

**Examination regulations ("Prüfungsordnung") for the
Master's Programme Biochemistry
at the Faculty of Chemistry and Biochemistry
at Ruhr University Bochum,
issued June 29, 2009**

**Last altered by First Amendment
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Based on § 2, clause 4 and § 64, clause 1, North Rhine-Westphalia University Act ("Hochschulgesetz - HG") of October 31, 2006 (GV.NRW. p. 475), the Ruhr University Bochum issued the following statute:

Table of Contents

I. General Regulations

- § 1 Objective of Master's Examination
- § 2 Intended Programme Duration and Course Start
- § 3 Modularization and Grading Methods
- § 4 Due Dates
- § 5 General Admission Requirements
- § 6 Admission to Assignments and End-of-Term Examinations
- § 7 Definition of Examinations and Assessments of Assignments
- § 8 Oral Examinations
- § 9 Written Examinations and Other Written Contributions
- § 10 Seminar Contributions and Written Reports
- § 11 Grading System, Formation, and Weighting of Grades
- § 12 Pass and Failure of Assignments and End-of-Term Examinations
- § 13 Repetition of End-of-Term Examinations and Assignments
- § 14 Assignment, Delivery, Grading and Repetition of Master's Thesis
- § 15 Passing the Master's Examination
- § 16 Unexcused Absence, Withdrawal, Malicious Fraud, and Violation of Regulations
- § 17 Crediting of Study Periods, Assignments, and Examinations
- § 18 Examination Board
- § 19 Examiners and Assessors
- § 20 Transcript of Records and Master's Certificate
- § 21 Invalidation of Master's Examination
- § 22 Inspection of Examination Documents

II: Assignments and Examinations

- § 23 Course Duration, Course Plan, and Credit Points
- § 24 Subject, Type, and Extent of Assignments and Examinations
- § 25 International Orientation
- § 26 Master Degree

III: Final Clauses

- § 27 Scope
- § 28 Effective Date and Publication

I. General Regulations

§ 1

Objective of Master's Examination

The master's degree constitutes the second degree of the degree programmes in biochemistry and qualifies for work in biochemistry-related professions. It is based on and follows a bachelor degree. The master's examination ascertains that the student has obtained in-depth knowledge of advanced topics in the field of biochemistry as well as an understanding of their interconnections. It certifies that the student is able to independently apply scientific methods and gauge findings, and has acquired the specific knowledge necessary for a successful transition to a professional career.

§ 2

Intended Programme Duration and Course Start

The Master's Program Biochemistry is a consecutive programme. The intended programme duration is 4 semesters including the master's thesis. Courses normally start in the winter semester.

§ 3

Modularization and Grading Methods

(1) The Master's Programme Biochemistry consists of the modules listed on the course list in attachment 1. Modules comprise assignments according to § 7, clause 2, lectures with accompanying exercises, and the master's thesis.

(2) In general, lectures and accompanying exercises are assessed by graded end-of-term examinations; practicals and seminars receive graded work assessments. Work assessments may be composed of several individually graded assessments of parts of the assignment.

§ 4

Due Dates

(1) All assignments and examinations are carried out in a course-related fashion. Thus, all assignments and examinations except for the master's thesis are thematically correlated with specific courses. All master's programme courses, including assignments and examinations, have to be organized such that the master's degree can be completed within the intended programme duration.

(2) Assignments and examinations ideally should be completed within the semester to which the course is assigned according to the course list in attachment 1. If the admission requirements for a course are fulfilled, assignments and examinations may also be completed before the targeted semester.

(3) The last opportunity to pass the respective assignments and examinations is the first examination date two semesters after the semester assigned to the course according to the course list (attachment 1). If the student does not take the assignment or examination by that date, the assessment will be graded as "fail" ("nicht ausreichend"; 5.0). Exempt are cases in which the student cannot be held liable for missing the assignment or examination date.

(4) There are three opportunities to participate in an end-of-term examination per year. The first opportunity is provided within the three-week-period after lectures end in a semester, the second is scheduled within the three-week-period before the lectures of the next semester commence, and the third opportunity is provided within the three-week-period before lectures start in the semester after next.

