from the list of modules given below. Modules from the other mathematical-natural scientific faculties (except for modules from psychology) may also be chosen if applied for at the Dean of Studies at the Faculty of Chemistry. The application may be rejected without giving reasons and there exists no legal claim as to being granted permission.

aa. The following modules from No. 1 letter f ("Thematic specialization") may be chosen if they were not completed before:

M.Che.2503	Praktikum „Biomolekulare Chemie“	6 C / 6 WLH
M.Che.2603	Praktikum „Katalysechemie“	6 C / 8 WLH
M.Che.2703	Praktikum „Makromolekulare Chemie“	6 C / 8 WLH
M.Che.1214	NMR für Strukturchemie und Strukturbiologie I	3 C / 3 WLH
M.Che.1215	NMR für Strukturchemie und Strukturbiologie II	3 C / 3 WLH
M.Che.1121	AC-Forschungspraktikum 1	6 C / 9 WLH
M.Che.1122	AC-Forschungspraktikum 2	6 C / 9 WLH
M.Che.1134	Aktuelle Themen der anorganischen Chemie	3 C / 2 WLH
M.Che.1205	Praktikum „Methoden der modernen organischen und biomolekularen Chemie (MeMo)“	9 C / 12 WLH
M.Che.1221	OC-Forschungspraktikum 1	6 C / 9 WLH
M.Che.1222	OC-Forschungspraktikum 2	6 C / 9 WLH
M.Che.1304	PC Experimentieren - Spektroskopie	6 C / 7 WLH
M.Che.1305	PC Experimentieren – Kinetik	6 C / 7 WLH

M.Che.1307	PC Experimentieren – Festkörper	6 C / 7 WLH
M.Che.1308	PC-Experimentieren – Oberflächencharakterisierung und Vakuumtechnik	6 C / 7 WLH
M.Che.1321	Physikalisch-chemisches Forschungspraktikum	6 C / 10 WLH
M.Che.1322	IPC-Forschungspraktikum	6 C / 10 WLH
M.Che.1331	Kinetik und Dynamik	3 C / 3 WLH
M.Che.1332	Reaktionsdynamik in der Gasphase	3 C / 2 WLH
M.Che.3907	Einführung in die Synchrotron- und Neutronenstreuung	3 C / 3 WLH

bb. Modules from the following list:

M.Che.3902	Industriepraktikum	6 C
M.Che.3910	Tätigkeit in der studentischen Selbstverwaltung der Fakultät für Chemie	4 C
M.Che.3911	Tätigkeit in der akademischen Selbstverwaltung der Fakultät für Chemie	4 C
M.Che.3998	Organisation und Durchführung wissenschaftlicher Veranstaltungen	3 C / 4 WLH

cc. Modules from the Bachelor's degree programme "Chemistry" may be chosen if they were not already completed as part of the previous degree programme:

B.Che.3903	Umweltchemie	3 C / 2 WLH
B.Che.3914	Computergestützte Datenanalyse	6 C / 6 WLH
B.Che.3901	Computeranwendungen in der Chemie	4 C / 6 WLH
B.Che.3912	Berufsorientierendes Praktikum Wirtschaft	4 C
B.Che.3915	Chemie der Erkenntnis	3 C / 2 WLH
B.Che.3916	Gruppen leiten – aber wie?	3 C / 2 WLH

b. Key competencies

Modules worth overall no more than 6 C may be chosen from the module handbook for cross-faculty (university-wide) key competencies as well as from the course directory of the Central Institution for Languages and Key Competencies (ZESS) in the respective version last published in the official announcements.

3. Master's thesis

The successful completion of the Master's thesis is worth 30 C.

