

# **Examination regulations for the Master degree programme of the Faculty of Mathematics and Natural Sciences of the University of Cologne**

of 10 October 2007

Under the directive §2 section 4 and §64 section 1 of the “Act for Higher Education NRW” (Hochschulgesetz NRW (HG)) in the version of the “Act for the liberation of higher education NRW” (Hochschulfreiheitsgesetz NRW (HFG)) of 31 October 2006 (GV. NRW, p. 474) the Faculty of Mathematics and Natural Sciences has issued the following regulations:

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## **§ 1**

### **Degree objective and standard period of study**

- (1) In consideration of the demands of the professional world, the studies within the framework of the Master degree programme chemistry aims at conveying the necessary expert knowledge, abilities and methods in a manner which enables the students to work scientifically, to render a scientifically based judgement, to critically classify the scientific results and to act responsibly.
- (2) The aim of the Master degree programme is the dissemination of extended knowledge in the core areas of chemistry and a specialization within the area to be chosen. The duration of the standard period of study for the Master degree programme including the Master thesis is four terms. The Master degree programme can be started either in the winter or the summer term.

## **§ 2**

### **Academic degree**

After the successful completion of the Master degree programme the Faculty of Mathematics and Natural Sciences awards the academic degree “Master of Science”, abbreviated “M. Sc.”.

## **§ 3**

### **Admission**

The admission to the Master degree programme is only possible for people who

- a) have a certificate of the successful completion of the Bachelor degree programme in chemistry of the University of Cologne, or an equivalent degree or an academic qualification which has been considered as being equivalent by the examination board (§4),
- b) have proven their outstanding qualification in a special oral procedure (cf. Attachment 2: Suitability assessment) and
- c) are enrolled for this degree programme at the University of Cologne or have been admitted as cross-registered student according to § 52 section 2 HG.

## **§ 4**

### **Examination board, examiners, assessors**

- (1) The Faculty of Mathematics and Natural Sciences of the University of Cologne forms a board which is responsible for the organization of the examinations and the granting of credit points as well as all decisions relating to these matters. It is named “Board for the Master examination in chemistry” and subsequently always called “examination board”.

- (2) The examination board consists of eight members. The chairperson, his/her delegate and three further members are chosen from the professors of the subject (Chemistry). One member is elected from the scientific co-workers of the subject and two members from the group of students. The elections take place for each group separately. Accordingly, with the exception of the chairperson and his/her delegate, the respective representatives are elected. The tenure of the professors and the scientific co-workers is three years; the tenure for the student members is one year. A re-election is permitted. The student members must have been enrolled in chemistry or the respective PhD degree programme at the University of Cologne in the previous two terms; during their tenure they must be enrolled at the University of Cologne for the Master degree programme or the respective PhD degree programme (cf. §18 section 1 for the transition period). The student members of the examination board do not take part in the educational/pedagogical-scientific decisions, in particular the assessment, recognition or accreditation of examination performances and the appointment of examiners.
- (3) The examination board reports to the faculty biennially on the development of examinations and study periods. The examination board gives suggestions for the reform of the examination regulations if need be.
- (4) The examination board has a quorum if at least two professors and two further members besides the chairperson and the delegate are present. The board decides with the majority of votes of the members present. In the event of a tie, the vote of the presiding member decides. The sessions of the examination board are not public.
- (5) The examination board can transfer the execution of all its duties for all normal cases to the chairperson; this is not valid for decisions on objections and the report to the faculty.
- (6) The members of the examination board have the right to attend the holding of examination performances and to inspect the examination documents.
- (7) The members of the examination board, their representatives, the examiners and the assessors are bound to professional secrecy. Unless they are in public service / government service, they are sworn to secrecy by the chairperson.
- (8) The examination board commissions the examiners. The chairperson takes care that the person to be examined is informed of the examination dates and the examiners at least three weeks in advance of the respective exam.
- (9) Only professors and other persons who are authorized examiners according to federal state law can be commissioned examiners. In their examinations, the examiners are independent of instructions. Only persons who have passed the respective Master exam or a comparable or superior exam can be commissioned assessor. The assessor is commissioned by the examiner.