(5) The student should be informed at the beginning of the course on the type, the number, and the dates of the mandatory assignments and examinations. Dates of end-of-term examinations have to be announced at least three months in advance by posting them on the examination office public announcement board.

(6) In well-founded cases and on application, the examination board may extend the due dates defined in clause 3. The due date has to be extended if the student is not able to participate, fully or partially, in assignments or examinations in the expected way or time due to prolonged or permanent physical or mental disability. The examination board may allow replacing these assignments and examinations by equivalent assignments and examinations of a different form. The examination board may ask for a medical certificate. In doubtful cases the medical certificate of a public health officer ("Amtsarzt") may be asked for.

(7) During pregnancy, maternal leave, educational time, or home care of close relatives, due date extensions will be granted upon application, based on federal worker protection laws. During pregnancy and maternal leave a student is entitled to different equivalent assignments and examinations if this is required to satisfy federal worker protection provisions. The same rule applies to the master's thesis.

§ 5 General Admission Requirements

(1) As a precondition to enter the Master's Programme Biochemistry, the candidate has to provide

- a) a completed bachelor's degree in biochemistry at a German university, or
- b) a completed bachelor's degree at a university outside Germany, provided the examination board rules the degree equivalent to a degree from a German university, or
- c) in well-founded, exceptional cases an equivalent degree in another field of the natural sciences, or
- d) demonstration of proof of a degree or an examination that is equivalent to a bachelor's degree according to § 17, clauses 2 and 3.

In cases b) - d) the examination board may define additional requirements.

(2) Admission to the master's programme is contingent on participating in a counselling interview in which the structure of the master's program and the rules and regulations governing the selection of a focal point programme is laid out.

(3) Admission to the Master's Programme Biochemistry is only granted to candidates with a qualifying degree in one of the course programmes listed in clauses 1 a) to 1 d). A degree is qualifying if the grades are "good" ("gut"; 2) or better according to the German grading system.

(4) In case of special personal circumstances (e.g., time for childcare, extended illness, handicap) the candidate may be admitted independently of the bachelor's grade achieved. The same exemption is possible for special academic reasons. Possible academic reasons are: the grading of the bachelor's thesis with „good“ or better, an average grade of „good“ or better for the courses in the 5th and 6th semester of the bachelor's program, a duration of the bachelor's studies not exceeding the intended duration of the bachelor's programme, or professional experience outside the university of at least one year. In these cases the head of the examination board decides on the admission, based on the statements of two professors selected by the examination office.

(5) Admission to the master's programme is furthermore contingent on proof of sufficient knowledge of the English language (TOEFL 550 or equivalent). The examination board rules on questions of equivalency, and may define additional requirements.

§ 6 Admission to Assignments and End-of-Term Examinations

(1) In general, an assignment or an examination follows attendance of the respective course.

(2) The admittance to any end-of-term examination date requires the registration of the student with the supervisor of the respective course. The supervisor at the beginning of the course will announce the registration procedure. The minimum

registration period is 28 days and must allow registration up to 7 days before the examination. Within the registration period, the student may cancel the registration.

(3) In the case of practicals, a registration with the instructor of the practical is required. The registration procedure will be posted by the instructor. The minimum registration period is 28 days. Candidates may cancel their registrations up to the start of the practical.

(4) Some practicals have admittance requirements that are listed in attachment 1.

(5) Admittance to an assignment or an end-of-term examination may only be denied if

1. the requirements according to § 5, clauses 2 through 4 are not fulfilled, or
2. required documents are missing, or
3. the student takes part in an examination in an equivalent degree programme at another university, unless the examination board has approved this examination procedure.

(6) The admission to a particular experiment (e.g., as part of a practical course) may be suspended if the knowledge required to properly and safely carry out the experiment is lacking. In such a case the supervisor should strive to provide replacement dates so that the suspended experiment may still be completed within the same course.

§ 7 Definition of Examinations and Assessments of Assignments

(1) Examinations may consist of

- a) oral examinations (§ 8), and/or
- b) written examinations or other written contributions (§ 9).

(2) Assignments may consist of

- a) a colloquium, and/or
- b) a seminar contribution (§ 10, clause 1), and/or
- c) a written report (§ 10, clause 2).

