

Please note that this document is a non-binding convenience translation. Only the German version of the document entitled "Prüfungs- und Studienordnung der Universität Heidelberg für den Masterstudiengang Chemie" dated 21 January 2009 [published in the President's bulletin (Mitteilungsblatt des Rektors) of 18 February 2009, p. 247], and last amended on 7 February 2013 [President's bulletin (Mitteilungsblatt des Rektors) of 28 February 2013, p.67] has legal validity.

Heidelberg University examination and degree programme rules and regulations for the Master's degree programme in Chemistry

as of 21 January 2009

Preamble

All titles in this document, be they official, job, status or functions, are used in masculine form, however they refer to men and women equally and may also be used in the corresponding feminine form.

Section I: General provisions

- § 1 Purpose of the academic programme and examination
- § 2 Master's degree
- § 3 Standard period of study, programme structure and range of courses offered
- § 4 Modules, credits and list of grades
- § 5 Examinations board
- § 6 Examiners and observers
- § 7 Recognition of course credits, examination results and academic degrees
- § 8 Unexcused absence, withdrawal, deception and breaches of regulations
- § 9 Types of examinations
- § 10 Oral examinations completed during the course of study
- § 11 Written examinations completed during the course of study
- § 12 Assessment of examinations

Section II: Master's examination

- § 13 Master's examination admission requirements
- § 14 Master's examination admission procedure
- § 15 Scope, nature and organisation of the Master's examination
- § 16 Final oral examination
- § 16a Free attempt
- § 17 Master's thesis
- § 18 Submission and assessment of Master's thesis
- § 19 Passing the examination and overall grade
- § 20 Retaking an examination; deadlines
- § 21 Master's diploma and certificate

Section III: Final provisions

A 12-01-3	07.02.13	05 - 2
Coding reference	Last amended	Edition – Page

- § 22 Invalidity of examinations
- § 23 Access to examination documents
- § 24 Coming into force

Section I: General provisions

§ 1 Purpose of the academic programme and examinations

- (1) Based upon the knowledge obtained in a bachelor's degree programme in Chemistry, in the consecutive, research-oriented Master's degree programme, students will obtain further expertise and methodological knowledge in the field of chemistry. Along with selection from a range of compulsory (elective) modules, students will choose a specialisation from the areas of Inorganic Chemistry, Organic Chemistry or Physical Chemistry.
- (2) The Master's examinations, leading to the title "Master of Science", assess whether students have mastered the interrelationships between the individual disciplines of their subject, are able to apply advanced scientific methods and findings, and are able to work independently, employing scientific principles.
- (3) The requirements for admission to this degree programme are set forth in the Admission Regulations, published separately.

§ 2 Master's degree

Upon successful completion of the Master's examinations, Heidelberg University will confer the academic degree of "Master of Science" (abbreviated to "M.Sc.").

§ 3 Standard period of study, programme structure and range of courses offered

- (1) The standard period of study for the Master's degree programme is four semesters, including examinations and Master's thesis.
- (2) Lectures and courses in the Master's degree programme run for three semesters: the Master's thesis is to be completed within the fourth semester. Successful completion of the Master's degree programme requires a total of 120 credit points (CP) in both compulsory and elective courses.
- (3) The Master's programme is a modular programme. The total 120 credit points required to be earned is comprised of 80 in subject-related courses in Inorganic Chemistry, Organic Chemistry, and Physical Chemistry, along with the final oral examination, 10 CP in a specialisation, and 30 CP for the Master's thesis.
- (5) The language of instruction and examinations is primarily German. Classes and

examinations may be held either partially or completely in English.

§ 4 Modules, credits and list of grades

- (1) A module is a teaching unit, self-contained in terms of both time and content and comprised of various lectures and courses. It not only comprises the lectures and courses attended, but also the components necessary for a passing grade in the module.
- (2) The Master's thesis and the final oral examination are regarded as individual modules.
- (3) A distinction is made between
 - compulsory modules: these must be completed by all students
 - compulsory elective modules: students may select these from a limited subject area
 - optional modules: Students may freely choose these from the modules offered in their subject.
- (4) All components within a module must be graded as "sufficient" (4.0) or higher (=sub-module grades) for the complete module to be passed.
- (5) Credits are given for successfully completed modules. One credit point (CP) corresponds to a workload of 30 hours.
- (6) A grade report (Transcript of Records) will be issued at the end of each semester. All module examinations passed, including their respective credit points and grades, are stated in this Transcript of Records.
- (7) A compulsory or compulsory elective module that has already been taken cannot also be counted as an elective module within the area of specialisation.