- (10) For oral exams, the person to be examined can suggest examiners. The suggestions should be taken into consideration as far as possible, but the chairperson should pay attention to the even distribution of examination duties to all available examiners.

## **§ 5**

### **Structure of the study, modularization and study counselling**

- (1) The study is set up modularly. Modules are thematically and temporary self-contained study units leading to a partial qualification referring to the respective study goal. Modules can consist of various courses or sub-modules with different courses. These courses are lectures, exercises, seminars and laboratory courses. If approved by the board of examiners and if announced in due time, courses may also be held in English. The structure of the module is specified in the module description.
- (2) Each module requires a registration. Admission to a module can depend on certain preconditions, in particular on the successful participation in one or several other modules or sub-modules. The admission requirements are listed in the module table (attachment 1). After the successful registration for the module, all courses allocated to it should be attended immediately. Consequently the examination deadlines as described in §7 section 5 are effective. An obligatory registration for the project modules only takes place when enrolling for the first exam.
- (3) Each student receives a lecturer as mentor, whom he/she can choose freely. The duty of a mentor is in particular the individual counselling of the student in relation to his/her choice of courses.
- (4) Course guidance is carried out by the lecturers of all disciplines involved in the education in the Master degree programme chemistry. In addition, students' counsellors are commissioned to carry out course guidance in this degree programme. In the second term, the students participate in a course guidance at which the further orientation is decided based on the previous course of studies.

## **§ 6**

### **Study requirements, credit points**

- (1) During their studies the students should regularly visit the courses allocated to the modules.
- (2) For the successful completion of a module credit points are assigned. The credit points which can be achieved for the respective module are listed in the module table. Credit points are calculated following the anticipated required work amount of the student. For the acquisition of one credit point a work effort of 30 hours is taken as basis.

- (3) A credit point mentioned in section 2 is equivalent to a credit point according to ECTS (European Credit Transfer System).
- (4) The module descriptions specify in particular the registration procedures, the contents and aims, the precondition for the participation, the precondition for the assignment of credit points, the frequency of offer and the work amount required.

## **§ 7**

### **Examination performance**

- (1) Examination performances are the precondition for the assignment of credit points. Examination performances are graded according to § 10.
- (2) Each examination requires a registration. Precondition for the admission to the examination is the admission to the module as well as the regular attendance at the courses according to § 5 section 1 and § 6 section 1. Furthermore, laboratory course records and seminar lectures as well as the successful working on exercises and laboratory course exercises can be demanded (cf. the module table in the attachment). The success is ascertained by the lecturer in charge. Exceptions can be granted by the examination board upon request.
- (3) The examination performances are distinguished by the form of the examination:
  - a) Written exams:

In written exams the examinee is to prove that within a limited time and with limited aids he is able to handle problems with the prevalent methods of the respective subject and to find ways to their solution. The duration of a written exam can be at least 30 and 240 minutes at the most. For each written exam the examinees may be given several tasks to choose from. Written exams can be in parts or completely Multiple Choice if this examination form is suitable for testing the subject forming the basis of the exam. If a Multiple Choice exam can lead to exclusion from the studies, the Multiple Choice should be developed by two examiners. Furthermore, it has to be ensured that the relation of the points for the individual questions to the total points to be achieved reflects the respective level of difficulty. It is not permissible to give the same number of points for all correct or wrong answers regardless of the level of difficulty. Written exams can also be carried out in form of several partial written exams.
  - b) Oral exams:

In oral exams the examinee is to prove that he comprehends the interrelations of the examination area and is able to place special problems into these interrelations. Oral exams are held by an examiner as single or group exams with not more than three examinees in the presence of one competent assessor or by two examiners. Oral exams may take at least 15 minutes and 45 minutes at the most per examinee. Its duration should be

determined on the basis of the student's work effort. The main topics and the result of the exam are taken down in an examination report which is signed by the examiners and the examiner and the assessor, respectively, and which is kept with the examination files. Students of this study programme should be enabled to attend these exams unless the candidate vetoes this. The admission does not include the consultation and disclosure of the examination result.

c) Term papers:

A term paper is the independently written handling of a given topic or problem or of exercises.

d) Presentation:

A presentation serves to present a given topic. The examination takes place in form of an oral lecture with the help of suitable presentation means within a course. Unless other examination performances (written elaboration) are tied to the presentation, the disclosure of the evaluation follows the respective course. All other course participants are excluded from the disclosure of the result.