(3) The examiner may change the type of examination for a particular course uniformly for all dates according to § 4, clause 4. The change has to be posted on the examination office public announcement board within three weeks after course start.

§ 8 Oral Examinations

(1) In oral examinations, the student shall demonstrate a level of basic knowledge appropriate for the expected study progress. Furthermore, the student shall show the ability to understand the connections between different areas of the studied field and to rank specific problems accordingly.

(2) Oral examinations are conducted individually, either by two examiners or by a single examiner accompanied by an assessor.

(3) The minimum duration of an individual oral examination shall be 20 minutes, with a maximum duration of 45 minutes.

(4) The essential topics and results of the oral examination have to be recorded in a written protocol. Immediately following the examination, the outcome of the examination has to be disclosed to the student.

(5) Students planning to take an oral examination for the same course at a later date are allowed to attend the examination as spectators, provided there is enough space available and the examined student does not veto their presence. This admission does not cover the consultation and grade announcement phases of the examination.

§ 9 Written Examinations and Other Written Contributions

(1) In written examinations and other written contributions, the student shall demonstrate the ability to apply the required fundamental knowledge and established methods of the field to

solve problems and discuss topics in this field within a limited time and with limited tools.

(2) Written examinations and other written contributions are graded by a single examiner. In case of a formal objection, they have to be graded by a second examiner. The final grade will be calculated as the mean according to § 11, clause 1.

(3) The examination board sets time limits for the grading of the written examinations. The outcome of the examination shall be disclosed to the student three weeks after the examination at the latest.

(4) Written examinations last between 90 und 120 minutes.

(5) The instructor may award bonus points for active participation in exercises that accompany a lecture. These bonus points will be added to the point total of the written examination. The points awarded to a student have to be disclosed to the student at latest 7 days before the examination date. The total bonus points must not exceed 10% of the point total achievable in the written examination. The procedure for obtaining bonus points must be approved beforehand by the examination board. The board is held to approve only those procedures that allow identification of individual contributions for all participating students. Awarded bonus points will expire at the start of lectures in the semester after next.

§ 10

Seminar Contributions and Written Reports

(1) Seminar contributions are assignments of a talk or a graphical presentation to be held in front of the seminar audience. Contributions will cover aspects of a larger topic and are presented by a student or a group of students. The seminar instructor as the examiner grades the contributions. The assessment must be documented in the form of a written protocol.

(2) Written reports in German or English shall sum up the essential facts, interconnections and interpretations related to topics studied, e.g. in a course or research practical. The course instructor as the examiner grades the written reports. The assessment must be documented in a comprehensible manner within the report.

§ 11

Grading System, Formation, and Weighting of Grades

(1) The grades for individual assignments and examinations are determined by the respective examiner. The following grades are available:

1 = very good (= sehr gut)	= an excellent performance
2 = good (= gut)	= a performance considerably above average
3 = satisfactory (= befriedigend)	= an average performance
4 = adequate (= ausreichend)	= a performance which still meets the requirements despite shortcomings
5 = fail (= nicht ausreichend)	= a performance which no longer meets the requirements due to substantial deficits

(2) For a more differentiated assessment of the examination performance, individual grades may be lowered or raised by 0.3; the grades 0.7, 4.3, 4.7, and 5.3 are excluded. In case a grade is derived from several graded contributions, the arithmetic mean is calculated and rounded to the next best grade.

(3) To calculate the final grade for the master's degree the sum of the individual course grades weighted by the respective credit points (CP) according to attachment 1 is divided by the total number of credit points achieved.

(4) To obtain the final grade only the first decimal will be considered, all other decimals will be deleted without rounding. The following final grades may be achieved:

Average up to 1.5	= very good
Average above 1.5 to 2.5	= good
Average above 2.5 to 3.5	= satisfactory
average above 3.5 to 4.0	= adequate

§ 12

Pass and Failure of Assignments and End-of-Term Examinations

(1) An assignment or a practical is passed if all respective examinations have been passed. An end-of-term examination is passed if it is graded at least "adequate" („ausreichend“; 4.0).