§ 5 Examinations board

- (1) The faculty examinations board is responsible for the organisation of examinations and the tasks required by the examination rules and regulations. It consists of one member from the Chemistry faculty board and two professors from each of the areas of Inorganic Chemistry, Organic Chemistry and Physical Chemistry, as well as one student representative who will serve in an advisory capacity. The faculty council appoints the chairperson, the deputy chairperson, and the other members of the examinations board for a period of two years each. The student member is appointed for one year. The chairperson and the deputy chairperson must be professors.
- (2) The examinations board ensures that the examination rules and regulations are upheld and provides recommendations for further improving the curriculum and

the examination rules and regulations. The committee appoints the examiners and observers. The examinations board may confer the responsibility for appointing them on its chairperson. He or she may be called upon for all questions regarding examinations.

- (3) The chairperson manages the business of the examinations board, prepares and chairs meetings and, in the event of a tie vote, has the deciding vote.
- (4) The examinations board may confer further responsibility on its chairperson, provided this does not violate applicable law. These responsibilities may be revoked at any time. The chairperson informs the examinations board on a regular basis about the completion of such responsibilities.
- (5) Examinations board members have the right to attend examinations.
- (6) Members of the examinations board, examiners, and observers are obligated to maintain professional confidentiality. Those who are not civil servants are sworn to secrecy by the chairperson.
- (7) The candidate must be informed of negative decisions of the examinations board immediately and in writing; the reasons for the decision must be stipulated and information on the procedure for appeal must be provided.

§ 6 Examiners and observers

- (1) In general, examinations which are not completed during the course of study may only be carried out by professors, lecturers, associate professors from the faculty of Chemistry and Geosciences, or research associates who, on the basis of long-standing teaching experience, have been granted the right to conduct examinations. Academic staff and contract lecturers may only be appointed under exceptional circumstances to carry out examinations, if there are not enough persons available entitled to carry out examinations.
- (2) Examinations held during the course of study are usually conducted by the instructor of the course in question.
- (3) Observers must have sat the corresponding Master's examination or equivalent.

§ 7 Recognition of course credits, examination results and academic degrees

- (1) Examination prerequisites and results, and academic degrees obtained through degree programmes at German universities or universities of cooperative education (state or state-recognised), or at foreign universities (state or state-recognised), will be recognised, as long as there are no significant differences concerning the skills acquired, courses taken and degree obtained through the programme. This recognition is required in order to continue an academic programme, take examinations, start a further academic programme or be

admitted to a doctoral programme. The validity of § 15, paragraph 3 and 4 LBG (State Public Service Law) remains unaffected.

- (2) Preliminary and intermediate examinations taken at other German universities in the same degree programme or in a similar degree programme will be recognised. Courses completed at recognised distance-learning institutions will be considered equivalent to those in a corresponding traditional study programme with regard to determining the duration of study.
- (3) It is the applicant's responsibility to provide all information necessary for achievements to be recognised. It is the responsibility of the office which carries out the recognition procedure to prove that an application does not fulfil the requirements.
- (4) If agreements exist between the Federal Republic of Germany and other states concerning equivalent university degree programmes (Equivalency Agreements) that favour students from other states by way of derogation from paragraph 1 and § 29, paragraph 2, sentence 5 of the LHG (Act on Higher Education of the Land of Baden-Württemberg), the rules and regulations in the Equivalency Agreement take precedence.
- (5) Examination prerequisites and results are to be graded on the basis of a credit point system that allows for achievements in equivalent or similar degree programmes to be recognised; this also applies to universities of cooperative education, provided there is equivalence.
- (6) Knowledge and skills gained outside a university degree programme may be recognised for such a programme, as long as
 1. the requirements for university admission are fulfilled at the time of recognition,
 2. the knowledge and skills to be recognised for the university degree programme are equivalent in both content and level to the course credits and examinations which they should replace, and
 3. the criteria for recognition have been verified in an accreditation.Knowledge and skills gained outside a university degree programme may not replace more than 50% of the university degree programme.
Universities will define the details in the established examination rules and regulations; in particular, under which conditions, and to what extent, knowledge and skills gained outside a university degree programme will be recognised. The examination rules and regulations may require the completion of a placement test.
- (7) In case of refresher courses, credit points may be given for courses and examinations. When recognising credits from refresher courses for a university degree programme, paragraphs 2 and 5, as well as paragraph 6, sentence 1, no. 1 apply accordingly. When recognising knowledge and skills gained outside a university degree programme for refresher courses, paragraph 6 applies accordingly.