The examination performances required for each module are listed in the module table (attachment 1) and are more precisely described in the module descriptions. Upon approval by the examination board, deviations from the module descriptions can be permitted. These have to be announced at the beginning of the first course the latest and by announcements posted on bulletin boards.

(4) Examination performances according to section 3 are performed in German, but can also be performed in English on agreement between examinee and examiner. Courses held in English are in principle examined in English.

(5) Students should be offered three opportunities for performing the examinations required for the successful closure of the course or the module in a timely manner. For this reason, three examination dates are offered after the end of the course. As a rule, the first date should take place within three weeks after the end of the course. The repetition dates should generally take place nine weeks the earliest and 14 weeks the latest after the previous examination date. The latest opportunity for taking an exam for the first time is three terms after the end of the course the exam is allocated to. Should the examinee fail the exam, the repeat exam has to be sat one term later the latest and the second repeat exam, if applicable, has to be passed after two terms the latest. If examination dates are not kept on the due date without valid reason (section 12), the exams are considered as 'failed'. Exceptions to this rule are dealt with by the examination board.

Failed examinations can be repeated twice. On application of the examinee, the examination board can change the form of examination of the second repeat examination in exceptional cases. If the second exam is considered as 'failed', the examination is irrevocably failed and the Master study course chemistry is concluded without success. Irrespective of this, section 13 applies.

In valid exceptional cases the examination board can determine other than the designated examination forms and deadlines.

- (6) All exams passed on the first offered examination date can be repeated at the next possible date in order to improve one's marks. Additionally, one passed exam can be repeated during the whole Master study course in order to improve one's marks irrespective of the date of the first exam. These rules do not apply to the Master thesis and the Master colloquium (§8).
- (7) Written exams are assessed by one authorized examiner; oral exams are evaluated by one or two authorized examiner(s). The Master thesis (§ 8) and exams where a failure terminates the study course are assessed by at least two authorized examiners. In case of doubt regarding the authorship of examination performances, an affirmation in lieu of an oath according to § 63 section 5 phrase 1 HG can be asked for and administered.
- (8) For severely disabled people according to Book IX of the German Social Welfare Code, for physically disabled and for chronically ill students, exceptions from the examination regulations and organization are to be made which take the disability appropriately into consideration. In case of doubt, the examination board can ask for a medical certificate.
- (9) The evaluation of written exams should be announced not later than six weeks after the examination has been taken. As a general rule, the evaluation of oral exams is directly announced.
- (10) According to § 4 section 8 the examination dates are announced at least three weeks before the examination date. Students can register for the exams from the day of the announcement until up to seven days before the examination date.
- (11) A resignation from an exam has to be announced at least seven days in advance of the examination date.
- (12) An exam is considered as failed when the candidate does not appear without valid reason or resigns from the exam after its commencement without any valid reason. The reasons brought forth for a resignation or an absence have to be handed to the examination board immediately in writing and be proven credibly. In case of illness, a medical certificate can be asked for. If the examination board accepts the reasons, the candidate is informed in writing and a new examination date is scheduled.
- (13) In case an examinee has failed an examination procedure three times, on application he/she is granted another three attempts to pass this examination procedure. If the module table demands admission requirements for taking this examination procedure, these admission requirements have to be repeated prior to the fourth attempt. This application can only be handed in once throughout the whole Master studies for one single exam. The approval of the application is only granted after the examinee has participated in a counselling session with the chairperson of the examination board or a lecturer commissioned by the chairperson. The application has to be handed in within three months after the announcement of the result of the third failed attempt.

Otherwise the right to examination is lost, unless the examination board accepts the reasons for the delayed application.