(2) In case the first attempt to pass an assignment or an end-of-term examination has not been undertaken at the due date listed in § 4, clause 3, this assignment or examination is graded "fail" („nicht ausreichend“; 5.0). Exempt are cases in which the student cannot be held liable.

§ 13

Repetition of End-of-Term Examinations and Assignments

(1) If an end-of-term examination is failed at the first attempt it may be repeated up to three times within the time limits defined in clause 2. After the fourth attempt the right to participate in any further attempt for this examination expires. The examination is irrevocably graded "fail" („nicht bestanden“; 5.0).

(2) Repeated attempts at an end-of-term examination have to be conducted at the next examination date offered. However, the student may cancel the registration once without justification. A cancellation has to be submitted at the latest seven days before the examination.

(3) In case of a failure in an assignment or a practical course, the assignment or the practical course can be repeated once in the following year of studies. Afterwards the right to participate in any further assessment of this assignment or the practical course expires. In case of a repetition of an assignment or a practical, parts already passed will be accepted.

(4) An end-of-term examination of a lecture that has been passed at the first attempt may be repeated once within one year to improve the grade. The better grade is counted.

(5) After having passed the master's examination (§ 15, clause 1) and having been issued the certificates (§ 20, clause 1) all pending assessments are terminated. Repeat examinations are disallowed.

§ 14

Assignment, Delivery, Grading, and Repetition of the Master's Thesis

(1) The master's thesis is to be written in German or in English. It shall demonstrate that the student is capable of independently addressing experimentally a biochemical problem with scientific methods within a specified time frame. The topic of the thesis should be selected from the chosen focal point or the compulsory biochemical courses. The length of the thesis should not exceed 100 pages.

(2) The master's thesis may be supervised by any professor, honorary professor, junior professor, or assistant professor ("Privatdozent") of the Ruhr University who participates in teaching master's courses in biochemistry. The examination board may grant exceptions. A senior scientist may supervise the thesis if the responsible professor agrees. If the master's thesis is to be carried out at an institution outside the Ruhr University, the examination board in chemistry has to agree. The student may suggest a topic for the master's thesis.

(3) The topic of the master's thesis is officially assigned by the head of the examination board on application by the student. The time available to complete the master's thesis is 6 months, starting from the date of assigning the topic. The topic of the master's thesis and the assignment date has to be recorded. The student may petition the examination office to effect the timely assignment of a master's thesis. The assigned topic can be rejected only once within two months after assignment. In case of a justified request the examination board may extend the allotted time until submission by six weeks at the most. The examination board may permit exceptions.

(4) The master's thesis has to be submitted to the examination board in the form of two printed copies and electronically; the submission date has to be recorded. When submitting the thesis, the student has to affirm in written form that the work was performed independently, with no other means and sources used as those stated in the thesis, and that all sources have been cited properly. In case of out-of-time submission of the master's thesis the thesis will be graded "fail" ("nicht ausreichend"; 5.0).

(5) The master's thesis has to be graded independently by two examiners, in written form. One of the examiners has to be the supervisor of the thesis. Exceptions are possible upon application in special cases. The head of the examination board assigns the second examiner. The thesis is graded according to § 11, clause 1. The final grade will be obtained as an arithmetic mean of the two assessments, according to § 11, clause 1. In case the difference of the two grades exceeds 1.0, or in case the average grade is larger than 4.0, a third examiner will be assigned by the head of the examination board. In that case, the final grade will be obtained as an arithmetic mean of the two better grades according to § 11, clause 1. A third examiner will not be called upon if both primary grades are "fail" („nicht ausreichend"; 5.0). The master's thesis can only be graded "adequate" (ausreichend"; 4.0) or better, if at least two grades are „adequate" or better.

(6) The time required for the assessments must not exceed four weeks.

(7) In case of failure the master's thesis may be repeated only once. A rejection of the thesis topic pursuant to § 17 clause 3 is only allowed in those cases where the student has not used this option before.

§ 15

Passing the Master's Examination

(1) The master's examination is passed by accumulating 120 credit points, including the master's thesis. Credit points have to be collected in accordance with § 24 clause 2.