§ 8 Unexcused absence, withdrawal, deception and breaches of regulations

- (1) An examination is graded as "failed" (5.0), if a candidate fails to appear and is unable to provide a valid reason for his or her absence, or, if the candidate withdraws after the examination has started. The same applies if the candidate fails to provide a written examination by the established deadline, unless the candidate is not at fault for the deadline being exceeded.
- (2) Reasons for withdrawal or absence in accordance with paragraph 1 must be plausible and must immediately be submitted in writing to the examinations board. If the candidate, or a child for whom the candidate is primarily the sole caregiver, is ill, a medical certificate may be required. In the event of doubt, a medical certificate from a physician designated by the university may be required. If the reasons stated are accepted, a new examination appointment will be scheduled. In this circumstance, examination results that are already available will be taken into account.
- (3) When deciding whether the candidate is at fault for exceeding a deadline for registration or taking an examination, the examinations board must respect the provisions stated in the Maternity Protection Act and the legal regulations concerning parental leave and allow candidates to make appropriate use of these provisions.
- (4) If the candidate attempts to influence the examination results through cheating or by using unauthorised aids, the examinations will be graded as "failed" (5.0). If a candidate disrupts the official examination procedure, he or she may be excluded by the examiner or examination supervisor from taking further part in the examination, in which case the examination will be graded as "failed" (5.0). In extreme cases, the examinations board may exclude the candidate from all further examinations.
- (5) With regard to paragraph 4, sentences 1 and 2, within a period of 7 days, the candidate may request that the decision be validated by the examinations board. The candidate must be informed of negative decisions immediately and in writing; the reasons for the decision must be stipulated and information on the procedure for appeal must be provided.

§ 9 Types of examinations

- (1) Examinations completed during the course of study include
 1. oral examinations
 2. written examinations (electronically, where applicable).
- (2) If candidates provide a medical certificate that plausibly proves that they are not able to take examinations in the form prescribed, whether completely or partially, due to permanent or chronic health problems, the examinations board may allow them to take an equivalent examination. The same applies for other course

requirements.

§ 10 Oral examinations completed during the course of study

- (1) In oral examinations, candidates should be able to prove that they are able to identify interrelationships within the examination subject matter and relate specified problems to these interrelationships. Additionally, the purpose of the oral examination is to assess whether the candidate has the adequate basic knowledge of the field of study.
- (2) An oral examination lasts between 15 and 60 minutes.

§ 11 Written examinations completed during the course of study

- (1) In written examinations, candidates should be able to prove that they are able to recognise problems related to their subject and develop solutions for them, using subject-specific methods and within limited time and resources.
- (2) A written examination lasts between 30 and 180 minutes. Multiple choice questions are permitted.
- (3) If a written examination component is taken as a term paper, candidates must assure that they are the authors of their work and have used no sources or aids other than those indicated.
- (4) The evaluation period for written examinations should not exceed four weeks.

§ 12 Assessment of examinations

- (1) Grades for the individual examinations are determined by the respective examiners. The following grades must be used for assessment of examinations:

1 = very good	= an outstanding performance;
2 = good	= performance which is substantially above average requirements;
3 = satisfactory	= performance which fulfils average requirements;
4 = sufficient	= performance which, despite deficiencies, still meets the requirements
5 = failed	= performance, which, due to considerable deficiencies, does not meet the requirements.