## **§ 8**

### **Master thesis**

- (1) In the Master thesis and the colloquium the candidate is to show that he is capable of handling a comprehensive task taken from a recent research area of chemistry within a limited period under supervision by using scientific methods and to present it both orally and in writing. The extent of the documentation to be written in German should not exceed 70 A4 pages. By mutual agreement of both examinee and examiner the thesis can also be written in English.
- (2) The Master thesis can be supervised by every lecturer of the subject chemistry of the University of Cologne, upon approval of the examination board also by other examiners authorized to assess exams according § 65 HG. If the Master thesis is to be carried out at an institution outside the university, the previous approval of the chairperson of the examination board is required.
- (3) On application, the chairperson of the examination board makes sure that the candidate receives a topic for his Master thesis. The candidate may make suggestions for the topic of the Master thesis. The topic is only issued when at least 60 credit points have been archived. The topic and the date of its issue have to be documented. The topic of the Master thesis can be handed back only once and only within two weeks after its issue.
- (4) When handing in the Master thesis, it has to be affirmed in writing that the thesis is the candidate's own original work and that no other than the cited sources and materials have been used and that quotations have been marked as such. In case of doubt, an affirmation in lieu of an oath can be demanded stating that the Master thesis has been created independently and without illegal help (§63 section 5 phrase 1 HG).
- (5) The Master thesis has to be handed in to the examination board in due time (six months the latest after the issue of the topic) printed and bound in triplicate as well as electronically. The date the Master thesis is submitted has to be archived. When submitted by mail, the date of postmark will be taken as the date of receipt of the thesis. If the Master thesis is not submitted in due time, it will be evaluated as 'failed' (5.0). In exceptional cases, the deadline for the Master thesis can be extended by one month (the application has to be handed to the chairperson of the examination board 14 days before the deadline).
- (6) The Master thesis is assessed and evaluated by the supervisor and another authorized examiner, who is commissioned by the chairperson. The candidate

may make suggestions for the second examiner. The evaluations have to be made according to § 10 section 1 and to be reasoned in writing. The grade of the Master thesis is calculated from the arithmetic mean of the individual grades as long as the difference is less than 1.0. If the difference is 1.0 or more, the examination board commissions a third authorized examiner for the evaluation of the Master thesis. In this case the grade is calculated from the arithmetic mean of the three individual grades. The period of evaluation is extended by two weeks. The Master thesis can only be graded 'sufficient' or better if at least two grades are 'sufficient' or better. A Master thesis graded as 'failed' (5.0) can be repeated once.

- (7) After the completion of the Master thesis and its evaluation, the candidate reports on the results of the passed Master thesis in a 20 minutes colloquium followed by a 15 minutes discussion, with the evaluators participating. Provided that the candidate does not object, the students of this study course should be enabled to participate as audience at the colloquium. This participation does not include the consultation and disclosure of the examination result. The grading of the colloquium is carried out by the attendant evaluators and the candidate will be informed of it immediately. The grade according to § 10 section 1 is calculated from the arithmetic mean of the individual grades. A colloquium graded 'failed' (5.0) can be repeated twice.
- (8) The module 'Master thesis' is passed if the Master thesis as well as the colloquium have been graded 'sufficient' or better. The overall grade of the module 'Master thesis' is calculated from the grades of the Master thesis according to section 6 and the colloquium according to section 7 weighted in the ratio 2:1.

## **§ 9**

### **Recognition of examination performances**

- (1) Similar examination performances in the same study programmes at other universities in the area of application of the Basic Law will be acknowledged with their credit points. Equivalent examination performances which have been rendered at universities outside the area of application of the Basic Law are acknowledged on application.
- (2) Examination performances which have been rendered in other study programmes in the area of application of the Basic Law are acknowledged after a verification of equivalency. Equivalent examination performances which have been rendered in different study programmes at universities outside the area of application of the Basic Law are acknowledged on application. Equivalency can be assessed if the examination performances are basically consistent in content, scope and requirements to those of the study

programme. For the equivalency of periods of study and examination performances at foreign universities, the Memorandums of Understanding for Equivalency approved by the Conference of German Education Ministers and the Conference of University Rectors/Presidents have to be taken into consideration. In case of doubt of the equivalency, the Central Office for Foreign Education must be heard.