(2) The master's examination is irrevocably failed if a single course is irrevocably failed or a master's thesis has been graded worse than "adequate" („ausreichend"; 4.0), taking into account a possible second attempt.

(3) Students who fail the master's examination may submit a request to receive a transcript of records. This transcript lists the assignments and examinations and their grades as well as missing assignments and examinations. This transcript of records must show that the master's examination was not passed. It is handed out on proof that the student has signed off the students register.

(4) After passing the master's examination all pending assessments are terminated.

§ 16

Unexcused Absence, Withdrawal, Malicious Fraud, and Violation of Regulations

(1) If the student misses a compulsory examination date, or retreats from an examination that has already started, or is incapable of completing a written exam in the given time, the examination will be graded "fail" („nicht ausreichend"; 5.0). Exempt are cases in which the student cannot be held liable.

(2) If a student resigns from or misses an examination without negligence, the asserted reason must be claimed in written form with the examination office within one week. The examination office in case of an illness may request a medical certificate. The certificate has to assert that the student was not able to participate in the examination. In doubtful cases the examination office may ask for a certificate from a public health officer. Medical problems of the student are treated the same way as medical problems of a child raised predominantly by the student. If the stated reason is accepted by the examination board, a new examination date will be determined. Grades obtained prior to the excused examination will be upheld.

(3) If illness is claimed as the cause for withdrawing from an examination, starting from the second withdrawal from the same examination a certificate from a public health officer is mandatory.

(4) If a student attempts to maliciously influence the results of an assignment or an examination, e.g., by fraudulent usage of unauthorized materials, the examination will be graded as "fail" ("nicht ausreichend"; 5.0). The same holds if the supervisor of an examination excludes a student from further participation in the examination because of disturbance of the orderly course of examination. In severe cases the examination board may exclude the student from further examinations.

(5) The student may request within 6 weeks that decisions based on clauses 2 and/or 3, are reviewed by the examination board. Unfavourable decisions have to be disclosed to the student immediately and in writing, together with instructions on the right to appeal.

§ 17

Crediting of Study Periods, Assignments, and Examinations

(1) Previous study periods, assignments, and examinations will be credited without equivalency check if they were performed at a university in Germany in a Master's Programme Biochemistry.

(2) Previous study periods, assignments, and examinations performed in Germany in master's programs other than biochemistry or at scientific institutions other than universities will be credited if deemed equivalent.

Previous study periods, assignments, and examinations performed at universities in countries other than Germany may be credited upon request by the student, if deemed equivalent. Equivalency is assumed if course duration, assignments, and examinations are compatible regarding content, extent, and level of difficulty with courses required for the Master's Programme Biochemistry at the Faculty of Chemistry and Biochemistry at the Ruhr-University Bochum. When gauging equivalency, the entire set of courses is to be considered as a whole rather than performing a schematic comparison of individual courses.

Concerning the compatibility equivalency determination for previous study periods, assignments, and examinations performed at universities in countries other than Germany, agreements with foreign countries as well as university partnerships have to be taken into account. Equivalency of previous study periods, assignments, and examinations will generally be assumed if courses are part of an exchange programme with the Faculty of Chemistry and Biochemistry of the Ruhr University as a participating partner, or part of a mobility programme of either the Faculty of Chemistry and Biochemistry or the Ruhr University. If equivalency is doubtful, the central agency for foreign higher education in Bonn may be consulted.

(3) For equivalency determination of previous study periods, assignments, and examinations performed through state-approved correspondence courses, clauses 1 and 2 are applicable. Clause 2 is furthermore applicable to previous study periods, assignments, and examinations performed at other educational institutions.

(4) The Examination Board Biochemistry is responsible for crediting according to clauses 1-3. Faculty members may be asked for statements on equivalency in their specialties prior to the decision.

(5) If the conditions specified in clauses 1 through 3 are met the student is entitled by law to receive crediting. The student has to provide all documents required for the decision process. If assignments and examinations are credited and the grades are comparable or transferable according to the ECTS system, the credit points and grades will be transferred and included in the final master's grade. Transferred grades will be marked in the Transcript of Record. The decision according to clauses 1-3 will be announced within 6 weeks after the student has submitted all required documents.