For more detailed assessment of examination results, grades may be further differentiated by increasing or decreasing the individual grades by 0.3; however,

- (2) the grade 0.7 and incremental grades above 4.0 may not be used.
A final module examination and the overall Master's examination grade is as follows:

average of up to and including 1.5	very good
average of between 1.6 and up to/including 2.5	good
average of between 2.6 and up to/including 3.5	satisfactory
average of between 3.6 and up to/including 4.0	sufficient

- (3) When calculating final module grades and the overall examination grade, only the first digit after the decimal point is taken into account, without rounding. The overall Master's grade is assessed in accordance with § 19, paragraph 2.
- (4) In addition to the German system grades, students who have passed the examinations will also be awarded a letter grade according to the following scale:

A	top 10 %
B	the subsequent 25 %
C	the subsequent 30 %
D	the subsequent 25 %
E	the subsequent 10 %

The letter grades are calculated based on the examination results of the total graduating class, as well as the graduating classes from two or more previous years, depending on the number of students in the current graduating class. For degree grades, the ECTS grade must be added. For individual modules, the ECTS grade may be listed when possible and necessary.

Section II: Master's examination

§ 13 Master's examination admission requirements

- (1) Admission to the individual examinations for the Master's examination will only be authorised for those who:
- are enrolled in the Master's degree programme in Chemistry at Heidelberg University,
 - have not lost their entitlement to take examinations in the Master's degree programme in Chemistry.
- (2) The following certificates must be provided for admission to the final oral bachelor's examination:
- successful completion of modules set forth in Appendix 1, comprising the total of credit points stipulated in § 3.
- (3) The candidate may only begin work on the Master's thesis when the final oral examination has been passed.

§ 14 Master's examination admission procedure

- (1) The application for admission to the examination must be made in writing, addressed to the chairperson of the examinations board. The application must include the following documents:
 1. evidence of fulfilment of the admission requirements in accordance with § 13,
 2. declarations from candidates, stating whether they have previously failed a Master's examination in the Chemistry Master's degree programme, or whether they are currently undergoing an examination procedure in such a programme.
- (2) If candidates are unable to provide such evidence, the examinations board may allow other documents of proof to be accepted.
- (3) The application is the basis for the examinations board's decision as to whether the candidate may be admitted to the examination. Denials must be made in writing, stating the reasons for the denial, and providing information about the procedure for appeal.
- (4) The application for admission to the examination may only be denied if:
 1. conditions are not fulfilled in accordance with § 13, or
 2. documents set forth in paragraph 1 are not complete, and have not been completed upon request, or
 3. candidates have failed their final attempt at the Master's examination in Chemistry, or have lost the entitlement to take the final examinations, or
 4. the candidate is currently undergoing examination procedures in such a degree programme.

§ 15 Scope, nature and organisation of the Master's examination

- (1) The Master's examination consists of:
 1. successful completion of the examinations for the modules, as set forth in Appendix 1,
 2. the final oral examination,
 3. the Master's thesis.
- (2) The examinations referred to in paragraph 1, no. 1 are taken as an integrated part of their respective lectures or courses. They may be in written or oral form. The lecturer responsible for a lecture or course determines the nature and duration of the examinations and provides this information no later than the beginning of the lecture or course.

- (3) The components of the Master's examination must be taken in the following order:
- examinations completed during the course of study (paragraph 1, number 1)
 - final oral examination (paragraph 1, number 2)
 - Master's thesis (paragraph 1, number 3).
- (4) § 9, paragraph 2 applies accordingly.