- (3) For the recognition of examination performances which have been rendered in state-approved distance learning, in distance learning units developed by North Rhine-Westphalia conjointly with the other states and the Federation, at national or state-approved universities of cooperative education, sections 1 and 2 apply accordingly. The same applies to examination performances from studies for the purpose of further education.
- (4) Students who due to a classification test according § 49 section 11 HG are eligible to start their studies in a higher semester of study will have the knowledge and abilities proved by the classification test acknowledged for their examination performances.
- (5) If examination performances are acknowledged, the grades have to be transferred and to be factored into the overall grade. The recognition will be marked in the certificate. The students have to submit the documents required for the recognition.
- (6) The examination board is responsible for the recognition. Prior to the appraisal of equivalency the relevant (departmental) representatives have to be heard.

## **§ 10**

### **Evaluation of the examination performances, module grades and determination of the overall grade**

- (1) For the evaluation of examination performances the following grades have to be used:

1.0 = very good (A)	= an excellent performance;
2.0 = good (B)	= a performance way above the average requirements;
3.0 = satisfactory (C)	= a performance equalling the average requirements;
4.0 = adequate (D)	= a performance which despite its deficiencies still meets the requirements
5.0 = failed (E)	= a performance which due to its extreme deficiencies does not meet the requirements

By lowering or raising the individual grade by 0.3 interim values can be formed for a differentiated evaluation. The grades 0.7; 4.3; 4.7 and 5.3 are excluded from this. Up to the grade of 4.0 an exam is considered as passed.

Deviating from this, the grade of an examination performance consisting of several partial examinations is calculated as weighted mean assessed by weighting factors (cf attached module table) of the grades (numerical value) of the partial examinations allocated to the respective examination performance. In doing so, all positions after the decimal point apart from the first one will be deleted without rounding. An examination performance set up like this is considered as passed when the grade is 4.0 or better.

- (2) A module is considered passed when all examination procedures of the module have been graded with 'sufficient' or better. The module grade is calculated as weighted mean assessed by weighting factors (cf attached module table) of the grades (numerical value) of the partial examinations allocated to the respective module. In doing so, all positions after the decimal point apart from the first one will be deleted without rounding.

The module grade is called at a value of

up to including 1.5	= very good;
from 1.6 to 2.5	= good;
from 2.6 to 3.5	= satisfactory;
from 3.6 to 4.0	= adequate.

- (3) The overall grade of the Master studies which are successful according to § 11 is calculated as weighted mean of the grades (numerical value) of all relevant modules. The weighting within the overall grade of the Master studies is regulated in the module table (attachment) to this examination regulation. In doing so, all positions after the decimal point apart from the first one will be deleted without rounding.

## § 11

### **Completion of the Master degree programme**

- (1) The Master studies is considered as successfully completed when a student has successfully participated in all modules required for the Master degree programme and therefore has achieved at least 120 credit points.
- (2) If a candidate has not successfully completed the Master studies, the chairperson of the examination board informs the candidate of this in a written opinion which includes an instruction on right to appeal. On application and against production of the relevant documents and the notification of the removal from the register of students, a written certificate can be issued. This certificate contains the rendered performances and the respective grades as well as a list of those performances still missing for a successful completion of the Master studies; it evidences that the Master studies have not been successfully completed.

## § 12

### Certificate and document

- (1) If the candidate has successfully completed the Master studies, an certificate is issued within four weeks after the announcement of the grade of the last examination procedure. The grades are stated with one position after the decimal point. The certificate contains:
  - a) The overall grade
  - b) The grade of the Master thesis
  - c) The topic of the Master thesis
- (2) The certificate bears the date of the day the last examination procedure has been passed.
- (3) At the same time the candidate is also delivered the Master document with the date of the certificate. The document certifies the granting of the Master degree according to § 2.
- (4) By request the certificate and the document contain an English version.
- (5) The certificate and the document are signed by the chairperson and bear the faculty seal. The document is also signed by the dean of the Faculty of Mathematics and Natural Sciences.

## § 13

### Diploma Supplement

- (1) A Diploma Supplement is delivered together with the certificate of the completion of the Master studies. This Diploma Supplement contains information on the individual course of studies, successfully completed modules, the performances rendered during the study course and their grading inclusive of the credit points.
- (2) A statement on the ECTS ranking of the overall grade according to the following ECTS evaluation scale is part of the Diploma Supplement:
  - A the best 10%
  - B the next 25%
  - C the next 30 %
  - D the next 25%
  - E the next 10 %

The ECTS rank is calculated on the basis of the final grades which follow the German grading system (§10) with one position after the decimal point from 1.0 to 4.0. The final grades are taken from the graduates of the Master degree programme chemistry which have successfully completed their studies with the last 24 months (counted from the month the certificate has been issued). The group size for calculating the ECTS rank comprises at least 30 graduates. The statements are only issued if this condition prevails.