§ 18

Examination Board

(1) To organize the end-of-term examinations and the tasks assigned by these examination regulations the Faculty of Chemistry and Biochemistry forms an Examination Board Biochemistry. The Examination Board Biochemistry is a public authority according to German administrative law.

(2) The Examination Board Biochemistry consists of three professors or junior professors from the Faculty of Chemistry and Biochemistry, two of whom have to be members of the biochemistry chairs, one professor or junior professor each from the Faculty of Biology and Biotechnology and the Medical Faculty, a senior scientist from the Faculty of Chemistry and Biochemistry and three students from one of the degree programmes Biochemistry. The Faculty Council, acting on proposals from the respective groups, elects the chair, the deputy chair, and two other professorial members out of the group of professors and junior professors, one member and a deputy member out of the group of senior scientists, and three members plus three deputy members out of the group of students. The term of office will be three years for the members from the groups of the professors and senior scientists, and one year for student members. Re-election is permitted.

(3) The Examination Board ensures that the master's program and examinations are carried out according to the examination regulations. In particular it decides objections against decisions and rulings on examination procedures. In addition, the Examination Board reports to the Faculty Council at least once a year on the outcome of examinations, the grade distribution, and the duration of study. This report will be published by the faculty in a suitable manner. The Examination Board may suggest improvements concerning examination regulations and the master's program. For normal cases, the Examination Board may transfer its duties to the chair. This is not permitted for decisions on objections or for the faculty report.

(4) The examination board has a quorum if the chair or deputy chair plus two additional members of the group of professors and at least two additional voting members are present. Simple majority takes decisions. In case of a tie the vote of the chair decides.

(5) The student members of the Examination Board are not entitled to vote in cases of evaluation of assignments and examinations, the selection of examination questions, and the assignment of examiners and assessors.

(6) The members of the Examination Board are entitled to observe the examinations.

(7) The meetings of the Examination Board are not open to the public. The members of the Examination Board and their deputies are required by law to keep strict confidentiality. Members who are not employees of the public administration have to be sworn to secrecy by the chair of the Examination Board.

§ 19 Examiners and Assessors

(1) The Examination Board appoints the examiners and the assessors. Eligible as an examiner are only those university teachers involved in teaching the respective course in the Master's Programme Biochemistry. In addition, State Higher Education law (HG-NRW) specifies in § 65, clause 1 that an examiner must have at least a diploma or master's degree in biochemistry, or equivalent.

(2) The examiners assess the examinations independently.

(3) The student may propose examiners for the master's thesis. While the suggestions will be considered favourably, however, they are not legally binding.

(4) The chair of the Examination Board ensures that the names of the examiners and assessors are published on the examination office public announcement board at least three weeks prior to the examination.

(5) For examiners and assessors, § 18, clauses 2 and 3 apply accordingly.

§ 20 Master's Certificate and Master's Diploma

(1) After passing the master's examination, the graduate receives a master's certificate within four weeks. The Master's Certificate shows the topic of the master's thesis, the grade achieved for the thesis, the focal point programme and the final grade of the master's examination. In addition, a second sheet (Master's Transcript of Records) lists the courses credited together with the respective grades and credit points. The graduate may request to have the grades achieved in additional non-compulsory courses listed in addition to the compulsory courses. The graduate may further request the duration of his studies to be documented on the Transcript of Records. The graduate furthermore receives a Diploma Supplement that explains the scientific level, contents, international comparability, and job relevance of the degree achieved.

(2) Simultaneously with the Master's Certificate the graduate will receive the Master's Diploma that carries the date of the Master's Certificate. With this document, the bestowal of the degree Master of Science (M.Sc.) is authenticated. The Master's Diploma will be signed by the chair of the Examination Board and includes the seal of the Faculty of Chemistry and Biochemistry.

(3) The Master's Certificate carries the date on which the last grade required for fulfilling the curriculum was received.

§ 21 Invalidation of Master's Examination

(1) In case of malicious fraud in an assignment or an end-of-term examination that is only realized after handing out the Master's Certificate, the grade may be corrected according to § 16, clause 4. In severe cases the examination may be graded "fail" ("nicht ausreichend"; 5.0) and/or the master's examination may be declared as "fail" ("nicht ausreichend"; 5.0). The same holds for the master's thesis.