Appendix II: Sample curricula

A. Start of studies during the winter semester

Sem. **Σ C**	**Fachstudium „Chemie“ (78 C)**						**Professionalisierungs-bereich (Schlüssel-kompetenzen) (12 C)**
	Modul	Modul	Modul	Modul	Modul	Modul	Modul
1. **Σ 30 C**	M.Che.1132 Moderne Methoden der Anorganischen Chemie – Vorlesung und Übung Spektroskopie und Magnetismus 3 C (Wahlpflicht)	M.Che.1133 Moderne Methoden der Anorganischen Chemie – Praktikum Spektroskopie und Magnetismus 3 C (Wahlpflicht)	M.Che.1212 Synthesemethoden 3 C (Wahlpflicht)	M.Che.1305 PC-Experimentieren Kinetik 6 C (Wahlpflicht)	M.Che.1315 Chemical Dynamics at Surfaces 6 C (Wahlpflicht)	M.Che.1111 Bioanorganische Chemie 3 C (Wahlpflicht)	M.Che.3902 Industriepraktikum 6 C (Wahlpflicht)
2. **Σ 30 C**	M.Che.2502 Biomolekulare Chemie 6 C (Wahlpflicht)	M.Che.1119 Moderne Festkörperchemie 3 C (Wahlpflicht)	M.Che.1205 Praktikum „Moderne Methoden der Organischen und Biom 9 C (Wahlpflicht)	M.Che.1215 NMR für Strukturchemie und Strukturbiologie II 3 C (Wahlpflicht)	M.Che.1218 Ringvorlesung „Moderne organische und biomolekulare Chemie“ 3 C (Wahlpflicht)		SK.FS.E-FN-C1-1.Mp Scientific English für Naturwissenschaftler 6 C (Wahlpflicht)
3. **Σ 30 C**	M Che.1213 Heterocyclen-chemie 3 C (Wahlpflicht)	M.Phy.502 Forschungsschwer punkt Biophysik und Physik komplexer Systeme 6 C (Wahlpflicht)	M.Che.1321 PC-Forschungs-praktikum 1 6 C (Wahlpflicht)	M.Che.1221 OC-Forschungs-praktikum 1 6 C (Wahlpflicht)	M.Che.1214 NMR für Strukturchemie und Strukturbiologie I 3 C (Wahlpflicht)	M.Che.1121 AC-Forschungs-praktikum 1 6 C (Wahlpflicht)	
4. **Σ 30 C**	Master-Arbeit 30 C						
Σ 120 C	**78 C (+ 30 C)**						**12 C**

B. Start of studies during the summer semester

Sem. **Σ C**	**Fachstudium „Chemie“ (78 C)**						**Professionalisierungs-bereich (Schlüssel-kompetenzen) (12 C)**
	Modul	Modul	Modul	Modul	Modul	Modul	Modul
1. **Σ 30 C**	M.Che.2502 Biomolekulare Chemie 6 C (Wahlpflicht)	M.Che.1119 Moderne Festkörperchemie 3 C (Wahlpflicht)	M.Che.1205 Praktikum „Moderne Methoden der Organischen und Biom 9 C (Wahlpflicht)	M.Che.1315 Chemical Dynamics on Surfaces 6 C (Wahlpflicht)			SK.FS.E-FN-C1-1.Mp Scientific English für Naturwissenschaftler 6 C (Wahlpflicht)
2. **Σ 30 C**	M Che.1213 Heterocyclen-chemie 3 C (Wahlpflicht)	M.Phy.502 Forschungsschwer-punkt Biophysik und Physik komplexer Systeme 6 C (Wahlpflicht)	M.Che.1321 PC-Forschungs-praktikum 1 6 C (Wahlpflicht)	M.Che.1132 Moderne Methoden der Anorganischen Chemie – Vorlesung und Übung Spektroskopie und Magnetismus 3 C (Wahlpflicht)	M.Che.1121 AC-Forschungs-praktikum 1 6 C (Wahlpflicht)	M.Che.1122 AC-Forschungs-praktikum 2 6 C (Wahlpflicht)	
3. **Σ 30 C**	M.Che.1114 Hauptgruppen-metallorganische Chemie 3 C (Wahlpflicht)	M.Che.1221 OC-Forschungs-praktikum 1 6 C (Wahlpflicht)	M.Che.1133 Moderne Methoden der Anorganischen Chemie – Praktikum Spektroskopie und Magnetismus 3 C (Wahlpflicht)	M.Che.1218 Ringvorlesung “Moderne organische und biomolekulare Chemie“ 3 C (Wahlpflicht)	M.Che.1222 OC-Forschungs-praktikum 2 6 C (Wahlpflicht	M. Che.1215 NMR für Strukturchemie und Strukturbiologie II 3 C (Wahlpflicht)	M.Che.3902 Industriepraktikum 6 C (Wahlpflicht)
4. **Σ 30 C**	Master-Arbeit 30 C						
Σ 120 C	**78 C (+ 30 C)**						**12 C**