## **§ 14**

### **Inspection of the examination files**

On application the candidate is granted access to his/her examination files and reports after completion of each examination performance. The application has to be handed in to the lecturer responsible for the module, alternatively to the examination board, within two weeks after the announcement of the result of the examination performance. The lecturer responsible for the module, alternatively the chairperson of the examination board, appoints the day and time for the inspection.

## **§ 15**

### **Fraud, breach of regulations**

- (1) If candidates try to influence the result of an examination performance by fraud, e.g. by using an illegal aid, the respective examination performance is evaluated as 'failed' (5.0). A candidate who disturbs the course of an examination performance can be excluded from continuing the examination performance by the relevant lecturer or the invigilator; in this case the examination performance is evaluated as 'failed' (5.0). The reasons for the exclusion have to be archived. In severe cases the examination board can exclude the candidate from sitting further examination performances. The possibility of a punishment as (criminal) offence according § 63 section 5 HG will remain unaffected hereof.
- (2) The candidate can demand that decisions according section 1 phrases 1 and 2 can be revised by the examination board. The person concerned has to be informed of incriminatory decisions within two weeks in writing. This notification has to include the reasons for the decisions as well as an instruction on right to appeal.

## **§ 16**

### **Invalidity of examination performances**

- (1) If a candidate has deceived at an examination performance and if this fact only becomes known after the certificate has been handed over, the examination board has the right to subsequently correct the result and grades of those examination performances where the candidate has deceived accordingly and declare the examination as in parts or completely failed. The examination board is responsible for the decision.
- (2) If the requirements for the admission to a module, within which an examination performance has been rendered, have not been fulfilled, but the candidate had not wanted to deceive about this, and if this fact only becomes known after the handing over of the certificate, this default is cured by passing the exam. If the candidate has deliberately and unjustifiably gained admission, the examination

board decides in compliance with the Administrative Procedures Law of North-Rhine Westphalia on legal consequences and effects.

- (3) Before a decision according to section 1 and section 2 phrase 2, the candidate has to be given the opportunity to comment.
- (4) The incorrect certificate is confiscated; a new one will be issued if necessary. The same applies to the Diploma Supplement. A decision according to section 1 and section 2 phrase 2 is excluded after a period of five years effective from the date of the examination certificate.

### **§ 17**

#### **Deprivation of the Master degree**

- (1) The Master degree can be deprived if it turns out that it has been achieved by deceit or major requirements for its awarding have been mistakenly been considered as given. § 16 applies accordingly. The examination board is responsible for the decision.
- (2) A decision according to section 1 is excluded after a period of five years effective from the date of the examination certificate.

### **§ 18**

#### **Interim regulations**

For the period of change to the Master degree programme, in addition to §4 section 2 it is also possible that the student members of the examination board may be enrolled in the diploma course instead of the Master degree programme and have to have passed the diploma examination.

## **§ 19**

### **Coming into effect and publication**

- (1) The examination regulations come into effect on 1 October 2007.
- (2) The examination regulations will be published in the Official Notes of the University of Cologne.

Issued due to the decision of the Faculty of Mathematics and Natural Sciences of the University of Cologne, as of 14 June 07, and the decision of the rector's office, as of 25 September 2007

Cologne, 10 October 2007

The dean of the Faculty of Mathematics and Natural Sciences of the University of Cologne

Attachment 1: Module table for the Master degree programme

Attachment 2: Suitability assessment

**In the event of any conflict or contradiction between the German language version and the English language version, only the German language version shall be decisive/ legally valid.**