(2) If the preconditions for participation in an assignment or an end-of-term examination were not fulfilled, without any liability or attempt of fraud by the graduate, and if this fact is only realized after handing out the Master's Certificate, this deficiency is considered cured by passing the assignment or end-of-term examination.

(3) In case the graduate deliberately obtained an unjustified end-of-term examination, this examination may be graded "fail" ("nicht ausreichend"; 5.0) and the master's examination may be declared as "fail" ("nicht ausreichend"; 5.0).

(4) Prior to a decision based on clauses 1 and 2 the graduate will have the opportunity to explain the case.

(5) An incorrect Master's Certificate has to be withdrawn. If applicable, a new Master's Certificate will be issued. If the Master's examination is deemed failed due to malicious fraud, the Master's Diploma has to be withdrawn as well. A decision based on clauses 1 and 2 is excluded when at least one year has passed since the disclosure of all relevant circumstances.

§ 22 Inspection of Examination Documents

Upon request the student is granted access to his written examinations, the grading documents, and examination protocols within one year after completion of the master's examination.

II. Assignments and End-of-Term Examinations

§ 23 Programme Duration, Course Plan, and Credit Points

(1) The Master's Programme Biochemistry encompasses four semesters of advanced studies including a master's thesis with the option to select a focal point in one of the fields given in § 24 clause 3. Accumulating 120 credit points, contingent on fulfilment of the provisions of § 24, clause 2, leads to passing of the master's examination and bestowal of the Master's Degree Biochemistry.

(2) The course programme has to be designed and limited in such a way that it can be completed in four semesters. The students must have the opportunity to select a focal point programme. The ratio of mandatory and elective subjects must be in good balance with independent preparation and study by the student, and to participation in additional courses in other master's programs.

§ 24

Subject, Type, and Extent of Assignments and Examinations

(1) The credit points assigned for a given course according to Attachment 1 will be credited if it has been graded "adequate" („ausreichend"; 4.0) or better. Credit point allocation complies with the European Course Credit Transfer System (ECTS).

(2) Course types that deliver credit points (see attachment 1) include lectures, seminars, exercises, and practicals, in particular research practicals. All assignments and examinations are graded.

(3) Out of the 120 credit points required (120 CP),

- a) at least 15 CP have to be generated from the compulsory biochemistry courses "Biochemistry IV", "Bioinformatics", and "Biochemical Seminar",
- b) 5 CP have to be contributed by the "Elective Courses Chemistry",
- c) 16 CP have to be generated from the Modular Advanced Practicals within the Focal Point Programme,
- d) at least 25 CP have to be collected in one of the Focal Point Programmes within the Master Programme Biochemistry. Special Lectures within the Focal Point Programme have to be different from the one previously selected in the Bachelor Programme,
- e) 14 CP have to be provided by the "Research Practical", which can be carried out either in biochemistry or in a Focal Point Programme, and which usually leads up to the master's thesis
- f) 30 CP are contributed by the master's thesis.

On request by the student, and restricted to well-founded special cases, the Examination Board may allow exceptions from this procedure and/or the master's program course list (attachment 1).

(4) The assignments and examinations in the focal point programmes shall introduce the student to research in the respective fields.

(5) The following focal point programmes are offered:

- Biochemistry of the Nervous System,
- Biomolecular Chemistry,
- Proteins: Structure and Biological Function,
- Molecular Biology and Biotechnology of Plants and Microorganisms,
- Molecular Medicine,
- Molecular Biochemistry of Stem Cells.

The number and the topics of Focal Point Programmes may be altered or emended annually by the Examination Board Biochemistry. There have to be at least three Focal Point Programmes to choose from.

(6) At least 37 CP have to be earned with research practicals.

(7) The end-of-term examinations for the courses "Bioinformatics" and "Lecture Series in the Focal Point Programme" as well as the final exam for the course "Radiation Safety in the Radionuclide Laboratory" are typically taken in the form of written examinations, while other courses are typically assessed by oral examinations. The examiner can change the examination procedure for all examination dates, except for the "Lecture Series in the Focal Point Programme". Alterations of the examination procedure have to be posted on the examination office public announcement board within 3 weeks after course start.