C. Course of studies exclusively taught in German (start of studies: summer semester)

Sem. **Σ C**	**Fachstudium „Chemie“ (78 C)**						**Professionalisierungs-bereich (Schlüssel-kompetenzen) (12 C)**
	Modul	Modul	Modul	Modul	Modul	Modul	Modul
1. **Σ 33 C**	M.Che.2502 Biomolekulare Chemie 6 C (Wahlpflicht)	M.Che.1321 PC-Forschungs-praktikum 1 6 C (Wahlpflicht)	M.Che.1205 Praktikum „Moderne Methoden der Organischen und Biom 9 C (Wahlpflicht)	M.Che.1315 Chemical Dynamics on Surfaces 6 C (Wahlpflicht)			M.Che.3902 Industriepraktikum 6 C (Wahlpflicht)
2. **Σ 30 C**	M Che.1217 Moderne Massenspektro-metrie und Gasphasenchemie 3 C (Wahlpflicht)	M.Phy.502 Forschungsschwer punkt Biophysik und Physik komplexer Systeme 6 C (Wahlpflicht)	M.Che.1132 Moderne Methoden der Anorganischen Chemie – Vorlesung und Übung Spektroskopie und Magnetismus 3 C (Wahlpflicht)	M.Che.1121 AC-Forschungs-praktikum 1 6 C (Wahlpflicht)	M.Che.1122 AC-Forschungs-praktikum 2 6 C (Wahlpflicht)		SK.FS.E-FN-C1-1.Mp Scientific English für Naturwissenschaftler 6 C (Wahlpflicht)
3. **Σ 27 C**	M.Che.1114 Hauptgruppen-metallorganische Chemie 3 C (Wahlpflicht)	M.Che.1221 OC-Forschungs-praktikum 1 6 C (Wahlpflicht)	M.Che.1133 Moderne Methoden der Anorganischen Chemie – Praktikum Spektroskopie und Magnetismus 3 C (Wahlpflicht)	M.Che.1218 Ringvorlesung “Moderne organische und biomolekulare Chemie“ 3 C (Wahlpflicht)	M.Che.1222 OC-Forschungs-praktikum 2 6 C (Wahlpflicht	M.Che.1308 PC Experimentieren - Oberflächencharakt erisierung und Vakuumtechnik 6 C (Wahlpflicht)	
4. **Σ 30 C**	Master-Arbeit 30 C						
Σ 120 C	**78 C (+ 30 C)**						**12 C**

D. Course of studies exclusively taught in English (start of studies: summer semester)

Sem. **Σ C**	**Fachstudium „Chemie“ (78 C)**						**Professionalisierungs-bereich (Schlüssel-kompetenzen) (12 C)**
	Modul	Modul	Modul	Modul	Modul	Modul	Modul
1. **Σ 30 C**	M.Che.2402 Quantum Chemistry 6 C (Wahlpflicht)	M.Che.1115 Mechanistic organometallic Chemistry 3 C (Wahlpflicht)	M.Che.1121 Inorganic Chemistry: Practical research course 1 6 C (Wahlpflicht)	M.Che.1315 Chemical Dynamics on Surfaces 6 C (Wahlpflicht)	M.Che.1130 Modern Methods in Chemistry: Lecture and Tutorial in Diffraction 3 C (Wahlpflicht)	M.Che.1131 Modern Methods in Chemistry: Practical Course in Diffraction 3 C (Wahlpflicht)	Modul SK.DaF-A1-2Std (Hv): Deutsch – Hörverstehen 3 C (Wahlpflicht)
2. **Σ 30 C**	M.Che.1311 Vibrational Spectroscopy and Intermolecular Dynamics 6 C (Wahlpflicht)	M.Che.1308 Experimental Physical Chemistry - Surface Science and Vacuum Techniques 6 C (Wahlpflicht)	M.Che.1304 Experimental Physical Chemistry - Spectroscopy 6 C (Wahlpflicht)	M.Che.1122 Inorganic Chemistry: Practical research course 2 6 (Wahlpflicht)	M.Che.1212 Methods of Synthesis in Organic Chemistry 3 C (Wahlpflicht)		Modul SK.DaF-A1-2Std (Sp): Deutsch – Sprechen 3 C (Wahlpflicht)
3. **Σ 30 C**	M.Che.1205 Lab Course "Methods of Modern Organic and Biomolecular Chemistry (MeMo)" 9 C (Wahlpflicht)	M.Che.1221 Organic Chemistry: Practical research course 1 6 C (Wahlpflicht)	M.Che.1222 Organic Chemistry: Practical research course 2 6 C (Wahlpflicht	M.Che.1215 NMR for Structural Chemistry an Biology II 3 C (Wahlpflicht)			M.Che.3902 Internship in Chemical or Pharmaceutical Industry 6 C (Wahlpflicht)
4. **Σ 30 C**	Master-Thesis 30 C						
Σ 120 C	**78 C (+ 30 C)**						**12 C**