## Attachment 1: Module table for the Master degree programme

Nr	Module	Module name (Foot notes a-c)	Lecture	Exercise / Seminar	Laboratory course	Credit points	Weighting in the overall grade	Admission requirements for the module	Admission requirements for the exams	Exam formulae	Module grade
1	<b>MN-C-F1</b>	Advanced Module 1 (F-Module)	X	X		6	6	None	Ü <sup>2</sup>	K <sup>4</sup>	<sup>6</sup>
2	<b>MN-C-F2</b>	Advanced Module 2 (F-Module)	X	X		6	6	None	Ü <sup>2</sup>	K <sup>4</sup>	<sup>6</sup>
3	<b>MN-C-F3</b>	Advanced Module 3 (F-Module)	X	X		6	6	None	Ü <sup>2</sup>	K <sup>4</sup>	<sup>6</sup>
4	<b>MN-C-F4</b>	Advanced Module 4 (F-Module)	X	X		6	6	None	Ü <sup>2</sup>	K <sup>4</sup>	<sup>6</sup>
5	<b>MN-C-E1</b>	Experimental Module 1			X	9	9	None <sup>8</sup>	P <sup>3</sup>	M <sup>5</sup>	<sup>7</sup>
6	<b>MN-C-E2</b>	Experimental Module 2			X	9	9	None <sup>8</sup>	P <sup>3</sup>	M <sup>5</sup>	<sup>7</sup>
7	<b>MN-C-E3</b>	Experimental Module 3			X	9	9	None <sup>8</sup>	P <sup>3</sup>	M <sup>5</sup>	<sup>7</sup>
8	<b>MN-C-P1</b>	Project Module 1	X	X	X	13	13	Two F-Modules	Ü <sup>2</sup> / P <sup>3</sup>	M <sup>5</sup>	<sup>7</sup>
9	<b>MN-C-P2</b>	Project Module 2	X	X	X	13	13	Two F-Modules	Ü <sup>2</sup> / P <sup>3</sup>	M <sup>5</sup>	<sup>7</sup>
10	<b>MN-C-P3</b>	Project Module 3	X	X	X	13	13	Two F-Modules	Ü <sup>2</sup> / P <sup>3</sup>	M <sup>5</sup>	<sup>7</sup>
11	<b>MN-C-Ma</b>	Master thesis				30	30	§8 (3)	cf. §8	cf. §8	§8
						120	120 / 120				

Ü: Exercise; P: Laboratory course; K: written exam; M: oral exam

### Rules for the choice of modules:

- The Advanced Modules 1-4 are chosen from inorganic, organic and physical chemistry, biochemistry and theoretical chemistry.
- The Experimental Modules are chosen from inorganic, organic and physical chemistry, biochemistry and theoretical chemistry and should be combined with the Advanced Modules 1-4 in a sensible manner.
- The Project Modules should be chosen from sections A and B, with a maximum of one module to be chosen from section B. It is not possible to take two or more modules in the same work group.

Concerning 1): The overall grade is calculated from the arithmetic mean of all weighted module grades.

Concerning 2): Parallel to the lecture, exercises and seminars, respectively, take place which should be attended regularly. In seminars, students are expected to give a seminar lecture which will be certified without grade.

Concerning 3): The successful preparation, execution and evaluation of laboratory course exercises are certified without grade.

Concerning 4): Course-related a written exam takes place. The written exam will cover the subject matter of the lecture and the exercise. The duration of the written exam will be announced together with the examination date and will generally take between 120 and 180 minutes. This written exam can also be written in two partial written exams. In case of failure, the written exam can be repeated twice. In case the second repeat written exam is failed, the module is considered as being irrevocably failed. Irrespective of this, § 7 section 13 applies.

Concerning 5): The successful completion of the practical course is followed by an oral exam which can be repeated twice in case of failure. In case the second repeat of the oral exam is failed, the module is considered as being irrevocably failed. Irrespective of this, § 7 section 13 applies.

Concerning 6): The grade of the written exam is the grade of the module.

Concerning 7): The grade of the module is the grade of the oral exam.

Concerning 8): For the admission to an Experimental Module, the attention of the courses of the respective Advanced Module is required.