The mandatory assignments and examinations and the corresponding credit points are listed in Attachment 1.

§ 25

International Orientation

(1) To increase portability of course achievements, all passed courses will earn credit points that are calculated using the European Course Credit Transfer System (ECTS).

(2) Course language is English. Course materials will be provided in English.

(3) Examinations may be taken in German or in English.

(4) If approved by the Examination Board, in well-defined special cases elective courses may be held in German.

§ 26 Master's Degree

After accumulating the 120 credit points (120 CP) required according to Attachment 1, the degree "Master of Science" ("M.Sc.") will be awarded.

III. Final Regulations

§ 27

Scope

These examination regulations are applicable to students inscribed in the Master's Programme Biochemistry of the Ruhr University Bochum starting from winter semester 2009/2010.

§ 28

Effectiveness and Publication

(1) These examination regulations become effective on October 1st, 2009.

(2) These examination regulations will be published in the "Amtlichen Bekanntmachungen" (AB) of the Ruhr-Universität Bochum.

Bochum, June 29, 2009

The Rector
Ruhr University Bochum
University Professor Dr. Elmar Weiler

Attachment 1

Master's Programme Biochemistry: Course List

The following course list is valid in combination with the examination regulations of the Master's Programme Biochemistry of the Faculty of Chemistry and Biochemistry.

(1) The course programme assumes a programme start in the winter semester.

(2) It is recommended to take the courses in the order given. For some practicals requirements according to clause 3 have to be fulfilled.

(3) The admittance to some courses depends on specific preconditions, as specified in the following list. A course listed as a precondition for another course has to be passed before the other course can be taken.

Course	Precondition
Radiation Safety in the Radionuclide Laboratory	Practical experience in handling radioisotopes in at least one previous practical
Research Practical in the Focal Point Programme	Four Modular Advanced Practicals in the Focal Point Programme

And

	Advanced Practical in the Focal Point Programme
Master's Thesis	Research Practical in the Focal Point Programme

(4) Course Labels and Abbreviations

- M = Mandatory
 MC = Mandatory with choices
 CP = Credit Points
 SS = Summer semester
 WS = Winter semester
 SWH = Semester weekly hours

(5) Focal point programmes

- Biochemistry of the Nervous System,
- Biomolecular Chemistry,
- Proteins: Structure and Biological Function,
- Molecular Biology and Biotechnology of Plants and Microorganisms,
- Molecular Medicine,
- Molecular Biochemistry of Stem Cells.

(6) The Special Lectures in the Focal Point Programme must be different from the ones previously chosen in the Bachelor Programme

(7) Freedom of choice: Courses listed as "mandatory with choices" (MC) may be chosen freely from the entire course list of the master's programmes of the Faculty of Chemistry and Biochemistry as well as courses from the Focal Point Programmes contributed by the participating faculties.

Sem.	Module (= Course)	L	E/S	Pr	Type	CP
1. (WS)	Biochemical Seminar	-	2	-	M	3
	Bioinformatics	2	1	-	M	5
	Radiation Safety in the Radionuclide Laboratory	2	1	-	M	5
	Modular Advanced Practicals in the Focal Point Programme	-	3	18	MC	4x4
29 SWH	Total: 1st Semester	4	7	18		29
2. (SS)	Biochemistry IV	2	-	-	M	7
	Special Lecture in the Focal Point Programme	2	1	-	MC	5
	Lecture Series in the Focal Point Programme	2	-	-	MC	5
	Advanced Practical in the Focal Point Programme	-	1	17	MC	15
30 SWH	Total: 2nd Semester	6	2	17		32
3. (WS)	Elective Course Chemistry	2	1	-	MC	5
	Instruction in Laboratory Animal Science	2	-	1.5	M	5
	Special Lecture in the Focal Point Programme	2	1	-	MC	5
	Research Practical in the Focal Point Programme	-	1	13	MC	14
21 SWH	Total: 3rd Semester	6	3	14.5		29
4. (SS)	Master's Thesis				M	30
77 SWH	Total: 1st – 4th Sem.	16	12	49.5		120