§ 16 Final oral examination

- (1) The purpose of the final oral examination is for candidates to prove that they have mastered the interrelationships between the individual disciplines of their subject, and are able to assess special problems accordingly. The oral examination will further assess whether the candidate has in-depth basic and specialised knowledge in specific areas of the subjects to be examined.
- (2) The final oral examination is counted as an individual examination, and will be conducted by three examiners, representing the areas of Inorganic Chemistry, Organic Chemistry, and Physical Chemistry.
The candidate is permitted to make a proposal; however this does not constitute entitlement to be examined by a particular examiner. The chairperson of the examinations board ensures that candidates are given sufficient advance notice of examiners' names.
- (3) In accordance with § 15, paragraph 1, no. 1, candidates must take the final oral examinations no later than six weeks after the successful completion of the last examination component completed during the course of study.
- (4) An oral examination lasts between 15 and 60 minutes.
- (5) At the candidate's choice, the examination will be held in German or English.
- (6) The topics examined and the results of the oral examination must be recorded in a written report. Following the oral examination, candidates must be notified of examination results.
- (7) Students wishing to take a subject examination at a later examination date will be permitted to attend the same examination for another candidate, as long as room is available. However, the visitor may not be present for assessment or announcement of the examination result. Upon request of the candidate, or for other valid reasons, the examination may be closed to visitors.

§ 16a Free attempt

- (1) For final oral examinations taken following uninterrupted studies no later than prior to the end of the 3rd semester, if this examination is not passed, upon

request, it will be permitted to be disregarded as an examination attempt (“free attempt”).

- (2) If the final oral examination has been passed within the context of this free attempt, but the candidate wishes to improve his or her grade, it may be retaken once within four-weeks of the first examination. The higher grade will be recorded.
- (3) With regard to paragraph 1, and when calculating the number of semesters of study, semesters in which studies are interrupted due to prolonged and severe illness or for other important grounds, and in which the student is granted official leave, will not be regarded as study semesters, and will also not count as interruptions. The same rule applies for up to a maximum of two semesters of study abroad, provided that the student was enrolled in an appropriate degree programme at a foreign university and can submit documentation of having earned adequate grades. Additionally, up to two semesters are permitted to be disregarded as study semesters, if the student spends that time as an elected member of an officially-designated council or a statutory university body.
- (4) This regulation may only be applied once. No repetition is permitted. No more than four semesters may be disregarded.

§ 17 Master’s thesis

- (1) The purpose of the Master’s thesis is for candidates to prove that they are able to work independently, within a given period of time and using academic methods, to address a problem from the field of chemistry.
- (2) In accordance with § 6, paragraph 1, sentence 1, the Master’s thesis may be assigned and supervised by any authorised examiner in the Chemistry department.
- (3) The topic of the Master’s thesis will be determined only after successful completion of the final oral examination. The candidate must begin work on the Master’s thesis no later than four weeks after the successful completion of the final oral examination, or, must have by that time submitted an application to the chairperson of the examinations board for the assignment of a topic. If the deadline is not met, the Master’s thesis will be graded as “failed” (5.0), unless the candidate is not at fault for the deadline being exceeded.
- (4) The topic of the Master’s thesis will be determined by the thesis supervisor. If an application for assignment of a topic is submitted, the chairperson of the examinations board will ensure that the candidate receives a topic for his or her Master’s thesis in timely fashion. The candidate is permitted to propose topics; however, this does not constitute entitlement to a particular topic. The thesis topic will be assigned by the chairperson of the examinations board. The date of assignment must be recorded.

- (5) The deadline for submission of the thesis is six months following assignment of the topic. In exceptional cases, the examinations board may extend this deadline by up to two months. If the deadline is not met, the Master's thesis will be graded as "failed" (5.0), unless the candidate is not at fault for the deadline being exceeded.
- (6) The topic, task and scope of the Master's thesis must be limited in such a way that the candidate will be able to complete the thesis within the given time frame. The topic may only be rejected once, and only within the first two weeks after the date of assignment.
- (7) The Master's thesis may be written in German or English.

§ 18 Submission and assessment of Master's thesis

- (1) Three copies of the Master's thesis must be submitted to the examinations board before the established deadline; the submission date must be recorded. The thesis must contain a summary.
- (2) When submitting a Master's thesis, candidates must certify in writing that they are the authors of their work and have used no sources or aids other than those indicated.
- (3) The Master's thesis is assessed by two examiners, one of whom must be a professor. The first examiner should be the thesis supervisor. The second examiner is designated by the examinations board. The candidate is permitted to make a proposal; however this does not constitute entitlement to be examined by a particular examiner. The evaluation period should not exceed four weeks.
- (4) The grade is calculated as the mean of both evaluations; § 12 applies accordingly. If the grades differ by more than one grade point, the examinations board will determine the Master's thesis grade after consulting both examiners. In such cases, a third examiner may be consulted.