#### **Section A: Chemical project module MN-C-P (as of 1/1/2007)<sup>1</sup>**

P-AC	Advanced Inorganic Chemistry
P-OC	Advanced Organic Chemistry
P-PC	Advanced Physical Chemistry
P-ThC	Advanced Theoretical Chemistry (Quantum chemistry)
P-BC	Advanced Biochemistry (Biological chemistry)
P-TeC	Advanced Technical Chemistry
P-NC	Advanced Nuclear Chemistry
P-MC	Advanced Macromolecular Chemistry

#### **Section B: Non-chemical modules (as of 1/1/2007)<sup>2</sup>**

P-Phy	Physics
P-Cry	Crystallography
P-Min	Mineralogy
P-Gen	Genetics
P-Inf	Informatics
P-Pha	Pharmacology and Toxicology
P-PhC	Physiological Chemistry

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<sup>1</sup> Subject to the courses offered, further chemical project modules may be offered and those listed in this section may no longer be offered, respectively.

<sup>2</sup> Subject to the courses offered, further non-chemical project modules may be offered and those listed in this section may no longer be offered, respectively

**In the event of any conflict or contradiction between the German language version and the English language version, only the German language version shall be decisive/ legally valid.**

Attachment 2: Suitability assessment for the Master degree programme

## **Suitability assessment for the Master degree programme of the University of Cologne**

### **1. Intention of the assessment**

The qualification for the Master degree programme chemistry requires besides the requirements according § 3 a) and c) of the examination regulations the proof of suitability according to § 3 b) as required by the following regulations.

### **2. Procedure for the assessment of suitability**

2.1. The procedure for the assessment of suitability is carried out twice per year (in the winter and in the summer term) by the committee (cf. clause 3) at the University of Cologne. The number of students which can enrol can be set down annually based on the available capacities.

2.2 The applications for admission to the assessment procedure for the following winter term have to be handed in until 15 July, for the following summer term until 15 January of the respective year (term of exclusion).

2.3 The following documents have to be handed in with the application:

1. Curriculum vitae
2. Proof of a successfully completed Bachelor degree programme chemistry at a university within the area of application of the Hochschulrahmengesetz (Framework Act of Higher Education), which is at least equivalent to the Bachelor degree chemistry of the University of Cologne, or of an academic degree which has been evaluated by the examination board as being equivalent. The same applies to foreign degrees. The committee decides on the equivalency (cf. clause 3).

For students who will complete the Bachelor degree programme in the current summer term (winter term), it is sufficient to hand in the examination procedures proven up to 15 July (15 January) under specification of the grade point average and a proof that the applicant has started to work on his/her Bachelor thesis. The final certificate can be handed in until the end of the first Master-related semester.

3. The names of two lecturers who can be asked for references.

### **3. Committee for the suitability assessment**

The suitability assessment is carried out by a committee consisting of at least two lecturers participating in the study course. One student with advisory vote, but without voting rights is also member of the committee. The participating lecturers are commissioned by the examination board, the student is nominated from the student body. For the student member, the requirements as given in § 4 section 2 of the examination regulations apply. For the period of change in the first two years after the introduction of the Master degree programme the examination board (cf. § 4) undertakes this task.

### **4. Assessment procedure**

- 4.1 The admission to the assessment procedure requires that the documents listed in clause 2.3 are complete.
- 4.2 Applicants with a Bachelor overall grade of 2.0 or better are generally admitted to the Master degree programme.
- 4.3 In cases of doubt or for Bachelor overall grades worse than 2.0, an orientation session is carried out with the applicant. Furthermore, the lecturers mentioned in 2.3 section 3 are asked for a reference.
- 4.4 Based on the criteria stated under 4.2. and 4.3, the committee decides on the admission of the applicant to the Master degree programme chemistry.
- 4.5 If a candidate proves his/her suitability in the assessment procedure but individual prerequisites from the first studies are not given, the candidate may be admitted under the condition that individual modules or module parts of the Bachelor degree programme are passed within one year.

### **5. Assessment and announcement**

The candidate is informed of the result of the assessment procedure by a member of the committee (cf. clause 3) in writing until 15 August for an application in the summer term and until 15 February for an application in the winter term. If in accordance with clause 2.3 (2) missing documents have to be still handed in, the written notification will only take place after the presentation of the complete documents.

### **6. Memorandum**

The course of the assessment procedure has to be documented in a memorandum.

### **7. Repetition**

Applicants who have not been able to prove their suitability for the Master degree programme can reapply for the assessment procedure at the deadline for the following term. A second repetition is not possible.