§ 19 Passing the examination and overall grade

- (1) The Master's examination is passed when all examination components as set forth in § 15, paragraph 1 have been graded as "sufficient" (4.0) or higher.
- (2) The calculation method for the overall grade for the Master's examination is set forth § 12, paragraph 2. In accordance with § 12, paragraph 3, the numerical grades from the individual modules are added together and weighted by the credit points earned.

§ 20 Retaking an examination; deadlines

- (1) If examinations are not passed, or are not considered to have been passed, they may be retaken once. This includes failed examinations at other universities. A second re-examination is permitted only under exceptional circumstances and only for a maximum of two examinations completed during the course of study. The examinations board makes the decision to grant permission for a second re-examination. A second re-examination is not permitted for the Master's thesis or the final oral examination.
- (2) Retaking an examination that has been graded as passed is not permitted.
- (3) Failed examinations must be retaken no later than during the following semester. If candidates fail to meet this deadline, they will lose entitlement to take this examination, unless they are not at fault for the deadline being exceeded.
- (4) If a compulsory module examination is failed on the final attempt, the candidate will be dismissed from the academic programme. Failure of compulsory elective modules and optional modules may be offset by the successful completion of a different module.

§ 21 Master's diploma and certificate

- (1) Upon successful completion of the Master's examination, a diploma will be issued within four weeks. This will list all individual modules with their respective grades (graded in accordance with § 12, paragraph 2 and 4, and the numerical value) and credit points, as well as the topic of and grade for the Master's thesis, and the overall grade for the Master's examinations. The diploma will be dated with the date of the last examination component. It must be signed by the dean and chairperson of the examinations board.
- (2) A "Diploma Supplement" in German and English will also be provided, containing additional information about the course content and the course of study. This content complies with the "European Diploma Supplement Model".
- (3) A bilingual Master's certificate in German and English is issued with the diploma, bearing the same date as the diploma. It certifies the conferment of the academic degree "Master of Science". The Master's certificate is signed by the dean and the chairperson of the examinations board. It bears the faculty seal.
- (4) If the Master's examination is failed at the final attempt or is considered not to have been passed, the chairperson will issue a written notification, providing information on the procedure for appeal. A certificate will be issued upon request, and upon presentation of documentation of proof and de-registration certificate, listing passed examinations and their grades, missing examinations required for obtaining the Master's degree, and a statement that, on the final attempt, the Master's examination has not been passed.

Section III: Final provisions

§ 22 Invalidity of examinations

- (1) If a candidate has cheated on an examination and this is not discovered until after the diploma has been issued, the examinations board may, accordingly, correct the examination results that were affected by the cheating and may declare the examination to be partially or completely failed.
- (2) If the requirements for admission to the examination were not fulfilled, but without any intent on the candidate's part to deceive and this is not discovered until after the diploma has been issued, the passed examination will be considered to compensate for this shortcoming. If the candidate intentionally gained admission to the examination through deceit, the examinations board will make a decision on the matter.
- (3) Before a decision is made, the candidate will be given the opportunity to provide an explanation.
- (4) Fraudulent examination diplomas will be confiscated and, if necessary, a new diploma will be issued. If the examination has been graded as "failed" due to cheating or deception, the Master's certificate "Master of Science" will be confiscated along with the fraudulent examination diploma. The statute of limitations for rendering the decision described in paragraph 1 and paragraph 2, sentence 2, is five years from the date on the examination diploma.

§ 23 Access to examination documents

After the examination procedure has been completed, the candidate has the right, within a reasonable period of time, to request access to examination documents. Requests must be made in writing and within a period of up to one year after the examination process. The chairperson of the examinations board will decide when and where such access will be given.

§ 24 Coming into force

These examination rules and regulations will come into force on 01 September 2009.

Appendix 1: Modules, lectures and courses for the Master's degree programme

(83 CP)

Module	Module	Course	Weekly sem. hours (WSH)	Recom. Sem.	CP
Spec	Applied Spectroscopic Methods	Lecture with tutorials	4	1-3	5
IC_I (AC_F)	Modern Aspects of Inorganic Chemistry	Research Internship/Seminar	--	1 - 3	10
OC_I (OC_F)	Organic Advanced Internship	Research Internship/Seminar	--	1 - 3	10
PC_I (PC_F)	Phys.-Chem. Research Internship	Research Internship/Seminar	--	1 - 3	10
FOE (MP)	Final Oral Examination	Master's Examination	--	3	18
MT (MA)	Master's Thesis	Master's Thesis	--	4	30

Compulsory elective modules (27 CP)

The candidate must choose the following:

- 1) Two modules each from the fields: IC_Z1-6 (AC_Z1-6), OC_Z1-6 and PC_Z1-5
- 2) Two modules each from the fields: IC_S (AC_S), OC_S and PC_S, or another Z-module, respectively.

	Module	Course	Weekly sem. hours (WSH)	Recom. Sem.	CP
IC-Z1 (AC-Z1)	Coordination Chemistry and Supramolecular Chemistry	Lecture cycle	2	1-3	3
IC-Z2 (AC-Z2)	Main Group Elements Chemistry	Lecture cycle	2	1-3	3
IC-Z3 (AC-Z3)	Physical and Theoretical Methods of Inorganic Chemistry	Lecture cycle	2	1-3	3
IC-Z4 (AC-Z4)	Bioinorganic Chemistry	Lecture cycle	2	1-3	3
IC-Z5 (AC-Z5)	Reactivity in Metal-Organic Complexes and Molecular Catalysis	Lecture cycle	2	1-3	3
IC-Z6 (AC-Z6)	Chemistry of Materials	Lecture cycle	2	1-3	3
IC_S (AC_S)	Courses vary according to semester	Lecture	2	1-3	3
OC-Z1	Energy-Structure-Reactivity	Lecture cycle	2	1-3	3
OC-Z2	Heterocycles	Lecture cycle	2	1-3	3
OC-Z3	Metal-Catalysed Organic Syntheses	Lecture cycle	2	1-3	3
OC-Z4	Natural Substances	Lecture cycle	2	1-3	3
OC-Z5	Stereochemistry	Lecture cycle	2	1-3	3
OC-Z6	Synthesis and Retrosynthesis	Lecture cycle	2	1-3	3
OC_S	Courses vary according to semester	Lecture	2	1-3	3
PC-Z1	Statistical Theory of Matter	Lecture cycle/tutorials	2 + 2	1-3	3
PC-Z2	Introduction to Quantum Theory	Lecture cycle/tutorials	2 + 2	1-3	3
PC-Z3	Composition of Matter and Spectra	Lecture cycle/tutorials	2 + 2	1-3	3
PC-Z4	Molecular Kinetics	Lecture cycle/tutorials	2 + 2	1-3	3
PC-Z5	Surface Chemistry	Lecture cycle/tutorials	2 + 2	1-3	3
PC-Z6	Biophysical Chemistry	Lecture cycle/tutorials	2 + 2	1-3	3
PC_S	Courses vary according to semester	Lecture	2	1-3	3

Elective modules (10 CP)

A total of 10 CP must be earned from the modules VF_i within one area of specialisation VF (Vertiefungsfach, VF, see module manual).

The examinations board may set further requirements for those candidates with an undergraduate degree other than B.Sc. (Chemistry).

=====

Published in the President's bulletin (Mitteilungsblatt des Rektors) of 18 February 2009, p. 247, and amended on 14 April 2011 (President's bulletin (Mitteilungsblatt des Rektors) of 04 May 2011, p. 163), and on 9 February 2012 (President's bulletin (Mitteilungsblatt des Rektors) of 29 February 2012, p.269), and on 18 April 2012 (President's bulletin (Mitteilungsblatt des Rektors) of 21 May 2012, p. 437), and amended on 7 February 2013 (President's bulletin (Mitteilungsblatt des Rektors) of 28 February 2013, p.67).